

SITE INVESTIGATION REPORT

Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Along Aalona Street and Oka Street Kilauea, Hawaii

Prepared for:



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Executive Summary

Tetra Tech EM Inc. (Tetra Tech) completed a site investigation at the Pesticide Mixing Area (PMA) of the former Kilauea Sugar Company Ltd. Mill, located along Aalona Street and Oka Street in Kilauea, on the Island of Kauai (the site). The site was formerly part of a sugarcane mill that operated from approximately 1877 to 1972. The site currently has 18 different properties in a residential setting composed predominantly of single-family homes. The Hawaii Department of Health (HDOH) Hazard Evaluation and Emergency Response (HEER) Office developed the scope of work and directed the site investigation. This Site Investigation Report presents the activities and findings related to the site investigation and supplemental activities related to an updated evaluation of environmental hazards and preliminary identification of potential action alternatives.

The site investigation was to further characterize and delineate the extent and magnitude of contaminants of potential concern (COPC) associated with the portion of the site defined as the Core PMA. Previous Sampling of Opportunity (SOO) done by the HEER Office in August and December 2010 and March 2011 indicated that the Core PMA was predominantly composed of these three properties: 2430A Oka Street (the Old Mill LLC property), 4277 Aalona Street (the Thompson property), and 4275 Aalona Street (the Foley property). The analytical results from these three sampling events indicated that soils in certain areas of the site, including the Core PMA, were impacted with several COPC that exceeded the applicable regulatory action levels. The site investigation focused on delineating the vertical and horizontal extent of identified COPC in and next to the Core PMA.

The field activities for the site investigation occurred in July and August 2011. During the course of the site investigation, 96 soil borings were advanced throughout the 26 decision units (DU) that were delineated at the site. The DUs were grouped into five distinct site areas designated Areas 1 through 5, as follows:

- Area 1 – Perimeter of Core PMA (DU1 through DU9);
- Area 2 – Core PMA (DU10 through DU17) and West Drainage Outfall (DU18 and DU19);
- Area 3 – Potentially Impacted Exposed Surface Soils – Not Previously Sampled (all on the Old Mill LLC property [DU21 through DU23]);
- Area 4 – Surrounding Properties (residential properties across Oka Street from the Old Mill LLC property [DU24 and DU25]); and,
- Area 5 – Hawaii Housing Authority Debris and Trash Pit (DU26 and DU27).

Tetra Tech collected 118 soil samples from the 26 DUs. The samples were submitted for analysis of COPC that were grouped into four categories: primary COPC, full PMA COPC, waste categorization COPC, and other COPC. The specific COPC selected for analysis depended upon the DU and the layer from which the sample was collected.

The analytical results indicated that there were several soil samples with one or more COPC that exceeded the applicable HEER Office Tier I Environmental Action Levels (EALs). Specifically, the soil samples from 23 of the 26 DUs had at least one COPC that exceed the applicable HEER Office Tier I EALs. The only DUs without any COPC

exceedances were DU6, DU7, and DU9. Toxicity equivalence (TEQ) dioxins and arsenic (including total arsenic and bioaccessible arsenic) were the two most prevalent COPC with exceedances. The analytical results from the site investigation confirmed that the Core PMA, as initially identified by the HEER Office during the SOO samplings, is composed of the Old Mill LLC property (Drainage Swale portion of the property), the Thompson property, and the Foley property. The Core PMA includes DU10 to DU17 in Area 2, with DU10 exhibiting the most significant COPC impact.

Tetra Tech prepared an updated environmental hazard evaluation (EHE) using the site investigation analytical data. The updated EHE indicated that there are direct exposure and gross contamination soil hazards associated with the impacted soil identified at the site. Potential vapor intrusion, terrestrial ecology through runoff, and leaching soil hazards were eliminated for the site, based upon site conditions.

As part of the updated EHE, a focused evaluation was conducted for two selected targeted contaminants of concern (TCOC): TEQ dioxins and arsenic. These two contaminants were selected as the TCOC for the evaluation, because they were the primary drivers for potential human health risks, and because they were the two most prevalent COPC at the site. The HEER Office has also performed numerous evaluations of these two COPC at other agricultural sites and developed specific Tier II EALs for TEQ dioxins and arsenic. During this investigation, the degree of impacts for the TCOC in each DU was assessed with respect to the applicable HEER Office Tier II EAL Risk Categories A through D, with the following general findings:

- In Area 2, the readily accessible soil (0-2 feet bgs) in DU10 through DU17 was identified to be moderately to heavily impacted, and thereby classified as Category C and D. These findings warrant further action in order to mitigate exposure pathways to the impacted soil identified in DU10 through DU17.
- In Area 3, the readily accessible soil (0-2 feet bgs) in DU22, DU23, and the portion of DU21 along Aalona Street was identified by extrapolation using cross-sections to be moderately to heavily impacted (below the sampled depth of 0-0.5 feet bgs) and thereby classified as Category C and D.

However, it is noted that the 0-0.5 foot bgs depth interval (Layer A) in all three DUs was classified as Category B based upon the sample analytical data. The impacted soil in these DUs will likely be managed with an Environmental Hazard Management Plan (EHMP), rather than remedial action based upon use and accessibility.

- The readily accessible soil (0-2 feet bgs) in Areas 1, 4, and 5, and the West Drainage Outfall portion of Area 2 was identified to be only minimally impacted, and thereby classified as Category B.

PENDING ACTIONS BASED UPON SITE INVESTIGATION

- The HEER Office has proposed to implement an Immediate Remedial Action at the Core PMA (Thompson property, Foley property, and Old Mill LLC property [drainage swale portion and abutting gravel parking areas only]) based on their review and evaluation of the site investigation findings.

The immediate remedial action will focus on mitigating exposure pathways to the TCOC-impacted readily accessible soil (0-2 feet bgs) in DU10 through DU17, and managing potential exposure pathways related to DU21 through DU23.

- Additional actions related to the immediate remedial response will include the following:
 - A fact sheet will be prepared that summarizes the key findings of the site investigation in a user-friendly format. The fact sheet will be sent to residents at the site neighborhood, including all properties where samples were collected.
 - A detailed letter will be prepared and sent to each of the three properties to be included in the proposed immediate remedial action (Thompson, Foley, and Old Mill LLC properties). The letter will identify the site-specific findings for each of the properties and will discuss the proposed immediate remedial actions that will be conducted.
 - Property-specific EHMPs will be prepared for any property or area at the site with residual contaminated or impacted soils. The EHMPs will outline future land use guidelines and restrictions, including applicable engineering controls and institutional controls. The EHMPs should be updated as site conditions change, including after the immediate remedial action is completed.
 - The Thompson, Foley, and Old Mill LLC properties will be subject to deed restrictions, environmental covenants, and implementation of property-specific EHMPs.

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- Attachment A: EDR GeoCheck Report
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- Attachment C: EDR Sanborn Fire Insurance Maps
- Attachment D: Historical Aerial Photographs
- Attachment E: Site Property Historical Land Title Records

Acronyms and Abbreviations List

%	Percent
°C	Degree Celsius
ASTM	ASTM International
BMP	Best management practice
bgs	Below ground surface
COPC	Contaminant of potential concern
DEI	Donaldson Enterprises, Inc.
DQO	Data quality objective
DRO	Diesel range organics
DU	Decision unit
EAL	HEER Office Environmental Action Levels
EDR	Environmental Data Resources, Inc.
EHE	Environmental hazard evaluation
EHMP	Environmental Hazard Management Plan
EPA	United States Environmental Protection Agency
FE	Fundamental error
FEMA	Federal Emergency Management Agency
Geotek	Geotek Hawaii, Inc.
GPS	Global positioning system
GSE	Grouping and segregation error
HAR	Hawaii Administrative Rules
HDOH	State of Hawaii Department of Health
HEER	Hazard Evaluation and Emergency Response
HHA	Hawaii Housing Authority
ID	Identification
IDW	Investigation-derived waste
KBV	Kauai Beach Villas
KDP	Kauai Department of Planning
KDPW	Kauai Department of Public Works
kg	Kilogram
KKSC	Kauai Kilauea Sugar Company
KSNB	Kilauea Sugar Natural Bridges
KSPMA	Kilauea Sugar Pesticide Mixing Area
LCS	Laboratory control sample

mg/kg	Milligrams per kilogram
mg/l	Milligrams per liter
MS	Matrix spike
MSD	Matrix spike duplicate
msl	Mean sea level
NA	Not applicable
NAVFAC	Naval Facilities Engineering Command
ND	Not detected
NE	Not established
NELAC	National Environmental Laboratory Accreditation Conference
ng/kg	Nanograms per kilogram
OSHA	Occupational Safety and Health Administration
PARCC	Precision, accuracy, representativeness, comparability, and completeness
PBET	Physiologically-based extraction test
PCB	Polychlorinated biphenyls
PCDD	Polychlorinated dibenzo-p-dioxins
PCDF	Polychlorinated dibenzofurans
PCS	Pacific Commercial Services LLC
PID	Photoionization detector
PMA	Pesticide Mixing Area
PMAK	
ppm	Parts per million
ppt	Parts per trillion
PVT	PVT Land Company, Ltd.
QA	Quality assurance
QC	Quality control
RCRA	Resource Conservation and Recovery Act
ROW	Right-of-way
RPD	Relative percent difference
RRO	Residual range organics
RSD	Relative standard deviation
SAP	Sampling and Analysis Plan
SD	Standard deviation
SDG	Sample delivery group
SDWB	Safe Drinking Water Branch
SHWB	Solid and Hazardous Waste Branch
SOO	Sampling of Opportunity
SVOC	Semi-volatile organic compounds
TBD	To be determined

TCLP	Toxicity characteristic leaching procedure
TCOC	Targeted contaminants of concern
TCDD	2,3,7,8-Tetrachlorodibenzo-p-dioxin
Tetra Tech	Tetra Tech EM Inc.
TEF	Toxicity equivalence factors
TEQ	Toxicity equivalence
TGM	Technical Guidance Manual
TMK	Tax map key
TPH	Total petroleum hydrocarbons
UECA	Universal Environmental Covenant Act
UIC	Underground injection control
USGS	United States Geological Survey
VOC	Volatile organic compounds
WHO	World Health Organization

1 Project Introduction

This section provides an overview of the site investigation conducted at the Pesticide Mixing Area (PMA) of the former Kilauea Sugar Company Ltd. Mill, along Aalona Street and Oka Street in Kilauea, on the Island of Kauai (the site). This Site Investigation Report presents the activities and findings related to the site investigation and supplemental activities related to an updated evaluation of environmental hazards and preliminary identification of potential action alternatives.

1.1 Overview

Tetra Tech EM Inc. (Tetra Tech) was tasked by the Hawaii Department of Health (HDOH) Hazard Evaluation and Emergency Response (HEER) Office to perform a site investigation of the PMA. In May 2010, the HEER Office conducted historical records reviews to evaluate historical use and ownership of the site. This review was conducted as a part of ongoing site reviews conducted by the HEER Office. During this review, the HEER Office determined that the site was formerly part of the Kilauea Sugar Company, Ltd. Mill from approximately 1877 to 1972. The HEER Office interviewed knowledgeable personnel about the mill operations and site history. The HEER Office determined that portions of the site were used for pesticide storage, pesticide mixing, and seed dipping. Based on the findings from the records review and interviews, the HEER Office determined that additional investigation was warranted (HEER Office 2011f).

In August 2010, December 2010, and March 2011, the HEER Office conducted soil sampling at the site as part of their Sampling of Opportunity (SOO) program to provide a preliminary evaluation of potential impacts from historical site operations. The HEER Office collected 18 surface soil samples (0-0.5 foot below ground surface [bgs]) from various locations throughout the site. The analytical results from these three sampling events indicated that soils in certain areas of the site were impacted with several contaminants of potential concern (COPC) related to historical pesticide mixing activities that exceeded the applicable regulatory action levels (HEER Office 2011f). Based on these findings, the HEER Office contracted Tetra Tech to develop the technical approach for a site investigation to further delineate the extent and magnitude of identified COPC at the site. Tetra Tech developed a scope of work for the site investigation that was fully detailed in a Sampling and Analysis Plan (SAP) (Tetra Tech 2011). The HEER Office reviewed and approved the SAP in July 2011.

In March and April 2011, the HEER Office conducted public outreach activities with the Kilauea community, including the site residents and neighborhood, the greater Kilauea community, and several Hawaii State and County of Kauai government agencies. The focus of these activities was to provide information related to the previous soil samplings and proposed site investigation.

1.2 Project Goals

Based upon multiple discussions and meetings with the HEER Office, the project goals for the site investigation were to support:

- **Protection of human health and the environment**
 - Due to the confirmed presence of impacted soil at the site, the primary project goal was to ensure protection of human health and the environment through the determination of nature and extent of contamination and evaluation of environmental hazards at the site. The site investigation was designed to generate sufficient data to facilitate the development and assessment of several action alternatives. Subsequently, one of the action alternatives may be selected and implemented in order to reduce and/or eliminate exposure pathways to the impacted soil identified at the site.

- **To address resident and neighborhood concerns**
 - Due to the site being primarily used for residential purposes, there were considerable concerns for residents and property owners within the site boundaries and within the general vicinity/neighborhood of the site. The site investigation was designed to generate sufficient data to determine if the impacted soil is localized within previously identified areas or if it extends beyond those areas.

- **To address community concerns**
 - Due to the specific nature and history of the site, there were considerable community concerns related to the confirmed presence of impacted soil at the site. Several Hawaii State and County of Kauai government agencies, elected officials, and their corresponding stakeholders have expressed interest in the scope and status of the site investigation.

1.3 Purpose of the Site Investigation

The site investigation was to further characterize and delineate the extent and magnitude of COPC associated with the area defined as the core pesticide mixing area (Core PMA). The Core PMA is the area where the pesticide mixing operations were concentrated, and where the highest concentrations of COPC were identified during the HEER Office's three previous samplings (see Section 3.5 for further details). The site investigation focused on delineating the vertical and horizontal extent of identified COPC in and next to the Core PMA.

1.4 Scope of Work

The scope of work for the site investigation included:

- Site reconnaissance
- Oversight of subsurface utility clearance at sampling locations
- Delineate 26 unique decision units (DUs)
- Advance 96 soil borings throughout the 26 DUs
- Collect 118 soil samples from the 26 DUs
- Analyze samples and compare results to regulatory screening criteria

- Further characterize the nature and extent of contamination at the site
- Prepare an updated environmental hazard evaluation (updated EHE)
- Identify various applicable action alternatives
- Develop conclusions and recommendations for the site based on findings

1.5 Quality Objectives

Data quality objectives (DQOs) for the site investigation were developed during the project planning process and were included in the SAP. The complete DQOs are in Section 4.

2 Project Background

This section provides an overview of the general characteristics of the site and vicinity, historical land use, current land use, and environmental setting. The general characteristics of the site were determined using information provided by the HEER Office, visual observations made during the site reconnaissance, and the various supplemental reports provided by Environmental Data Resources, Inc. (EDR) (EDR 2011). Copies of the EDR supplemental reports are in Attachments A, B, and C. Historical aerial photographs provided by the HEER Office are in Attachment D. Historical land title records for the site properties provided by the HEER Office are in Attachment E.

2.1 Site Description

The site is along Aalona Street and Oka Street in Kilauea, on the northern coast of the Island of Kauai (see Figure 1). The site is accessed by Kilauea Road to Oka Street.

The site consists of 18 properties (see Figures 2 and 3) and is composed predominantly of single-family homes. The site includes a multi-unit apartment facility (managed by the Hawaii Housing Authority [HHA]), a private school and daycare facility, and two commercial properties. The 18 properties at the site occupy a combined area of 4.12 acres. According to the County of Kauai Department of Planning website, the site is zoned for residential communities (Kauai Department of Planning [KDP] 2011). Table 1 has detailed property information, including tax map key (TMK), physical address, primary owner, acreage, and usage.

Table 1 – Site Property Information

TMK	Address	Primary Owner	Area (Acres)	Property Usage
452008056	4264 Ala Muku Pl	Hawaii Housing Authority	1.00271	Apartment Facility
452014007	2414 Oka St	Crain, Kirsten A K – Natural Bridges School	0.13691	School/Daycare
452014008	2404 Oka St	Crain, Kirsten A K – Natural Bridges School	0.14246	School/Daycare
452014042	4295 Aalona St	Sansevere, Thomas G	0.15198	Single Family Home
452014043	2425 Oka St	Hadley, Ronald C	0.15301	Single Family Home
452014048	4282 Aalona St	Grace Paul Trust	0.1301	Single Family Home
452014049	2430 A Oka St	Old Mill LLC	0.48749	Commercial
452014050	2460 Oka St	North Shore Health Center	0.25255	Commercial
452014051	4278 Aalona St	Clarion, Nida S	0.12567	Single Family Home
452014052	4274 Aalona St	Johnson, Collette M	0.13236	Single Family Home
452014053	4276 Aalona St	Howard, Vincent C	0.11883	Single Family Home
452014054	4272 Aalona St	Deforge, Brigitte S	0.23089	Single Family Home
452014055	4270 Aalona St	Cooper, Sheila	0.18537	Single Family Home
452014056	4268 Aalona St	Cudiamat, Adriano A	0.16106	Single Family Home
452014057	4271 Aalona St	Owens, Julia D	0.19176	Single Family Home
452014058	4273 Aalona St	Ortal Willy S and Ederlina O Trust	0.19376	Single Family Home
452014059	4275 Aalona St	Foley, Michael E	0.17741	Single Family Home
452014060	4277 Aalona St	Thompson, Lisa A	0.1483	Single Family Home
SOURCE: Kauai Real Property and Tax Assessment Office Website 2011				

Based upon available information collected during the project planning process, and confirmed by this site investigation, the Core PMA is composed predominantly of three properties:

- 2430 A Oka Street, Old Mill LLC Property
- 4277 Aalona Street, Thompson Property
- 4275 Aalona Street, Foley Property

To the north, the site is bordered by residential properties, beyond which is Keneke Street. To the south, the site is bordered by Oka Street, beyond which are residential properties. To the east, the site is bordered by vacant, undeveloped land and residential properties. To the west, the site is bordered by residential and commercial properties, beyond which is Kilauea Road.

2.2 Historic Land Use

The history of the site and vicinity was researched by the HEER Office and Tetra Tech through Sanborn Fire Insurance Maps, historical aerial photographs, property ownership records, and interviews with former mill workers and Kilauea historians. This research indicated that the site was formerly part of the Kilauea Sugar Company Ltd. Mill that operated from approximately 1877 to 1972. The mill was started by Mr. James Ross and Mr. E.P. Adams and was closed by C. Brewer & Co. (see Attachments A-E).

Research and Sanborn Fire Insurance Map overlays on current tax maps (showing TMK parcels) revealed that portions of the site were used for pesticide storage, pesticide mixing, and seed dipping (see Figure 4). Several potential environmental risks are associated with PMAs, including use and storage of herbicides, pesticides, and other hazardous materials; the potential spilling of these hazardous materials during mixing, loading, and transporting; and the disposal of these hazardous materials in burial trenches when mills are closed (HEER Office 2011f).

Based on extensive previous experience with oversight of other PMA assessments and cleanups throughout the state, the HEER Office determined that additional investigation was warranted.

2.3 Environmental Setting

2.3.1 Topography

The site location is shown on the 1996 United States Geological Survey (USGS) Analoha, Hawaii quadrangle topographic map. According to the contour lines on the map, the site is approximately 325 feet above mean sea level (msl), consistent with the EDR report that indicates the site is located at 320 feet above msl. The general topographic gradient in the area decreases to the north, east, and west toward the Pacific Ocean (EDR 2011).

2.3.2 Wetlands and Surface Water

No wetlands or surface water bodies were observed on the 1996 USGS topographic map. The closest surface water body is Kilauea Stream, approximately 0.3 mile west of the site. The Pacific Ocean is approximately 1 mile north of the site. Two unnamed, manmade drainage features (drainage outfalls) are near the site. The West Drainage Outfall is approximately 250 feet west and downgradient of the site, and ultimately discharges to the Pacific Ocean at Secret Beach. The east drainage outfall is approximately 500 feet east and upgradient of the site, and discharges to the Pacific Ocean. According to the Federal Emergency Management Agency (FEMA) Flood Zone Map, Panel Numbers 150002, the site is not in a flood zone (EDR 2011).

2.3.3 Soil Lithology

According to the EDR report, the United States Department of Agriculture's Soil Conservation Service describes the subsurface soil at the site as part of the Lihue series. The near surface stratum (less than 12 inches bgs) and the next stratum (more than 12 and less than 60 inches bgs) are characterized as silty clay. The Lihue series soils have moderate infiltration rates, are moderately deep to deep, and have moderately coarse textures. The Lihue series soils are classified as moderately well to well drained, and have an intermediate water holding capacity. The Lihue series soils do not meet the requirements for hydric soil (EDR 2011).

During this investigation, the site soils were observed to consist of silty clay, silty clay with gravel, sandy clay, imported fill material, and gravel.

2.3.4 Groundwater

According to “Aquifer Identification and Classification for the Island of Kauai” (Mink and Lau 1992), two aquifers underlie the site. Both the upper and lower aquifers are in the Kilauea Aquifer System of the Lihue Aquifer Sector. The upper aquifer is basal and has contact with seawater, is unconfined, and is in flank lithology. The upper aquifer has potential use for drinking water, but is not currently used. The water in the upper aquifer is considered fresh with less than 250 milligrams per liter (mg/l) of chloride, is irreplaceable, and has a high vulnerability to contamination. The lower aquifer is basal and has contact with seawater, is confined by impermeable or poorly permeable foundations, and is in dike lithology. The lower aquifer is currently used for drinking water. The water in the lower aquifer is considered fresh with less than 250 mg/l of chloride, is irreplaceable, and has a low vulnerability to contamination (Mink and Lau 1992).

The estimated depth to groundwater in the lower aquifer for the general site region is approximately 200-400 feet bgs depending on the specific location and elevation, based on information provided by the County of Kauai Department of Engineering and the USGS. No site-specific depth to groundwater data was provided or available. Based on topography, the inferred groundwater flow direction is expected to be to the north. The local gradient and groundwater flow direction near the site may be influenced naturally by zones of higher or lower permeability, nearby streams or wetlands, or nearby wells. Information available in the EDR report and other available historical references did not indicate direction of groundwater flow near the site.

Groundwater was not encountered in any of the soil borings to approximately 10 feet bgs in this investigation.

2.3.5 Drinking Water Sources

The site is on the seaward side of the underground injection control (UIC) line. The UIC line was established by the HDOH Safe Drinking Water Branch (SDWB) to protect groundwater resources. On April 21, 2011, Tetra Tech contacted a representative from the HDOH SDWB to confirm the location of the site with reference to the UIC line. Mr. Norris Uehara confirmed that the site was on the seaward side of the UIC line. Groundwater inland of the UIC line is considered a potential drinking water source. Groundwater seaward of the UIC line is considered as non-potable and saline. Injection wells are prohibited inland of the UIC line (HDOH SDWB 2011).

3 Previous Sampling Activities – August 2010 through March 2011

This section provides an overview of the three previous samplings at the site by the HEER Office under the SOO program and sampling at the HHA property debris pit by Kauai Environmental. This section includes a summary of the sample results and an overview of the preliminary EHE)

Although the HEER Office has not prepared a report for the work performed under the SOO program to date, the details of the three samplings, including sampling locations, protocols, and laboratory analytical reports, were provided to Tetra Tech. All HEER Office work was performed in accordance with the applicable SOO protocols and associated SAPs (HEER Office 2011f).

Table 2 presents a summary of the analytical data from the three previous HEER Office samplings. The DU locations are on Figure 5.

Table 3 presents a summary of the analytical data from the Kauai Environmental sampling event conducted at the HHA property debris pit. The DU location is on Figure 5.

Table 2 – Summary of Soil Sample Results from Previous HEER Office Sampling Events

Primary COPC ¹	HDOH Tier I EAL (Unrestricted Use) ²	HDOH Tier I EAL (Commercial / Industrial Use) ²	KKSC-DU1	KKSC-DU2	KKSC-DU3	KKSC-DU4	KKSC-DU5	KKSC-DU6 ³	KKSC-DU7 ³	KKSC-DU8 ³	KSPMA-DU1	KSPMA-DU2	KSPMA-DU3	KSPMA-DU4	KSPMA-DU5	KSPMA-DU6	KSPMA-DU7	KSPMA-DU8	KSNB-DU1	KSNB-DU2
Sample Date			8.19.10	8.19.10	8.19.10	8.19.10	8.18.10	8.18.10	8.18.10	8.18.10	12.15.10	12.15.10	12.15.10	12.15.10	12.16.10	12.15.10	12.16.10	12.16.10	3.5.11	3.5.11
Depth Interval (' bgs)			0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Soil Analysis (ng/kg)																				
TEQ DIOXINS	240	1500	18	110	299	143	930	817	1070	879	170	94	87	55	140	1700	2500	650	17	125
Soil Analysis (mg/kg)																				
TOTAL ARSENIC	24	24	ND [<29]	ND [<30]	100	44 ^a	180 ^a	520 ^a	770	430 ^a	19.8	93.9	33.8	12.5	39.1	1890	3760	317	13.3	19.7
BIOACCESSIBLE ARSENIC	23	95	NA	NA	18.1	NA	NA	NA	307	NA	NA	9.98	4.6	NA	7.95	786	1870	69.6	NA	NA
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	NA	NA	6.56	NA	NA	NA	18	NA	NA	4.27	4.88	NA	5.74	24.8	27.1	9.9	NA	NA
TOTAL ARSENIC (250 µm)	NE	NE	NA	NA	276	NA	NA	NA	1700	NA	NA	234	94.2	NA	138	3170	6890	703	NA	NA
MERCURY	4.7	61	0.328	0.28	1.44	0.467	5.94	15.4	28.2	45	0.569	0.969	0.776	0.416	1.12	18.4	13.8	11.1	NA	NA
LEAD	200	800	17	15	43	35	680	130	160	130	32.1	84	65.5	21	125	288	420	313	NA	NA
PENTACHLOROPHENOL	3	5	ND [<0.05]	0.26	0.11	0.093	0.3	0.05	0.44	0.28	ND [<0.05]	ND [<0.05]	ND [<0.05]	ND [<0.05]	ND [<0.05]	3.61	7.13	0.23	NA	NA
NOTES:																				
Red Text = Detected concentration exceeds the HDOH Tier I EAL for Unrestricted Use only.																				
Red Bold Text = Detected concentration exceeds the HDOH Tier I EALs for both Unrestricted and Commercial/Industrial Use.																				
mg/kg = Milligrams per kilogram (parts per million [ppm]) equivalent)																				
ng/kg = Nanograms per kilogram (parts per trillion [ppt] equivalent)																				
a = Detected concentration of total arsenic exceeded 20 ppm, but bioaccessible arsenic analysis was not conducted.																				
1 = This table only presents the soil sample results for the Primary COPC for the subject site investigation. This table does not include all of the analytical data for the other COPC categories.																				
2 = Fall 2011 Revised Tier I EALs																				
3 = Triplicate sample																				
KKSC = Kauai Kilauea Sugar Company																				
KSPMA = Kilauea Sugar Pesticide Mixing Area																				
KSNB = Kilauea Sugar Natural Bridges																				
ND = Not detected at or above the method detection limit shown in brackets																				
NA = Not analyzed																				
NE = Not established																				

Table 3 – Summary of Kauai Environmental HHA Property Debris Pit Sampling Results

COPC ¹	HDOH Tier I EAL (Unrestricted Use) ²	HDOH Tier I EAL (Commercial / Industrial Use) ²	KBV -01 ³
Sample Date			1.26.11
Depth Interval (' bgs)			4.0-6.0
Soil Analysis (ng/kg)			
TEQ DIOXINS	240	1500	NA
Soil Analysis (mg/kg)			
TOTAL ARSENIC	24	24	950 ^a
BIOACCESSIBLE ARSENIC	23	95	NA
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	NA
TOTAL ARSENIC (250 µm)	NE	NE	NA
MERCURY	4.7	61	3.6
LEAD	200	800	240
PENTACHLOROPHENOL	3	5	6.4
TPH-DRO	500	500	ND [<20]
TPH-RRO	500	1000	ND [<40]
PCBs - AROCLOR 1016 - 1260	1.1	7.4	ND [<0.5]
BARIUM	1000	2500	420
CADMIUM	14	120	3.3
CHROMIUM	1100	1100	42
SELENIUM	78	1000	ND [<20]
SILVER	78	1000	ND [<20]
4-NITROPHENOL	NE	NE	1700
PHENANTHRENE	69	69	0.32
FLUORANTHENE	40	40	0.42
PYRENE	56	56	0.53
BENZO(A)ANTHRACENE	1.5	13	0.41
CHRYSENE	14	14	0.84
BENZO(B)FLUORANTHENE	1.5	12	0.2
BENZO(K)FLUORANTHENE	15	40	0.41
NOTES:			
Red Text = Detected concentration exceeds the HDOH Tier I EAL for Unrestricted Use only.			
Red Bold Text = Detected concentration exceeds the HDOH Tier I EALs for both Unrestricted and Commercial/Industrial Use.			
mg/kg = Milligrams per kilogram (parts per million [ppm]) equivalent)			
ng/kg = Nanograms per kilogram (parts per trillion [ppt] equivalent)			
a = Detected concentration of total arsenic exceeded 20 ppm, but bioaccessible arsenic analysis was not conducted.			
1 = All other analyses for Organochlorine Pesticides 8081 and SVOC 8270 are ND.			
2 = Fall 2011 Revised Tier I EALs			
3 = This sample was collected by Kauai Environmental.			
KBV = Kauai Beach Villas			
NA = Not analyzed			
ND = Not detected at or above the method detection limit shown in brackets			
NE = Not established			

3.1 HEER Office August 2010 Sampling

In August 2010, the HEER Office conducted the first of three soil samplings. The first sampling was to assess the presence or absence of COPC in the surface soils at the site.

During this sampling, the HEER Office collected 8 multi-increment soil samples from 6 DUs (see Figure 5)—the HHA property (2 DUs), Foley property (2 DUs), and Thompson property (2 DUs). The HEER Office used a single naming scheme for both the DU and sample identification (ID). The DU/Sample ID naming scheme for this sampling event followed the following format:

A-B

Where:

A Specifies the site, (KKSC) Kauai Kilauea Sugar Company

B Specifies the DU

All samples were collected from 0-0.5 foot bgs, using a handheld drill or stainless steel trowel. These samples were submitted to Test America’s laboratory in Aiea, Hawaii, for analysis of the following COPC:

- Total metals with United States Environmental Protection Agency (EPA) Method 6010 and 7471
- Bioaccessible arsenic with Physiologically Based Extraction Test (PBET)
- Organochlorine pesticides with EPA Method 8081
- Modified Pesticides Screen (Triazine Pesticides and Organophosphorus Pesticides) with EPA Method 8270
- Chlorinated herbicides with EPA Method 8151
- Toxicity equivalence (TEQ) Dioxins with EPA Method 8290
- Semivolatile organic compounds (SVOC) with EPA Method 8270
- Carbamate herbicides with EPA Method 8321

The results were compared with the HEER Office’s Tier I Environmental Action Levels (EAL) for soils on both unrestricted use and commercial or industrial use sites, where potentially impacted groundwater is not a current or potential drinking water resource, and with surface water bodies located more than 150 meters from the site (HEER Office 2011b).

Laboratory analytical results indicated that COPC concentrations in six of the eight samples exceeded the applicable HEER Office Tier I EALs. Multiple COPC exceeded the applicable HEER Office Tier I EALs for the samples collected at the Thompson and Foley properties.

A summary of the analytical results is in Table 4 and the sample locations are shown on Figure 5.

Table 4 – HEER Office August 2010 Sample Summary

TMK/Property Info	DU/Sample ID	Number of Samples Collected	COPC Exceeding HEER Office Tier I EALs ¹	Sample Location
452008056 HHA Property	KKSC-DU1	1	None	North of Building B
	KKSC-DU2	1	None	West of Building B
452014059 Foley Property	KKSC-DU3	1	TEQ Dioxins Total Arsenic (Note: Bioaccessible arsenic below Tier I EAL)	Back Yard
	KKSC-DU4	1	Total Arsenic ²	Front Yard
452014060 Thompson Property	KKSC-DU5	1	TEQ Dioxins	Front Yard
			Total Arsenic ²	
			Mercury	
			Lead	
	KKSC-DU6	1	TEQ Dioxins	Side and Back Yards - Triplicate
			Total Arsenic ²	
			Mercury	
	KKSC-DU7	1	TEQ Dioxins	Side and Back Yards - Triplicate
			Total Arsenic	
			Bioaccessible Arsenic	
	KKSC-DU8	1	TEQ Dioxins	Side and Back Yards - Triplicate
			Total Arsenic ²	
Mercury				
NOTES:				
Red Text = Detected concentration exceeds the HDOH Tier I EAL for Unrestricted Use only.				
Red Bold Text = Detected concentration exceeds the HDOH Tier I EALs for both Unrestricted and Commercial/Industrial Use.				
1 = Fall 2011 Revised Tier I EALs				
2 = Detected concentration of total arsenic exceeded 20 ppm, but bioaccessible arsenic analysis was not conducted.				
KKSC = Kauai Kilauea Sugar Company				

Based on the findings from the August 2010 sampling, the HEER Office determined additional assessment and sampling would be necessary to further characterize identified impacts from historical site operations (HEER Office 2011f).

3.2 HEER Office December 2010 Sampling

In December 2010, the HEER Office conducted the second of three soil samplings. The second sampling was to further characterize the surface soils, based on the results of the August 2010 sampling (HEER Office 2011f).

During this sampling, the HEER Office collected eight multi-increment soil samples from eight DUs (see Figure 5). The eight DUs were: the Cudiamat property (1 DU); the Howard property (1 DU), the Clarion property (1 DU), the Owens property (1 DU), the North Shore Health Center property (1 DU), and the Old Mill LLC property (3 DUs). The HEER Office used a single naming scheme for both the DU and sample identification (ID). The DU/Sample ID naming scheme for this sampling event followed the following format:

A-B

Where:

- A Specifies the site, (KSPMA) Kilauea Sugar Pesticide Mixing Area
- B Specifies the DU

All samples were collected from 0-0.5 foot bgs, using a handheld drill or stainless steel trowel. These samples were submitted to Test America's laboratory in Aiea, Hawaii, for analysis of the following COPC:

- Total metals with EPA Method 6010 and 7471
- Bioaccessible arsenic with PBET
- Organochlorine pesticides with EPA Method 8081
- Modified Pesticides Screen (Triazine Pesticides and Organophosphorus Pesticides) with EPA Method 8270
- Chlorinated herbicides with EPA Method 8151
- TEQ dioxins with EPA Method 8290
- SVOC with EPA Method 8270
- Carbamate herbicides with EPA Method 8321

The results were compared with the HEER Office's Tier I EALs for soils on unrestricted use and commercial or industrial use sites, where potentially impacted groundwater is not a current or potential drinking water resource, and with surface water bodies more than 150 meters from the site (HEER Office 2011b).

Laboratory analytical results indicated that COPC concentrations for six of the eight soil samples exceeded the applicable Tier I EALs, including samples from: the Howard property, the Clarion property, the North Shore Health Center property, and the Old Mill LLC property.

A summary of the analytical results is in Table 5 and the sample locations are shown on Figure 5.

Table 5 – HEER Office December 2010 Sample Summary

TMK/Property Info	DU/Sample ID	Number of Samples	COPC Exceeding HEER Office Tier I EALs ¹	Sample Location
452014056 Cudiamat Property	KSPMA-DU1	1	None	Front and Side Yards
452014053 Howard Property	KSPMA-DU2	1	Total Arsenic (Note: Bioaccessible arsenic below Tier I EAL)	Front and Back Yards
452014051 Clarion Property	KSPMA-DU3	1	Total Arsenic (Note: Bioaccessible arsenic below Tier I EAL)	Front, Side, and Back Yards
452014057 Owens Property	KSPMA-DU4	1	None	Front, Side, and Back Yards
452014050 North Shore Health Center Property	KSPMA-DU5	1	Total Arsenic (Note: Bioaccessible arsenic below Tier I EAL)	Side Yard
452014049 Old Mill LLC Property	KSPMA-DU6	1	TEQ Dioxins	North-Central Drainage Swale
			Total Arsenic	
			Bioaccessible Arsenic	
	KSPMA-DU7	1	TEQ Dioxins	South-Central Drainage Swale
			Total Arsenic	
			Bioaccessible Arsenic	
	KSPMA-DU8	1	Pentachlorophenol	Eastern Drainage Swale
			Total Arsenic	
	NOTES:			
Red Text = Detected concentration exceeds the HDOH Tier I EAL for Unrestricted Use only.				
Red Bold Text = Detected concentration exceeds the HDOH Tier I EALs for both Unrestricted and Commercial/Industrial Use.				
1 = Fall 2011 Revised Tier I EALs				
KSPMA = Kilauea Sugar Pesticide Mixing Area				

Based on the findings from the December 2010 sampling, the HEER Office determined additional assessment and sampling would be required to further characterize identified impacts from historical site operations (HEER Office 2011f). Specifically, the HEER Office was concerned with potential impacts to the Natural Bridges School (school and daycare facility) located directly adjacent to the Old Mill LLC property.

3.3 HEER Office March 2011 Sampling

In March 2011, the HEER Office conducted the third of three soil samplings. The third sampling was to further characterize the surface soils at the Natural Bridges School property (HEER Office 2011f).

During this sampling, the HEER Office collected two multi-increment soil samples from two DUs (see Figure 5) at the Natural Bridges School property. The HEER Office used a single naming scheme for both the DU and sample identification (ID). The DU/Sample ID naming scheme for this sampling event followed the following format:

A-B

Where:

- A Specifies the site, (KSNB) Kilauea Sugar Natural Bridges
- B Specifies the DU

All samples were collected from 0-0.5 foot bgs, using a handheld drill. The samples were submitted to Test America laboratory in Aiea, Hawaii, for analysis of the following COPC:

- Total arsenic with EPA Method 6010
- TEQ dioxins with EPA Method 8290

The results were compared with the HEER Office's Tier I EALs for soils on unrestricted use sites, where potentially impacted groundwater is not a current or potential drinking water resource, and with surface water bodies more than 150 meters from the site (HEER Office 2011b).

All COPC concentrations were below the applicable HEER Office Tier I EALs.

A summary of the analytical results is in Table 6 and the sample locations are shown on Figure 5.

Table 6 – HEER Office March 2011 Sample Summary

TMK/Property Info	DU/Sample ID	Number of Samples Collected	COPC Exceeding HEER Office Tier I EALs ¹	Sample Location
452014007 Natural Bridges School	KSNB-DU1	1	None	Playground Area
452014008 Natural Bridges School	KSNB-DU2	1	None	Front, Side, and Back Yards
NOTES:				
1 = Fall 2011 Revised Tier I EALs				
KSNB = Kilauea Sugar Natural Bridges				

Based on the findings from the March 2011 sampling, the HEER Office recommended no further assessment or sampling was needed at the Natural Bridges School property (HEER Office 2011f).

3.4 Kauai Environmental HHA Property Debris Pit January 2011 Sampling

HHA contracted AECOM to do construction oversight of the installation of the new septic systems at their property in Kilauea on the Island of Kauai (TMK 452008056). During excavation for the septic tank and tile field at the HHA property, a debris and trash pit was identified. AECOM subcontracted Kauai Environmental to do limited soil sampling of the debris pit to assess potential contamination concerns. This work was not done by the HEER Office, or under the direction or oversight of the HEER Office. Kauai Environmental prepared a sampling summary memorandum dated February 7, 2011 and, a contaminated soil management work plan dated July 7, 2011 (Kauai Environmental 2011). This work plan included a revised version of the sampling summary memorandum. Additional information related to the HHA debris pit was in a summary memorandum prepared by Mr. Mark Sutterfield, technical consultant for the HEER Office, dated March 15, 2011 (Sutterfield 2011).

The debris pit was found in the northwest corner of the HHA property, running the entire length of Building B. Refer to Figure 3 for the location of Building B and Figure 5 for location of the debris pit. The materials identified in the pit included: wire, glass, yellow and red powder, metal, and electrical equipment. The debris was buried approximately 4-6 feet bgs. The highest concentration of debris was along the northwestern portion of the pit, and visual signs of debris decreased when moving east towards Building B (Kauai Environmental 2011 and Sutterfield 2011).

Some soils in in the pit were noted to be black, yellow or red. In January 2011, Kauai Environmental collected one 10-point composite soil sample (sample ID: KBV-01) from the remaining debris in the northwestern sidewall of the pit. The soil sample was submitted to ESN Pacific’s laboratory in Honolulu, Hawaii, for analysis of the following COPC:

- Total petroleum hydrocarbons-diesel range organics (TPH-DRO) and total petroleum hydrocarbons-residual range organics (TPH-RRO) with EPA Method 8015
- Polychlorinated biphenyls (PCB) with EPA Method 8082

- Organochlorine pesticides with EPA Method 8081
- Resource Conservation and Recovery Act (RCRA) 8 metals with EPA Method 6010 and 7471
- SVOC with EPA Method 8260

Total arsenic, lead, and pentachlorophenol concentrations exceeded the applicable HEER Office Tier I EALs. Although an elevated concentration of 4-nitrophenol (1,700 milligrams per kilogram [mg/kg]) was detected, the HEER Office has not established a Tier I EAL for 4-nitrophenol. The results for selenium and silver were reported as not detected (ND); however, the laboratory method detection limits for both selenium and silver were greater than the Tier I EALs for unrestricted use (Kauai Environmental 2011).

A summary of the analytical results is in Table 7 and the sample locations are shown on Figure 5.

Table 7 – HHA Property Debris Pit January 2011 Sample Information

TMK/Property Info	DU/Sample ID	Number of Samples Collected	COPC Exceeding HEER Office Tier I EALs ¹	Sample Location
452008056 HHA Property	KBV-01	1	Total Arsenic ²	Debris Pit
			Lead	
			Pentachlorophenol	
NOTES: Red Text = Detected concentration exceeds the HDOH Tier I EAL for Unrestricted Use only. Red Bold Text = Detected concentration exceeds the HDOH Tier I EALs for both Unrestricted and Commercial/Industrial Use. 1 = Fall 2011 Revised Tier I EALs 2 = Detected concentration of total arsenic exceeded 20 ppm, but bioaccessible arsenic analysis was not conducted. KBV = Kauai Beach Villas				

The HEER Office made several recommendations to HHA regarding proper procedures and protocols for site activities, including excavation, stockpiling, best management practices (BMPs) related to contaminated soil, and capping with clean fill material. Kauai Environmental has reportedly been contracted by HHA to further assess the impacted soil and determine proper waste management options (Sutterfield 2011). According to the HEER Office, on July 7, 2011, Kauai Environmental submitted a work plan regarding the pending soil management activities.

Based on the findings of the Kauai Environmental HHA property debris pit sampling, the HEER Office determined the following:

- The data suggests that the abutting residential properties to the west-northwest, the Foley property (TMK 452008059), and the Ortal property (TMK 452014058), may be impacted with debris and trash.
- There is some evidence that contamination from a former pesticide storage facility may be buried in the extreme southwest portion of the HHA property, near the Drainage Swale. No soil has been sampled in this area. Several soil borings or test pits will be required to determine the nature and extent of



contamination in this area. Samples should be collected on the HHA property, the Foley property, and Ortal property to address this data gap (Sutterfield 2011).

The above HDOH recommendations were included in the subject site investigation in this report.

3.5 Summary of Previous Sampling Activities

This section provides a summary of the three HEER Office sampling events and the HHA property debris pit sampling event.

3.5.1 Identified Contaminants of Potential Concern

The five most prevalent COPC for the site are TEQ dioxins, arsenic (including total arsenic and bioaccessible arsenic), mercury, pentachlorophenol, and lead. Of these COPC, TEQ dioxins and arsenic exhibited the greatest degree of impact.

3.5.2 Extent of Contamination

The impacted surface soil is primarily located on the Thompson property, the Foley property, and in the Drainage Swale of the Old Mill LLC property. As previously indicated these properties are referred to as the “Core PMA.” No soil samples were collected at depths greater than 0.5 feet bgs during the three HEER Office sampling events. As a result, the vertical extent of impacted soil at the site is unknown.

The identified impacted subsurface soil is limited to the HHA property debris pit, as this was the only portion of the site where subsurface soil samples were collected. No soil samples were collected from at depths other than 4-6 feet bgs during the HHA property debris pit sampling event. As a result, the vertical extent of impacted soil at the HHA property debris pit is unknown.

3.5.3 Possible Sources of Contamination

The impacted surface soil at the site is likely the result of on-site activities from former PMA operations. Based on available information, these operations or activities included: the use and storage of herbicides, pesticides, and other hazardous materials; the potential spillage of these hazardous materials during mixing, loading, and transporting activities; and the illegal disposal of these hazardous materials when mill operations ceased. Historical evidence indicates that all of these activities likely occurred at the site.

The impacted subsurface soil in the HHA property debris pit is likely the result of disposal of these hazardous materials when mill operations ceased.

3.5.4 Core PMA Findings

Old Mill LLC Property:

See Figure 3 for property location and Figure 5 for DU locations.

- Soils within the Drainage Swale portion of the Old Mill LLC property exhibited the greatest degree of impact, compared to the other two Core PMA properties.
- The highest TEQ dioxins concentration (2,500 nanograms per kilogram [ng/kg], equivalent to parts per trillion [ppt]); total arsenic concentration (6,890 mg/kg); bioaccessible arsenic concentration (1,870

mg/kg); and pentachlorophenol concentration (7.13 mg/kg) were detected in DU/Sample ID: KSMPA-DU7. This DU is located in the south-central portion of the Drainage Swale (hereinafter the "Drainage Swale") on the Old Mill LLC property, and near the commercial use building. All of these detected concentrations exceeded the applicable HEER Office Tier I EALs. This DU exhibited the greatest degree of impact of any sampling location at the site.

- The next highest TEQ dioxins concentration (1,700 ng/kg); total arsenic concentration (3,170 mg/kg); bioaccessible arsenic concentration (786 mg/kg); and pentachlorophenol concentration (3.61 mg/kg) were detected in DU/Sample ID: KSPMA-DU6. This DU is located in the north-central portion of the Drainage Swale on the Old Mill LLC property, and near the Thompson property. All of these detected concentrations exceeded the applicable HEER Office Tier I EALs. This DU exhibited the next most degree of impact of any sampling location at the site.
- The sample collected from the southeastern portion of the Drainage Swale on the Old Mill LLC property (DU/Sample ID: KSPMA-DU8) had detected concentrations of TEQ dioxins (650 ng/kg); total arsenic (703 mg/kg); bioaccessible arsenic (69.6 mg/kg); mercury (11.1 mg/kg); and lead (313 mg/kg) that exceeded the applicable HEER Office Tier I EALs. The detected concentrations of COPC in this sample were lower than those from DU/Sample ID: KSPMA-DU6 and KSPMA-DU7.

Thompson Property:

See Figure 3 for property location and Figure 5 for DU locations.

- Soils at the Thompson property indicated the second greatest degree of impact, compared to the other two Core PMA properties.
- The four samples collected from the Thompson property (DU/Sample ID: KKSC-DU5 to KKSC-DU8) had detected concentrations of TEQ dioxins (range: 817 to 1,070 ng/kg), total arsenic (range: 180 to 1,700 mg/kg), and mercury (range: 5.94 to 45 mg/kg) exceed the applicable HEER Office Tier I EALs.
- DU/Sample ID: KKSC-DU5 had detected concentrations of lead (680 mg/kg) and DU/Sample ID: KKSC-DU7 had detected concentrations of bioaccessible arsenic (307 mg/kg) that exceeded the applicable HEER Office Tier I EALs.
- The highest mercury concentration at the site (45 mg/kg) was detected in DU/Sample ID: KKSC-DU8. This DU is located in the side and back yards of the Thompson property.
- The highest lead concentration at the site (680 mg/kg) was detected in DU/Sample ID: KKSC-DU5. This DU is located in the front yard of the Thompson property.

Foley Property:

See Figure 3 for property location and Figure 5 for DU locations.

- Soils at the Foley property indicated the least degree of impact, compared to the other two Core PMA properties.
- The two samples collected from the Foley property (DU/Sample ID: KKSC-DU3 to KKSC-DU4) had detected concentrations of total arsenic (276 mg/kg and 44 mg/kg, respectively) that exceeded the applicable HEER Office Tier I EALs.
- DU/Sample ID: KKSC-DU3 also had detected concentrations of TEQ dioxins (299 ng/kg) that exceeded the applicable HEER Office Tier I EAL.

The analytical data suggests that the greatest extent of impacted soil is in the Drainage Swale portion of the Old Mill LLC property, and that elevated concentrations are likely present underneath the commercial building at property. No sampling was conducted within or underneath the commercial building or the paved parking lot, since it is an active facility. These findings support that COPC concentrations are anticipated to decrease further from the Drainage Swale portion of the Old Mill LLC property.

3.5.5 HHA Property Findings

See Figure 3 for property location and Figure 5 for DU locations.

- None of the samples collected from the HHA property (DU/Sample IDs: KKSC-DU1 and KKSC-DU2) during the HEER Office August 2010 sampling event had detected concentrations of COPC exceed the applicable HEER Office Tier I EALs.
- In January 2011, a debris pit at the HHA property was identified by Kauai Environmental at approximately 4-6 feet bgs. The highest concentration of debris was located along the northwestern portion of the debris pit. The soil sample collected from the HHA property debris pit (DU/Sample ID: KBV-01) had detected concentrations of total arsenic, lead, and pentachlorophenol which exceed the applicable HEER Office Tier I EALs.

3.5.6 Other Area Findings

Howard Property, Clarion Property, and North Shore Health Center Property:

See Figure 3 for property locations and Figure 5 for DU locations.

- The sample collected from the Howard property (DU/Sample ID: KSPMA-DU2) had detected concentration of total arsenic exceed the applicable HEER Office Tier I EAL. However, the detected concentration of bioaccessible arsenic did not exceed the HEER Office Tier I EAL.

- The sample collected from the Clarion property (DU/Sample ID: KSPMA-DU3) had detected concentration of total arsenic exceed the applicable HEER Office Tier I EAL. However, the detected concentration of bioaccessible arsenic did not exceed the HEER Office Tier I EAL.
- The sample collected from the North Shore Health Center property (DU/Sample ID: KSPMA-DU5) had detected concentration of total arsenic exceed the applicable HEER Office Tier I EAL. However, the detected concentration of bioaccessible arsenic did not exceed the HEER Office Tier I EAL.
- These findings suggest that the Howard property, Clarion property, and North Shore Health Center property, have limited impacts from historic site activities.

Cudiamat Property, Owens Property, and Natural Bridges School Property:

See Figure 3 for property locations and Figure 5 for DU locations.

- None of the samples collected from the Cudiamat property, Owens property, or Natural Bridges School property during the three HEER Office sampling events had detected concentrations of COPC exceed the applicable HEER Office Tier I EALs.

3.6 Preliminary Environmental Hazard Evaluation

Tetra Tech conducted a preliminary environmental hazard evaluation (preliminary EHE) as part of the project planning process and it was included in the SAP. The preliminary EHE was conducted using the data from the HEER Office's three previous samplings (August 2010, December 2010, and March 2011). The preliminary EHE evaluated potential soil, groundwater, and soil gas hazards (Tetra Tech 2011).

Direct exposure, potential terrestrial ecology through runoff, and gross contamination soil hazards were identified at the site. No groundwater or soil gas data was available, as a result a quantitative evaluation of groundwater and soil gas contamination was not completed. However, based on available soil sample analytical results, site conditions, and leaching potential of the identified COPC, the potential environmental hazards for groundwater and soil gas were not considered significant. Refer to Section 4 of the SAP for additional details regarding the preliminary EHE (Tetra Tech 2011).

3.7 Evaluation of Targeted Contaminants of Concern for Previous Sampling Activities

After preparing the preliminary EHE, the findings and analytical data from the previous sampling activities were further evaluated. TEQ dioxins and arsenic (including total arsenic and bioaccessible arsenic) were selected as the targeted contaminants of concern (TCOC) for the focused evaluation, because they were the primary drivers for potential human health risks, and because they were the two most prevalent COPC at the site based on previous sampling activities. The HEER Office has conducted numerous evaluations of these two COPC at other agricultural sites and developed specific Tier II EALs for them. The HEER Office Tier II EALs are based on modifications to the EPA Regional Screening Levels that were used to develop the HEER Office Tier I EALs.

The term “dioxins” is used to refer to a family of chlorinated compounds with similar chemical structures and mechanisms of toxicity, referred to as congeners. The evaluation of risk to human health focuses on 17 specific congeners – seven (7) polychlorinated dibenzo-p-dioxins (PCDD) and (10) polychlorinated dibenzofurans (PCDF). Individual congeners are not equally toxic. The toxicity of specific congeners is assigned a value relative to the toxicity of 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD), the most potent carcinogen of the 17 congeners evaluated. These values are referred to as toxicity equivalence factors (TEF). The reported concentration of an individual congener is multiplied by its respective TEF to produce a toxicity equivalence (TEQ) concentration. The TEQ concentrations for individual congeners are then added together to calculate a total TEQ dioxins concentration for the sample.

The TEQ dioxins concentrations cited throughout this report were all calculated using the TEFs developed by the World Health Organization (WHO) in 2005 (WHO 2005).

Bioaccessible arsenic data more accurately evaluates risks to human health than does total arsenic data. The HEER Office requested that the evaluation of the TCOC use both the total arsenic and bioaccessible arsenic data, because not all samples were analyzed for bioaccessible arsenic. When total arsenic and bioaccessible arsenic data were available for a given sample, the bioaccessible arsenic data was used. When bioaccessible arsenic data was unavailable, the total arsenic concentration was used to estimate the bioaccessible arsenic concentration. The bioaccessible arsenic concentration was estimated using 10 percent of the total arsenic concentration, as recommended by the HEER Office. Based on the small sample size, and the variability of the percent bioaccessible arsenic in the samples collected during the previous sampling activities at the site, it was not possible to apply a site-specific percentage (the bioaccessible percentage ranged from approximately 5% to 30%, with significant variability between DUs). Higher bioaccessible percentages were not necessarily correlated to significantly elevated total arsenic concentrations.

A focused evaluation of the TCOC was conducted to identify the degree of impact for the TCOC in each DU/DOH Sample ID from the previous sampling activities with respect to the applicable HEER Office Tier II EAL Risk Categories.

As defined by the HEER Office, and for subsequent discussions, the Tier II EAL Risk Categories are:

- A – Background
- B – Minimally impacted
- C – Moderately impacted
- D – Heavily impacted

The TCOC analytical results were compared to the HEER Office’s Tier II EALs for soils on unrestricted use and commercial or industrial use sites (depending on current property use) (HEER Office 2011d and 2011e). The evaluation consisted of two separate steps, as follows:

- Step 1 – Identify HEER Office Tier II EAL risk categories for each sample for each TCOC (i.e., separate values for TEQ dioxins and arsenic).
- Step 2 – Identify highest impact Tier II EAL risk category for each sample for both TCOC.

Example: If dioxin concentration of 150 ng/kg [Category B], and bioaccessible arsenic concentration of 1000 mg/kg [Category D], then the Tier II risk category for the DU is Category D.

3.7.1 Step 1 – Identify Tier II EAL Risk Categories for Each Sample for Each TCOC

As part of Step 1, the TCOC analytical results were compared to the HEER Office’s Tier II EALs for soils on unrestricted use and commercial or industrial use sites (depending on current property use) (HEER Office 2011d and 2011e). In general, each sample had a two separate risk categories, one for TEQ dioxins and one for arsenic. If there was no TCOC analytical data available, the sample was not assigned a risk category. The findings from Step 1 are presented in Appendix H, which includes separate tables for TEQ Dioxins and arsenic.

3.7.2 Step 2 – Identify Highest Impact Tier II EAL Risk Categories for Each Sample

As part of Step 2, the information from Step 1 was used to identify the highest impact Tier II EAL risk category for each sample. The individual risk categories for TEQ dioxins and arsenic for a given sample were compared, and the highest impact risk category identified was assigned to that sample, to provide the most conservative approach.

The findings from Step 2 are presented on Figure 6, which shows each DU/Sample ID with respect to the Tier II EAL risk categories. This figure presents only the TCOC analytical data. The highest impact risk category identified among all samples for a given DU was the risk category selected for that DU in Figure 6 to present the most conservative scenario.

A summary of the findings from the focused evaluation is provided below.

3.7.3 TCOC at the Core PMA Properties

Old Mill LLC Property:

The Drainage Swale portion of the Old Mill LLC property consists of DU/Sample IDs: KSPMA-DU6 to KSPMAC-DU8.

- The findings from DU/Sample IDs KSPMA-DU6 and KSPMA-DU7 indicate that Category D TCOC-impacted soil is present from 0-0.5 feet bgs.
- The findings from DU/Sample ID KSPMA-DU8 indicate that Category C TCOC-impacted soil is present from 0-0.5 feet bgs.

Thompson Property:

The Thompson property consists of DU/Sample IDs KKSC-DU5 to KKSC-DU8.

- The findings from DU/Sample ID KKSC-DU7 indicate that Category D TCOC-impacted soil is present from 0-0.5 feet bgs.
- The findings from DU/Sample IDs KKSC-DU5, KKSC-DU6, and KKSC-DU8 indicate that Category C TCOC-impacted soil is present from 0-0.5 feet bgs.

Foley Property:

The Foley property consists of DU/Sample IDs KKSC-DU3 and KKSC-DU4.

- The findings from DU/Sample ID KKSC-DU3 indicate that Category C TCOC-impacted soil is present from 0-0.5 feet bgs.
- The findings from DU/Sample ID KKSC-DU4 indicate that Category B TCOC-impacted soil is present from 0-0.5 feet bgs.

3.7.4 TCOC at the HHA Property

The HHA property consists of DU/Sample IDs: KKSC-DU1, KKSC-DU2, and KBV-01.

- The findings from DU/Sample ID KKSC-DU2 indicate that Category B TCOC-impacted soil is present from 0-0.5 feet bgs.
- The findings from DU/Sample ID KKSC-DU1 indicate that Category A soil is present from 0-0.5 feet bgs.
- The findings from DU/Sample ID KBV-01 indicate that Category C TCOC-impacted soil is present from 4-6 feet bgs within the HHA property debris pit.

3.7.5 TCOC at the Remaining Properties

Cudiamat Property:

The Cudiamat property consists of DU/Sample ID KSPMA-DU1.

- The findings from DU/Sample ID KSPMA-DU1 indicate that Category B TCOC-impacted soil is present from 0-0.5 feet bgs.

Howard Property:

The Howard property consists of DU/Sample ID KSPMA-DU2.

- The findings from DU/Sample ID KSPMA-DU2 indicate that Category B TCOC-impacted soil is present from 0-0.5 feet bgs.

Clarion Property:

The Clarion property consists of DU/Sample ID KSPMA-DU3.

- The findings from DU/Sample ID KSPMA-DU3 indicate that Category B TCOC-impacted soil is present from 0-0.5 feet bgs.

Owens Property:

The Owens property consists of DU/Sample ID KSPMA-DU4.

- The findings from DU/Sample ID KSPMA-DU4 indicate that Category B TCOC-impacted soil is present from 0-0.5 feet bgs.

North Shore Health Center Property:

The North Shore Health Center property consists of DU/Sample ID KSPMA-DU5.

- The findings from DU/Sample ID KSPMA-DU5 indicate that Category B TCOC-impacted soil is present from 0-0.5 feet bgs.

Natural Bridges School Property:

The Natural Bridges School property consists of DU/Sample IDs: KSNB-DU1 and KSNB-DU2.

- The findings from DU/Sample ID KSNB-DU1 indicate that Category A soil is present from 0-0.5 feet bgs.
- The findings from DU/Sample ID KSNB-DU2 indicate that Category B TCOC-impacted soil is present from 0-0.5 feet bgs.

4 Data Quality Objectives and Criteria

This section provides the DQOs that were developed during the project planning process and are included in the SAP (Tetra Tech 2011). The DQOs are qualitative and quantitative statements developed in conformance with the HEER Office nine-step DQO process as outlined in Section 3.2 of the HEER Office TGM (HEER Office 2011c). The DQOs clarify the study objectives, define the most appropriate data to collect and the conditions under which to collect the data, and specify tolerance limits on decision errors that will be used as the basis for establishing the quantity and quality of data needed to support decision-making. The DQOs were used to develop a scientific and resource-effective design for data collection. The updated DQOs are presented below.

Step 1: State the Problem

The site consists of 18 properties on 4.12 acres in Kilauea on the Island of Kauai. The site is in a residential setting, consisting predominantly of single-family homes. The site includes a multi-unit apartment facility, and two commercial properties. The site was formerly part of the Kilauea Sugar Company Ltd. Mill from approximately 1877 to 1972 and portions of the site were used for pesticide storage, pesticide mixing, and seed dipping activities. The analytical results from previous samplings indicated that soils in certain areas are impacted with TEQ dioxins, total arsenic, bioaccessible arsenic, mercury, pentachlorophenol, and lead. Soil environmental hazards from direct exposure, terrestrial ecology through runoff, and gross contamination were identified in the preliminary EHE. The complete nature and extent of contamination has not been identified and there is not sufficient information to select the appropriate remedial action to mitigate the hazards.

Step 2: Identify the Project Goals, Objectives, and COPC

The project goals for the site investigation were to support:

- **Protection of human health and the environment**
 - Due to the confirmed presence of impacted soil at the site, the primary project goal was to ensure protection of human health and the environment through the determination of nature and extent of contamination and evaluation of environmental hazards at the site. The site investigation was designed to generate sufficient data to facilitate the development and assessment of several action alternatives. Subsequently, one of the action alternatives may be selected and implemented in order to reduce and/or eliminate exposure pathways to the impacted soil identified at the site.
- **To address resident and neighborhood concerns**
 - Due to the site being primarily used for residential purposes, there were considerable concerns for residents and property owners within the site boundaries and within the general vicinity/neighborhood of the site. The site investigation was designed to generate sufficient data to determine if the impacted soil is localized within previously identified areas or if it extends beyond those areas.

- **To address community concerns**

- Due to the specific nature and history of the site, there were considerable community concerns related to the confirmed presence of impacted soil at the site. Several Hawaii State and County of Kauai government agencies, elected officials, and their corresponding stakeholders have expressed interest in the scope and status of the site investigation.

The site investigation was to further characterize and delineate the extent and magnitude of COPC associated with the previously defined Core PMA. It focused on delineating the vertical and horizontal extent of identified COPC in and adjacent to the Core PMA.

Soil samples were collected from 26 DUs at the site. The specific COPC varied depending on the DU. The COPC for this project were segregated into four categories:

- Primary COPC
- Full PMA COPC
- Waste categorization COPC
- Other COPC

Primary COPC:

- The primary COPC were determined based on the analytical results from the HEER Office's three previous samplings and the information in the HEER Office Technical Guidance Manual (TGM). The primary COPC included TEQ dioxins, arsenic (total arsenic and bioaccessible arsenic), mercury, lead, pentachlorophenol, TPH-DRO, and TPH-RRO. Samples from DU1 to DU25 were analyzed for the primary COPC.
- Previous sampling events did not include analysis for TPH-DRO or TPH-RRO and there was no confirmed presence of either of these contaminants at the site. TPH-DRO and TPH-RRO were included as COPC because these contaminants are often associated with PMA sites due to their use as mixing agents. Section 9.1.1 of the HEER Office TGM recommends that samples collected from PMA sites be analyzed for TPH-DRO and TPH-RRO (HEER Office 2011c). The decision to analyze samples for TPH-DRO and TPH-RRO was determined in the field, based on the presence of petroleum-impacted soil as determined by visual and olfactory observation, or soil headspace screening readings.

Full PMA COPC:

- The full PMA COPC were determined based on the recommended sampling suite for PMA sites as discussed in Section 9.1.1 of the HEER Office TGM (HEER Office 2011c). The full PMA COPC included TEQ dioxins, TPH-DRO, TPH-RRO, organochlorine pesticides, chlorinated herbicides, SVOC, Modified Pesticide

Screen (including organophosphorus pesticides and triazine pesticides), carbamate herbicides, and total metals. Samples collected from DU26 and DU27 were analyzed for the full PMA COPC. The decision to analyze these samples for the full PMA COPC was based on the identification of the debris layer in the field.

Waste Categorization COPC:

- The waste categorization COPC were determined based on the required sampling suite for hazardous waste determination as outlined in Hawaii Administrative Rules (HAR) Title 11 Chapter 262 Section 11 (HDOH Solid and Hazardous Waste Branch [SHWB] 2011). The waste categorization COPC included toxicity leaching characteristic procedure (TCLP) organochlorine pesticides, TCLP metals, pH, and flammability. Samples collected from DU10 to DU17 were analyzed for the waste categorization COPC. The individual layer with the highest detected COPC concentrations from these DUs will be subsequently analyzed for the waste categorization COPC. This will provide preliminary information needed for evaluating potential disposal options of the impacted soil in the Core PMA. The three investigation-derived waste (IDW) samples from the remaining soil cuttings were analyzed for the waste categorization COPC.

Other COPC:

- The samples from DU10 and DU11 were analyzed for other COPC at the direction of the HEER Office. This included analysis for volatile organic compounds (VOC), SVOC, and chlorinated herbicides. The decision to include these other COPC for DU10 and DU11 was based on the presence of petroleum-impacted soil.

Step 3: Identify Data Information Needs

The existing data needed to complete this site investigation included: historical knowledge regarding use of the site, the analytical results from the HEER Office's three previous samplings (August 2010, December 2010, and March 2011) and HHA property debris pit January 2011 sampling, and the previous sample location boundaries.

New data generated from the site investigation was evaluated as part of the DQO process. This new data included: analytical results for soil samples; analytical results for quality assurance/quality control (QA/QC) samples; and the applicable screening criteria.

The media of concern for this investigation is soil. Based on the preliminary EHE, identified environmental hazards that exist at the site include direct exposure, potential terrestrial ecology through runoff, and gross contamination. To address the project objectives, the multi-increment sampling strategy and layer composite sampling strategy were implemented.

Step 4: Define Study Boundaries

Spatial boundaries included: geographical boundaries of each soil boring and DU as specified in this report, the boundaries of each of the 18 properties at the site, and sample depths.

Temporal boundaries included: field work, laboratory analysis, and data evaluation. Field activities were conducted in July and August 2011, followed by additional time for laboratory analysis and evaluation of sample results.

A total of 26 DUs were delineated; they are shown on Figures 7 and 8. They are in five distinct areas of the site:

- Area 1: Perimeter of Core PMA (9 DUs)
- Area 2: Core PMA and drainage outfall (10 DUs)
- Area 3: Potentially impacted exposed surface soils – not previously sampled (3 DUs)
- Area 4: Surrounding properties (2 DUs)
- Area 5: HHA debris and trash pit (2 DUs)

DUs varied in size from approximately 400 to 12,000 square feet. The majority of the DUs are approximately 400 to 2,000 square feet.

Originally, there were plans for 27 DUs, but DU20 (in the West Drainage Outfall) was eliminated after the SAP was submitted to the HEER Office. The DU ID numbers were not altered to reflect the deletion since all of the project plans and figures had already been completed. See Section 5 for additional details about the DUs.

Each of the 26 DUs were divided into five designated layers, as described below:

- Layer A: 0-0.5 foot bgs
- Layer B: 0.5-2 feet bgs
- Layer C: 2-4 feet bgs
- Layer D: 4-7 feet bgs
- Layer E: 7-10 feet bgs

With the exception of DU18 and DU19, all of the DUs are located in the site boundaries. DU18 and DU19 are off-site in the West Drainage Outfall that was historically used by the Kilauea Sugar Company, Ltd. Mill to carry the cane wash wastewater away from the mill to the Pacific Ocean.

A total of 96 soil borings were advanced throughout the 26 DUs. Soil borings were advanced in DU1 to DU17, DU26, and DU27. Between 3 to 7 soil borings were advanced in each of these DUs. No soil borings were

advanced in DU18, DU19, and DU21 to DU25 that were evaluated through the collection of multi-increment samples collected manually from 0-0.5 foot bgs.

A total of 118 soil samples were collected from the 26 DUs. The specific number of samples collected per DU varied depending on the DU and targeted layers (see Section 5.4 for further details).

An iterative analysis approach (see Section 7.2) was used for all the DUs where multiple layers were to be evaluated (DU1 to DU17). The iterative analysis approach was proposed to most efficiently use the HEER Office's funding allocated for the site investigation.

The specific COPC selected for each sample were dependent on the DU and the layer (see Section 7.2 for further details).

Step 5: Develop Decision Rules

The analytical results were compared to the Tier I EALs for soils on unrestricted use and commercial or industrial use sites, where potentially impacted groundwater is not a current or potential drinking water resource, and with surface water bodies more than 150 meters from the site.

If analytical results for samples collected from a given DU indicate COPC concentrations are below the applicable Tier I EALs, no additional soil sampling or remedial action activities will be recommended for that specific DU.

If analytical results for samples collected from a given DU indicate COPC concentrations exceed the applicable Tier I EALs, additional evaluation (e.g., sampling, hazard assessment, etc.) or remedial action may be required to address the nature and extent of contamination or hazards for that specific DU.

All decision rules will be made based on DUs, not by property. For example, if impacted soil is identified in one DU but not in another DU on the same property, only the DU with impacted soil will be recommended for further evaluation (opposed to the entire property).

The HEER Office will review the site investigation report and determine if any additional evaluation or remedial actions are necessary.

Step 6: Develop and Implement the SAP

The sampling design for this site investigation included the collection of 118 soil samples from 26 DUs as detailed in Step 4.

The site investigation implemented the multi-increment and layer composite sampling strategies discussed in the SAP. Collection of multi-increment soil samples in a systematic-random manner maximizes the goal of obtaining sufficient material throughout the DU and accounting for both compositional and distributional heterogeneity. Collection of layer composite samples in a strategic manner maximizes the goal of obtaining sufficient material throughout the DU and addresses distributional heterogeneity concerns (Tetra Tech 2011).

Tetra Tech used internal standard operating procedures and sampling protocols from the HEER Office TGM to develop the SAP. QA/QC requirements ensure the quality of data generated during the site investigation. The

HEER Office reviewed and approved the SAP in July 2011, and worked closely with Tetra Tech throughout the project.

Step 7: Assess Data Quality

Analytical data must meet the project specifications for precision, accuracy, representativeness, completeness, and comparability as described in Section 8 of the SAP (Tetra Tech 2011).

Data precision was assessed through collection and evaluation of field QC samples (i.e., triplicates). The QA/QC objective was to have all field QC samples agree within 35 percent relative standard deviation for all COPC that exceeded the screening criteria.

Laboratory analytical accuracy was assessed through laboratory QC samples (i.e., matrix spike/matrix spike duplicates, laboratory control samples and laboratory control sample duplicates, blank spikes, surrogate standards, and method blanks). The specific QA/QC objectives for laboratory QC samples were based on the type and condition of sample analyzed; it is sample-specific.

Tetra Tech interpreted the analytical data from the site investigation to identify data trends, data gaps, and develop conclusions.

Additional criteria related to the procedures and protocols of the site investigation are documented in the QA/QC Plan, in Section 8 of the SAP (Tetra Tech 2011).

Step 8: Identify Potential Environmental Hazards

The analytical results were compared to the EALs and Tier I EALs for soils on unrestricted use and commercial or industrial use sites, where potentially impacted groundwater is not a current or potential drinking water resource, and with surface water bodies more than 150 meters from the site. Tetra Tech used the EAL Surfer spreadsheet to conduct an updated EHE using the site investigation's analytical data set.

For the exceedences of applicable EALs and Tier I EALs, Tetra Tech documented the specific environmental hazards that exist at the site. Tetra Tech screened for the following environmental hazards as part of the updated EHE: direct exposure, vapor intrusion, terrestrial ecology through runoff, gross contamination, and leaching.

Step 9: Refine Conceptual Site Model and Recommend Further Actions

Upon completion of the site investigation, the HEER Office will review site conditions, analytical results, and the updated EHE. The HEER Office will identify and recommend additional evaluation or response action activities, as necessary.

5 Sampling Design and Protocols

This section has the sampling design and protocols for the site investigation.

5.1 Decision Unit Delineation

A total of 26 DUs were delineated at the site. The DU locations are shown on Figures 7 and 8. An overlay of the site investigation DU locations and the previous investigations' DU locations is shown on Figure 9.

These DUs were delineated to:

- Address data gaps regarding the extent of COPC along the perimeter of the Core PMA.
- Further characterize and delineate the vertical extent of COPC in the Core PMA, and assess if historical PMA activities impacted the West Drainage Outfall.
- Assess the potentially impacted and exposed surface soils on the Old Mill LLC property that were not previously sampled by the HEER Office.
- Assess if historical PMA activities impacted two near and surrounding properties, the Sansevere property and the Hadley property, south of Oka Street.
- Evaluate the extent of buried debris and trash associated with the debris pit previously identified on the HHA property.

The DUs were grouped corresponding to five distinct areas (see Figure 7):

- Area 1: Perimeter of Core PMA (9 DUs – DU1 to DU9)
- Area 2: Core PMA and West Drainage Outfall (10 DUs – DU10 to DU19)
- Area 3: Potentially Impacted Exposed Surface Soils – Not Previously Sampled (3 DUs – DU21 to DU23)
- Area 4: Surrounding Properties (2 DUs – DU24 to DU25)
- Area 5: HHA Debris and trash pit (2 DUs – DU26 to DU27)

DU size varied, ranging from approximately 400 to 12,000 square feet. The majority of the DUs were in the approximately 400 to 2,000 square feet size range.

Originally, there were plans for 27 DUs, but DU20 (in the West Drainage Outfall) was eliminated after the SAP was submitted to the HEER Office. The ID numbers were not altered to reflect the deletion of DU20, because all of the project plans and figures had already been completed.

5.1.1 Area 1: Perimeter of Core Pesticide Mixing Area

Area 1 included DU1 to DU9. These DUs were delineated to address data gaps regarding the extent of COPC along the perimeter of the Core PMA. Table 8 has an overview of Area 1 DUs.

Table 8 – Overview of Area 1 Decision Units

Location ID	Description	Overlap with Previous DOH DU/Sample	Intent/Scope	
DU1	Surface Area: 393 square feet	KSPMA-DU5	Assess the vertical extent of COPC along the western perimeter of the Core PMA.	
	Along the eastern border of the North Shore Health Center property, adjacent to Aalona Street.			
DU2	Surface Area: 475 square feet	KSPMA-DU2 KSPMA-DU3		
	Along the eastern borders of the Grace Paul Trust property, Clarion property, and Howard property; adjacent to Aalona Street.			
DU3	Surface Area: 425 square feet	KSPMA-DU1 KSPMA-DU4		
	Along the eastern borders of the Johnson property, Deforge property, and the southern borders of the Cooper property, Cudiamat property, and Owens property; adjacent to the cul-de-sac portion of Aalona Street.			
DU4	Surface Area: 2,941 square feet	None		Assess the horizontal and vertical extent of COPC along the northern perimeter of the Core PMA.
	Along the southern border of the Ortal property, adjacent to the Foley property.			
DU5	Surface Area: 403 square feet	KKSC-DU1 KKSC-DU2		Assess the horizontal and vertical extent of COPC along the northern perimeter of the Core PMA.
	Along the western border of the HHA property. This DU is adjacent to the Ortal property and Foley property.			
DU6	Surface Area: 1,909 square feet	None	Assess the potentially accessible soil for occupants and students of the Natural Bridges School. In addition, the intent of these DUs is to assess potential impacts from historical Kilauea Sugar Company, Ltd. Mill PMA activities in an area located upgradient of the Drainage Swale, as well as to assess the horizontal and vertical extent of COPC along the eastern perimeter of the Core PMA.	
	Along the southern border of the HHA property, adjacent to the Natural Bridges School property.			
DU7	Surface Area: 1,940 square feet	None		
	Along the southern border of the HHA property, adjacent to the Natural Bridges School property.			
DU8	Surface Area: 541 square feet	None		
	Along the eastern border of the Old Mill LLC property, adjacent to the Natural Bridges School property.			
DU9	Surface Area: 541 square feet	None		
	Along the southern border of the Old Mill LLC property, adjacent to Oka Street.			

Please note that there was no overlap of new DUs with previous DOH KKSC-DU4. Initially, DU5 and DU26 were planned to overlap with KKSC-DU4. However, because of the presence of a terraced garden with mature vegetation on the Foley property in this location, DU5 and DU26 were moved immediately to the southeast, abutting the KKSC-DU4 location.

5.1.2 Area 2: Core Pesticide Mixing Area

Area 2 included DU10 to DU19. These DUs were delineated to further characterize and delineate the vertical extent of COPC in the Core PMA, and assess if the West Drainage Outfall was impacted by if historical Kilauea Sugar Company, Ltd. Mill PMA activities. Table 9 has an overview of the Area 2 DUs.

Table 9 – Overview of Area 2 Decision Units

Location ID	Description	Overlap with Previous DOH DU/Sample ID	Intent/Scope
DU10	Surface Area: 1,611 square feet	KSPMA-DU6 KSPMA-DU7	Further characterize and delineate the vertical extent of COPC within the Core PMA.
	Within the western portion of the Drainage Swale, which is along the northern border of the Old Mill LLC property.		
DU11	Surface Area: 604 square feet	KSPMA-DU8	
	Within the eastern portion of the Drainage Swale, which is along the northern border of the Old Mill LLC property.		
DU12	Surface Area: 1,745 square feet	KKSC-DU5	
	Within the front yard of the Thompson property, adjacent to Aalona Street.		
DU13	Surface Area: 553 square feet	None	
	Within the north side yard of the Thompson property, adjacent to the Foley property.		
DU14	Surface Area: 598 square feet	KKSC-DU6 KKSC-DU7 KKSC-DU8	
	Within the back yard of the Thompson property, adjacent to the Foley property.		
DU15	Surface Area: 872 square feet	KKSC-DU6 KKSC-DU7 KKSC-DU8	
	Within the south side yard of the Thompson property, adjacent to the Drainage Swale.		
DU16	Surface Area: 1,058 square feet	None	Further characterize and delineate the vertical extent of COPC within the Core PMA. This DU will also address a data gap between the Thompson property (within Core PMA) and the Ortal Property (part of the northern perimeter of the Core PMA).
	Within the driveway of the Foley property, adjacent to the Thompson property.		
DU17	Surface Area: 1,562 square feet	KKSC-DU3	Further characterize and delineate the vertical extent of COPC within the Core PMA.
	Within the back yard of the Foley property, adjacent to the Drainage Swale.		
DU18	Surface Area: 1,200 square feet	None	Assess if the West Drainage Outfall was impacted by if historical PMA activities. The West Drainage Outfall is the ultimate stormwater discharge point for the County of Kauai’s stormwater drainage system on Aalona Street. The County’s stormwater drainage system is directly connected to the Drainage Swale on the Old Mill LLC property, which is within the Core PMA.
	Within West Drainage Outfall, adjacent to the intersection Kilauea Road and Oka Street and extending westward from the area where the drainpipe discharges.		
DU19	Surface Area: 2,400 square feet	None	
	Within the West Drainage Outfall, approximately 0.42 miles to the northwest of DU18 near the access road.		

5.1.3 Area 3: Potentially Impacted Exposed Surface Soils – Not Previously Sampled

Area 3 included DU21 to DU23, delineated to assess the potentially impacted and exposed surface soils on the Old Mill LLC property that were not previously sampled by the HEER Office. Table 10 has an overview of the Area 3 DUs.

Table 10 – Overview of Area 3 Decision Units

Location ID	Description	Overlap with Previous DOH DU/Sample ID	Intent/Scope
DU21	Surface Area: 352 square feet	None	Assess the potentially impacted and exposed surface soils on the Old Mill LLC property, which is part of the Core PMA.
	Two separate areas on the Old Mill LLC property: (1) Along the western border of the Old Mill LLC property, adjacent to Aalona Street. (2) Along the southern border of the Old Mill LLC property, adjacent to Oka Street. These areas have exposed soil and grass.		
DU22	Surface Area: 666 square feet	None	Assess the potentially impacted and exposed surface soils immediately adjacent to the Drainage Swale on the Old Mill LLC property, which is part of the Core PMA.
	Along the western border of the Old Mill LLC property, adjacent to the Drainage Swale. This area has exposed soil and gravel.		
DU23	Surface Area: 971 square feet	None	Assess the potentially impacted and exposed surface soils on the Old Mill LLC property, which is part of the Core PMA.
	Within the raised planter box along the southern border of the Old Mill LLC property. This area has exposed soil and grass.		

5.1.4 Area 4: Surrounding Properties

Area 4 included DU24 and DU25. These DUs were delineated to assess if two surrounding properties, south of Oka Street, were impacted by historical Kilauea Sugar Company, Ltd. Mill PMA activities. Table 11 has an overview of the Area 4 DUs.

Table 11 – Overview of Area 4 Decision Units

Location ID	Description	Overlap with Previous DU/Sample ID	Intent/Scope
DU24	Surface Area: 4,271 square feet	None	Assess if these two surrounding residential properties located south of the Core PMA were impacted by historical PMA activities. These two DUs will also address a data gap for areas located upgradient of the Core PMA, for which no previous sampling was conducted.
	Within the front, back, and side yards of the Sansevere property, to the southeast of the intersection of Aalona Street and Oka Street.		
DU25	Surface Area: 3,977 square feet	None	
	Within the front, back, and side yards of the Hadley property, south of Oka Street.		

5.1.5 Area 5: Hawaii Housing Authority Debris Pit

Area 5 included DU26 and DU27. These DUs were delineated to evaluate the extent of buried debris and trash associated with debris pit previously identified on the HHA property. Table 12 has an overview of the Area 5 DUs.

Table 12 – Overview of Area 5 Decision Units

Location ID	Description	Overlap with Previous DOH DU/Sample ID	Intent/Scope
DU26	Surface Area: 403 square feet	KKSC-DU1 KKSC-DU2 KBV-01	Evaluate the extent of buried debris/trash and potentially related COPC associated with debris pit previously identified on the HHA property to the north of Building B. Evaluate the potential for the debris pit to extend westward and onto the Ortal Property and the Foley Property.
	Along the western border of the HHA property, west of Building B ¹ . This DU is adjacent to the Ortal property and Foley property.		
DU27	Surface Area: 2,130 square feet	KKSC-DU2	Evaluate the extent of buried debris/trash and potentially related COPC associated with debris pit previously identified on the HHA property to the north of Building B. Evaluate the potential for the debris pit to extend westward and onto the Foley Property.
	Along the western border of the HHA property, south of Building B ¹ .		
NOTES:			
1 = The location and size of DU26 and DU27 were determined based on the observed field conditions and the confirmed presence of debris in the field.			

5.2 Decision Unit Layer Designation

Each of the 26 DUs was divided into five designated layers ranging in thickness from 0.5-3 feet:

- Layer A: 0-0.5 foot bgs
- Layer B: 0.5-2 feet bgs
- Layer C: 2-4 feet bgs
- Layer D: 4-7 feet bgs
- Layer E: 7-10 feet bgs

A complete description of the DU layers and sampling strategies for each DU is in Section 5.4.

5.3 Soil Boring Advancement

Geotek Hawaii, Inc. (Geotek) was contracted to provide soil boring and drilling services for the site investigation. Geotek advanced 96 soil borings during the site investigation.

Two different direct-push Geoprobe® drilling rigs were used for soil boring. For larger DUs with adequate access and space, a track-mounted Geoprobe® 66 Series drilling rig was used. For smaller DUs where access was a concern, a portable dolly-mounted Geoprobe® 420 Series drilling rig was used. Both of these drilling rigs used the macro-core sampler technology. The macro-core sampler enables continuous sampling in each soil boring. All of

the soil borings were advanced to 10 feet bgs, or until there was no evidence of debris in the soil borings from DU26-DU27. Relevant observations were recorded during the drilling, including lithology classification on soil boring logs. Copies of the soil boring logs are in Appendix F.

5.3.1 Soil Boring Placement and Spacing

Soil borings in the Drainage Swale (DU6, DU7, DU10, and DU11) were placed using the staggered increment pattern—effectively a zigzag pattern (i.e., left-center-right-center-left, then repeat).

For the remaining DUs, the soil borings were placed using a grid pattern or linear method, depending on the width of the DU. There were no fewer than three borings per DU. Soil borings were spaced approximately 20 feet apart in narrow DUs, and approximately one soil boring per 300 square feet in larger DUs.

5.4 Soil Sampling Activities

The multi-increment sampling strategy and the layer composite strategy were followed for all samples collected during the site investigation. Sample collection locations are shown on Figures 7 and 8.

5.4.1 Multi-increment Sampling Strategy

Multi-increment sampling can control the two major types of sampling error that affect environmental investigations: fundamental error (FE), and grouping and segregation error (GSE). FE is managed by collecting and analyzing a sufficient sample mass to adequately address compositional heterogeneity. GSE is controlled by collecting multiple randomly located sample increments to address the distributional heterogeneity.

The multi-increment sampling strategy was implemented for the surface soil samples collected from Layer A in DU6, DU7, DU18, DU19, and DU21-DU25. Table 13 has a summary of the DUs where multi-increment samples were collected.

Table 13 – Decision Units with Multi-increment Samples

Location ID ¹	Site Area	Type of Sample	Layers Sampled	Sampling Pattern	Total Number of MI Samples Collected
DU6	Area 1	MI	Layer A	Orthogonal	3 (Triplicate)
DU7	Area 1	MI	Layer A	Orthogonal	1
DU18	Area 2	MI	Layer A	Zigzag	3 (Triplicate)
DU19	Area 2	MI	Layer A	Zigzag	1
DU21	Area 3	MI	Layer A	Orthogonal	1
DU22	Area 3	MI	Layer A	Orthogonal	1
DU23	Area 3	MI	Layer A	Orthogonal	1
DU24	Area 4	MI	Layer A	Orthogonal	3 (Triplicate)
DU25	Area 4	MI	Layer A	Orthogonal	1
NOTES:					
1 = See Figures 7 and 8 for DU locations.					
MI = Multi-increment					

5.4.1.1 Summarized Sampling Protocol for Multi-increment Samples

All multi-increment soil samples were collected with a stainless steel hand trowel or soil probe. Sampling began at a random location in each DU.

For DU6, DU7, and DU21-DU25 sampling proceeded in an orthogonal pattern in a systematic-random manner.

For DU18 and DU19 sampling proceeded using the staggered increment zigzag pattern (i.e., left-center-right-center-left, then repeat).

Prior to sampling at each increment subsample location, a stainless steel hand trowel was used to penetrate the ground surface and clear debris. A stainless steel hand trowel or soil probe was used to collect and transfer approximately 30 to 60 grams of soil directly into a clean 1-gallon Ziploc bag that was labeled and re-bagged in a second 1-gallon Ziploc bag to prevent the loss of sample material. This process continued until all 30 increment subsamples were collected. Individual subsamples were combined to form a single, multi-increment sample for laboratory analysis for each designated layer in the DU. All increment subsamples were collected from Layer A (0-0.5 foot bgs).

Triplicate samples were collected from DU6, DU18, and DU24 to verify that the primary multi-incremental sample truly represents the DU. These field replicate samples were used to calculate the RSD—a measure of data precision.

5.4.2 Layer Composite Sampling Strategy

Due to the relatively small size of the DUs and the developed nature of the site properties, advancing 30 or more soil borings in each DU was not feasible, so the multi-increment soil sampling was not used exclusively for this site investigation.

Instead, a layer composite sampling strategy was implemented for the soil samples collected during the site investigation. Collecting layer composite samples is a sampling approach used for samples collected from soil borings using the macro-core sampler technology. Each layer composite sample contains soil from the entire layer (the vertical length of interest), whereas a discrete soil sample would only contain soil from a small portion of the vertical length of interest. The layer composite sampling strategy minimizes the GSE associated with traditional discrete samples.

For soil borings in areas or DUs that had not been sampled, the sample interval started at surface grade (Layer A). For soil borings located in areas and DUs previously sampled by the HEER Office, the sample interval started at the 0.5 foot bgs depth (Layer B) for consistency.

The layer composite sampling strategy was implemented as follows:

- For Layers A-E in DU1 to DU5, and DU8 to DU17
- For Layers B-E in DU6 and DU7

- For DU6 and DU7 layer composite samples were not collected from Layer A because multi-increment samples were collected from this layer instead. Refer to Section 5.4.1 for further details.
- For the observed debris layer (typically from 3-4.5 feet bgs) in DU26 and DU27
 - These DUs were related to the debris pit identified on the HHA property. In these DUs, samples were collected from the observed debris layer, as identified in the field.

Table 14 presents a summary of the DUs where layer composite samples were collected.

Table 14 – Decision Units with Layer Composite Samples

Location ID ¹	Site Area	Number of Borings per DU	Type of Sample	Layers Sampled	Total Number of LC Samples Collected
DU1	Area 1	5	LC	Layers A to E	5
DU2	Area 1	5	LC	Layers A to E	5
DU3	Area 1	5	LC	Layers A to E	5
DU4	Area 1	7	LC	Layers A to E	15 (Triplicate)
DU5	Area 1	5	LC	Layers A to E	5
DU6	Area 1	5	LC	Layers B to E ²	12 (Triplicate)
DU7	Area 1	5	LC	Layers B to E ²	4
DU8	Area 1	5	LC	Layers A to E	5
DU9	Area 1	7	LC	Layers A to E	5
DU10	Area 2	5	LC	Layers A to E	5
DU11	Area 2	5	LC	Layers A to E	5
DU12	Area 2	6	LC	Layers A to E	5
DU13	Area 2	3	LC	Layers A to E	5
DU14	Area 2	3	LC	Layers A to E	5
DU15	Area 2	3	LC	Layers A to E	5
DU16	Area 2	3	LC	Layers A to E	5
DU17	Area 2	4	LC	Layers A to E	5
DU26	Area 5	7 ^a	LC	Observed Debris Layer ^a	1 ^a
DU27	Area 5	8 ^a	LC	Observed Debris Layer ^a	1 ^a

NOTES:

1 = See Figures 7 and 8 for DU locations.

2 = For DU6 and DU7 layer composite samples were not collected from Layer A because multi-increment samples from this layer instead.

a = Samples were only collected from the observed debris layer (typically 3-4.5' bgs), as identified in the field. The number of borings was determined based on field observations.

LC = Layer composite

5.4.2.1 Summarized Sampling Protocol for Layer Composite Samples

All layer composite samples from Layers A to E were collected with a stainless steel chisel that was used to extract the soil core from the macro-core sampler for the designated layer. The soil core contained soil for the entire layer (the vertical length of interest). The extracted soil core was transferred directly into a clean 1-gallon Ziploc

bag that was labeled and re-bagged in a second 1-gallon Ziploc bag to prevent the loss of sample material. This process continued until all soil cores for the designated layer were collected from all of the soil borings in the DU. Individual soil cores were combined to form a single, layer composite sample for laboratory analysis for each designated layer in the DU. Layer composite samples were collected for Layers A to E, depending on the DU.

Triplicate samples were collected from DU4 and DU6 to verify that the primary layer composite sample truly represents the DU. These field replicate samples were used to calculate the RSD—a measure of data precision.

5.4.3 Soil Headspace Screening

Soil was collected during various stages of the site investigation to screen for soil headspace organic vapors using a RAE MiniRae 2000 photoionization detector (PID) (MiniRae 2000 unit).

The MiniRae 2000 unit was calibrated daily using zero air and 100 ppm isobutylene gas per the manufacturer's instructions. At each selected location, a portion of soil was placed into a 1-quart Ziploc bag and sealed to obtain a total organic vapor measurement. The Ziploc bag was placed in direct sunlight for approximately 5 minutes to allow the vapor concentrations in the headspace to reach equilibrium. A sample of the air from the Ziploc bag was drawn into the MiniRae 2000 unit and recorded in accordance with the ambient temperature headspace method.

All concentrations exceeding 100 ppm were considered elevated total organic vapors. Tetra Tech recorded all headspace sample readings in the soil boring log forms. Copies of the soil boring logs are in Appendix F.

6 Overview of Field Activities

This section has a detailed overview of the field activities that were part of the site investigation.

6.1 Summary of Field Activities

Tetra Tech performed field activities for the site investigation from July 6-7, 2011, and August 1-12, 2011, including a site reconnaissance, collecting soil samples, shipping samples to the analytical laboratories, and coordinating the management of the IDW. A detailed description of these activities is presented below. Fields activities were conducted in accordance with the SAP (Tetra Tech 2011) and any deviations from the SAP have been noted in Section 7.7. Photographs from the site investigation are in Appendix A.

6.2 Documentation

Tetra Tech personnel recorded pertinent information in field log forms. Information was recorded daily throughout the site investigation, including a summary of site activities and significant events, weather conditions,, and the name and affiliation of all on-site personnel.

Tetra Tech prepared soil boring logs for each of the soil borings in the 26 DUs. Copies are in Appendix F. Tetra Tech tracked all samples collected in a sample log. The complete sample log included the following information for each sample: sample identification, time and date collected, matrix, number and type of sample containers, depth, and notes.

6.3 Site Reconnaissance

On July 6 and 7, 2011, Tetra Tech conducted the site reconnaissance. On July 6, 2011, Tetra Tech was accompanied by HEER Office representatives, a Geotek representative, and a Donaldson Enterprises, Inc. (DEI) representative. On July 7, Tetra Tech and DEI were on-site for subsurface utility clearance activities, further discussed in Section 6.4.

The site reconnaissance was conducted prior to beginning sampling activities. All readily accessible portions of the site were examined during the site reconnaissance. The purpose of the site reconnaissance was to document current uses and operations, to delineate proposed DUs, and to evaluate access to the proposed DUs with the drilling contractor. Because there was limited access at DU5, DU17, and DU26, Geotek decided that a portable dolly-mounted Geoprobe® 420 Series drilling rig would be necessary for these DUs.

6.4 Subsurface Utility Clearance

The Hawaii One Call Center was contacted prior to conducting any intrusive work at the site. No issues were identified by the Hawaii One Call Center.

Tetra Tech contracted DEI to provide subsurface utility clearance services. On July 6 to 7, 2011, DEI conducted subsurface utility locating activities using ground-penetrating radar and electromagnetic equipment. DEI used, orange spray paint to mark the areas where utilities or other subsurface anomalies were identified.

Based on the findings of the subsurface utility clearance, Tetra Tech relocated a few soil boring locations as appropriate to avoid the subsurface features.

6.5 Surveying of Soil Borings

On July 7, 2011, the corners of each DU were located and the location of the soil borings for each marked using stakes and green spray paint. The soil borings were placed so they were generally evenly spaced throughout the DU and clear of any areas marked during the utility clearance. Because weak satellite signals caused low accuracy readings in the hand-held global position unit (GPS), the GPS coordinates were not collected for the soil borings. However, the location of each soil boring was accurately documented in the field logs with references to the direction and distance to permanent site features, such as buildings or utility poles.

As indicated in the SAP, the Kauai County Department of Public Works (KDPW) was considering if a formal land survey would be required prior to any drilling to determine if any DUs or soil borings were in the county right-of-way (ROW). The land survey is part of the routine permitting process administered by the KDPW for construction activities in a county ROW. The HEER Office invoked Hawaii Revised Statute 128D-23 that provides the HEER Office with an exemption from the county road permit requirement to undertake the proposed remedial action at the site that includes this site investigation. Therefore, a formal land survey was not required by the KDPW.

6.6 Brush Clearing

Brush clearing was only required for DU18 to provide access to the West Drainage Outfall for sampling. A local landscaping company was subcontracted to clear brush on August 10, 2011.

6.7 Sample Collection

Samples were collected from August 1-12, 2011. During the site investigation, Tetra Tech collected 121 samples, including 118 soil samples from the 26 DUs, and three IDW samples from the remaining soil cuttings. A detailed description of sampling activities is in Section 7.

6.8 Summary of Field Observations

During this investigation, Tetra Tech made the following observations and notes that may be significant in defining and identifying the presence of potential impacted soil:

- Moderate to strong petroleum odors were noted in DU10 (Layers D to E), DU12 (Layers C to E), and DU14 (Layers C to D).
- Moderate to strong solvent or chemical odors were noted in DU10 (Layers B to E) and DU12 (Layers B to D).
- In DU10, several of the soil cores had petroleum sheens with a black, dark-grey coloration. The soil borings nearest Aalona Street had the greatest degree of impact.
- In DU26 and DU27, the debris layer was typically from 3-4.5 feet bgs. Debris included glass, scrap metal, ash, and white powder. Not all debris items were in each boring; the debris was distributed unevenly throughout each DU. Based on the field conditions, and due to the random distribution of debris, the volume/extent of debris in the debris pit could not accurately be estimated. Refer to the soil boring logs in Appendix F for further details on the debris layer.
- Evidence of debris was noted in DU18. Debris included scrap metal and wood, household cleaning supplies, and general rubbish (plastic bags, aluminum cans, etc.).

6.9 Decontamination

The decontamination protocols outlined in the SAP were used during this investigation.

6.10 Management of Investigation-Derived Waste

The IDW included disposable consumable equipment (e.g., gloves and paper towels) soil cuttings, and decontamination water. All consumable equipment was double-bagged and properly disposed of in a municipal disposal bin at an off-site facility. The soil cuttings were temporarily stored in individual 5-gallon buckets per DU, and the decontamination water was stored in individual 5-gallon buckets per field day. These 5-gallon buckets were stored in a secure, fenced location at the Old Mill LLC property, behind the commercial building. All 5-gallon buckets were labeled with the contents and source DU information.

Three multi-increment IDW samples were collected from the soil cuttings prior to transferring the soil cuttings to 55-gallon steel drums. These IDW samples were for analysis of waste categorization COPC. Samples were collected as follows: one sample was collected from the Area 1, 3, and 4 DUs (DU1 to DU9 and DU21 to DU25); one sample was collected from the Area 2 DUs (DU10 to DU19); and one sample was collected from the Area 5 DUs (DU26 and DU27). Approximately 30-40 increments were collected for each multi-increment IDW sample, with the number of increments varying depending on the number of DUs comprising the Areas targeted for the sample.

After the IDW sampling, the soil cuttings and decontamination water were transferred from the 5-gallon buckets to 55-gallon steel drums. The IDW drums were stored at the Old Mill LLC property, behind the commercial building. All IDW drums were properly labeled with the relevant information, such as project name and location, company generating the waste, drum ID number, drum contents, and emergency contact name and phone number. Three IDW drums were filled during the field investigation—two filled with soil cuttings, and one filled with decontamination water.

Tetra Tech consulted the HEER Office following review of all analytical results to identify the appropriate disposal method for the IDW drums. Based on the IDW sample analytical results, the drums were not considered hazardous waste and could be disposed of at a permitted landfill facility in Hawaii. Pacific Commercial Services LLC (PCS) provided waste management and disposal services for the drums. PCS tracked all IDW drums until their acceptance at the final disposal facility, PVT Land Company, Ltd. (PVT) Landfill, in Waianae, Hawaii.

On August 12, 2011, PCS transported the IDW drums from the site in Kilauea, Hawaii to their baseyard on Sand Island, in Honolulu, Hawaii. PCS transported the two IDW soil drums to the PVT Landfill, on December 9, 2011. On December 22, 2011, PCS transported the IDW water drum to PVT Landfill. Copies of the waste manifests for the IDW drums are in Appendix G.

6.11 Site Restoration

On August 11-12, 2011, site restoration was completed. Geotek properly backfilled all soil boring holes with a cement-bentonite slurry following the protocols outlined in Section 6.2.5 of the HEER Office TGM (HEER Office 2011c). Geotek repaired all fences that were disassembled to provide drill rig access. Tetra Tech placed sod in grassy areas damaged by the track-mounted drill rig on the Thompson property.

7 Sample Analysis and Control Procedures

This section provides an overview of the sample analysis and control procedures, including COPC categories, iterative sample analysis approach, analytical methods, sample identification, and sample handling.

7.1 Contaminants of Potential Concern

The COPC for this project were segregated into four categories:

- Primary COPC
- Full PMA COPC
- Waste categorization COPC
- Other COPC

7.1.1 Primary COPC

The primary COPC were determined based on analytical results from the HEER Office's three previous samplings and the information in the HEER Office TGM. The primary COPC included TEQ dioxins, arsenic (total arsenic and bioaccessible arsenic), mercury, lead, pentachlorophenol, TPH-DRO, and TPH-RRO. Samples from DU1 to DU25 in Areas 1-4 were analyzed for the primary COPC.

Samples from the three previous HEER Office samplings were not analyzed for TPH-DRO or TPH-RRO. However, TPH-DRO and TPH-RRO were added as COPC for the site investigation, because these two contaminants are often associated with PMA sites due to their use as mixing agents (HEER Office 2011c). The decision to analyze samples for TPH-DRO and TPH-RRO was determined in the field, based on the presence of petroleum-impacted soil as determined by visual and olfactory observation, or soil headspace screening readings. The samples from DU4 and DU10 and DU12 were analyzed for TPH-DRO and TPH-RRO, based on field observations.

7.1.2 Full PMA COPC

The full PMA COPC were determined based on the recommended sampling suite for PMA sites as discussed in Section 9.1.1 of the HEER Office TGM (HEER Office 2011c). The full PMA COPC included TEQ dioxins, TPH-DRO, TPH-RRO, organochlorine pesticides, chlorinated herbicides, SVOC, Modified Pesticide Screen (including organophosphorus pesticides and triazine pesticides), carbamate herbicides, and total metals. Only samples collected from DU26 and DU27 in Area 5 were analyzed for the full PMA COPC. The decision to analyze these samples for the full PMA COPC was determined from identification of the debris layer in the field, as determined by visual observation. The debris layer was typically approximately 3-4.5 feet bgs in DU26 and DU27.

7.1.3 Waste Categorization COPC

The waste categorization COPC were determined based on the required sampling suite for hazardous waste determination outlined in Hawaii Administrative Rules (HAR) Title 11 Chapter 262 Section 11 (HDOH SHWB 2011). The waste categorization COPC included toxicity leaching characteristic procedure (TCLP) organochlorine

pesticides, TCLP metals, pH, and flammability. Samples collected from DU10 and DU12 to DU17 in Area 2 were analyzed for the waste categorization COPC.

The project laboratory archived all samples collected during the site investigation. Upon completing the initially-requested analyses, the HEER Office selected which sample layers from these DUs would be analyzed for the waste categorization COPC. For DU12 to DU17, Layer B was analyzed, because it was the individual layer with the highest detected COPC concentrations in these DUs. For DU10, Layers B to E were selected because DU10 had the most significant extent of primary COPC exceedances compared to any DU at the site (i.e., a worst-case scenario). This analysis was to provide preliminary information in the evaluation of potential disposal options for impacted soil in the Core PMA.

The three multi-increment IDW samples collected from the soil cuttings stored in the 5-gallon buckets, prior to transferring the soil cuttings to the 55-gallon drums were analyzed for the waste categorization COPC.

7.1.4 Other COPC

The samples from DU10 and DU11 were analyzed for other COPC at the direction of the HEER Office. This included analysis for VOC, SVOC, and chlorinated herbicides. The decision to include these other COPC for DU10 and DU11 was based on the presence of petroleum-impacted soil.

7.2 Iterative Sample Analysis Procedures

An iterative approach for sample analysis was implemented for all the DUs where multiple layers were evaluated (DU1 to DU17).

The iterative approach implemented for DU1 to DU17 resulted in nearly all samples being initially analyzed to Layer C (2-4 feet bgs) (with the exception of DUs where there was existing analytical data for Layer A in these areas or DUs from the previous HEER Office samplings). As a result, the site investigation yielded a uniform and cohesive assessment across all of Area 1 and most of Area 2 (except DU18 and DU19) to 4 feet bgs. This was selected because 0-4 feet bgs is generally considered the commonly encountered soil for residential access based on information provided by the HEER Office. Soil in the 0-4 feet bgs interval would be encountered during common residential subsurface activities, such as planting trees, gardening, and utility work.

An overview of the specific iterative approach for each of these DUs is described below.

DU1 to DU4, DU6 to DU11, DU13, and DU16:

- The soil samples from Layers A to C (the top three layers to be evaluated) were analyzed initially. The soil samples for the remaining layers were archived at the laboratory until the analytical results for Layers A to C were reviewed. Pending these analytical results and discussion with the HEER Office, subsequent layers were analyzed iteratively until either:
 - All COPC are below the screening criteria; or
 - All layers have been analyzed; or
 - The HEER Office recommends that no further analysis is necessary.

- The decision to analyze subsequent layers was based on the detected concentrations of total arsenic or on the recommendations of the HEER Office. If the initial soil samples from Layers A to C had any detected concentrations of total arsenic exceeding the screening criteria, the subsequent layer(s) were analyzed iteratively. In some cases, the HEER Office recommended that a subsequent layer(s) be analyzed iteratively, independent of the total arsenic concentrations.

DU5, DU12, DU14, DU15, and DU17:

- The soil samples from Layers B to C (the top two layers to be evaluated) were analyzed initially. The soil samples for the remaining layers were archived until the analytical results for Layers B to C were reviewed. Pending these analytical results and discussion with the HEER Office, subsequent layers were analyzed iteratively until either:
 - All COPC are below the screening criteria; or
 - All layers have been analyzed; or
 - The HEER Office recommends that no further analysis is necessary.
- The decision to analyze subsequent layers was based on the detected concentrations of total arsenic or on the recommendations of the HEER Office. If the initial soil samples from Layers B to C had any detected concentrations of total arsenic exceeding the screening criteria, the subsequent layer(s) were analyzed iteratively. In some cases, the HEER Office recommended that a subsequent layer(s) be analyzed iteratively, independent of the total arsenic concentrations.

The specific COPC that each sample was analyzed for depended on the DU and the layer. Tables 15 and 16 have detailed information regarding the field and IDW samples.

Table 15 – Field Sample Information

Location ID ¹	Site Area	Number of Borings per DU	Feet per Boring	Total Feet per DU	Sample Type	Samples from Layer A (0-0.5' bgs)	Samples from Layer B (0.5'-2' bgs)	Samples from Layer C (2'-4' bgs)	Samples from Layer D (4'-7' bgs)	Samples from Layer E (7'-10' bgs)	Total Number of Samples Collected	Sample Status ² (Analyzed/on Hold)	COPC Category	Comments
DU1	Area 1	5	10	50	LC	1	1	1	1	1	5	Layers Analyzed: A to C Layers on Hold: D and E	Primary COPC	
DU2	Area 1	5	10	50	LC	1	1	1	1	1	5	Layers Analyzed: A to D Layers on Hold: E	Primary COPC	
DU3	Area 1	5	10	50	LC	1	1	1	1	1	5	Layers Analyzed: A to C Layers on Hold: D and E	Primary COPC	
DU4	Area 1	7	10	70	LC	3	3	3	3	3	15	Layers Analyzed: A to D Layers on Hold: E	Primary COPC	Triplicate.
DU5	Area 1	5	10	50	LC	1	1	1	1	1	5	Layers Analyzed: B to E Layers on Hold: A	Primary COPC	
DU6	Area 1	5	10	50	MI & LC	3	3	3	3	3	15	Layers Analyzed: A to C Layers on Hold: D and E	Primary COPC	Triplicate.
DU7	Area 1	5	10	50	MI & LC	1	1	1	1	1	5	Layers Analyzed: A to C Layers on Hold: D and E	Primary COPC	
DU8	Area 1	5	10	50	LC	1	1	1	1	1	5	Layers Analyzed: A to C Layers on Hold: D and E	Primary COPC	
DU9	Area 1	7	10	70	LC	1	1	1	1	1	5	Layers Analyzed: A to C Layers on Hold: D and E	Primary COPC	
DU10	Area 2	5	10	50	LC	1	1	1	1	1	5	Layers Analyzed: A to E Layers on Hold: None	Primary COPC, Waste Categorization COPC, Other COPC ³	
DU11	Area 2	5	10	50	LC	1	1	1	1	1	5	Layers Analyzed: A to C Layers on Hold: D and E	Primary COPC & Other COPC ³	
DU12	Area 2	6	10	60	LC	1	1	1	1	1	5	Layers Analyzed: B to E Layers on Hold: A	Primary COPC & Waste Categorization COPC	
DU13	Area 2	3	10	30	LC	1	1	1	1	1	5	Layers Analyzed: A to D Layers on Hold: E	Primary COPC & Waste Categorization COPC	
DU14	Area 2	3	10	30	LC	1	1	1	1	1	5	Layers Analyzed: B to D Layers on Hold: A and E	Primary COPC & Waste Categorization COPC	
DU15	Area 2	3	10	30	LC	1	1	1	1	1	5	Layers Analyzed: B to D Layers on Hold: A and E	Primary COPC & Waste Categorization COPC	
DU16	Area 2	3	10	30	LC	1	1	1	1	1	5	Layers Analyzed: A to D Layers on Hold: E	Primary COPC & Waste Categorization COPC	
DU17	Area 2	4	10	40	LC	1	1	1	1	1	5	Layers Analyzed: B to D Layers on Hold: A and E	Primary COPC & Waste Categorization COPC	
DU18	Area 2	0	0	0	MI	3	0	0	0	0	3	Layers Analyzed: A Layers on Hold: None	Primary COPC	Triplicate.
DU19	Area 2	0	0	0	MI	1	0	0	0	0	1	Layers Analyzed: A Layers on Hold: None	Primary COPC	
DU21	Area 3	0	0	0	MI	1	0	0	0	0	1	Layers Analyzed: A Layers on Hold: None	Primary COPC	
DU22	Area 3	0	0	0	MI	1	0	0	0	0	1	Layers Analyzed: A Layers on Hold: None	Primary COPC	
DU23	Area 3	0	0	0	MI	1	0	0	0	0	1	Layers Analyzed: A Layers on Hold: None	Primary COPC	

Location ID ¹	Site Area	Number of Borings per DU	Feet per Boring	Total Feet per DU	Sample Type	Samples from Layer A (0-0.5' bgs)	Samples from Layer B (0.5'-2' bgs)	Samples from Layer C (2'-4' bgs)	Samples from Layer D (4'-7' bgs)	Samples from Layer E (7'-10' bgs)	Total Number of Samples Collected	Sample Status ² (Analyzed/on Hold)	COPC Category	Comments
DU24	Area 4	0	0	0	MI	3	0	0	0	0	3	Layers Analyzed: A Layers on Hold: None	Primary COPC	Triplicate.
DU25	Area 4	0	0	0	MI	1	0	0	0	0	1	Layers Analyzed: A Layers on Hold: None	Primary COPC	
DU26	Area 5	7	10	70	LC	0	0	1	0	0	1	Layers Analyzed: Observed Debris Layer Layers on Hold: None	Full PMA COPC	Samples were only collected from the observed debris layer (typically 3-4.5' bgs), as identified in field.
DU27	Area 5	8	10	80	LC	0	0	1	0	0	1	Layers Analyzed: Observed Debris Layer Layers on Hold: None	Full PMA COPC	Samples were only collected from the observed debris layer (typically 3-4.5' bgs), as identified in field.
TOTALS	--	96	--	960	--	32	21	23	21	21	118	--	--	--

NOTES:
1 = See Figures 7 and 8 for DU locations
2 = Initially all layers down to Layer C were analyzed by the laboratory. Pending these results, subsequent layers will be analyzed iteratively until either 1) All COPC are below the screening criteria; or 2) All layers have been analyzed; or 3) The HEER Office recommends that no further analysis is necessary. See Section 7.2 for further details.
3 = The samples from DU10 and DU11 were also analyzed for other COPC, including VOC, SVOC, and chlorinated herbicides. The decision to include these other COPC was made by the HEER Office and was based on the presence of petroleum-impacted soil in the field.
' bgs = Feet below ground surface
LC = Layer composite
MI = Multi-increment

Table 16 – IDW Sample Information

Sample ID	Site Area ¹	Sample Type	Total Number of Samples Collected	COPC Category	Comments
PMAK-Area 1,3,4-WC	Area 1, 3, and 4	MI	1	Waste Categorization COPC	From the remaining soil cuttings from DU1 to DU9 and DU21 to DU25.
PMAK-Area 2-WC	Area 2	MI	1	Waste Categorization COPC	From the remaining soil cuttings from DU10 to DU19.
PMAK-Area 5-WC	Area 5	MI	1	Waste Categorization COPC	From the remaining soil cuttings from DU26 and DU27.
TOTALS	--	--	3	--	--
<p>NOTES: MI = Multi-increment 1 = See Figures 7 and 8 for Area and DU locations</p>					

7.3 Sample Identification

All samples were labeled with a project-specific identification (ID) number upon collection. The sample ID formatting scheme is:

A-B-C-D

Where:

- A Specifies the site, (PMAK)
- B Specifies the DU
- C Specifies the layer
- D Specifies the field QC sample type, if applicable

The sample ID formatting scheme in Table 17.

Table 17 – Sample Identification Formatting Scheme

Identifier	Meaning
PMAK	Kilauea Sugar Company, Ltd. Mill PMA
DU#	Decision Unit
A	Layer A
B	Layer B
C	Layer C
D	Layer D
E	Layer E
P	Primary Sample
T1 or T2	Triplicate Sample
WC	Waste Characterization - IDW Sample

Since 1-gallon Ziploc bags were the only sample containers used during the site investigation, adhesive sample labels were not necessary as information was recorded directly on the Ziploc bag using a permanent marker with indelible ink. Each Ziploc bag was labeled with the following relevant sample information:

- Project name and location or identifier
- Sample ID
- Date and time of collection
- Company performing sampling
- Sample collector’s initials

The sample ID for each sample was recorded in the field log forms and chain-of-custody documents. The chain-of-custody documents are in Appendix B.

7.4 Sample Handling and Chain of Custody

After each sample was collected and labeled, it was placed in a cooler. The sample coolers were chilled with a combination of wet ice, dry ice, and frozen gel ice packs to maintain a temperature of 4 degrees Celsius (°C). All samples were logged on chain-of-custody documents that were stored in a sealed Ziploc bag in the sample coolers. The sample coolers were transported from the site to the field team’s hotel at the end of each workday.

The sample coolers were transported from Kauai to Test America’s laboratory in Aiea, Hawaii, (Test America Honolulu) by Aloha Air Cargo. Samples shipments were timed to allow the laboratory to meet holding times for analysis. Four sample cooler shipments were made during the field activities (two shipments per week).

Several laboratories were used to analyze the soil samples. The Test America Honolulu laboratory was the primary laboratory for the site investigation. All sample shipments were directed to Test America Honolulu location initially. Following the sample preparation, Test America Honolulu transferred the samples to the appropriate laboratories. Table 18 lists the laboratories.

Table 18 – Project Laboratories

Laboratory	Location	Analysis Method # Performed	COPC
Primary Laboratory			
Test America Honolulu	Aiea, Hawaii	8270	SVOC
		8260	VOC
		8015	TPH-DRO and TPH-RRO
		6010	Total Metals
		7471	Mercury
		PBET	Bioaccessible Arsenic
		9045	pH
		8081	Organochlorine Pesticides
Additional Laboratories			
Test America Denver	Arvada, Colorado	6010	Total Metals
		7471	Mercury
		8151	Chlorinated Herbicides
		6010	Total Metals
		7471	Mercury
Test America West Sacramento	Sacramento, California	8290	TEQ Dioxins
Test America Irvine	Irvine, California	8081	TCLP Organochlorine Pesticides
		6010	TCLP Metals
		7470	TCLP Mercury
Test America Seattle	Seattle, Washington	6010	Total Metals
		7471	Mercury
Anatek Labs	Moscow, Idaho	8151	Chlorinated Herbicides
		8321	Carbamate Herbicides
		8270	Modified Pesticide Screen

7.5 Analytical Methods

Analysis of all project samples was conducted by accredited laboratories that were able to meet the project analytical and QA/QC requirements. Generally, the analytical methods selected for the site investigation were standard EPA methods from EPA SW-846 Test Methods for Evaluating Solid Waste (EPA 2011).

Bioaccessible arsenic was analyzed using the PBET method (Naval Facilities Engineering Command (NAVFAC), User's Guide UG-2041-ENV [NAVFAC 2009]).

Flammability was analyzed using ASTM International (ASTM) D4986 Standard Test Method for Horizontal Burning Characteristics of Cellular Polymeric Materials (ASTM 2011).

All soil samples were prepared following the multi-increment preparation procedures outlined in Section 4.2.2 of the HEER Office TGM (HEER Office 2011c). Table 19 lists the laboratory analytical methods used to evaluate the soil samples.

Table 19 – Analytical Methods

COPC	Analysis Method #	Analysis Methodology	Method Reference
Primary COPC			
TEQ Dioxins	8290	GC/MS	SW-846
Total Arsenic	6010	ICP-AES	SW-846
Bioaccessible Arsenic	PBET	PBET	UG-2041-ENV
Mercury	7471	CV-AA	SW-846
Lead	6010	ICP-AES	SW-846
Pentachlorophenol	8270	GC/MS	SW-846
TPH-DRO and TPH-RRO	8015	GC/FID	SW-846
Full PMA COPC			
TEQ Dioxins	8290	GC/MS	SW-846
TPH-DRO and TPH-RRO	8015	GC/FID	SW-846
Organochlorine Pesticides	8081	GC/MS	SW-846
Chlorinated Herbicides	8151	GC-M or GC-PD	SW-846
SVOC	8270	GC/MS	SW-846
Modified Pesticide Screen	8270	GC/MS	SW-846
Carbamate Herbicides	8321	HPLC/TS/MS or UV	SW-846
Total Metals	6010 and 7471	ICP-AES and CV-AA	SW-846
Waste Categorization COPC			
TCLP Organochlorine Pesticides	8081	GC/MS	SW-846
TCLP Metals	6010 and 7470	ICP-AES and CV-MT	SW-846
pH	9045	EM-pH	SW-846
Flammability	ASTM D4986	ASTM D4986	ASTM D4986
Other COPC			
VOC	8260	GC/MS	SW-846
SVOC	8270	GC/MS	SW-846
Chlorinated Herbicides	8151	GC-M or GC-PD	SW-846
Supplemental Analytical Methods			
Multi-increment Prep ¹	HEER Office TGM	HEER Office TGM	HEER Office TGM
<p>NOTES: AD/MAD = Acid digestion/microwave-assisted acid digestion CV-AA = Cold vapor-atomic absorption CV-MT = Cold vapor-manual technique EM-pH = Electrometric-pH meter GC/FID = Gas chromatography/flame ionization detector GC/MS = Gas chromatography/mass spectrometry GC-M = Gas chromatography-methylation GC-PD = Gas chromatography-pentafluorbenzylzation derivatization HPLC/TS/MS = High-performance liquid chromatography/thermospray/mass spectrometry ICP-AES = Inductively coupled plasma-atomic emission spectroscopy PBET = Physiologically-based extraction test TCLP = Toxicity characteristic leaching procedure UV = Ultraviolet detection 1 = All soil samples collected during the site investigation were prepared following the multi-increment preparation procedures outlined Section 4.2.2 of the HEER Office TGM.</p>			

7.6 Sample Containers and Holding Times

The type of sample container used for each analysis, the sample volumes required, the preservation requirements, and the maximum holding times for sample extraction and analysis are in Table 20.

Table 20 – Sample Containers, Preservatives, and Holding Times

COPC	Analysis Method #	Sample Volume	Sample Container	Preservative	Holding Time
Primary COPC					
TEQ Dioxins	8290	1 kg	1-gallon Ziploc	Cool, 4 °C	28 days
Total Arsenic	6010	1 kg	1-gallon Ziploc	Cool, 4 °C	180 days
Bioaccessible Arsenic	PBET	1 kg	1-gallon Ziploc	Cool, 4 °C	10 days
Mercury	7471	1 kg	1-gallon Ziploc	Cool, 4 °C	28 days
Lead	6010	1 kg	1-gallon Ziploc	Cool, 4 °C	180 days
Pentachlorophenol	8270	1 kg	1-gallon Ziploc	Cool, 4 °C	14 days
TPH-DRO and TPH-RRO	8015	1 kg	1-gallon Ziploc	Cool, 4 °C	14 days
Full PMA COPC					
TEQ Dioxins	8290	1 kg	1-gallon Ziploc	Cool, 4 °C	28 days
TPH-DRO and TPH-RRO	8015	1 kg	1-gallon Ziploc	Cool, 4 °C	14 days
Organochlorine Pesticides	8081	1 kg	1-gallon Ziploc	Cool, 4 °C	14 days
Chlorinated Herbicides	8151	1 kg	1-gallon Ziploc	Cool, 4 °C	14 days
SVOC	8270	1 kg	1-gallon Ziploc	Cool, 4 °C	14 days
Modified Pesticide Screen	8270	1 kg	1-gallon Ziploc	Cool, 4 °C	14 days
Carbamate Herbicides	8321	1 kg	1-gallon Ziploc	Cool, 4 °C	14 days
Total Metals	6010 and 7471	1 kg	1-gallon Ziploc	Cool, 4 °C	28 days
Waste Categorization COPC					
TCLP Organochlorine Pesticides	8081	1 kg	1-gallon Ziploc	Cool, 4 °C	14 days
TCLP Metals	6010 and 7470	1 kg	1-gallon Ziploc	Cool, 4 °C	28 days
pH	9015	1 kg	1-gallon Ziploc	Cool, 4 °C	7 days
Flammability	ASTM D4986	1 kg	1-gallon Ziploc	Cool, 4 °C	28 days
Other COPC					
VOC	8260	1 kg	1-gallon Ziploc ¹	Cool, 4 °C ¹	2 days ¹
SVOC	8270	1 kg	1-gallon Ziploc	Cool, 4 °C	14 days
Chlorinated Herbicides	8151	1 kg	1-gallon Ziploc	Cool, 4 °C	14 days
NOTES:					
°C = Degrees Celsius					
kg - Kilogram					
1 = The recommended sample containers and preservatives for VOC analysis (per EPA Method 8260 and the HEER Office TGM) were not utilized, because they were unavailable in the field. These items were unavailable because no samples were initially planned for VOC analysis and thus the laboratory did not supply the recommended sample containers and preservatives. See Section 7.7 for further details.					

7.7 Deviations from the Sampling and Analysis Plan

- The SAP identified three DUs in the West Drainage Outfall (DU18 to DU20). DU20, northwest of DU19, was eliminated after the SAP was finalized based on available information regarding current and historical operations in the West Drainage Outfall. The DU ID numbers were not altered to reflect the deletion of DU20, because all of the project plans and figures had already been completed.

- The SAP identified DU19 to be directly adjacent to DU18 and DU20. After eliminating DU20, DU19 was relocated farther downgradient in the West Drainage Outfall, nearer the point where the natural valley starts. The final location of DU19 was determined in the field, based on site conditions. DU19 was approximately 0.42 mile northwest of DU18, near the access road.
- The SAP identified DU18 to be 100 yards long; however, due to the presence of large boulders and other debris in the northwest end of this DU, the length was decreased to approximately 50 yards.
- The SAP did not include pentachlorophenol in the primary COPC category. At the request of the HEER Office, pentachlorophenol was added to the primary COPC category.
- Samples from Area 2 for Layers A to E were analyzed for pH initially due to the relatively short holding time (7 days) for this analytical method. This did not follow the iterative approach prescribed in the SAP. This change was implemented to ensure the pH analysis was completed within the recommended holding time.
- The SAP did not identify samples from DU10 and DU11 to be analyzed for the other COPC category (VOC, SVOC, chlorinated herbicides). The HEER Office requested that DU10 and DU11 be analyzed for the other COPC category based on presence of petroleum-impacted soil. Because this decision was made in the field, the recommended sample containers and preservatives for VOC analysis (per EPA Method 8260 and the HEER Office TGM) were not used, because they were unavailable. These items were unavailable because no samples were initially planned for VOC analysis; therefore, the laboratory did not supply the recommended sample containers and preservatives. Upon receipt of the DU10 and DU11 samples at the laboratory, Test America Honolulu collected 5-gram aliquots for the VOC analysis using methanol as a preservative before the drying and sieving procedures for the multi-increment preparation began. It is Tetra Tech's opinion that the resulting data quality for DU10 and DU11 is still representative, but should be considered estimated.
- The SAP identified DU5 and DU26 to be on the eastern borders of the Ortal and Foley properties, adjacent to the HHA property. Due to the presence of a septic tank on the Ortal property, and a terraced garden with mature vegetation, DU5 and DU26 were relocated to the east, on the HHA property, directly abutting the Ortal and Foley properties.
- The SAP did not identify samples from multiple layers from DU10 to be analyzed for the waste categorization COPC. The SAP noted that only the individual layer with the highest detected concentration of primary COPC to be analyzed for the waste categorization COPC. The HEER Office decided to analyze multiple layers for the waste categorization COPC.
- The SAP identified analysis for bioaccessible arsenic for samples from Layer A that have a detected concentration of total arsenic greater than the Tier I EAL (>20 mg/kg). At the request of the HEER Office, several samples from Layers B and C were also analyzed for bioaccessible arsenic.
- The SAP did not identify any samples to be analyzed for TPH-DRO and TPH-RRO, except those from DU10 to DU17. The samples from DU4 Layers A to C were analyzed for TPH-DRO and TPH-RRO. This decision was based on the field observation of petroleum-impacted soil.

- The SAP did not identify samples to be collected from Layer A in DU5 to DU7, DU10 to DU12, DU14, DU15, and DU17. This was because there was existing analytical data from Layer A in these areas and DUs from the previous HEER Office samplings. Because the collection of samples from Layer A did not require any additional efforts in the field, the project team decided to collect samples from Layer A in DU5 to DU7, DU10 to DU12, DU14, DU15, and DU17. These samples were archived at the laboratory upon receipt; they were not initially analyzed. The first sample interval submitted for analysis in each of these DUs was Layer B, with the exception of DU10 and DU11. Based on the field observation of petroleum-impacted soil, the HEER Office requested that Layer A from DU10 and DU11 be analyzed.
- The SAP identified pH analysis to be conducted by EPA Method 9015; however, all pH analysis was conducted by EPA Method 9045. Test America Honolulu indicated that their laboratory typically performs all pH analysis for soil samples using EPA Method 9045. This is not considered a significant deviation as both methods are approved and accepted methods for pH analysis.

The deviations identified did not have an effect on the DQOs or project goals. All deviations were identified based on field conditions and for gathering additional, relevant information.

8 Data Presentation and Analytical Results

8.1 Screening Criteria

The analytical results were compared with the HEER Office’s Tier I EALs for soils on unrestricted use and commercial or industrial use sites (depending on current property use), where potentially impacted groundwater is not a current or potential drinking water resource, and with surface water bodies more than 150 meters from the site (HEER Office 2011b). The HDOH SDWB confirmed that the site was on the seaward side of the UIC line. Groundwater inland of the UIC line is considered a potential drinking water source. Groundwater seaward of the UIC line is considered as non-potable and saline.

The specific screening criteria used for each DU depended on the property use, and is listed in Table 21.

Table 21 – Screening Criteria Used for Each DU

Location ID	Property Usage	Screening Criteria Used
DU1	Commercial	U ¹
DU2	Single Family Homes	U
DU3	Single Family Homes	U
DU4	Single Family Homes	U
DU5	Apartment Facility	U
DU6	Apartment Facility	U
DU7	Apartment Facility	U
DU8	Commercial	C/I
DU9	Commercial	C/I
DU10	Commercial	C/I
DU11	Commercial	C/I
DU12	Single Family Home	U
DU13	Single Family Home	U
DU14	Single Family Home	U
DU15	Single Family Home	U
DU16	Single Family Home	U
DU17	Single Family Home	U
DU18	Vacant, Undeveloped Land	U ²
DU19	Vacant, Undeveloped Land	U ²
DU21	Commercial	C/I
DU22	Commercial	C/I
DU23	Commercial	C/I
DU24	Single Family Home	U
DU25	Single Family Home	U
DU26	Apartment Facility	U
DU27	Apartment Facility	U

NOTES:
C/I = Commercial/Industrial Use
U = Unrestricted Use
1 = DU1 is located on the North Shore Health Center property. Although the property is zoned for Commercial Use, the more conservative Unrestricted Use screening criteria were utilized for DU1 due to the potential for sensitive receptors (e.g., elderly) at the property.
2 = DU18 and DU19 are located in the West Drainage Outfall, which ultimately discharges to the Pacific Ocean at “Secret Beach.” Due to the potential for ecological impacts at “Secret Beach,” the more conservative Unrestricted Use screening criteria were utilized for DU18 and DU19.

8.2 Sample Results

The complete laboratory analytical data reports are in Appendix B. This section summarizes the field sample results for the 26 DUs. Table 22 has a summary of the field sample results for the primary COPC and other COPC categories. These results are also shown on Figures 10 and 11. Figure 10 shows the samples with COPC exceedances of the applicable HEER Office Tier I EALs for Areas 1, 3, and 4. Figure 11 shows the samples with COPC exceedances of the applicable HEER Office Tier I EALs for Areas 2 and 5. Table 23 has a summary of the field sample results for the waste categorization COPC; these results are reported in a separate table due to the use of different screening criteria.

Table 22 – Soil Sample Results for primary COPC and other COPC (16 pages)

DU1 Area 1 - Perimeter of Core PMA Along the eastern border of the North Shore Health Center Property	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	KSPMA-DU5	PMAK-DU1-A	PMAK-DU1-B	PMAK-DU1-C	PMAK-DU1-D	PMAK-DU1-E
Sample Date			12.16.10	8.1.11	8.1.11	8.1.11	8.1.11	8.1.11
Depth Intervals (' bgs)			0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)								
TEQ DIOXINS	240	1500	140	120	160	NA ²	NA ³	NA ³
Soil Analyses (mg/kg)								
TOTAL ARSENIC	24	24	39.1	38	37.8	ND [<9.26]	NA ³	NA ³
BIOACCESSIBLE ARSENIC	23	95	7.95	ND [<1]	6.11	NA	NA ³	NA ³
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	5.74	NA	7.16	NA	NA ³	NA ³
TOTAL ARSENIC (250 µm)	NE	NE	138	NA	85.3	NA	NA ³	NA ³
MERCURY	4.7	61	1.12	1.09	1.9	0.309	NA ³	NA ³
LEAD	200	800	125	119	1070	246	NA ³	NA ³
PENTACHLOROPHENOL (8270CM)	3	5	ND [<0.05]	ND [<0.310]	ND [<0.307]	ND [<0.313]	NA ³	NA ³
TA Job No.	HUH0012 and HUI0095							

DU2 Area 1 - Perimeter of Core PMA Along the eastern borders of the Grace Paul Trust property, Clarion property and Howard property; adjacent to Aalona St.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	KSPMA-DU2	KSPMA-DU3	PMAK-DU2-A	PMAK-DU2-B	PMAK-DU2-C	PMAK-DU2-D	PMAK-DU2-E
Sample Date			12.15.10	12.15.10	8.1.11	8.1.11	8.1.11	8.1.11	8.1.11
Depth Intervals (' bgs)			0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)									
TEQ DIOXINS	240	1500	94	87	21	87	11	NA ²	NA ³
Soil Analyses (mg/kg)									
TOTAL ARSENIC	24	24	93.9	33.8	15.4	55.4	114	17	NA ³
BIOACCESSIBLE ARSENIC	23	95	9.98	4.6	NA	15.1	49.6	NA ²	NA ³
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	4.27	4.88	NA	11.5	18	NA ²	NA ³
TOTAL ARSENIC (250 µm)	NE	NE	234	94.2	NA	131	276	NA ²	NA ³
MERCURY	4.7	61	0.969	0.776	0.23	0.966	0.474	0.63	NA ³
LEAD	200	800	84	65.5	ND [<19.5]	118	1380	130	NA ³
PENTACHLOROPHENOL (8270CM)	3	5	ND [<0.05]	ND [<0.05]	ND [<0.315]	ND [<0.316]	ND [<0.329]	ND [<0.325]	NA ³
TA Job No.	HUH0012, HUI0095, and HUL0004								

LEGEND

Red Text = Detected concentration exceeds the HEER Office Tier I EAL for Unrestricted Use only.
Red Bold Text = Detected concentration exceeds the HEER Office Tier I EALs for both Unrestricted and Commercial/Industrial Use.
 mg/kg = milligrams per kilogram (parts per million [ppm] equivalent)
 ng/kg = nanograms per kilogram (parts per trillion [ppt] equivalent)
 NA = Not analyzed
 NA² = Not analyzed per SAP
 NA³ = Not analyzed because concentration of COPC(s) in overlying layer(s) was(were) below applicable EALs
 ND = Not detected at or above the limit shown in brackets

NE = Not established
 H = Sample is on "hold" and was archived at the laboratory.
³ = Triplicate Sample
 Shading = Sample collected during current site investigation
 Shading = Sample collected during previous sampling activities (HEER Office or Kauai Environmental)
 Shading = The specific Tier I EALs used during the screening (based on current property usage)
 EAL = Environmental Action Level
 Fall 2011 Revised Tier I EALs

Table 22 – Soil Sample Results for primary COPC and other COPC (continued)

DU3 Area 1 - Perimeter of Core PMA Along the eastern borders of the Johnson property, Deforge property, and the southern borders of the Cooper property, Cudiamat property, and Owens property; adjacent to the cul-de-sac portion of Aalona St.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	KSPMA-DU1	KSPMA-DU4	PMAK-DU3-A	PMAK-DU3-B	PMAK-DU3-C	PMAK-DU3-D	PMAK-DU3-E
Sample Date			12.15.10	12.15.10	8.2.11	8.2.11	8.2.11	8.2.11	8.2.11
Depth Intervals (' bgs)			0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)									
TEQ DIOXINS	240	1500	170	55	64	130	NA ²	NA ³	NA ³
Soil Analyses (mg/kg)									
TOTAL ARSENIC	24	24	19.8	12.5	11	28	ND [<6.0]	NA ³	NA ³
BIOACCESSIBLE ARSENIC	23	95	NA	NA	NA ²	4.04	NA ²	NA ³	NA ³
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	NA	NA	NA ²	3.15	NA ²	NA ³	NA ³
TOTAL ARSENIC (250 µm)	NE	NE	NA	NA	NA ²	129	NA ²	NA ³	NA ³
MERCURY	4.7	61	0.569	0.416	0.44	0.82	0.49	NA ³	NA ³
LEAD	200	800	32.1	21	25	28	6.8	NA ³	NA ³
PENTACHLOROPHENOL (8270CM)	3	5	ND [<0.05]	ND [<0.05]	ND [<1.62]	ND [<0.318]	ND [<0.325]	NA ³	NA ³
TA Job No.	HUH0028 and HUI0096								

DU4 ¹ Area 1 - Perimeter of Core PMA Along the southern border of the Ortal property, adjacent to the Foley property.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	PMAK-DU4-A-P	PMAK-DU4-A-T1	PMAK-DU4-A-T2	PMAK-DU4-B-P	PMAK-DU4-B-T1	PMAK-DU4-B-T2	PMAK-DU4-C-P	PMAK-DU4-C-T1	PMAK-DU4-C-T2	PMAK-DU4-D-P	PMAK-DU4-D-T1	PMAK-DU4-D-T2	PMAK-DU4-E-P	PMAK-DU4-E-T1	PMAK-DU4-E-T2
Sample Date			8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11
Depth Intervals (' bgs)			0-0.5	0-0.5	0-0.5	0.5-2.0	0.5-2.0	0.5-2.0	2.0-4.0	2.0-4.0	2.0-4.0	4.0-7.0	4.0-7.0	4.0-7.0	7.0-10.0	7.0-10.0	7.0-10.0
Soil Analyses (ng/kg)																	
TEQ DIOXINS	240	1500	170	190	180	120	170	110	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA ³	NA ³	NA ³
Soil Analyses (mg/kg)																	
TOTAL ARSENIC	24	24	18	18	17	24	26	33	13	16	12	ND [<5.7]	ND [<5.8]	ND [<6.1]	NA ³	NA ³	NA ³
BIOACCESSIBLE ARSENIC	23	95	NA ²	NA ²	NA ²	18.8	17.3	23.8	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA ³	NA ³	NA ³
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	NA ²	NA ²	NA ²	21.9	17.7	21.9	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA ³	NA ³	NA ³
TOTAL ARSENIC (250 µm)	NE	NE	NA ²	NA ²	NA ²	85.9	97.9	108	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA ³	NA ³	NA ³
MERCURY	4.7	61	0.99	0.91	0.84	0.54	0.62	0.52	0.55	0.52	0.47	0.34	0.36	0.44	NA ³	NA ³	NA ³
LEAD	200	800	43	39	40	45	72	80	2800	1400	1700	16	24	20	NA ³	NA ³	NA ³
PENTACHLOROPHENOL (8270CM)	3	5	ND [<0.325]	ND [<0.297]	ND [<0.320]	ND [<0.326]	ND [<0.322]	ND [<0.321]	ND [<0.325]	ND [<0.313]	ND [<0.322]	ND [<0.316]	ND [<0.318]	ND [<0.327]	NA ³	NA ³	NA ³
TPH-DRO	500	500	35.8	32.7	32.4	259	164	151	275	181	179	NA ²	NA ²	NA ²	NA ³	NA ³	NA ³
TPH-RRO	500	1000	165	125	121	182	298	303	303	264	182	NA ²	NA ²	NA ²	NA ³	NA ³	NA ³
TA Job No.	HUH0028 and HUI0096																

Table 22 – Soil Sample Results for primary COPC and other COPC (continued)

DU5 Area 1 - Perimeter of Core PMA Along the western borders of the Ortal property and Foley property. This DU is adjacent to the HHA property.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	KKSC-DU1	KKSC-DU2	PMAK-DU5-A	PMAK-DU5-B	PMAK-DU5-C	PMAK-DU5-D	PMAK-DU5-E
Sample Date			8.19.10	8.19.10	8.10.11	8.10.11	8.10.11	8.10.11	8.10.11
Depth Intervals (' bgs)			0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)									
TEQ DIOXINS	240	1500	18	110	NA ²	33	530	NA ²	NA ²
Soil Analyses (mg/kg)									
TOTAL ARSENIC	24	24	ND [<29]	ND [<30]	NA ²	28	880	500	7.1
BIOACCESSIBLE ARSENIC	23	95	NA	NA	NA ²	ND [<1.00]	61.6	NA ²	NA ²
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	NA	NA	NA ²	ND [<0.200]	13.6	NA ²	NA ²
TOTAL ARSENIC (250 µm)	NE	NE	NA	NA	NA ²	9.38	452	NA ²	NA ²
MERCURY	4.7	61	0.328	0.28	NA ²	0.34	3.7	0.62	0.2
LEAD	200	800	17	15	NA ²	14	170	84	6.3
PENTACHLOROPHENOL (8270CM)	3	5	ND [<0.05]	0.26	NA ²	ND [<0.324]	0.362	ND [<0.326]	ND [<0.062]
TA Job No.	HUH0072 and HUL0004								

DU6 ¹ Area 1 - Perimeter of Core PMA Along the southern boundary of the HHA property, adjacent to Natural Bridges School property.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	PMAK-DU6-A-P	PMAK-DU6-A-T1	PMAK-DU6-A-T2	PMAK-DU6-B-P	PMAK-DU6-B-T1	PMAK-DU6-B-T2	PMAK-DU6-C-P	PMAK-DU6-C-T1	PMAK-DU6-C-T2	PMAK-DU6-D-P	PMAK-DU6-D-T1	PMAK-DU6-D-T2	PMAK-DU6-E-P	PMAK-DU6-E-T1	PMAK-DU6-E-T2
Sample Date			8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	
Depth Intervals (' bgs)			0-0.5	0-0.5	0-0.5	0.5-2.0	0.5-2.0	0.5-2.0	2.0-4.0	2.0-4.0	2.0-4.0	4.0-7.0	4.0-7.0	4.0-7.0	7.0-10.0	7.0-10.0	
Soil Analyses (ng/kg)																	
TEQ DIOXINS	240	1500	29	28	27	9.9	9.4	10	NA ²	NA ²	NA ²	NA ³	NA ³	NA ³	NA ³	NA ³	
Soil Analyses (mg/kg)																	
TOTAL ARSENIC	24	24	18	15	16	ND [<5.6]	ND [<5.8]	ND [<5.9]	ND [<6.0]	ND [<5.8]	ND [<6.0]	NA ³	NA ³	NA ³	NA ³	NA ³	
BIOACCESSIBLE ARSENIC	23	95	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA ³	NA ³	NA ³	NA ³	NA ³	
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA ³	NA ³	NA ³	NA ³	NA ³	
TOTAL ARSENIC (250 µm)	NE	NE	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	NA ³	NA ³	NA ³	NA ³	NA ³	
MERCURY	4.7	61	0.88	0.82	0.73	0.72	0.55	0.74	0.34	0.34	0.37	NA ³	NA ³	NA ³	NA ³	NA ³	
LEAD	200	800	150	160	140	27	25	27	13	15	12	NA ³	NA ³	NA ³	NA ³	NA ³	
PENTACHLOROPHENOL (8270CM)	3	5	ND [<0.320]	ND [<0.328]	ND [<0.314]	ND [<0.307]	ND [<0.327]	ND [<0.320]	ND [<0.318]	ND [<0.322]	ND [<0.320]	NA ³	NA ³	NA ³	NA ³	NA ³	
TA Job No.	HUH0049																

Table 22 – Soil Sample Results for primary COPC and other COPC (continued)

DU7 Area 1 - Perimeter of Core PMA Along the southern boundary of the HHA property, adjacent to Natural Bridges School property.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	PMAK-DU7-A	PMAK-DU7-B	PMAK-DU7-C	PMAK-DU7-D	PMAK-DU7-E
Sample Date			8.8.11	8.8.11	8.8.11	8.8.11	8.8.11
Depth Intervals (' bgs)			0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)							
TEQ DIOXINS	240	1500	86	83	NA ²	NA ³	NA ³
Soil Analyses (mg/kg)							
TOTAL ARSENIC	24	24	13	ND [<5.8]	ND [<5.5]	NA ³	NA ³
BIOACCESSIBLE ARSENIC	23	95	NA ²	NA ²	NA ²	NA ³	NA ³
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	NA ²	NA ²	NA ²	NA ³	NA ³
TOTAL ARSENIC (250 µm)	NE	NE	NA ²	NA ²	NA ²	NA ³	NA ³
MERCURY	4.7	61	0.72	0.61	0.51	NA ³	NA ³
LEAD	200	800	140	54	42	NA ³	NA ³
PENTACHLOROPHENOL (8270CM)	3	5	ND [<0.325]	ND [<0.326]	ND [<0.325]	NA ³	NA ³
TA Job No.	HUH0049						

DU8 Area 1 - Perimeter of Core PMA Along the eastern border of the Old Mill LLC property, adjacent to the Natural Bridges School property.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	PMAK-DU8-A	PMAK-DU8-B	PMAK-DU8-C	PMAK-DU8-D	PMAK-DU8-E
Sample Date			8.2.11	8.2.11	8.2.11	8.2.11	8.2.11
Depth Intervals (' bgs)			0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)							
TEQ DIOXINS	240	1500	29	63	NA ²	NA ³	NA ³
Soil Analyses (mg/kg)							
TOTAL ARSENIC	24	24	32	7.9	ND [<5.8]	NA ³	NA ³
BIOACCESSIBLE ARSENIC	23	95	16.5	NA ²	NA ²	NA ³	NA ³
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	12.7	NA ²	NA ²	NA ³	NA ³
TOTAL ARSENIC (250 µm)	NE	NE	130	NA ²	NA ²	NA ³	NA ³
MERCURY	4.7	61	0.25	0.69	0.72	NA ³	NA ³
LEAD	200	800	72	160	240	NA ³	NA ³
PENTACHLOROPHENOL (8270CM)	3	5	ND [<0.325]	ND [<0.318]	ND [<0.320]	NA ³	NA ³
TA Job No.	HUH0028						

Table 22 – Soil Sample Results for primary COPC and other COPC (continued)

DU9 Area 1 - Perimeter of Core PMA Along the southern border of the Old Mill LLC property, adjacent to Oka Street.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	PMAK-DU9-A	PMAK-DU9-B	PMAK-DU9-C	PMAK-DU9-D	PMAK-DU9-E
Sample Date			8.2.11	8.2.11	8.2.11	8.2.11	8.2.11
Depth Intervals (' bgs)			0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)							
TEQ DIOXINS	240	1500	31	41	NA ²	NA ³	NA ³
Soil Analyses (mg/kg)							
TOTAL ARSENIC	24	24	8.8	12	ND [<5.7]	NA ³	NA ³
BIOACCESSIBLE ARSENIC	23	95	NA ²	NA ²	NA ²	NA ³	NA ³
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	NA ²	NA ²	NA ²	NA ³	NA ³
TOTAL ARSENIC (250 µm)	NE	NE	NA ²	NA ²	NA ²	NA ³	NA ³
MERCURY	4.7	61	0.38	0.46	0.37	NA ³	NA ³
LEAD	200	800	69	270	130	NA ³	NA ³
PENTACHLOROPHENOL (8270CM)	3	5	ND [<0.325]	ND [<0.325]	ND [<0.326]	NA ³	NA ³
TA Job No.	HUH0028						

Table 22 – Soil Sample Results for primary COPC and other COPC (continued)

DU10 Area 2 - Core PMA Within the western portion of the Drainage Swale, which is along the northern border of the Old Mill LLC property.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	KSPMA-DU6	KSPMA-DU7	PMAK-DU10-A	PMAK-DU10-B	PMAK-DU10-C	PMAK-DU10-D	PMAK-DU10-E
Sample Date			12.15.10	12.16.10	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11
Depth Intervals (' bgs)			0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)									
TEQ DIOXINS	240	1500	1700	2500	NA ²	2100	NA ²	NA ²	NA ²
Soil Analyses (mg/kg)									
TOTAL ARSENIC	24	24	1890	3760	NA ²	6900	3800	2300	1800
BIOACCESSIBLE ARSENIC	23	95	786	1870	NA ²	2860	NA ²	NA ²	NA ²
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	24.8	27.1	NA ²	22.9	NA ²	NA ²	NA ²
TOTAL ARSENIC (250 µm)	NE	NE	3170	6890	NA ²	12500	NA ²	NA ²	NA ²
MERCURY	4.7	61	18.4	13.8	NA ²	30	2.7	3.3	0.29
LEAD	200	800	288	420	NA ²	290	96	43	ND
PENTACHLOROPHENOL (8270CM)	3	5	3.61	7.13	1.95	0.507	11.9	11.7	13.3
TPH-DRO	500	500	NA	NA	NA ²	160	4150	2470	8080
TPH-RRO	500	1000	NA	NA	NA ²	465	ND	1680	4070
pH	NE	NE	NA	NA	NA ²	6.97	6.86	6.64	6.39
1,2,4-TRIMETHYLBENZENE	NE	NE	NA	NA	ND [<0.520]	ND [<0.468]	ND [<0.428]	1.52	ND [<0.428]
NAPHTHALENE (8260/8270)	0.46	1.9	0.064	0.24	ND [<0.520]/ ND [<0.322]	ND [<0.468]/0.507	0.672/1.32	1.21/1.20	0.526/2.21
1-CHLORONAPHTHALENE	NE	NE	NA	NA	ND [<0.322]	ND [<0.327]	ND [<0.307]	ND [<0.313]	3.53
1-METHYLNAPHTHALENE	2.6	11	0.081	0.16	ND [<0.322]	ND [<0.327]	12.6	15.4	24.7
2-METHYLNAPHTHALENE	25	50	0.18	0.39	ND [<0.322]	ND [<0.327]	19	17.2	16.1
4-AMINOBIIPHENYL	NE	NE	NA	NA	ND [<0.645]	ND [<0.653]	0.966	1.2	ND [<0.658]
4-CHLOROANILINE	NE	NE	ND [<0.098]	ND [<0.096]	ND [<0.322]	ND [<0.327]	1.33	0.674	1.16
ACENAPHTHENE	140	140	ND [<0.02]	ND [<0.019]	ND [<0.322]	ND [<0.327]	1.22	1.98	3.67
ANTHRACENE	2.5	2.5	ND [<0.02]	0.56	ND [<0.322]	ND [<0.327]	0.569	0.853	1.51
DIBENZOFURAN	NE	NE	ND [<0.098]	ND [<0.096]	ND [<0.322]	ND [<0.327]	ND [<0.307]	0.393	ND [<0.329]
FLUORANTHENE	40	40	0.22	0.38	ND [<0.322]	ND [<0.327]	ND [<0.307]	ND [<0.313]	0.714
FLUORENE	130	130	ND [<0.02]	ND [<0.019]	ND [<0.322]	ND [<0.327]	1.44	2.28	4.712
N-NITROSODIPHENYLAMINE	NE	NE	ND [<0.049]	ND [<0.048]	ND [<0.322]	ND [<0.327]	ND [<0.307]	1.58	ND [<0.329]
PHENANTHRENE	18	18	0.14	0.26	ND [<0.322]	ND [<0.327]	5.79	8.16	14.3
PYRENE	56	56	0.25	0.47	ND [<0.322]	ND [<0.327]	0.316	0.472	0.915
2,4-D	NE	NE	0.0143	0.0313	NA	ND [<400]	ND [<309]	ND [<309]	ND [<400]
TA Job No.	HUH0049 and HUL0004								

NOTES: All other analyses for VOC 8260 and SVOC 8270 are ND.

Table 22 – Soil Sample Results for primary COPC and other COPC (continued)

DU11 Area 2 - Core PMA Within the eastern portion of the Drainage Swale. Along the northern border of the Old Mill LLC property.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	KSPMA-DU8	PMAK-DU11-A	PMAK-DU11-B	PMAK-DU11-C	PMAK-DU11-D	PMAK-DU11-E
Sample Date			12.16.10	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11
Depth Intervals (' bgs)			0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)								
TEQ DIOXINS	240	1500	650	NA ²	350	NA ²	NA ³	NA ³
Soil Analyses (mg/kg)								
TOTAL ARSENIC	24	24	317	NA ²	66	19	NA ³	NA ³
BIOACCESSIBLE ARSENIC	23	95	69.6	NA ²	9.19	NA ²	NA ³	NA ³
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	9.9	NA ²	3.25	NA ²	NA ³	NA ³
TOTAL ARSENIC (250 µm)	NE	NE	703	NA ²	283	NA ²	NA ³	NA ³
MERCURY	4.7	61	11.1	NA ²	4.3	1.4	NA ³	NA ³
LEAD	200	800	313	NA ²	250	110	NA ³	NA ³
PENTACHLOROPHENOL (8270CM)	3	5	0.23	NA ²	ND [<0.328]	ND [<0.302]	NA ³	NA ³
pH	NE	NE	NA	NA ²	6.94	6.94	NA ³	NA ³
ANTHRACENE	2.5	2.5	0.09	0.745	ND [<0.328]	ND [<0.302]	NA ³	NA ³
BENZO (A) ANTHRACENE	1.5	13	0.43	2.02	ND [<0.328]	ND [<0.302]	NA ³	NA ³
BENZO (A) PYRENE	0.15	2.1	0.61	2.11	ND [<0.328]	ND [<0.302]	NA ³	NA ³
BENZO (B) FLUORANTHENE	1.5	12	0.93	2.59	0.344	ND [<0.302]	NA ³	NA ³
BENZO (G,H,I) PERYLENE	27	27	0.49	1.37	ND [<0.328]	ND [<0.302]	NA ³	NA ³
BENZO (K) FLUORANTHENE	15	40	0.3	0.85	0.39	ND [<0.302]	NA ³	NA ³
BUTYL BENZYL PHTHALATE	NE	NE	0.61	1.05	ND [<0.328]	ND [<0.302]	NA ³	NA ³
CHRYSENE	14	14	0.74	2.13	ND [<0.328]	ND [<0.302]	NA ³	NA ³
FLUORANTHENE	40	40	1.1	4.09	0.378	ND [<0.302]	NA ³	NA ³
INDENO (1,2,3-CD) PYRENE	1.5	21	0.41	1.1	ND [<0.328]	ND [<0.302]	NA ³	NA ³
PHENANTHRENE	18	18	0.7	0.975	ND [<0.328]	ND [<0.302]	NA ³	NA ³
PYRENE	56	56	1.1	3.31	0.384	ND [<0.302]	NA ³	NA ³
2,4-D	NE	NE	ND [<0.005]	NA ²	ND [<390]	ND [<400]	NA ³	NA ³
TA Job No.	HUH0049							

NOTES: All other analyses for VOC 8260 and SVOC 8270 are ND.

Table 22 – Soil Sample Results for primary COPC and other COPC (continued)

DU12 Area 2 - Core PMA Within the front yard of the Thompson property, adjacent to Aalona Street.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	KKSC-DU5	PMAK-DU12-A	PMAK-DU12-B	PMAK-DU12-C	PMAK-DU12-D	PMAK-DU12-E
Sample Date			8.18.10	8.4.11	8.4.11	8.4.11	8.4.11	8.4.11
Depth Intervals (' bgs)			0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)								
TEQ DIOXINS	240	1500	930	NA ²	1800	NA ²	NA ²	NA ²
Soil Analyses (mg/kg)								
TOTAL ARSENIC	24	24	180	NA ²	260	370	250	130
BIOACCESSIBLE ARSENIC	23	95	NA	NA ²	NA ²	NA ²	NA ²	NA ²
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	NA	NA ²	NA ²	NA ²	NA ²	NA ²
TOTAL ARSENIC (250 µm)	NE	NE	NA	NA ²	NA ²	NA ²	NA ²	NA ²
MERCURY	4.7	61	5.94	NA ²	4.2	2.5	1.5	0.74
LEAD	200	800	680	NA ²	130	230	260	78
PENTACHLOROPHENOL (8270CM)	3	5	0.3	NA ²	0.613	2.25	ND [<0.317]	ND [<0.315]
TPH-DRO	500	500	NA	NA ²	322	1200	1470	1520
TPH-RRO	500	1000	NA	NA ²	1320	2490	3330	1790
pH	NE	NE	NA	NA ²	7.5	7.28	7.2	7.21
TA Job No.	HUH0049 and HUL0004							

DU13 Area 2 - Core PMA Within the north side yard of the Thompson property, adjacent to Aalona Street	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	PMAK-DU13-A	PMAK-DU13-B	PMAK-DU13-C	PMAK-DU13-D	PMAK-DU13-E
Sample Date			8.3.11	8.3.11	8.3.11	8.3.11	8.3.11
Depth Intervals (' bgs)			0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)							
TEQ DIOXINS	240	1500	760	1400	NA ²	NA ²	NA ³
Soil Analyses (mg/kg)							
TOTAL ARSENIC	24	24	75	46	26	ND [<5.8]	NA ³
BIOACCESSIBLE ARSENIC	23	95	NA ²	NA ²	NA ²	NA ²	NA ³
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	NA ²	NA ²	NA ²	NA ²	NA ³
TOTAL ARSENIC (250 µm)	NE	NE	NA ²	NA ²	NA ²	NA ²	NA ³
MERCURY	4.7	61	2.5	2.1	0.58	1.2	NA ³
LEAD	200	800	90	54	220	48	NA ³
PENTACHLOROPHENOL (8270CM)	3	5	ND [<0.321]	ND [<0.324]	ND [<1.60]	ND [<0.327]	NA ³
pH	NE	NE	7.6	7.72	6.59	7.28	5.89
TA Job No.	HUH0028 and HUL0004						

Table 22 – Soil Sample Results for primary COPC and other COPC (continued)

DU14 Area 2 - Core PMA Within the backyard of the Thompson property adjacent to the Foley property.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	KKSC-DU6 ³	KKSC-DU7 ³	KKSC-DU8 ³	PMAK-DU14-A	PMAK-DU14-B	PMAK-DU14-C	PMAK-DU14-D	PMAK-DU14-E
Sample Date			8.18.10	8.18.10	8.18.10	8.4.11	8.4.11	8.4.11	8.4.11	8.4.11
Depth Intervals (' bgs)			0-0.5	0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)										
TEQ DIOXINS	240	1500	817	1070	879	NA ²	35	NA ²	NA ²	NA ³
Soil Analyses (mg/kg)										
TOTAL ARSENIC	24	24	520	770	430	NA ²	1300	1500	230	NA ³
BIOACCESSIBLE ARSENIC	23	95	NA	307	NA	NA ²	NA ²	NA ²	NA ²	NA ³
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	NA	18	NA	NA ²	NA ²	NA ²	NA ²	NA ³
TOTAL ARSENIC (250 µm)	NE	NE	NA	1700	NA	NA ²	NA ²	NA ²	NA ²	NA ³
MERCURY	4.7	61	15.4	28.2	45	NA ²	0.4	0.32	5.0	NA ³
LEAD	200	800	130	160	130	NA ²	20	32	24	NA ³
PENTACHLOROPHENOL (8270CM)	3	5	0.05	0.44	0.28	NA ²	ND [<0.303]	ND [<0.307]	ND [<0.290]	NA ³
pH	NE	NE	NA	NA	NA	NA ²	6.91	6.77	7	7.16
TA Job No.	HUH0049 and HUL0004									

DU15 Area 2 - Core PMA Within the south side yard of the Thompson property, adjacent to the Drainage Swale.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	KKSC-DU6 ³	KKSC-DU7 ³	KKSC-DU8 ³	PMAK-DU15-A	PMAK-DU15-B	PMAK-DU15-C	PMAK-DU15-D	PMAK-DU15-E
Sample Date			8.18.10	8.18.10	8.18.10	8.4.11	8.4.11	8.4.11	8.4.11	8.4.11
Depth Intervals (' bgs)			0-0.5	0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)										
TEQ DIOXINS	240	1500	817	1070	879	NA ²	740	NA ²	NA ²	NA ³
Soil Analyses (mg/kg)										
TOTAL ARSENIC	24	24	520	770	430	NA ²	2200	260	1100	NA ³
BIOACCESSIBLE ARSENIC	23	95	NA	307	NA	NA ²	NA ²	NA ²	NA ²	NA ³
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	NA	18	NA	NA ²	NA ²	NA ²	NA ²	NA ³
TOTAL ARSENIC (250 µm)	NE	NE	NA	1700	NA	NA ²	NA ²	NA ²	NA ²	NA ³
MERCURY	4.7	61	15.4	28.2	45	NA ²	6.1	1.3	1.7	NA ³
LEAD	200	800	130	160	130	NA ²	950	1300	510	NA ³
PENTACHLOROPHENOL (8270CM)	3	5	0.05	0.44	0.28	NA ²	0.777	2.01	3.67	NA ³
pH	NE	NE	NA	NA	NA	NA ²	7.3	7.84	7.4	NA ³
TA Job No.	HUH0049 and HUL0004									

Table 22 – Soil Sample Results for primary COPC and other COPC (continued)

DU16 Area 2 - Core PMA Within the driveway of the Foley property, adjacent to the Thompson property.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	PMAK-DU16-A	PMAK-DU16-B	PMAK-DU16-C	PMAK-DU16-D	PMAK-DU16-E
Sample Date			8.3.11	8.3.11	8.3.11	8.3.11	8.3.11
Depth Intervals (' bgs)			0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)							
TEQ DIOXINS	240	1500	120	260	NA ²	NA ²	NA ³
Soil Analyses (mg/kg)							
TOTAL ARSENIC	24	24	17	22	37	ND [<5.4]	NA ³
BIOACCESSIBLE ARSENIC	23	95	NA ²	2.54	28.1	NA ²	NA ³
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	NA ²	3	21.2	NA ²	NA ³
TOTAL ARSENIC (250 µm)	NE	NE	NA ²	84.8	132	NA ²	NA ³
MERCURY	4.7	61	0.61	0.97	0.5	0.86	NA ³
LEAD	200	800	24	78	190	83	NA ³
PENTACHLOROPHENOL (8270CM)	3	5	ND [<0.322]	ND [<0.318]	ND [<0.326]	ND [<0.321]	NA ³
pH	NE	NE	7.67	7.77	7.55	7.25	7.14
TA Job No.	HUH0028, HUI0096, and HUL0004						

DU17 Area 2 - Core PMA Within the backyard of the Foley property, adjacent to the Drainage Swale.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	KKSC-DU3	PMAK-DU17-A	PMAK-DU17-B	PMAK-DU17-C	PMAK-DU17-D	PMAK-DU17-E
Sample Date			8.19.10	8.5.11	8.5.11	8.5.11	8.5.11	8.5.11
Depth Intervals (' bgs)			0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)								
TEQ DIOXINS	240	1500	299	NA ²	400	NA ²	NA ²	NA ³
Soil Analyses (mg/kg)								
TOTAL ARSENIC	24	24	100	NA ²	540	72	38	NA ³
BIOACCESSIBLE ARSENIC	23	95	18.1	NA ²	NA ²	NA ²	NA ²	NA ³
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	6.56	NA ²	NA ²	NA ²	NA ²	NA ³
TOTAL ARSENIC (250 µm)	NE	NE	276	NA ²	NA ²	NA ²	NA ²	NA ³
MERCURY	4.7	61	1.44	NA ²	15	0.63	0.69	NA ³
LEAD	200	800	43	NA ²	58	61	26	NA ³
PENTACHLOROPHENOL (8270CM)	3	5	0.11	NA ²	0.567	ND [<0.315]	ND [<0.321]	NA ³
pH	NE	NE	NA	NA ²	7.29	7.3	6.9	7.03
TA Job No.	HUH0049 and HUL0004							

Table 22 – Soil Sample Results for primary COPC and other COPC (continued)

DU18 Area 2 - Core PMA Within the West Drainage Outfall, adjacent to the intersection of Kilauea Road and Oka Street.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	PMAK-DU18-A-P	PMAK-DU18-A-T1	PMAK-DU18-A-T2
Sample Date			8.10.11	8.10.11	8.10.11
Depth Intervals (' bgs)			0-0.5	0-0.5	0-0.5
Soil Analyses (ng/kg)					
TEQ DIOXINS	240	1500	64	64	91
Soil Analyses (mg/kg)					
TOTAL ARSENIC	24	24	50	47	49
BIOACCESSIBLE ARSENIC	23	95	ND [<1.00]	ND [<1.00]	ND [<1.00]
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	1.94	2.88	2.04
TOTAL ARSENIC (250 µm)	NE	NE	32.7	29.1	29.7
MERCURY	4.7	61	0.6	0.52	0.39
LEAD	200	800	55	55	56
PENTACHLOROPHENOL (8270CM)	3	5	ND [<1.58]	ND [<1.52]	ND [<1.59]
TA Job No.	HUH0072				

DU19 Area 2 - Core PMA Within the West Drainage Outfall, to the west of DU18.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	PMAK-DU19-A
Sample Date			8.11.11
Depth Intervals (' bgs)			0-0.5
Soil Analyses (ng/kg)			
TEQ DIOXINS	240	1500	15
Soil Analyses (mg/kg)			
TOTAL ARSENIC	24	24	24
BIOACCESSIBLE ARSENIC	23	95	ND [<1.00]
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	ND [<2.00]
TOTAL ARSENIC (250 µm)	NE	NE	16.1
MERCURY	4.7	61	0.6
LEAD	200	800	16
PENTACHLOROPHENOL (8270CM)	3	5	ND [<0.313]
TA Job No.	HUH0072		

Table 22 – Soil Sample Results for primary COPC and other COPC (continued)

DU21 Area 3 - Potentially Impacted Exposed Surface Soils - Not Previously Sampled Two separate areas on the Old Mill LLC property.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	PMAK-DU21-A
Sample Date			8.10.11
Depth Intervals (' bgs)			0-0.5
Soil Analyses (ng/kg)			
TEQ DIOXINS	240	1500	NA
Soil Analyses (mg/kg)			
TOTAL ARSENIC	24	24	130
BIOACCESSIBLE ARSENIC	23	95	19.1
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	19.7
TOTAL ARSENIC (250 µm)	NE	NE	96.8
MERCURY	4.7	61	0.38
LEAD	200	800	180
PENTACHLOROPHENOL (8270CM)	3	5	ND [<0.325]
TA Job No.	HUH0072		

DU22 Area 3 - Potentially Impacted Exposed Surface Soils - Not Previously Sampled Along the western border of the Old Mill LLC property adjacent to the drainage swale.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	PMAK-DU22-A
Sample Date			8.5.11
Depth Intervals (' bgs)			0-0.5
Soil Analyses (ng/kg)			
TEQ DIOXINS	240	1500	140
Soil Analyses (mg/kg)			
TOTAL ARSENIC	24	24	60
BIOACCESSIBLE ARSENIC	23	95	14.9
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	8.36
TOTAL ARSENIC (250 µm)	NE	NE	178
MERCURY	4.7	61	0.72
LEAD	200	800	54
PENTACHLOROPHENOL (8270CM)	3	5	ND [<0.281]
pH	NE	NE	7.45
TA Job No.	HUH0049 and HUL0004		

Table 22 – Soil Sample Results for primary COPC and other COPC (continued)

DU23 Area 3 - Potentially Impacted Exposed Surface Soils - Not Previously Sampled Within the raised planter box along the southern boundary of the Old Mill LLC property.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	PMAK-DU23-A
Sample Date			8.10.11
Depth Intervals (' bgs)			0-0.5
Soil Analyses (ng/kg)			
TEQ DIOXINS	240	1500	45
Soil Analyses (mg/kg)			
TOTAL ARSENIC	24	24	38
BIOACCESSIBLE ARSENIC	23	95	ND [<1.00]
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	ND
TOTAL ARSENIC (250 µm)	NE	NE	18.4
MERCURY	4.7	61	0.39
LEAD	200	800	200
PENTACHLOROPHENOL (8270CM)	3	5	ND [<0.329]
TA Job No.	HUH0072		

DU24 Area 4 - Surrounding Properties Within the front, back and side yards for the Sansevere property.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	PMAK-DU24-A-P	PMAK-DU24-A-T1	PMAK-DU24-A-T2
Sample Date			8.10.11	8.10.11	8.10.11
Depth Intervals (' bgs)			0-0.5	0-0.5	0-0.5
Soil Analyses (ng/kg)					
TEQ DIOXINS	240	1500	92	92	98
Soil Analyses (mg/kg)					
TOTAL ARSENIC	24	24	290	230	230
BIOACCESSIBLE ARSENIC	23	95	16.8	16.1	17.1
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	6.94	8.14	8.07
TOTAL ARSENIC (250 µm)	NE	NE	242	198	212
MERCURY	4.7	61	0.68	0.62	0.68
LEAD	200	800	180	130	130
PENTACHLOROPHENOL (8270CM)	3	5	ND [<0.317]	ND [<0.317]	ND [<0.319]
TA Job No.	HUH0072				

Table 22 – Soil Sample Results for primary COPC and other COPC (continued)

DU25 Area 4 - Surrounding Properties Within the front, back, and side yards of the Hadley property, south of Oka Street.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	PMAK-DU25-A
Sample Date			8.11.11
Depth Intervals (' bgs)			0-0.5
Soil Analyses (ng/kg)			
TEQ DIOXINS	240	1500	39
Soil Analyses (mg/kg)			
TOTAL ARSENIC	24	24	25
BIOACCESSIBLE ARSENIC	23	95	ND [<1.00]
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	ND [<2.00]
TOTAL ARSENIC (250 µm)	NE	NE	10.2
MERCURY	4.7	61	0.33
LEAD	200	800	71
PENTACHLOROPHENOL (8270CM)	3	5	ND [<0.318]
TA Job No.	HUH0072		

Table 22 – Soil Sample Results for primary COPC and other COPC (continued)

DU26 Area 5 - HHA Debris Pit Along the western borders of the HHA property, west of Building B.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	KKSC-DU1	KKSC-DU2	KBV-01	PMAK-DU26
Sample Date			8.19.10	8.19.10	1.26.11	8.10.11
Depth Intervals (' bgs)			0-0.5	0-0.5	4.0-6.0	3.0-4.5
Soil Analyses (ng/kg)						
TEQ DIOXINS	240	1500	18	110	NA	24
Soil Analyses (mg/kg)						
TOTAL ARSENIC	24	24	ND [<29]	ND [<30]	950	380
BIOACCESSIBLE ARSENIC	23	95	NA	NA	NA	NA ²
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	NA	NA	NA	NA ²
TOTAL ARSENIC (250 µm)	NE	NE	NA	NA	NA	NA ²
MERCURY	4.7	61	0.328	0.28	3.6	0.55
LEAD	200	800	17	15	240	340
PENTACHLOROPHENOL (8151/8270)	3	5	ND [<0.05]	0.26	6.4	ND [<0.01]/ ND [<0.314]
TPH-DRO	500	500	NA	NA	ND [<20]	42.7
TPH-RRO	500	1000	NA	NA	ND [<40]	243
BARIUM	750	1500	110	140	420	170
CADMIUM	12	12	ND [<4.8]	ND [<5.0]	3.3	1.8
CHROMIUM	500	500	220	220	42	410
SILVER	20	40	ND [<9.7]	ND [<9.9]	ND [<20]	0.33
BENZO(A)ANTHRACENE	1.5	13	ND [<0.16]	ND [<0.16]	0.41	0.317
BENZO(A)PYRENE	0.15	2.1	ND [<0.16]	ND [<0.16]	ND [<0.1]	0.344
BENZO(B)FLUORANTHENE	1.5	12	ND [<0.16]	ND [<0.16]	0.2	0.405
CHRYSENE	14	14	ND [<0.16]	ND [<0.16]	0.84	0.357
FLUORANTHENE	40	40	ND [<0.16]	ND [<0.16]	0.42	0.34
PYRENE	56	56	ND [<0.16]	ND [<0.16]	0.53	0.442
TA Job No.	HUH0072					

NOTES: All other analyses for organochlorine pesticides 8081, chlorinated herbicides 8151, SVOC 8270, modified pesticide screen 8270CMOD, carbamate herbicides 8321 and total metals 6010 are ND.

Table 22 – Soil Sample Results for primary COPC and other COPC (continued)

DU27 Area 5 - HHA Debris Pit Along the western border of the HHA property, south of Building B.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	KKSC-DU2	PMAK-DU27
Sample Date			8.19.10	8.9.11
Depth Intervals (' bgs)			0-0.5	3.0-4.5
Soil Analyses (ng/kg)				
TEQ DIOXINS	240	1500	110	370
Soil Analyses (mg/kg)				
TOTAL ARSENIC	24	24	ND [<30]	170
BIOACCESSIBLE ARSENIC	23	95	NA	NA ²
PERCENT BIOACCESSIBLE ARSENIC	NE	NE	NA	NA ²
TOTAL ARSENIC (250 µm)	NE	NE	NA	NA ²
MERCURY	4.7	61	0.28	1.9
LEAD	200	800	15	3300
PENTACHLOROPHENOL (8151/8270)	3	5	0.26	ND [<0.01]/0.19
TPH-DRO	500	500	NA	42.8
TPH-RRO	500	1000	NA	161
BARIUM	750	1500	140	210
CADMIUM	12	12	ND[<5.0]	1.3
CHROMIUM	500	500	220	470
SILVER	20	40	ND[<9.9]	1
DELTA-BHC	NE	NE	0.00678	0.017
TA Job No.	HUH0072			

NOTES: All other analyses for organochlorine pesticides 8081, chlorinated herbicides 8151, SVOC 8270, modified pesticide screen 8270CMOD, carbamate herbicides 8321 and total metals 6010 are ND.

LEGEND

Red Text = Detected concentration exceeds the HEER Office Tier I EAL for Unrestricted Use only.

Red Bold Text = Detected concentration exceeds the HEER Office Tier I EALs for both Unrestricted and Commercial/Industrial Use.

mg/kg = milligrams per kilogram (parts per million [ppm] equivalent)

ng/kg = nanograms per kilogram (parts per trillion [ppt] equivalent)

NA = Not analyzed

NA² = Not analyzed per SAP

NA³ = Not analyzed because concentration of COPC(s) in overlying layer(s) was(were) below applicable EALs

ND = Not detected at or above the limit shown in brackets

NE = Not established

H = Sample is on "hold" and was archived at the laboratory.

¹ = Triplicate Sample

Shading =

Sample collected during current site investigation

Shading =

Sample collected during previous sampling activities (HEER Office or Kauai Environmental)

Shading =

The specific Tier I EALs used during the screening (based on current property usage)

Fall 2011 Revised Tier I EALs

Table 23 – Soil Sample Results for Waste Categorization COPC (7 pages)

DU10 Area 2 - Core PMA Within the western portion of the Drainage Swale, which is along the northern border of the Old Mill LLC property.	TCLP Screening Criteria	PMAK-DU10-B	PMAK-DU10-C	PMAK-DU10-D	PMAK-DU10-E
Sample Date		8/8/2011	8/8/2011	8/8/2011	8/8/2011
Sample Depth		0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)					
TEQ DIOXINS	NE	2100	NA	NA	NA
Soil Analyses (mg/L)					
TCLP TOTAL ARSENIC	5	7.3	3.9	ND [<0.060]	12
TCLP BARIUM	100	0.015	0.039	0.300	1.200
TCLP CADMIUM	1	ND [<0.010]	ND [<0.010]	ND [<0.010]	ND [<0.010]
TCLP CHROMIUM	5	ND [<0.025]	0.10	ND [<0.025]	ND [<0.025]
TCLP LEAD	5	ND [<0.030]	ND [<0.030]	ND [<0.030]	ND [<0.030]
TCLP SELENIUM	1	ND [<0.10]	ND [<0.10]	ND [<0.10]	ND [<0.10]
TCLP SILVER	5	ND [<0.020]	ND [<0.020]	ND [<0.020]	ND [<0.020]
TCPL MERCURY	0.2	ND [<0.0020]	ND [<0.0020]	ND [<0.0020]	ND [<0.0020]
TCLP ENDRIN	0.02	ND [<0.00020]	ND [<0.00020]	ND [<0.00020]	ND [<0.00020]
TCLP GAMMA-BHC (LINDANE)	0.4	ND [<0.00010]	ND [<0.00010]	ND [<0.00010]	ND [<0.00010]
TCLP HEPTACHLOR	0.008	ND [<0.00010]	ND [<0.00010]	ND [<0.00010]	ND [<0.00010]
TCLP HEPTACHLOR EPOXIDE	NE	ND [<0.00010]	ND [<0.00010]	ND [<0.00010]	ND [<0.00010]
TCLP METHOXYCHLOR	10	ND [<0.0010]	ND [<0.0010]	ND [<0.0010]	ND [<0.0010]
TCLP CHLORDANE	0.03	ND [<0.0010]	ND [<0.0010]	ND [<0.0010]	ND [<0.0010]
TCLP TOXAPHENE	0.5	ND [<0.010]	ND [<0.010]	ND [<0.010]	ND [<0.010]
PH	NE	6.97	6.86	6.64	6.39
FLASHPOINT	NE	>212°F	>212°F	>212°F	>212°F
TA Job No.	HUH0049 and HUL0004				

LEGEND

Red Bold Text = Detected concentration exceeds the TCLP screening criteria
 mg/l = milligrams per liter (parts per million [ppm] equivalent)
 ng/kg = nanograms per kilogram (parts per trillion [ppt] equivalent)

NA = Not analyzed

ND = Not detected at or above the limit shown in brackets

NE = Not established

TCLP Screening Criteria established by Title 40 Code of Federal Regulations (CFR) Part 261

Table 23 – Soil Sample Results for Waste Categorization COPC (continued)

DU12 Area 2 - Core PMA Within the front yard of the Thompson property, adjacent to Aalona Street.	TCLP Screening Criteria	PMAK-DU12-B
Sample Date		8/4/2011
Sample Depth		0.5-2.0
Soil Analyses (ng/kg)		
TEQ DIOXINS	NE	1800
Soil Analyses (mg/L)		
TCLP TOTAL ARSENIC	5	ND [<0.060]
TCLP BARIUM	100	0.27
TCLP CADMIUM	1	ND [<0.010]
TCLP CHROMIUM	5	ND [<0.025]
TCLP LEAD	5	ND [<0.030]
TCLP SELENIUM	1	ND [<0.10]
TCLP SILVER	5	ND [<0.020]
TCPL MERCURY	0.2	ND [<0.0020]
TCLP ENDRIN	0.02	ND [<0.00020]
TCLP GAMMA-BHC (LINDANE)	0.4	ND [<0.00010]
TCLP HEPTACHLOR	0.008	ND [<0.00010]
TCLP HEPTACHLOR EPOXIDE	NE	ND [<0.00010]
TCLP METHOXYCHLOR	10	ND [<0.0010]
TCLP CHLORDANE	0.03	ND [<0.0010]
TCLP TOXAPHENE	0.5	ND [<0.010]
PH	NE	7.5
FLASHPOINT	NE	>212°F
TA Job No.	HUH0049 and HUL0004	

Table 23 – Soil Sample Results for Waste Categorization COPC (continued)

DU13 Area 2 - Core PMA Within the north side yard of the Thompson property, adjacent to Aalona Street	TCLP Screening Criteria	PMAK-DU13-B
Sample Date		8/3/2011
Sample Depth		0.5-2.0
Soil Analyses (ng/kg)		
TEQ DIOXINS	NE	1400
Soil Analyses (mg/L)		
TCLP TOTAL ARSENIC	5	ND [<0.060]
TCLP BARIUM	100	0.65
TCLP CADMIUM	1	ND [<0.010]
TCLP CHROMIUM	5	ND [<0.025]
TCLP LEAD	5	ND [<0.030]
TCLP SELENIUM	1	ND [<0.10]
TCLP SILVER	5	ND [<0.020]
TCPL MERCURY	0.2	ND [<0.0020]
TCLP ENDRIN	0.02	ND [<0.00020]
TCLP GAMMA-BHC (LINDANE)	0.4	ND [<0.00010]
TCLP HEPTACHLOR	0.008	ND [<0.00010]
TCLP HEPTACHLOR EPOXIDE	NE	ND [<0.00010]
TCLP METHOXYCHLOR	10	ND [<0.0010]
TCLP CHLORDANE	0.03	ND [<0.0010]
TCLP TOXAPHENE	0.5	ND [<0.010]
PH	NE	7.72
FLASHPOINT	NE	>212°F
TA Job No.	HUH0028 and HUL0004	

Table 23 – Soil Sample Results for Waste Categorization COPC (continued)

DU14 Area 2 - Core PMA Within the backyard of the Thompson property adjacent to the Foley property.	TCLP Screening Criteria	PMAK-DU14-B
Sample Date		8/4/2011
Sample Depth		0.5-2.0
Soil Analyses (ng/kg)		
TEQ DIOXINS	NE	35
Soil Analyses (mg/L)		
TCLP TOTAL ARSENIC	5	1.6
TCLP BARIUM	100	0.22
TCLP CADMIUM	1	ND [<0.010]
TCLP CHROMIUM	5	0.074
TCLP LEAD	5	ND [<0.030]
TCLP SELENIUM	1	ND [<0.10]
TCLP SILVER	5	ND [<0.020]
TCPL MERCURY	0.2	ND [<0.0020]
TCLP ENDRIN	0.02	ND [<0.00020]
TCLP GAMMA-BHC (LINDANE)	0.4	ND [<0.00010]
TCLP HEPTACHLOR	0.008	ND [<0.00010]
TCLP HEPTACHLOR EPOXIDE	NE	ND [<0.00010]
TCLP METHOXYCHLOR	10	ND [<0.0010]
TCLP CHLORDANE	0.03	ND [<0.0010]
TCLP TOXAPHENE	0.5	ND [<0.010]
PH	NE	6.91
FLASHPOINT	NE	>212°F
TA Job No.	HUH0049 and HUL0004	

Table 23 – Soil Sample Results for Waste Categorization COPC (continued)

DU15 Area 2 - Core PMA Within the south side yard of the Thompson property, adjacent to the Drainage Swale.	TCLP Screening Criteria	PMAK-DU15-B
Sample Date		8/4/2011
Sample Depth		0.5-2.0
Soil Analyses (ng/kg)		
TEQ DIOXINS	NE	740
Soil Analyses (mg/L)		
TCLP TOTAL ARSENIC	5	0.54
TCLP BARIUM	100	0.3
TCLP CADMIUM	1	ND [<0.010]
TCLP CHROMIUM	5	ND [<0.025]
TCLP LEAD	5	ND [<0.030]
TCLP SELENIUM	1	ND [<0.10]
TCLP SILVER	5	ND [<0.020]
TCPL MERCURY	0.2	ND [<0.0020]
TCLP ENDRIN	0.02	ND [<0.00020]
TCLP GAMMA-BHC (LINDANE)	0.4	ND [<0.00010]
TCLP HEPTACHLOR	0.008	ND [<0.00010]
TCLP HEPTACHLOR EPOXIDE	NE	ND [<0.00010]
TCLP METHOXYCHLOR	10	ND [<0.0010]
TCLP CHLORDANE	0.03	ND [<0.0010]
TCLP TOXAPHENE	0.5	ND [<0.010]
PH	NE	7.3
FLASHPOINT	NE	>212°F
TA Job No.	HUH0049 and HUL0004	

Table 23 – Soil Sample Results for Waste Categorization COPC (continued)

DU16 Area 2 - Core PMA Within the driveway of the Foley property, adjacent to the Thompson property.	TCLP Screening Criteria	PMAK-DU16-B
Sample Date		8/3/2011
Sample Depth		0.5-2.0
Soil Analyses (ng/kg)		
TEQ DIOXINS	NE	260
Soil Analyses (mg/L)		
TCLP TOTAL ARSENIC	5	ND [<0.060]
TCLP BARIUM	100	0.42
TCLP CADMIUM	1	ND [<0.010]
TCLP CHROMIUM	5	ND [<0.025]
TCLP LEAD	5	ND [<0.030]
TCLP SELENIUM	1	ND [<0.10]
TCLP SILVER	5	ND [<0.020]
TCPL MERCURY	0.2	ND [<0.0020]
TCLP ENDRIN	0.02	ND [<0.00020]
TCLP GAMMA-BHC (LINDANE)	0.4	ND [<0.00010]
TCLP HEPTACHLOR	0.008	ND [<0.00010]
TCLP HEPTACHLOR EPOXIDE	NE	ND [<0.00010]
TCLP METHOXYCHLOR	10	ND [<0.0010]
TCLP CHLORDANE	0.03	ND [<0.0010]
TCLP TOXAPHENE	0.5	ND [<0.010]
PH	NE	7.77
FLASHPOINT	NE	>212°F
TA Job No.	HUH0028, HUI0096, and HUL0004	

Table 23 – Soil Sample Results for Waste Categorization COPC (continued)

DU17 Area 2 - Core PMA Within the backyard of the Foley property, adjacent to the Drainage Swale.	TCLP Screening Criteria	PMAK-DU17-B
Sample Date		8/5/2011
Sample Depth		0.5-2.0
Soil Analyses (ng/kg)		
TEQ DIOXINS	NE	400
Soil Analyses (mg/L)		
TCLP TOTAL ARSENIC	5	2.6
TCLP BARIUM	100	0.4
TCLP CADMIUM	1	ND [<0.010]
TCLP CHROMIUM	5	0.46
TCLP LEAD	5	0.064
TCLP SELENIUM	1	ND [<0.10]
TCLP SILVER	5	ND [<0.020]
TCPL MERCURY	0.2	0.028
TCLP ENDRIN	0.02	ND [<0.00020]
TCLP GAMMA-BHC (LINDANE)	0.4	ND [<0.00010]
TCLP HEPTACHLOR	0.008	ND [<0.00010]
TCLP HEPTACHLOR EPOXIDE	NE	ND [<0.00010]
TCLP METHOXYCHLOR	10	ND [<0.0010]
TCLP CHLORDANE	0.03	ND [<0.0010]
TCLP TOXAPHENE	0.5	ND [<0.010]
PH	NE	7.29
FLASHPOINT	NE	>212°F
TA Job No.	HUH0049 and HUL0004	

LEGEND

Red Bold Text = Detected concentration exceeds the TCLP screening criteria.

mg/l = milligrams per liter (parts per million [ppm] equivalent)

ng/kg = nanograms per kilogram (parts per trillion [ppt] equivalent)

NA = Not analyzed

ND = Not detected at or above the limit shown in brackets

NE = Not established

TCLP Screening Criteria established by Title 40 Code of Federal Regulations (CFR) Part 261

8.2.1 DU1

Samples from Layers A to C were analyzed. Layers D and E were not analyzed, based on the results of Layer C. The DU1 samples were analyzed for the primary COPC category. DU1 overlapped with the previous DU/Sample ID: KSPMA-DU5 from the HEER Office December 2010 sampling event.

The Layer A sample had a total arsenic concentration exceeding the Tier I EAL of 24 mg/kg. Bioaccessible arsenic was not detected (ND) above the laboratory reporting limit. All remaining primary COPC concentrations were below the applicable Tier I EALs. The previous KSPMA-DU5 Layer A sample had a total arsenic concentration that exceeded the Tier I EAL, but the bioaccessible arsenic concentration was below the Tier I EAL.

The Layer B sample had a total arsenic concentration exceeding the Tier I EAL of 24 mg/kg. The bioaccessible arsenic concentration was below the applicable Tier I EAL of 23 mg/kg. Lead was detected at a concentration exceeding the applicable Tier I EAL of 200 mg/kg. All remaining primary COPC concentrations were below the applicable Tier I EALs.

All Layer C primary COPC concentrations were below the applicable Tier I EALs.

8.2.2 DU2

Samples from Layers A to D were analyzed. Layer E was not analyzed, based on the results of Layer D. The DU2 samples were analyzed for the primary COPC category. DU2 overlapped with the previous DU/Sample IDs: KSPMA-DU2 and KSPMA-DU3 from the HEER Office December 2010 sampling event.

All Layer A primary COPC concentrations were below the applicable Tier 1 EALs. The previous KSPMA-DU2 and KSPMA-DU3 Layer A samples both had total arsenic concentrations that exceeded the Tier I EAL, but the bioaccessible arsenic concentrations were below the Tier I EAL.

The Layer B sample had a total arsenic concentration exceeding the Tier I EAL of 24 mg/kg. Bioaccessible arsenic was below the applicable Tier I EAL of 23 mg/kg. All remaining primary COPC concentrations were below the applicable Tier I EALs.

The Layer C sample had total arsenic and bioaccessible arsenic concentrations exceeding the applicable Tier I EALs. Lead was detected at concentrations above the applicable Tier I EAL of 200 mg/kg. All remaining primary COPC concentrations were below the applicable Tier I EALs.

All Layer D primary COPC concentrations were below the applicable Tier I EALs.

8.2.3 DU3

Samples from Layers A to C were analyzed. Layers D and E were not analyzed, based on the results of Layer C. The DU3 samples were analyzed for the primary COPC category. DU3 overlapped with the previous DU/Sample IDs: KSPMA-DU1 and KSPMA-DU4 from the HEER Office December 2010 sampling event.

All Layer A primary COPC concentrations were below the applicable Tier I EALs. All Layer A COPC concentrations were below the applicable Tier I EALs in the previous HEER Office samples collected from KSPMA-DU1 and KSPMA-DU4.

The Layer B sample had a total arsenic concentration exceeding the Tier I EAL of 24 mg/kg. Bioaccessible arsenic was below the applicable Tier I EAL of 23 mg/kg. All remaining primary COPC concentrations were below the applicable Tier I EALs.

All Layer C primary COPC concentrations were below the applicable Tier 1 EALs.

8.2.4 DU4

Samples from Layers A to D were analyzed. Layer E was not analyzed, based on the results of Layer D. The DU4 samples were analyzed for the primary COPC category. Triplicate samples were collected from DU4. DU4 did not overlap with any previous DU/Sample IDs.

All three Layer A samples had primary COPC concentrations below the applicable Tier 1 EALs.

All three Layer B samples had total arsenic concentrations equal to or exceeding the Tier I EAL of 24 mg/kg. Bioaccessible arsenic concentrations were below the applicable Tier I EAL of 23 mg/kg in two of these samples. One replicate sample (PMAK-DU4-B-T2) had a concentration of bioaccessible arsenic (23.8 mg/kg) that slightly exceeded the Tier I EAL. All remaining primary COPC concentrations were below the applicable Tier I EALs.

All three Layer C samples had lead concentrations exceeding the Tier I EAL of 200 mg/kg. All remaining primary COPC concentrations were below the applicable Tier I EALs.

All three Layer D samples had primary COPC concentrations below the applicable Tier I EALs.

8.2.5 DU5

Samples from Layers B to E were analyzed. Layer A was not analyzed because the HEER Office previously performed surface sampling in this area. The DU5 samples were analyzed for the primary COPC category. DU5 overlapped with the previous DU/Sample IDs: KKSC-DU1 and KKSC-DU2 from the HEER Office August 2010 sampling event.

All Layer A COPC concentrations were below the applicable Tier I EALs in the previous HEER Office samples collected from KKSC-DU1 and KKSC-DU2.

The Layer B sample had a total arsenic concentration exceeding the Tier I EAL of 24 mg/kg. The bioaccessible arsenic concentration was ND. All remaining primary COPC concentrations were below the applicable Tier I EALs.

The Layer C sample had concentrations of the following analytes exceeding applicable Tier I EALs: TEQ dioxins, total arsenic, and bioaccessible arsenic. All remaining primary COPC concentrations were below the applicable Tier I EALs.

The Layer D sample had a total arsenic concentration exceeding the Tier I EAL of 24 mg/kg. This sample was not analyzed for bioaccessible arsenic. All remaining primary COPC concentrations were below the applicable Tier I EALs.

All Layer E primary COPC concentrations were below the applicable Tier I EALs.

8.2.6 DU6

Samples from Layers A to C were analyzed. Layers D and E were not analyzed, based on the results of Layer C. The DU6 samples were analyzed for the primary COPC category. Triplicate samples were collected from DU6. DU6 did not overlap with any previous DU/Sample IDs.

All primary COPC concentrations were below the applicable Tier I EALs for the Layers A to C samples.

8.2.7 DU7

Samples from Layers A to C were analyzed. Layers D and E were not analyzed, based on the results of Layer C. The DU7 samples were analyzed for the primary COPC category. DU7 did not overlap with any previous DU/Sample IDs.

All primary COPC concentrations were below the applicable Tier I EALs for the Layers A to C samples.

8.2.8 DU8

Samples from Layers A to C were analyzed. Layers D-E were not analyzed, based on the results of Layer C. The DU8 samples were analyzed for the primary COPC category. DU8 did not overlap with any previous DU/Sample IDs.

The Layer A sample had a total arsenic concentration exceeding the Tier I EAL of 24 mg/kg. The bioaccessible arsenic concentration was below the applicable Tier I EAL of 23 mg/kg. All remaining primary COPC concentrations were below the applicable Tier I EALs.

All Layer B primary COPC concentrations were below the applicable Tier I EALs.

The Layer C sample had a lead concentration exceeding the applicable Tier I EAL of 200 mg/kg. All remaining primary COPC concentrations were below the applicable Tier I EALs.

8.2.9 DU9

Samples from Layers A to C were analyzed. Layers D-E were not analyzed, based on the results of Layer C. The DU9 samples were analyzed for the primary COPC category. DU9 did not overlap with any previous DU/Sample IDs.

All Layer A primary COPC concentrations were below the applicable Tier I EALs.

The Layer B sample had a lead concentration exceeding the applicable Tier I EAL of 200 mg/kg. All remaining primary COPC concentrations were below the applicable Tier I EALs.

All Layer C primary COPC concentrations were below the applicable Tier I EALs.

8.2.10 DU10

Samples from Layers A to E were analyzed for the primary COPC, waste categorization COPC, and other COPC categories. DU10 overlapped with the previous DU/Sample IDs: KSPMA-DU6 and KSPMA-DU7 from the HEER Office December 2010 sampling event.

The previous HEER Office samples collected from KSPMA-DU6 and KSPMA-DU7 had concentrations of the following analytes exceeding the applicable Tier I EALs in Layer A: TEQ dioxins, total arsenic, bioaccessible arsenic, and pentachlorophenol.

The Layer A sample from DU10 was not analyzed for the primary COPC or waste categorization COPC, because the HEER Office previously performed surface sampling in this area; however, Layer A was analyzed for other COPCs. All Layer A other COPC concentrations from DU10 were below the applicable Tier I EALs.

The Layer B sample had concentrations of the following analytes exceeding applicable Tier I EALs: TEQ dioxins, total arsenic, bioaccessible arsenic, and lead. Concentrations of all remaining primary COPCs and other COPCs were below the applicable Tier I EALs. The Layer B sample had a TCLP total arsenic concentration (7.3 milligrams per liter [mg/l]) that exceeded the TCLP screening criteria of 5 mg/l. This indicates the soil in DU10 Layer B is categorized as a characteristic hazardous waste and should be managed accordingly.

The Layer C sample had concentrations of the following analytes exceeding applicable Tier I EALs: total arsenic, pentachlorophenol, TPH-DRO, and 1-Methylnaphthalene. This sample was not analyzed for TEQ dioxins or bioaccessible arsenic. Concentrations of all remaining primary COPCs and other COPCs were below the applicable Tier I EALs. All Layer C waste categorization COPC were below the applicable TCLP screening criteria.

The Layer D sample had concentrations of the following analytes exceeding applicable Tier I EALs: total arsenic, pentachlorophenol, TPH-DRO, TPH-RRO, and 1-Methylnaphthalene greater than the applicable HEER Office Tier I EALs. This sample was not analyzed for TEQ dioxins or bioaccessible arsenic. Concentrations of all remaining primary COPCs and other COPCs were below the applicable Tier I EALs. All Layer D waste categorization COPC were below the applicable TCLP screening criteria. The Layer E sample had concentrations of the following analytes exceeding applicable Tier I EALs: total arsenic, pentachlorophenol, TPH-DRO, TPH-RRO, naphthalene, and 1-Methylnaphthalene. This sample was not analyzed for TEQ dioxins or bioaccessible arsenic. Concentrations of all remaining primary COPCs and other COPCs were below the applicable Tier I EALs. The Layer E sample had a TCLP total arsenic concentration (12 mg/l) that exceeded the TCLP screening criteria of 5 mg/l. This indicates the soil in DU10 Layer E is categorized as a characteristic hazardous waste and should be managed accordingly.

8.2.11 DU11

Samples from Layers A to C were analyzed. Layers D-E were not analyzed, based on the results of Layer C. The DU11 samples were analyzed for the primary COPC and other COPC categories. DU11 overlapped with the previous DU/Sample ID: KSPMA-DU8 from the HEER Office December 2010 sampling event.

The previous HEER Office sample collected from KSPMA-DU8 had concentrations of the following analytes exceeding the applicable Tier I EALs in Layer A: total arsenic and bioaccessible arsenic.

The Layer A sample from DU11 was not analyzed for the primary COPC, because the HEER Office previously performed surface sampling in this area; however, Layer A was analyzed for other COPCs. The Layer A sample had a benzo(a)pyrene concentration (2.11 mg/kg) that marginally exceeded the applicable Tier I EAL of 2.1 mg/kg. All remaining other COPC concentrations were below the applicable Tier I EALs.

The Layer B sample had a total arsenic concentration exceeding the Tier I EAL of 24 mg/kg. The bioaccessible arsenic concentration was below the applicable Tier I EAL of 95 mg/kg. Concentrations of all remaining primary COPCs and other COPCs were below the applicable Tier I EALs.

All Layer C primary COPC and other COPC concentrations were below the applicable Tier I EALs.

8.2.12 DU12

Samples from Layers B to E were analyzed. Layer A was not analyzed because the HEER Office previously performed surface sampling in this area, because the HEER Office previously performed surface sampling in this area. The DU12 samples were analyzed for the primary COPC and waste categorization COPC categories. DU12 overlapped with the previous DU/Sample IDs: KKSC-DU5 from the HEER Office August 2010 sampling event.

The previous HEER Office sample collected from KKSC-DU5 had concentrations of the following analytes exceeding the applicable Tier I EALs in Layer A: TEQ dioxins, total arsenic, mercury, and lead.

The Layer B sample had concentrations of the following analytes exceeding applicable Tier I EALs: TEQ dioxins, total arsenic, and TPH-RRO. This sample was not analyzed for bioaccessible arsenic. All remaining primary COPC concentrations were below the applicable Tier I EALs. All Layer B waste categorization COPC were below the applicable TCLP screening criteria.

The Layer C sample had concentrations of the following analytes exceeding applicable Tier I EALs: total arsenic, lead, TPH-DRO, and TPH-RRO. This sample was not analyzed for TEQ dioxins or bioaccessible arsenic. All remaining primary COPC concentrations were below the applicable Tier I EALs.

The Layer D sample had concentrations of the following analytes exceeding applicable Tier I EALs: total arsenic, lead, TPH-DRO, and TPH-RRO. This sample was not analyzed for TEQ dioxins or bioaccessible arsenic. All remaining primary COPC concentrations were below the applicable Tier I EALs.

The Layer E sample had concentrations of the following analytes which exceeded applicable Tier I EALs: total arsenic, TPH-DRO, and TPH-RRO. This sample was not analyzed for TEQ dioxins or bioaccessible arsenic. All remaining primary COPC concentrations were below the applicable Tier I EALs.

8.2.13 DU13

Samples from Layers A to D were analyzed. Layer E was not analyzed, based on the results of Layer D, and is archived at the laboratory. The DU13 samples were analyzed for the primary COPC and waste categorization COPC categories. DU13 did not overlap with any previous DU/Sample IDs.

The Layer A sample had TEQ dioxins and total arsenic concentrations exceeding the applicable Tier I EALs. This sample was not analyzed for bioaccessible arsenic. All remaining primary COPC concentrations were below the applicable Tier I EALs.

The Layer B sample had TEQ dioxins and total arsenic concentrations exceeding the applicable Tier I EALs. This sample was not analyzed for bioaccessible arsenic. All remaining primary COPC concentrations were below the applicable Tier I EALs. All Layer B waste categorization COPC were below the applicable TCLP screening criteria. The Layer C sample had total arsenic and lead concentrations exceeding the applicable Tier I EALs. This sample

was not analyzed for TEQ dioxins or bioaccessible arsenic. All remaining primary COPC concentrations were below the applicable Tier I EALs.

All Layer D primary COPC concentrations were below applicable Tier 1 EALs.

8.2.14 DU14

Samples from Layers B to D were analyzed. Layer A was not analyzed because the HEER Office previously performed surface sampling in this area. Layer E was not analyzed based upon the results of Layer D. The DU14 samples were analyzed for the primary COPC and waste categorization COPC categories. DU14 overlapped with the previous DU/Sample IDs: KKSC-DU6, KKSC-DU7, and KKSC-DU8 from the HEER Office August 2010 sampling event.

The previous HEER Office samples collected from KKSC-DU6, KKSC-DU7, and KKSC-DU8 had concentrations of the following analytes exceeding the applicable Tier I EALs in Layer A: TEQ dioxins, total arsenic, bioaccessible arsenic, and mercury.

The Layer B sample had a total arsenic concentration exceeding the Tier I EAL of 24 mg/kg. This sample was not analyzed for bioaccessible arsenic. All remaining primary COPC concentrations were below the applicable Tier I EALs. All Layer B waste categorization COPC were below the applicable TCLP screening criteria.

The Layer C sample had a total arsenic concentration exceeding the Tier I EAL of 24 mg/kg. This sample was not analyzed for TEQ dioxins or bioaccessible arsenic. All remaining primary COPC concentrations were below the applicable Tier I EALs.

The Layer D sample had total arsenic and mercury concentrations exceeding the applicable Tier I EALs. This sample was not analyzed for TEQ dioxins or bioaccessible arsenic. All remaining primary COPC concentrations were below the applicable Tier I EALs.

8.2.15 DU15

Samples from Layers B to D were analyzed. Layer A was not analyzed because the HEER Office previously performed surface sampling in this area. Layer E was not analyzed based upon the results of Layer D. The DU15 samples were analyzed for the primary COPC and waste categorization COPC categories. DU15 overlapped with the previous DU/Sample IDs: KKSC-DU6, KKSC-DU7, and KKSC-DU8 from the HEER Office August 2010 sampling event.

The previous HEER Office samples collected from KKSC-DU6, KKSC-DU7, and KKSC-DU8 had concentrations of the following analytes exceeding the applicable Tier I EALs in Layer A: TEQ dioxins, total arsenic, bioaccessible arsenic, and mercury.

The Layer B sample had concentrations of the following analytes exceeding applicable Tier I EALs: TEQ dioxins, total arsenic, mercury, and lead. This sample was not analyzed for bioaccessible arsenic. All remaining primary COPC concentrations were below the applicable Tier I EALs. All Layer B waste categorization COPC were below the applicable TCLP screening criteria. The Layer C sample had total arsenic and lead concentrations exceeding

the applicable Tier I EALs. This sample was not analyzed for TEQ dioxins or bioaccessible arsenic. All remaining primary COPC concentrations were below the applicable Tier I EALs.

The Layer D sample had concentrations of the following analytes exceeding applicable Tier I EALs: total arsenic, lead, and pentachlorophenol. This sample was not analyzed for TEQ dioxins or bioaccessible arsenic. All remaining primary COPC concentrations were below the applicable Tier I EALs.

8.2.16 DU16

Samples from Layers A to D were analyzed. Layer E was not analyzed, based on the results of Layer D. The DU16 samples were analyzed for the primary COPC and waste categorization COPC categories. DU16 did not overlap with any previous DU/Sample IDs.

All Layer A primary COPC concentrations were below the applicable Tier I EALs.

The Layer B sample had TEQ dioxins concentrations exceeding the applicable Tier I EAL of 240 ng/kg. The bioaccessible arsenic concentration was below the applicable Tier I EAL of 23 mg/kg. All remaining primary COPC concentrations were below the applicable Tier I EALs. All Layer B waste categorization COPC were below the applicable TCLP screening criteria. The Layer C sample had total arsenic and bioaccessible arsenic concentrations exceeding the applicable Tier I EALs. This sample was not analyzed for TEQ dioxins. All remaining primary COPC concentrations were below the applicable Tier I EALs.

All Layer D primary COPC concentrations were below applicable Tier 1 EALs.

8.2.17 DU17

Samples from Layers B to D were analyzed. Layer A was not analyzed because the HEER Office previously performed surface sampling in this area. Layer E was not analyzed based upon the results of Layer D. The DU17 samples were analyzed for the primary COPC and waste categorization COPC categories. DU17 overlapped with the previous DU/Sample ID: KKSC-DU3 from the HEER Office August 2010 sampling event.

The previous HEER Office sample collected from KKSC-DU3 had concentrations of the following analytes exceeding the applicable Tier I EALs in Layer A: TEQ dioxins and total arsenic.

The Layer B sample had concentrations of the following analytes exceeding applicable Tier I EALs: TEQ dioxins, total arsenic, and mercury. This sample was not analyzed for bioaccessible arsenic. All remaining primary COPC concentrations were below the applicable Tier I EALs. All Layer B waste categorization COPC were below the applicable TCLP screening criteria. The Layer C sample had a total arsenic concentration exceeding the Tier I EAL. This sample was not analyzed for TEQ dioxins or bioaccessible arsenic. All remaining primary COPC concentrations were below the applicable Tier I EALs.

The Layer D sample had a total arsenic concentration which exceeded the Tier I EAL. This sample was not analyzed for TEQ dioxins or bioaccessible arsenic. All remaining primary COPC concentrations were below the applicable Tier I EALs.

8.2.18 DU18

The Layer A sample was analyzed for the primary COPC category. Triplicate samples were collected from DU18. DU18 did not overlap with any previous DU/Sample IDs.

All three Layer A samples had concentrations of total arsenic exceeding the Tier I EAL of 24 mg/kg. However, all bioaccessible arsenic concentrations were ND. All remaining primary COPC concentrations were below the applicable Tier I EALs.

8.2.19 DU19

The Layer A sample was analyzed for the primary COPC category. DU19 did not overlap with any previous DU/Sample IDs.

The Layer A sample had a concentration of total arsenic equal to the Tier I EAL of 24 mg/kg. However, the bioaccessible arsenic concentration was ND. All remaining primary COPC concentrations were below the applicable Tier I EALs.

8.2.20 DU21

The Layer A sample was analyzed for the primary COPC category. DU21 did not overlap with any previous DU/Sample IDs.

The Layer A sample had a concentration of total arsenic exceeding the Tier I EAL of 24 mg/kg. However, the bioaccessible arsenic concentration was below the Tier I EAL of 23 mg/kg. This sample was not analyzed for TEQ dioxins. All remaining primary COPC concentrations were below the applicable Tier I EALs.

8.2.21 DU22

The Layer A sample was analyzed for the primary COPC category. DU22 did not overlap with any previous DU/Sample IDs.

The Layer A sample had a concentration of total arsenic exceeding the Tier I EAL of 24 mg/kg. However, the bioaccessible arsenic concentration was below the Tier I EAL of 23 mg/kg. All remaining primary COPC concentrations were below the applicable Tier I EALs.

8.2.22 DU23

The Layer A sample was analyzed for the primary COPC category. DU23 did not overlap with any previous DU/Sample IDs.

The Layer A sample had a concentration of total arsenic exceeding the Tier I EAL of 24 mg/kg. However, the bioaccessible arsenic concentration was ND. Lead was detected at a concentration which was equal to the applicable Tier I EAL of 200 mg/kg. All remaining primary COPC concentrations were below the applicable Tier I EALs.

8.2.23 DU24

Samples from Layer A were analyzed for the primary COPC category. Triplicate samples were collected from DU24. DU24 did not overlap with any previous DU/Sample IDs.

All three Layer A samples had concentrations of total arsenic exceeding the Tier I EAL of 24 mg/kg. However, the bioaccessible arsenic concentrations were all below the Tier I EAL of 23 mg/kg. All remaining primary COPC concentrations were below the applicable Tier I EALs.

8.2.24 DU25

The Layer A sample was analyzed for the primary COPC category. DU25 did not overlap with any previous DU/Sample IDs.

The Layer A sample had a concentration of total arsenic exceeding the Tier I EAL of 24 mg/kg. However, the bioaccessible arsenic concentration was below the Tier I EAL of 23 mg/kg. All remaining primary COPC concentrations were below the applicable Tier I EALs.

8.2.25 DU26

The sample from the observed debris layer (typically 3-4.5 feet bgs) was analyzed for the full PMA COPC category. DU26 overlapped with the previous DU/Sample IDs: KKSC-DU1 and KKSC-DU2 from the HEER Office August 2010 sampling event, as well as previous DU/Sample ID: KBV-01 from the Kauai Environmental January 2011 sampling event at the HHA property debris pit.

All Layer A COPC concentrations were below the applicable Tier I EALs in the previous HEER Office samples collected from KKSC-DU1 and KKSC-DU2. The previous Kauai Environmental sample collected from KBV-01 had concentrations of the following analytes exceeding the applicable Tier I EALs in the debris layer (4-6 feet bgs): total arsenic, lead, and pentachlorophenol.

The sample from DU26 had concentrations of the following analytes exceeding applicable Tier I EALs: total arsenic, lead, and benzo(a)pyrene. This sample was not analyzed for bioaccessible arsenic. All remaining full PMA COPC concentrations were below the applicable Tier I EALs.

8.2.26 DU27

The sample from the observed debris layer (typically 3-4.5 feet bgs) was analyzed for the full PMA COPC category. DU27 overlapped with the previous DU/Sample ID: KKSC-DU2 from the HEER Office August 2010 sampling event.

All Layer A COPC concentrations were below the applicable Tier I EALs in the previous HEER Office sample collected from KKSC-DU1.

The sample from DU27 had concentrations of the following analytes exceeding applicable Tier I EALs: TEQ dioxins, total arsenic, and lead. This sample was not analyzed for bioaccessible arsenic. All remaining full PMA COPC concentrations were below the applicable Tier I EALs.

8.3 Field Quality Control Sample Results

Field replicate samples (triplicates) were collected from DU4, DU6, DU18, and DU24 to document the representativeness of multi-increment sampling and overall precision of the site investigation's sampling strategy. Field replicates were evaluated for the standard deviation (SD) and relative standard deviation (RSD) for each of the primary COPC. SD and RSD calculations were completed using the appropriate functions in Microsoft Excel and are in Appendix C.

The RSD calculations for DU4 Layers A, B, and D for the primary COPC were within the designated RSD limit of less than 35 percent. The RSD calculation for DU4 Layer C for lead was 37.48 percent, which is slightly greater than the designated RSD limit. This suggests the DU4 Layer C field replicate samples show slightly elevated variance and slightly lower precision.

The RSD calculations for DU6 Layers A-C for the primary COPC were within the designated RSD limit of less than 35 percent.

The RSD calculations for DU18 Layer A, for the primary COPC were within the designated RSD limit of less than 35 percent.

The RSD calculations for DU24 Layer A, for the primary COPC were within the designated RSD limit of less than 35 percent.

Generally, the RSD calculations for the field replicates samples fell within the designated RSD limit. This suggests that, overall, the field replicate samples show low variance and high precision. Tetra Tech is unaware of any additional field sampling methodologies or sample preparatory procedures that could have been implemented that would have yielded higher precision in the field replicate samples.

8.4 IDW Sample Results

The complete laboratory analytical data reports for this site investigation are in Appendix B. This section summarizes the IDW sample results. Three multi-increment IDW samples were collected from the soil cuttings stored in the 5-gallon buckets, prior to transferring the soil cuttings to the 55-gallon drums. These IDW samples were collected and analyzed to determine the disposal options for the IDW drums.

All waste categorization COPC concentrations were below the applicable Tier I EALs (or other regulatory action levels) for all three IDW samples. Table 23 has a summary of the IDW sample results.

Table 24 – IDW Sample Results (3 pages)

Waste Characterization (WC) for IDW Soil Cuttings Area 1, 3, and 4	TCLP Screening Criteria (mg/L)	PMAK-Area 1-WC
Sample Date		8/11/2011
Analytes		
TCLP TOTAL ARSENIC	5	ND [< 0.20]
TCLP BARIUM	100	0.68
TCLP CADMIUM	1	ND [< 0.10]
TCLP CHROMIUM	5	ND [< 0.10]
TCLP LEAD	5	ND [< 0.10]
TCLP SELENIUM	1	ND [< 0.10]
TCLP SILVER	5	ND [< 0.20]
TCPL MERCURY	0.2	ND [< 0.002]
TCLP ENDRIN	0.02	ND [< 0.00050]
TCLP GAMMA-BHC (LINDANE)	0.4	ND [< 0.00050]
TCLP HEPTACHLOR	0.008	ND [< 0.00050]
TCLP HEPTACHLOR EPOXIDE	NE	ND [< 0.00050]
TCLP METHOXYCHLOR	10	ND [< 0.00050]
TCLP CHLORDANE	0.03	ND [< 0.010]
TCLP TOXAPHENE	0.5	ND [< 0.020]
PH	NE	7.14
IGNITABILITY	NE	Not Ignitable
TA Job No.	HUH0072	

LEGEND

mg/L = milligrams per liter (parts per million [ppm] equivalent)

NA = Not analyzed

ND = Not detected at or above the limit shown in brackets

NE = Not established

TCLP Screening Criteria established by Title 40 Code of Federal Regulations (CFR) Part 261

Table 24 – IDW Sample Results (continued)

Waste Characterization (WC) for IDW Soil Cuttings Area 2	TCLP Screening Criteria (mg/L)	PMAK-Area 2-WC
Sample Date		8/11/2011
Analytes		
TCLP TOTAL ARSENIC	5	0.22
TCLP BARIUM	100	0.8
TCLP CADMIUM	1	ND [< 0.10]
TCLP CHROMIUM	5	ND [< 0.10]
TCLP LEAD	5	ND [< 0.10]
TCLP SELENIUM	1	ND [< 0.10]
TCLP SILVER	5	ND [< 0.20]
TCPL MERCURY	0.2	ND [< 0.002]
TCLP ENDRIN	0.02	ND [< 0.00050]
TCLP GAMMA-BHC (LINDANE)	0.4	ND [< 0.00050]
TCLP HEPTACHLOR	0.008	ND [< 0.00050]
TCLP HEPTACHLOR EPOXIDE	NE	ND [< 0.00050]
TCLP METHOXYCHLOR	10	ND [< 0.00050]
TCLP CHLORDANE	0.03	ND [< 0.010]
TCLP TOXAPHENE	0.5	ND [< 0.020]
PH	NE	7.47
IGNITABILITY	NE	Not Ignitable
TA Job No.	HUH0072	

LEGEND

mg/L = milligrams per liter (parts per million [ppm] equivalent)

NA = Not analyzed

ND = Not detected at or above the limit shown in brackets

NE = Not established

TCLP Screening Criteria established by Title 40 Code of Federal Regulations (CFR) Part 261

Table 24 – IDW Sample Results (continued)

Waste Characterization (WC) for IDW Soil Cuttings Area 5	TCLP Screening Criteria (mg/L)	PMAK-Area 5-WC
Sample Date		8/11/2011
Analytes		
TCLP TOTAL ARSENIC	5	ND [< 0.20]
TCLP BARIUM	100	0.8
TCLP CADMIUM	1	ND [< 0.10]
TCLP CHROMIUM	5	ND [< 0.10]
TCLP LEAD	5	ND [< 0.10]
TCLP SELENIUM	1	ND [< 0.10]
TCLP SILVER	5	ND [< 0.20]
TCPL MERCURY	0.2	ND [< 0.002]
TCLP ENDRIN	0.02	ND [< 0.00050]
TCLP GAMMA-BHC (LINDANE)	0.4	ND [< 0.00050]
TCLP HEPTACHLOR	0.008	ND [< 0.00050]
TCLP HEPTACHLOR EPOXIDE	NE	ND [< 0.00050]
TCLP METHOXYCHLOR	10	ND [< 0.00050]
TCLP CHLORDANE	0.03	ND [< 0.010]
TCLP TOXAPHENE	0.5	ND [< 0.020]
PH	NE	7.4
IGNITABILITY	NE	Not Ignitable
TA Job No.	HUH0072	

LEGEND

mg/L = milligrams per liter (parts per million [ppm] equivalent)

NA = Not analyzed

ND = Not detected at or above the limit shown in brackets

NE = Not established

TCLP Screening Criteria established by Title 40 Code of Federal Regulations (CFR) Part 261

8.5 Data Verification and Validation

All sample analytical results were evaluated in accordance with precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters. The subsections below detail the results relating to each of the PARCC parameters. A data validation report was prepared for each of the six sample delivery groups (SDG). Copies of the data validation reports are in Appendix D.

8.5.1 Precision

Laboratory precision was evaluated through the matrix spike/matrix spike duplicate (MS/MSD), laboratory control samples (LCS), and laboratory duplicate samples. Generally, the relative percent difference (RPD) of the MS/MSD, LCS, and laboratory duplicate data that were analyzed fell within acceptable limits. Data that was not within the limits were qualified with flags. The specific RPD values for the MS/MSD, LCS, and laboratory duplicate samples are in the laboratory analytical reports in Appendix B.

8.5.2 Accuracy

Laboratory accuracy was evaluated through the MS/MSD, LCS, and laboratory duplicate samples. Generally, the spike recovery (percent recovery) of the MS/MSD, LCS, and laboratory duplicate data that were analyzed fell within acceptable limits. Data that did not fall within the limits were qualified with flags. The specific spike recovery values for the MS/MSD, LCS, and laboratory duplicate samples are in the laboratory analytical reports in Appendix B.

8.5.3 Representativeness

The representativeness was evaluated through the RSD calculations for the field replicate samples (see Section 8.3). Generally, the RSD calculations for the field replicates samples fell within the designated RSD limit. This suggests that, overall, the field replicate samples show low variance and high precision. The data generated from the site investigation is generally assumed to be representative of the media sampled.

8.5.4 Comparability

Comparability of data was achieved by consistently following procedures for sampling and field activities, by using the same type of sampling equipment at each area, and by using the standard measurement units in reporting analytical data. Laboratory data were reported in consistent units for each analytical test. Based on all of these factors, the data generated is assumed comparable.

8.5.5 Completeness

Only soil samples were collected for this site investigation. All field sampling methodologies followed accepted industry standards. All samples were received by the laboratory within the recommended temperature requirements and generally within the recommended holding time requirements.

The recommended holding time was exceeded for the following: some SVOC, mercury, TPH-DRO, and TPH-RR0 analyses in sample batch SDG HUH0049; some mercury analyses in sample batch SDG HUH0072; and, some SVOC, organochlorine pesticides, TEQ dioxins, and mercury analyses in sample batch SDG HUL0004. Refer to Appendix D for further details regarding the holding time exceedences. Both the laboratory and Tetra Tech qualified the affected samples with H flags, indicating the samples were analyzed outside the holding time. This data should be considered estimated, but is still acceptable for this investigation.

The data verification process qualified some of the data with flags, but no data was rejected. Therefore, all of the data generated during the site investigation was used.

Completeness was 100 percent.

8.6 Examination of Data Quality Objectives

The DQOs were prepared during the project planning process, and were evaluated throughout the project. Overall, the DQOs for this project were met. Noted differences were discussed in Sections 7.7 and 8.3.

9 Updated Environmental Hazard Evaluation

An EHE is an integral part of the long-term management of impacted soil, groundwater, and soil gas at contaminated properties. This updated EHE was prepared to document and assess the potential environmental hazards associated with the impacted soil at the site under the current site conditions.

9.1 Technical Approach

This updated EHE incorporates the analytical results from the previous sampling by the HEER Office from 2010-2011 and the current site investigation. The analytical results for each sample were compared to the appropriate EALs and Tier I EALs.

The HEER Office developed action levels for specific, potential environmental hazards for three matrices (soil, groundwater, and soil gas). These are referred to as the EALs. The lowest of these specific EALs represents the concentration of the contaminant in the respective media where the threat to human health or the environment is considered insignificant under any site condition. This specific action level is typically designated as the Tier I EAL for that contaminant (HEER Office 2011a and 2011b). This updated EHE uses both the EALs and the Tier I EALs. Table 24 shows the different action levels for mercury used in this EHE as an example.

Table 25 – Example Action Levels Used for Updated EHE

COPC	Matrix	Name of Action Level	Unrestricted Use Value ² (mg/kg)	Commercial/Industrial Use Value ² (mg/kg)
Mercury	Soil	Direct Exposure EAL	4.7	61
		Vapor Intrusion EAL	NE	NE
		Terrestrial Ecology EAL	10	10
		Gross Contamination EAL	500	1,000
		Leaching EAL	NE	NE
		Tier I EAL¹	4.7	61
NOTES: NE = Not established 1 = The lowest specific EAL is typically designated as the Tier I EAL. 2 = Fall 2011 Revised Tier I EALs.				

The appropriate EALs and Tier I EALs were selected based on the following characteristics:

- Individual property use (i.e., unrestricted or commercial or industrial)
- Groundwater utility with respect to the UIC line, the state aquifer identification and classification (i.e., drinking water or non-drinking water)
- Distance to nearest surface water body (i.e., closer than 150 meters or farther than 150 meters)

Tetra Tech used the EAL Surfer spreadsheet to conduct the updated EHE (HEER Office 2011b). The EAL Surfer reports are in Appendix E.

9.2 Soil Hazards

Tetra Tech evaluated the following soil hazards as part of the updated EHE:

- Direct exposure
- Vapor intrusion
- Terrestrial ecology through runoff
- Gross contamination
- Leaching

Direct exposure, vapor intrusion, terrestrial ecology through runoff, gross contamination, and leaching soil hazards were identified at the site. A brief summary of these soil hazards is in Table 25.

Table 26 – Updated EHE Soil Hazards

Soil Hazard	TEQ Dioxins	Arsenic	Mercury	Pentachlorophenol	Lead	TPH- DRO	TPH- RRO	1-Methylnaphthalene ³	Naphthalene ³	Benzo(a)pyrene
(Count¹)										
Direct Exposure	9	23	4	2	6	2	2	0	0	2
Vapor Intrusion	NE	NE	NE	NE	NE	NE	NE	1	1	NE
Terrestrial Ecology ²	NE	20	4	1	7	NE	NE	NE	0	0
Gross Contamination	4	3	0	0	4	2	2	0	0	0
Leaching	9	NE	NE	1	NE	1	2	0	0	0
<p>NOTES: NE = Not established</p> <p>1 = Count refers to the total number of samples that exceeded the EALs for the specific COPC for the designated soil hazard. This count incorporates the analytical results from the current site investigation only. The preliminary EHE in the SAP evaluated the soil hazards for the analytical results from the previous investigations conducted by the HEER Office (August 2010, December 2010, and March 2011).</p> <p>2 = See Section 9.5 for further details.</p> <p>3 = See Section 9.4 for further details.</p>										

9.3 Groundwater Hazards

No groundwater data is available for the site, as a result, this updated EHE does not include a quantitative evaluation for groundwater contamination. Based on available soil sample analytical results, site conditions, and leaching potential of the identified COPC, there are potential groundwater hazards related to TEQ dioxins, pentachlorophenol, TPH-DRO, and TPH-RRO. The potential groundwater hazards are not considered significant, based on:

- The general depth to potable groundwater in the site region is approximately 200-250 feet bgs.
- The HDOH SDWB confirmed that the site was located on the seaward side of the UIC line, thereby indicating that the groundwater underlying the site is considered non-potable and saline.

9.4 Soil Vapor Hazards

No soil vapor data is available for the site, as a result, this updated EHE does not include a quantitative evaluation for soil vapor contamination. Based on available soil sample analytical results, site conditions, and identified COPC characteristics, there are potential soil vapor hazards at the site related to 1-methylnaphthalene and naphthalene.

The potential soil vapor hazards are not considered significant because the 1-methylnaphthalene- and naphthalene-impacted soil at the site is in DU10, deeper than 2 feet bgs (Layers C to E), and there are currently no human-occupied structures in DU10.

9.5 Potential Receptors

Potentially exposed receptors consist of human receptors and terrestrial ecological receptors. Human receptors include on-site residents, tenants, and visitors; and off-site residents, tenants, and visitors at adjacent properties. Human receptors also include future workers exposed to soils during possible construction or utility repairs at the site properties.

The site does not contain significant, terrestrial ecological habitats, and no sensitive terrestrial ecological receptors are anticipated. This is supported by the following findings:

- According to the 1996 USGS topographic map and EDR report, there are no sensitive ecological receptors or wetlands at or near the site. The nearest surface water body is Kilauea Stream, approximately 0.3 mile west of the site. The Pacific Ocean is approximately 1 mile north of the site (EDR 2011).
- According to the County of Kauai Department of Planning website, the site is zoned for residential or commercial use (depending on the specific property). The site is not in a special management area or wildlife preserve district (KDP 2011).

However, the analytical data from DU18 and DU19 was screened against the applicable terrestrial ecology EALs, due to the potential for ecological impacts at Secret Beach .

9.6 Exposure Pathways

Potential exposure pathways to the impacted soil at the site may include:

- Dermal absorption (through direct contact) of impacted soil by humans
- Inhalation of impacted soil particulates by humans
- Incidental ingestion of impacted soil by humans
- Surface water runoff with impacted soil or sediments for ecological receptors (not a concern for human receptors; also, as indicated in Section 9.5, DU18 and DU19 were the only DUs where data was screened against terrestrial ecology EALs based on the downstream presence of Secret Beach)

9.7 Summary of Conceptual Site Models

The conceptual site models for each identified COPC with exceedances are summarized in Tables 27-36. The purpose of a conceptual site model is to depict a comprehensive representation of a site's environmental conditions with respect to recognized or potential environmental hazards. A conceptual site model is continually updated as the site investigation proceeds and site conditions are better understood (i.e., as more data becomes available) (HEER Office 2011c).

The conceptual site models developed as part of this updated EHE include a summary of primary and secondary sources of contamination, primary release mechanisms, potential environmental hazards, and identification of which hazards are present under current site conditions.

9.7.1 Soil Accessibility

The HEER Office requested that the conceptual site models for updated EHE categorize the impacted soil into two categories:

- Readily accessible soil: soil 0-2 feet bgs (Layers A and B). This soil is considered an exposure pathway under the current site conditions.
- Deeper soil: soil 2-10 feet bgs (Layers C to E). This soil is not considered a potential exposure pathway under the current site conditions.

9.7.2 TEQ Dioxins

Based on the conceptual site model (refer to Table 27), direct exposure to TEQ dioxins and leaching are identified environmental hazards for the Old Mill LLC property (DU10 and DU11), Thompson property (DU12 to DU16), Foley property (DU17) and the debris pit along the western border of the HHA property (DU27). Gross contamination is identified as an environmental hazard for the Thompson property (DU12 through DU15). Because the TEQ dioxins-impacted soil is at the surface (0-2 feet bgs), and is considered readily accessible soil, all three potential

human exposure pathways may be present. Leaching is not considered a significant soil hazard because of the depth to groundwater and underlying aquifer use.

9.7.3 Arsenic (Total Arsenic and Bioaccessible Arsenic)

Due to the significant binding capacity of the iron-rich volcanic soils in Hawaii, total arsenic is typically bound to the soil particles and does not readily leach. Based on these findings, the HEER Office uses bioaccessible arsenic data to evaluate potential human health risks for the conceptual site model (HEER Office 2011a and 2011f).

The HEER Office requested that the conceptual site models for updated EHE use the total arsenic and bioaccessible arsenic data (refer to Table 28), because not all samples were analyzed for bioaccessible arsenic. The HEER Office requested that when both total arsenic and bioaccessible arsenic data were available for a given sample, the bioaccessible arsenic data should be used for the conceptual site model because bioaccessible arsenic data more accurately evaluates risks to human health. Bioaccessible arsenic is the fraction of the total arsenic in ingested soil that could be available for absorption by the digestive tract and pose health risks. Equivalent concentrations of bioaccessible arsenic in soil are calculated by multiplying the reported total concentration of arsenic by the fraction that is determined to be bioaccessible by site-specific bioaccessibility tests (HEER Office 2011a and 2011f).

Based on the conceptual site model, direct exposure to arsenic (including total arsenic and bioaccessible arsenic) is an identified environmental hazard in 23 of the 26 DUs. This includes all of the DUs in Areas 2-5 and the majority of Area 1, with the exception of DU6, DU7 and DU9. Gross contamination is also an identified environmental hazard for the Old Mill LLC property and Thompson property. Because the arsenic-impacted soil is at the surface (0-2 feet bgs) and is considered readily accessible soil, all three potential exposure pathways may be present.

In addition, the HEER Office conducted calculations in order to determine the percent bioaccessible arsenic in each sample. These calculations are provided in Appendix I for reference.

9.7.4 Mercury

Based on the conceptual site model (refer to Table 29), direct exposure to mercury is an identified environmental hazard for the Thompson property (DU14 and DU15) and Foley property (DU17). Because the mercury-impacted soil is at the surface (0-2 feet bgs) in DU15 and DU17, and is considered readily accessible soil, all three potential exposure pathways may be present. The mercury-impacted soil in DU14 is located in Layer D (4-7 feet bgs), and is considered deeper soil. There may be exposure through all three exposure pathways if the mercury-impacted soil deeper than 4 feet bgs is exposed. This could occur, for example, from intrusive construction activities such as excavation or trenching.

9.7.5 Pentachlorophenol

Based on the conceptual site model (refer to Table 30), direct exposure and leaching of pentachlorophenol are identified environmental hazards for the Old Mill LLC property (DU10) and the south-side yard of the Thompson property (DU15). The pentachlorophenol-impacted soil is deeper than 2 feet bgs, and is considered deeper soil. There may be exposure through all three exposure pathways if the pentachlorophenol-impacted soil deeper than 2 feet bgs is exposed. This could occur, for example, from intrusive construction activities such as excavation or

trenching. Leaching is not considered a significant soil hazard because of the depth to groundwater and underlying aquifer use.

9.7.6 Lead

Based on the conceptual site model (refer to Table 31), direct exposure to lead is an identified environmental hazard at multiple locations at the site. This included the following: along the eastern border of the North Shore Health Center property (DU1); the eastern borders of the Grace Paul Trust, Clarion, and Howard properties (DU2); the southern border of the Ortal property (DU4); the Thompson property (DU12 and DU15); and the debris pit along the western border of the HHA property (DU27). Gross contamination is also an identified environmental hazard for all the same areas except for the North Shore Health Center property.

The lead-impacted soil is at the surface and near-surface (0.5 to 4 feet bgs) and is considered both readily accessible soil and deeper soil, depending on the specific DU. Based on these findings, all three potential exposure pathways may be present.

Based on the HEER Office's assessments at other agricultural sites, lead was not historically used as a pesticide or herbicide in Hawaii, so the HEER Office considers any identified lead-impacted soil to be beyond the scope of this investigation.

9.7.7 TPH-DRO

Based on the conceptual site model (refer to Table 32), direct exposure and gross contamination to TPH-DRO are identified environmental hazards for the Old Mill LLC property (DU10) and the Thompson property (DU12). The TPH-DRO-impacted soil is deeper than 2 feet bgs and is considered deeper soil. Exposure through all three exposure pathways may be present if the TPH-DRO-impacted soil is exposed. This could occur, for example, from intrusive construction activities such as excavation or trenching. Leaching is not considered a significant soil hazard because of the depth to groundwater and underlying aquifer use.

9.7.8 TPH-RRO

Based on the conceptual site model (refer to Table 33), direct exposure, gross contamination and leaching are identified environmental hazards related to TPH-RRO at the Old Mill LLC (DU10) and the Thompson property (DU12). The TPH-RRO-impacted soil is 0.5-10 feet bgs and is considered both readily accessible soil and deeper soil, depending on the specific DU. DU12 Layer B is the only DU with TPH-RRO-impacted soil in the readily accessible soil category. The TPH-RRO-impacted soil in DU12 Layer B is co-located with TEQ dioxins-impacted soil. Because the TPH-RRO-impacted soil is 0.5-10 feet bgs and is considered to be in all three soil accessibility categories, all three potential exposure pathways may be present. Leaching is not considered a significant soil hazard because of the depth to groundwater and underlying aquifer use.

9.7.9 1-Methylnaphthalene

Based on the conceptual site model (refer to Table 34), vapor intrusion is identified as an environmental hazard for 1-methylnaphthalene at the Old Mill LLC property (DU10). The 1-methylnaphthalene-impacted soil is located below 2 feet bgs and is considered deeper soil. Exposure through all three exposure pathways may be present if the 1-methylnaphthalene-impacted soil is exposed. This could occur, for example, from intrusive construction

activities such as excavation or trenching. Vapor intrusion hazards are not considered significant because there are currently no human-occupied structures in DU10 and thus no potential receptors.

9.7.10 Naphthalene

Based on the conceptual site model (refer to Table 35), vapor intrusion is identified as an environmental hazard for naphthalene at the Old Mill LLC property (DU10). The naphthalene-impacted soil is located below 2 feet bgs and is considered deeper soil. Exposure through all three exposure pathways may be present if the naphthalene-impacted soil is exposed. This could occur, for example, from intrusive construction activities such as excavation or trenching. Vapor intrusion hazards are not considered significant because there are currently no human-occupied structures in DU10, and thus no potential receptors.

9.7.11 Benzo(a)pyrene

Based on the conceptual site model (refer to Table 36), direct exposure to benzo(a)pyrene is identified as an environmental hazard for the Old Mill LLC property (DU11) and the HHA Debris Pit along the western border of the HHA property (DU26). The benzo(a)pyrene-impacted soil is at the surface and near-surface (0.5 to 4 feet bgs), and is considered both readily accessible soil and deeper soil, depending on the specific DU. Based on these findings, all three potential exposure pathways may be present.

Table 27 – Conceptual Site Model for TEQ Dioxins

Primary Sources	Primary Release Mechanisms	Secondary Sources	Potential Environmental Hazards ¹	Hazard Present Under Current Conditions?	Comments
Historic On-Site Use/Storage/Mixing/ Loading/Transporting/ Disposal of Herbicides, Pesticides, and Other Hazardous Materials	Spills/Leaks/ Improper Disposal	Soil	Risk to Human Health – Direct Exposure ²	Yes	DU10, DU11, DU12, DU13, DU15, DU16, DU17, and DU27
			Vapor Intrusion	NE	
			Risk to Terrestrial Ecological Habitats ³	NE	No significant terrestrial ecological habitats at the site. ⁶
			Gross Contamination ⁴	Yes	DU12, DU13, DU-14, and DU15
			Leaching ⁵	No ^{5a}	Leaching is not considered a significant soil hazard because of the depth to groundwater and underlying aquifer use
<p>NOTES: NE = Not established 1 = Fall 2011 Revised EALs and Tier I EALs. 2 = Assumes humans have direct exposure to impacted soil and dust. 3 = Assumes a significant terrestrial ecological habitat is adversely affected by the impacted soil with resulting toxicity to flora and fauna. 4 = Gross contamination soil hazards include potential explosive reactions, odors and general nuisance concerns, and general resource degradation. 5 = Assumes potential leaching of contaminants from impacted soil and adverse effects to underlying groundwater. 5a = Although EAL surfer identified Leaching as a hazard under current conditions (DU10 through DU17, and DU27), Leaching is not considered a significant soil hazard because of the depth to groundwater and underlying aquifer use. Refer to Section 9.3 for additional details. 6 = See Section 9.5 for further details.</p>					

Table 28 – Conceptual Site Model for Arsenic

Primary Sources	Primary Release Mechanisms	Secondary Sources	Potential Environmental Hazards ¹	Hazard Present Under Current Conditions?	Comments
Historic On-Site Use/Storage/Mixing/ Loading/Transporting/ Disposal of Herbicides, Pesticides, and Other Hazardous Materials	Spills/Leaks/ Improper Disposal	Soil	Risk to Human Health – Direct Exposure ²	Yes	DU1, DU2, DU3, DU4, DU5, DU8, DU10, DU11, DU12, DU13, DU14, DU15, DU16, DU17, DU18, DU19, DU21, DU22, DU23, DU24, DU25, DU26, and DU27
			Vapor Intrusion	NE	
			Risk to Terrestrial Ecological Habitats ³	No	No significant terrestrial ecological habitats at the site. ⁶
			Gross Contamination ⁴	Yes	DU10, DU14 and DU15
			Leaching ⁵	NE	
<p>NOTES: NE = Not established 1 = Fall 2011 Revised EALs and Tier I EALs. 2 = Assumes humans have direct exposure to impacted soil and dust. 3 = Assumes a significant terrestrial ecological habitat is adversely affected by the impacted soil with resulting toxicity to flora and fauna. 4 = Gross contamination soil hazards include potential explosive reactions, odors and general nuisance concerns, and general resource degradation. 5 = Assumes potential leaching of contaminants from impacted soil and adverse effects to underlying groundwater. 6 = See Section 9.5 for further details.</p>					

Table 29 – Conceptual Site Model for Mercury

Primary Sources	Primary Release Mechanisms	Secondary Sources	Potential Environmental Hazards ¹	Hazard Present Under Current Conditions?	Comments
Historic On-Site Use/Storage/Mixing/Loading/Transporting/ Disposal of Herbicides, Pesticides, and Other Hazardous Materials	Spills/Leaks/Improper Disposal	Soil	Risk to Human Health – Direct Exposure ²	Yes	DU14 ⁷ , DU15, and DU17
			Vapor Intrusion	NE	
			Risk to Terrestrial Ecological Habitats ³	No	No significant terrestrial ecological habitats at the site. ⁶
			Gross Contamination ⁴	No	
			Leaching ⁵	NE	
<p>NOTES: NE = Not established 1 = Fall 2011 Revised EALs and Tier I EALs. 2 = Assumes humans have direct exposure to impacted soil and dust. 3 = Assumes a significant terrestrial ecological habitat is adversely affected by the impacted soil with resulting toxicity to flora and fauna. 4 = Gross contamination soil hazards include potential explosive reactions, odors and general nuisance concerns, and general resource degradation. 5 = Assumes potential leaching of contaminants from impacted soil and adverse effects to underlying groundwater. 6 = See Section 9.5 for further details. 7 = See Section 9.7.4 for further details.</p>					

Table 30 – Conceptual Site Model for Pentachlorophenol

Primary Sources	Primary Release Mechanisms	Secondary Sources	Potential Environmental Hazards ¹	Hazard Present Under Current Conditions?	Comments
Historic On-Site Use/Storage/Mixing/Loading/Transporting/ Disposal of Herbicides, Pesticides, and Other Hazardous Materials	Spills/Leaks/ Improper Disposal	Soil	Risk to Human Health – Direct Exposure ²	Yes	DU10 and DU15
			Vapor Intrusion	NE	
			Risk to Terrestrial Ecological Habitats ³	No	No significant terrestrial ecological habitats at the site. ⁶
			Gross Contamination ⁴	No	
			Leaching ⁵	Yes	DU10
<p>NOTES: NE = Not established 1 = Fall 2011 Revised EALs and Tier I EALs. 2 = Assumes humans have direct exposure to impacted soil and dust. 3 = Assumes a significant terrestrial ecological habitat is adversely affected by the impacted soil with resulting toxicity to flora and fauna. 4 = Gross contamination soil hazards include potential explosive reactions, odors and general nuisance concerns, and general resource degradation. 5 = Assumes potential leaching of contaminants from impacted soil and adverse effects to underlying groundwater. 6 = See Section 9.5 for further details.</p>					

Table 31 – Conceptual Site Model for Lead

Primary Sources	Primary Release Mechanisms	Secondary Sources	Potential Environmental Hazards ¹	Hazard Present Under Current Conditions?	Comments
Historic On-Site Use/Storage/Mixing/Loading/Transporting/ Disposal of Herbicides, Pesticides, and Other Hazardous Materials	Spills/Leaks/ Improper Disposal	Soil	Risk to Human Health – Direct Exposure ²	Yes	DU1, DU2, DU4, DU12, DU15 and DU27
			Vapor Intrusion	NE	
			Risk to Terrestrial Ecological Habitats ³	No	No significant terrestrial ecological habitats at the site. ⁶
			Gross Contamination ⁴	Yes	DU2, DU4, DU15 and DU27
			Leaching ⁵	NE	
<p>NOTES: NE = Not established 1 = Fall 2011 Revised EALs and Tier I EALs. 2 = Assumes humans have direct exposure to impacted soil and dust. 3 = Assumes a significant terrestrial ecological habitat is adversely affected by the impacted soil with resulting toxicity to flora and fauna. 4 = Gross contamination soil hazards include potential explosive reactions, odors and general nuisance concerns, and general resource degradation. 5 = Assumes potential leaching of contaminants from impacted soil and adverse effects to underlying groundwater. 6 = See Section 9.5 for further details.</p>					

Table 32 – Conceptual Site Model for TPH-DRO

Primary Sources	Primary Release Mechanisms	Secondary Sources	Potential Environmental Hazards ¹	Hazard Present Under Current Conditions?	Comments
Historic On-Site Use/Storage/Mixing/Loading/Transporting/ Disposal of Herbicides, Pesticides, and Other Hazardous Materials	Spills/Leaks/ Improper Disposal	Soil	Risk to Human Health – Direct Exposure ²	Yes	DU10 and DU12
			Vapor Intrusion	NE	
			Risk to Terrestrial Ecological Habitats ³	NE	No significant terrestrial ecological habitats at the site. ⁶
			Gross Contamination ⁴	Yes	DU10 and DU12
			Leaching ⁵	Yes	DU10
<p>NOTES: NE = Not established 1 = Fall 2011 Revised EALs and Tier I EALs. 2 = Assumes humans have direct exposure to impacted soil and dust. 3 = Assumes a significant terrestrial ecological habitat is adversely affected by the impacted soil with resulting toxicity to flora and fauna. 4 = Gross contamination soil hazards include potential explosive reactions, odors and general nuisance concerns, and general resource degradation. 5 = Assumes potential leaching of contaminants from impacted soil and adverse effects to underlying groundwater. 6 = See Section 9.5 for further details.</p>					

Table 33 – Conceptual Site Model for TPH-RRO

Primary Sources	Primary Release Mechanisms	Secondary Sources	Potential Environmental Hazards ¹	Hazard Present Under Current Conditions?	Comments
Historic On-Site Use/Storage/Mixing/ Loading/Transporting/ Disposal of Herbicides, Pesticides, and Other Hazardous Materials	Spills/Leaks/ Improper Disposal	Soil	Risk to Human Health – Direct Exposure ²	Yes	DU12
			Vapor Intrusion	NE	
			Risk to Terrestrial Ecological Habitats ³	NE	No significant terrestrial ecological habitats at the site. ⁶
			Gross Contamination ⁴	Yes	DU10 and DU12
			Leaching ⁵	Yes	DU10 and DU12
<p>NOTES: NE = Not established 1 = Fall 2011 Revised EALs and Tier I EALs. 2 = Assumes humans have direct exposure to impacted soil and dust. 3 = Assumes a significant terrestrial ecological habitat is adversely affected by the impacted soil with resulting toxicity to flora and fauna. 4 = Gross contamination soil hazards include potential explosive reactions, odors and general nuisance concerns, and general resource degradation. 5 = Assumes potential leaching of contaminants from impacted soil and adverse effects to underlying groundwater. 6 = See Section 9.5 for further details.</p>					

Table 34 – Conceptual Site Model for 1-Methylnaphthalene

Primary Sources	Primary Release Mechanisms	Secondary Sources	Potential Environmental Hazards ¹	Hazard Present Under Current Conditions?	Comments
Historic On-Site Use/Storage/Mixing/ Loading/Transporting/ Disposal of Herbicides, Pesticides, and Other Hazardous Materials	Spills/Leaks/ Improper Disposal	Soil	Risk to Human Health – Direct Exposure ²	No	
			Vapor Intrusion	No	No significant soil vapor intrusion hazards based on site conditions. ⁷
			Risk to Terrestrial Ecological Habitats ³	NE	No significant terrestrial ecological habitats at the site. ⁶
			Gross Contamination ⁴	No	
			Leaching ⁵	No	
<p>NOTES: NE = Not established 1 = Fall 2011 Revised EALs and Tier I EALs. 2 = Assumes humans have direct exposure to impacted soil and dust. 3 = Assumes a significant terrestrial ecological habitat is adversely affected by the impacted soil with resulting toxicity to flora and fauna. 4 = Gross contamination soil hazards include potential explosive reactions, odors and general nuisance concerns, and general resource degradation. 5 = Assumes potential leaching of contaminants from impacted soil and adverse effects to underlying groundwater. 6 = See Section 9.5 for further details. 7 = See Section 9.4 for further details.</p>					

Table 35 – Conceptual Site Model for Naphthalene

Primary Sources	Primary Release Mechanisms	Secondary Sources	Potential Environmental Hazards ¹	Hazard Present Under Current Conditions?	Comments
Historic On-Site Use/Storage/Mixing/ Loading/Transporting/ Disposal of Herbicides, Pesticides, and Other Hazardous Materials	Spills/Leaks/ Improper Disposal	Soil	Risk to Human Health – Direct Exposure ²	No	
			Vapor Intrusion	Yes	No significant soil vapor intrusion hazards based on site conditions. ⁷
			Risk to Terrestrial Ecological Habitats ³	No	No significant terrestrial ecological habitats at the site. ⁶
			Gross Contamination ⁴	No	
			Leaching ⁵	No	
<p>NOTES: NE = Not established 1 = Fall 2011 Revised EALs and Tier I EALs. 2 = Assumes humans have direct exposure to impacted soil and dust. 3 = Assumes a significant terrestrial ecological habitat is adversely affected by the impacted soil with resulting toxicity to flora and fauna. 4 = Gross contamination soil hazards include potential explosive reactions, odors and general nuisance concerns, and general resource degradation. 5 = Assumes potential leaching of contaminants from impacted soil and adverse effects to underlying groundwater. 6 = See Section 9.5 for further details. 7 = See Section 9.4 for further details.</p>					

Table 36 – Conceptual Site Model for Benzo(a)pyrene

Primary Sources	Primary Release Mechanisms	Secondary Sources	Potential Environmental Hazards ¹	Hazard Present Under Current Conditions?	Comments
Historic On-Site Use/Storage/Mixing/Loading/Transporting/ Disposal of Herbicides, Pesticides, and Other Hazardous Materials	Spills/Leaks/ Improper Disposal	Soil	Risk to Human Health – Direct Exposure ²	Yes	DU11 and DU26
			Vapor Intrusion	NE	
			Risk to Terrestrial Ecological Habitats ³	No	No significant terrestrial ecological habitats at the site. ⁶
			Gross Contamination ⁴	No	
			Leaching ⁵	No	
<p>NOTES: NE = Not established 1 = Fall 2011 Revised EALs and Tier I EALs. 2 = Assumes humans have direct exposure to impacted soil and dust. 3 = Assumes a significant terrestrial ecological habitat is adversely affected by the impacted soil with resulting toxicity to flora and fauna. 4 = Gross contamination soil hazards include potential explosive reactions, odors and general nuisance concerns, and general resource degradation. 5 = Assumes potential leaching of contaminants from impacted soil and adverse effects to underlying groundwater. 6 = See Section 9.5 for further details.</p>					

9.8 Evaluation of Targeted Contaminants of Concern for Site Investigation

After preparing the updated EHE, the findings and analytical data from the site investigation were further evaluated. TEQ dioxins and arsenic (including total arsenic and bioaccessible arsenic) were again selected as the TCOC, because they were the primary drivers for potential human health risks, and because they were the two most prevalent COPC at the site. The same principals and methods previously presented in Section 3.7, related to bioaccessible arsenic, apply to the following discussion regarding the findings of the subject site investigation.

A focused evaluation of the TCOC detected during the August 2010 investigation was conducted to identify the degree of impact for the TCOC in each DU from this site investigation (as well as the previous overlapping DOH DU/Sample IDs for the 0-0.5 foot bgs interval), with respect to the applicable HEER Office Tier II EAL Risk Categories. The evaluation consisted of three separate steps which are listed below:

- Step 1 – Identify Tier II EAL risk categories (Categories A through D) for each sample for each TCOC (i.e., separate values for TEQ dioxins and arsenic)
- Step 2 – Identify highest impact Tier II EAL risk category for each sample for both TCOC
- Step 3 – Extrapolate Tier II EAL risk categories for areas where no TCOC analytical data is available

The findings from each step of the evaluation are summarized below.

9.8.1 Step 1 – Identify Tier II EAL Risk Categories for Each Sample for Each TCOC

As part of Step 1, the TCOC analytical results were compared to the Tier II EALs for soils on unrestricted use and commercial or industrial use sites (depending on current property use) (HEER Office 2011d and 2011e). In general, each sample had a two separate risk categories, one for TEQ dioxins and one for arsenic. If there was no TCOC analytical data available, the sample was not assigned a risk category. The findings from Step 1 are presented in Appendix H, which includes separate tables for TEQ Dioxins and arsenic.

9.8.2 Step 2 – Identify Highest Impact Tier II EAL Risk Categories for Each Sample

As part of Step 2, the information from Step 1 was used to identify the highest impact Tier II EAL risk category for each sample. The individual risk categories for TEQ dioxins and arsenic for a given sample were compared, and the highest impact risk category identified was assigned to that sample, to provide the most conservative approach. The findings from Step 2 are presented in Table 37, below.

Table 37 – Highest Impact Tier II EAL Risk Categories for Each Sample (6 pages)

DU1 Area 1 - Perimeter of Core PMA Along the eastern border of the North Shore Health Center Property	KSPMA-DU5	PMAK-DU1-A	PMAK-DU1-B	PMAK-DU1-C	PMAK-DU1-D	PMAK-DU1-E
Sample Date	12.16.10	8.1.11	8.1.11	8.1.11	8.1.11	8.1.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Highest Tier II EAL Risk Category ¹	B	B	B	X	X	X

DU2 Area 1 - Perimeter of Core PMA Along the eastern borders of the Grace Paul Trust property, Clarion property and Howard property; adjacent to Aalona St.	KSPMA-DU2	KSPMA-DU3	PMAK-DU2-A	PMAK-DU2-B	PMAK-DU2-C	PMAK-DU2-D	PMAK-DU2-E
Sample Date	12.15.10	12.15.10	8.1.11	8.1.11	8.1.11	8.1.11	8.1.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Highest Tier II EAL Risk Category ¹	B	B	B	B	C	A	X

DU3 Area 1 - Perimeter of Core PMA Along the eastern borders of the Johnson property, Deforge property, and the southern borders of the Cooper property, Cudiamat property, and Owens property; adjacent to the cul-de-sac portion of Aalona St.	KSPMA-DU1	KSPMA-DU4	PMAK-DU3-A	PMAK-DU3-B	PMAK-DU3-C	PMAK-DU3-D	PMAK-DU3-E
Sample Date	12.15.10	12.15.10	8.2.11	8.2.11	8.2.11	8.2.11	8.2.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Highest Tier II EAL Risk Category ¹	B	B	B	B	X	X	X

DU4 ² Area 1 - Perimeter of Core PMA Along the southern border of the Ortal property, adjacent to the Foley property.	PMAK-DU4-A-P	PMAK-DU4-A-T1	PMAK-DU4-A-T2	PMAK-DU4-B-P	PMAK-DU4-B-T1	PMAK-DU4-B-T2	PMAK-DU4-C-P	PMAK-DU4-C-T1	PMAK-DU4-C-T2	PMAK-DU4-D-P	PMAK-DU4-D-T1	PMAK-DU4-D-T2	PMAK-DU4-E-P	PMAK-DU4-E-T1	PMAK-DU4-E-T2	
Sample Date	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	
Depth Intervals (' bgs)	0-0.5	0-0.5	0-0.5	0.5-2.0	0.5-2.0	0.5-2.0	2.0-4.0	2.0-4.0	2.0-4.0	4.0-7.0	4.0-7.0	4.0-7.0	7.0-10.0	7.0-10.0	7.0-10.0	
Highest Tier II EAL Risk Category ¹	B	B	B	B	B	B	C	A	A	A	A	A	A	X	X	X

DU5 Area 1 - Perimeter of Core PMA Along the western borders of the Ortal property and Foley property. This DU is adjacent to the HHA property.	KKSC-DU1	KKSC-DU2	PMAK-DU5-A	PMAK-DU5-B	PMAK-DU5-C	PMAK-DU5-D	PMAK-DU5-E
Sample Date	8.19.10	8.19.10	8.10.11	8.10.11	8.10.11	8.10.11	8.10.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Highest Tier II EAL Risk Category ¹	A	B	X	B	C	C ³	A

LEGEND

TCOC = Targeted contaminant of concern (TEQ dioxins or arsenic)
X = No TCOC analytical data available (i.e., sample listed as NA [Not Analyzed] or H [Hold]) on Table 22
¹ = The individual risk categories for TEQ dioxins and arsenic for each sample were compared, and the highest risk category identified was assigned to that sample. This approach was selected to present the most conservative scenario.
² = Triplicate Sample
³ = Tier II EAL Risk Category estimated using 10% of total arsenic concentration to infer the bioaccessible arsenic concentration.

Shading= Sample collected during current site investigation
Shading= Sample collected during previous sampling activities (HEER Office or Kauai Environmental)

Fall 2011 Revised Tier I EALs and July2010/Fall 2011 Revised Tier II EALs

Table 37 – Highest Impact Tier II EAL Risk Categories for Each Sample (continued)

DU6 ² Area 1 - Perimeter of Core PMA Along the southern boundary of the HHA property, adjacent to Natural Bridges School property.	PMAK-DU6-A-P	PMAK-DU6-A-T1	PMAK-DU6-A-T2	PMAK-DU6-B-P	PMAK-DU6-B-T1	PMAK-DU6-B-T2	PMAK-DU6-C-P	PMAK-DU6-C-T1	PMAK-DU6-C-T2	PMAK-DU6-D-P	PMAK-DU6-D-T1	PMAK-DU6-D-T2	PMAK-DU6-E-P	PMAK-DU6-E-T1	PMAK-DU6-E-T2
Sample Date	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0-0.5	0.5-2.0	0.5-2.0	0.5-2.0	2.0-4.0	2.0-4.0	2.0-4.0	4.0-7.0	4.0-7.0	4.0-7.0	7.0-10.0	7.0-10.0	7.0-10.0
Highest Tier II EAL Risk Category ¹	B	B	B	A	A	A	A	A	A	X	X	X	X	X	X

DU7 Area 1 - Perimeter of Core PMA Along the southern boundary of the HHA property, adjacent to Natural Bridges School property.	PMAK-DU7-A	PMAK-DU7-B	PMAK-DU7-C	PMAK-DU7-D	PMAK-DU7-E
Sample Date	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11
Depth Intervals (' bgs)	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Highest Tier II EAL Risk Category ¹	B	B	A	X	X

DU8 Area 1 - Perimeter of Core PMA Along the eastern border of the Old Mill LLC property, adjacent to the Natural Bridges School property.	PMAK-DU8-A	PMAK-DU8-B	PMAK-DU8-C	PMAK-DU8-D	PMAK-DU8-E
Sample Date	8.2.11	8.2.11	8.2.11	8.2.11	8.2.11
Depth Intervals (' bgs)	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Highest Tier II EAL Risk Category ¹	B	B	A	X	X

DU9 Area 1 - Perimeter of Core PMA Along the southern border of the Old Mill LLC property, adjacent to Oka Street.	PMAK-DU9-A	PMAK-DU9-B	PMAK-DU9-C	PMAK-DU9-D	PMAK-DU9-E
Sample Date	8.2.11	8.2.11	8.2.11	8.2.11	8.2.11
Depth Intervals (' bgs)	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Highest Tier II EAL Risk Category ¹	B	B	A	X	X

DU10 Area 2 - Core PMA Within the western portion of the Drainage Swale, which is along the northern border of the Old Mill LLC property.	KSPMA-DU6	KSPMA-DU7	PMAK-DU10-A	PMAK-DU10-B	PMAK-DU10-C	PMAK-DU10-D	PMAK-DU10-E
Sample Date	12.15.10	12.16.10	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Highest Tier II EAL Risk Category ¹	D	D	X	D	D ³	D ³	D ³

Table 37 – Highest Impact Tier II EAL Risk Categories for Each Sample (continued)

DU11 Area 2 - Core PMA Within the eastern portion of the Drainage Swale. Along the northern border of the Old Mill LLC property.	KSPMA-DU8	PMAK-DU11-A	PMAK-DU11-B	PMAK-DU11-C	PMAK-DU11-D	PMAK-DU11-E
Sample Date	12.16.10	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Highest Tier II EAL Risk Category ¹	C	X	C	A	X	X

DU12 Area 2 - Core PMA Within the front yard of the Thompson property, adjacent to Aalona Street.	KKSC-DU5	PMAK-DU12-A	PMAK-DU12-B	PMAK-DU12-C	PMAK-DU12-D	PMAK-DU12-E
Sample Date	8.18.10	8.4.11	8.4.11	8.4.11	8.4.11	8.4.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Highest Tier II EAL Risk Category ¹	C	X	D	C ³	C ³	B

DU13 Area 2 - Core PMA Within the north side yard of the Thompson property, adjacent to Aalona Street	PMAK-DU13-A	PMAK-DU13-B	PMAK-DU13-C	PMAK-DU13-D	PMAK-DU13-E
Sample Date	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11
Depth Intervals (' bgs)	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Highest Tier II EAL Risk Category ¹	C	C	B	A	X

DU14 Area 2 - Core PMA Within the backyard of the Thompson property adjacent to the Foley property.	KKSC-DU6 ³	KKSC-DU7 ³	KKSC-DU8 ³	PMAK-DU14-A	PMAK-DU14-B	PMAK-DU14-C	PMAK-DU14-D	PMAK-DU14-E
Sample Date	8.18.10	8.18.10	8.18.10	8.4.11	8.4.11	8.4.11	8.4.11	8.4.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Highest Tier II EAL Risk Category ¹	C	D	C	B	D ³	D ³	B	X

DU15 Area 2 - Core PMA Within the south side yard of the Thompson property, adjacent to the Drainage Swale.	KKSC-DU6 ³	KKSC-DU7 ³	KKSC-DU8 ³	PMAK-DU15-A	PMAK-DU15-B	PMAK-DU15-C	PMAK-DU15-D	PMAK-DU15-E
Sample Date	8.18.10	8.18.10	8.18.10	8.4.11	8.4.11	8.4.11	8.4.11	8.4.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Highest Tier II EAL Risk Category ¹	C	D	D	X	D ³	C ³	D ³	X

Table 37 – Highest Impact Tier II EAL Risk Categories for Each Sample (continued)

DU16 Area 2 - Core PMA Within the driveway of the Foley property, adjacent to the Thompson property.	PMAK-DU16-A	PMAK-DU16-B	PMAK-DU16-C	PMAK-DU16-D	PMAK-DU16-E
Sample Date	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11
Depth Intervals (' bgs)	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Highest Tier II EAL Risk Category ¹	B	C	C	A	X

DU17 Area 2 - Core PMA Within the backyard of the Foley property, adjacent to the Drainage Swale.	KKSC-DU3	PMAK-DU17-A	PMAK-DU17-B	PMAK-DU17-C	PMAK-DU17-D	PMAK-DU17-E
Sample Date	8.19.10	8.5.11	8.5.11	8.5.11	8.5.11	8.5.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Highest Tier II EAL Risk Category ¹	C	X	C	B	B	X

DU18 Area 2 - Core PMA Within the West Drainage Outfall, adjacent to the intersection of Kilauea Road and Oka Street.	PMAK-DU18-A-P	PMAK-DU18-A- T1	PMAK-DU18-A- T2
Sample Date	8.10.11	8.10.11	8.10.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0-0.5
Highest Tier II EAL Risk Category ¹	B	B	B

DU19 Area 2 - Core PMA Within the West Drainage Outfall, to the west of DU18.	PMAK-DU19-A
Sample Date	8.11.11
Depth Intervals (' bgs)	0-0.5
Highest Tier II EAL Risk Category ¹	B

DU21 Area 3 - Potentially Impacted Exposed Surface Soils - Not Previously Sampled Two separate areas on the Old Mill LLC property.	PMAK-DU21-A
Sample Date	8.10.11
Depth Intervals (' bgs)	0-0.5
Highest Tier II EAL Risk Category ¹	B

Table 37 – Highest Impact Tier II EAL Risk Categories for Each Sample (continued)

DU22 Area 3 - Potentially Impacted Exposed Surface Soils - Not Previously Sampled Along the western border of the Old Mill LLC property adjacent to the drainage swale.	PMAK-DU22-A
Sample Date	8.5.11
Depth Intervals (' bgs)	0-0.5
Highest Tier II EAL Risk Category ¹	B

DU23 Area 3 - Potentially Impacted Exposed Surface Soils - Not Previously Sampled Within the raised planter box along the southern boundary of the Old Mill LLC property.	PMAK-DU23-A
Sample Date	8.10.11
Depth Intervals (' bgs)	0-0.5
Highest Tier II EAL Risk Category ¹	B

DU24 Area 4 - Surrounding Properties Within the front, back and side yards for the Sansevere property.	PMAK-DU24-A-P	PMAK-DU24-A-T1	PMAK-DU24-A-T2
Sample Date	8.10.11	8.10.11	8.10.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0-0.5
Highest Tier II EAL Risk Category ¹	B	B	B

DU25 Area 4 - Surrounding Properties Within the front, back, and side yards of the Hadley property, south of Oka Street.	PMAK-DU25-A
Sample Date	8.11.11
Depth Intervals (' bgs)	0-0.5
Highest Tier II EAL Risk Category ¹	B

DU26 Area 5 - HHA Debris Pit Along the western borders of the HHA property, west of Building B.	KKSC-DU1	KKSC-DU2	KBV-01	PMAK-DU26
Sample Date	8.19.10	8.19.10	1.26.11	8.10.11
Depth Intervals (' bgs)	0-0.5	0-0.5	4.0-6.0	3.0-4.5
Highest Tier II EAL Risk Category ¹	A	B	C ³	C ³

Table 37 – Highest Impact Tier II EAL Risk Categories for Each Sample (continued)

DU27 Area 5 - HHA Debris Pit Along the western border of the HHA property, south of Building B.	KKSC-DU2	PMAK-DU27
Sample Date	8.19.10	8.9.11
Depth Intervals (' bgs)	0-0.5	3.0-4.5
Highest Tier II EAL Risk Category ¹	B	C

LEGEND

TCOC = Targeted contaminant of concern (TEQ dioxins or arsenic)

X = No TCOC analytical data available (i.e., sample listed as NA [Not Analyzed] or H [Hold]) on Table 22

¹ = The individual risk categories for TEQ dioxins and arsenic for each sample were compared, and the highest risk category identified was assigned to that sample. This approach was selected to present the most conservative scenario.

² = Triplicate Sample

³ = Tier II EAL Risk Category estimated using 10% of total arsenic concentration to infer the bioaccessible arsenic concentration.

Shading= Sample collected during current site investigation

Shading= Sample collected during previous sampling activities (HEER Office or Kauai Environmental)

Fall 2011 Revised Tier I EALs and July2010/Fall 2011 Revised Tier II EALs

9.8.3 Step 3 – Extrapolate Tier II EAL Risk Categories for Areas Where No TCOC Analytical Data Is Available

As part of Step 3, the information from Steps 1 and 2 was used to extrapolate the Tier II EAL risk category for areas where no TCOC analytical data was available (e.g., under buildings, asphalt-paved parking lots, etc.). The confirmed TCOC analytical data for surrounding DUs was used for extrapolating. Under these scenarios, the extrapolated highest impact risk category was only extended halfway into areas where no TCOC data was present.

Cross-sections were also prepared as part of Step 3 to depict the TCOC analytical data by layer, and to better understand the degree of TCOC impacts in the two soil accessibility categories. The cross-sections included the TCOC analytical data from the subject site investigation, as well as the data from previous HDOH and Kauai Environmental sampling activities that overlapped with DUs from the site investigation.

Figure 12 presents an overview of the four cross-section locations (A-A' through D-D'). The four individual cross-sections are shown separately in Figures 13 to 16. The cross-sections show each DU with respect to the Tier II EAL risk categories for the TCOC analytical data. On the cross-sections, solid shading is used for areas where the risk category was determined using confirmed sample analytical data, while a line hatch pattern is used for areas where the risk category was extrapolated based on sample analytical data from surrounding DUs. The highest impact risk category identified among all samples for a given layer was the risk category selected for that layer in the cross-sections; this approach was selected to present the most conservative scenario.

The data presented in the cross-sections was used to generate two site plans that show each DU with respect to the Tier II EAL risk categories for the TCOC analytical data for the two soil previously discussed accessibility categories. Figure 17 depicts the highest impact risk category for each DU for the “readily accessible soil” (0-2 feet bgs) category. Figure 18 depicts the highest impact risk category for each DU for the “deeper soil” (2-10 feet bgs) category. For both figures, the highest impact risk category identified among all samples for a given DU was the risk category selected for that DU in that figure; this approach was selected to present the most conservative scenario.

All extrapolated areas shown on Figures 13-18 should be included in the proposed Environmental Hazard Management Plan (EHMP), until such time that future analytical data confirms the absence of significant TCOC impacts in these areas.

In addition, the HEER Office conducted calculations in order to estimate the volumes of impacted soil throughout the site for each of the four Tier II EAL risk categories. These estimates are provided in Appendix J for reference.

A summary of the findings of the focused evaluation for each of the five site areas, based upon the extrapolated data, is provided below.

9.8.4 TCOC at Area 1

Area 1 consists of DU1 to DU9 that were delineated to address data gaps regarding the extent of COPC along the perimeter of the Core PMA. The following discussions refer to the highest impact risk category identified for each DU with regards to the two soil accessibility categories.

- The findings from Area 1 indicate that none of the nine DUs exhibited Category C or D TCOC-impacted soil in the readily accessible soil (0-2 feet bgs).
- The findings are further summarized as follows:
 - Readily Accessible Soil (0-2 feet bgs): All nine (9) DUs had TCOC in Category B of the applicable Tier II EAL risk categories. There were no Category C or D soils identified in the readily accessible soil, with the exception of one replicate sample from DU4 (PMAK-DU4-B-T2; Layer B [0.5-2.0 feet bgs]). This sample had a concentration of bioaccessible arsenic (23.8 mg/kg) that was slightly above the Category C lower bound of 23 mg/kg; however, the other two replicate samples from DU4 were in Category B. The average bioaccessible arsenic concentration for the triplicate DU4 Layer B samples was in Category B as well. As a result, DU4 was considered to have TCOC in Category B.
 - Deeper Soil (2-10 feet bgs): Two (2) of nine (9) DUs (DU2 and DU5) had TCOC in Category C of the applicable Tier II EAL risk category. All seven of the remaining DUs had TCOC in Category A for the deeper soil.

9.8.5 TCOC at Area 2

Area 2 consists of DU10 to DU19 that were delineated to further characterize and delineate the vertical extent of COPC in the Core PMA (DU10 to DU17), and assess if the West Drainage Outfall (DU18 and DU19) was impacted by historical PMA activities. The following discussions refer to the highest impact risk category identified for each DU with regard to the two soil accessibility categories.

This investigation confirmed that the Core PMA is composed of the Old Mill LLC property (DU10 and DU11), Thompson property (DU12 through DU15), and Foley property (DU16 and DU17). Note that DU10 exhibited the most significant TCOC impact.

- The findings from Area 2 indicate that eight (8) of the 10 DUs have Category C or D TCOC-impacted soil in the readily accessible soil (0-2 feet bgs). These findings warrant further action in order to mitigate exposure pathways to the impacted soil identified in Area 2. Note that the two (2) DUs which did not contain Category C or D soil were located within the western off-site drainage outfall.
- The findings are further summarized as follows:
 - Readily Accessible Soil (0-2 feet bgs): Eight (8) of the 10 DUs had TCOC in Category C or D of the applicable Tier II EAL risk categories. This included four DUs (DU10, DU12, DU14, and DU15) with TCOC in Category D, and three DUs (DU11, DU13, DU16, and DU17) with TCOC in Category C.
 - The remaining two (2) DUs (DU18 and DU19), which were located within the off-site West Drainage Outfall, had TCOC in Category B.

- Deeper Soil (2-10 feet bgs): Five (5) of 10 DUs had TCOC in Category C or D of the applicable Tier II EAL risk categories. This included three DUs (DU10, DU14, and DU15) with TCOC in Category D, and two DUs (DU12 and DU16) with TCOC in Category C. Of the remaining DUs, two DUs (DU13 and DU17) had TCOC in Category B, one DU (DU11) had TCOC in Category A.

Two (2) DUs (DU18 and DU19 [only Layer A samples were collected]) had no available TCOC data for the accessible soil. The risk categories for DU18 and DU19 were not extrapolated because there was no TCOC analytical data for any surrounding DUs. As previously noted, DU18 and DU19 were located within the western off-site drainage outfall, and only surface sediment samples were collected from the 0-0.5 foot bgs interval.

9.8.6 TCOC at Area 3

Area 3 consists of DU21 to DU23 that were delineated to assess the potentially impacted and exposed surface soils on the Old Mill LLC property that were not previously sampled by the HEER Office. The following discussions refer to the highest risk category identified for each DU with regards to the two soil accessibility categories.

- Readily Accessible Soil (0-2 feet bgs): The findings from Area 3, based upon extrapolation of data as presented in cross-sections C-C' and D-D', indicate that DU22 and DU23, and the portion of DU21 along Aalona Street, exhibited Category C or D TCOC-impacted soil in the readily accessible soil (0-2 feet bgs).

Each of these DUs (DU21, DU22, and DU23) was comprised of surface samples (0-0.5 foot bgs) which was classified as Category B. However, based upon extrapolation of the assessment data, as presented in Cross-Sections C-C' and D-D', the following is concluded with regard to readily accessible soil (0-2 feet bgs):

- DU21 is comprised of two separate areas. The portion of DU21 along the western border of the Old Mill LLC property, adjacent to Aalona Street, was extrapolated to have TCOC in Category C below the 0-0.5 foot bgs interval. However, this portion of DU21 is grass-covered, and is bordered by small trees and boulders, forming an island between the street and building away from the entrance. Because at least the top 6 inches of soil has been confirmed to be Category B, no mitigative action is warranted for this portion of DU21. The Aalona Street portion of DU21 will be managed under a property-specific EHMP.

The portion of DU21 along the southern border of the Old Mill LLC property, adjacent to Oka Street, had TCOC in Category B to a depth of 2 feet bgs, based upon soil boring data obtained from DU9 (which was coincident with DU21). No mitigative action is warranted for this portion of DU21.

- DU22 is immediately contiguous with DU10. Based upon the proximity to DU10, soil underlying the 0-0.5 foot bgs interval is extrapolated to be Category D. Because of the contiguous nature of DU22 with DU10, the surface cover of bare soil, and the routine use of this DU for parking, further action is warranted at DU22 to mitigate exposure pathways to the underlying impacted soil.

- DU23 was extrapolated to have TCOC in Category C below the 0-0.5 foot bgs interval. DU23 is a raised planter area with a tall bushes along the perimeter, thereby minimizing accessibility. It is also the location of the Old Mill LLC septic system. Because at least the top 6 inches of soil is vegetated, and has been confirmed to be Category B, no mitigative action is warranted for DU23. DU23 will be managed under a property-specific EHMP.
- Deeper Soil (2-10 feet bgs): Based upon extrapolation, DU22 had TCOC in Category D, whereas DU23 was Category C. The portion of DU21 adjacent to Aalona Street also had TCOC in Category C. The portion of DU21 adjacent to Oka Street, had TCOC in Category A.

9.8.7 TCOC at Area 4

Area 4 consists of DU24 and DU25 that were delineated to assess if two surrounding residential properties, south of Oka Street, were impacted by past PMA activities. The following discussions refer to the highest impact risk category identified for each DU with regards to the two soil accessibility categories.

- The findings from Area 4 indicate that neither of the DUs exhibited Category C or D TCOC-impacted soil in the readily accessible soil (0-2 feet bgs).
- The findings are further summarized as follows:
 - Both DUs had TCOC in Category B. There were no Category C or D soils based upon the applicable Tier II EAL Risk Categories for Area 4.

No samples were collected below 0.5 foot bgs in Area 4; therefore, no TCOC data is available for the deeper soil (2-10 feet bgs) category. The risk categories for DU24 and DU25 were not extrapolated because there was no TCOC analytical data for any surrounding DUs.

9.8.8 TCOC at Area 5

A focused evaluation was conducted regarding the impacted soil in Area 5, consistent with the methodology described above for Areas 1-4. Because the Area 5 DUs were associated with the HHA property debris pit, all of the full PMA COPC were included in the evaluation, not only the TCOC. The findings of the evaluation are provided below.

Area 5 consists of DU26 and DU27 that were delineated to evaluate the extent of buried debris and trash associated with the debris pit previously identified on the HHA property.

- In Area 5, both of the DUs had Tier I EAL exceedances of the full PMA COPC in the debris layer (3-4.5 feet bgs). This included:
 - DU26 had exceedances of total arsenic, lead, and benzo(a)pyrene in the sample from 3-4.5 feet bgs.
 - DU27 had exceedances of TEQ dioxins, total arsenic, and lead in the sample from 3-4.5 feet bgs.
- The findings from Area 5 indicate that both of the DUs had Category C soils in the deeper soil (2-10 feet bgs).
- The findings are further summarized as follows:



- Readily Accessible Soil (0-2 feet bgs): DU26 and DU27 are classified as Category B.
- Deeper Soil (2-10 feet bgs): DU26 and DU27 are classified as Category C.

9.8.9 Exposed Soil Requiring Immediate Action

The data from Steps 1-3 was used to generate a site plan that depicts areas with TCOC-impacted soil that require immediate action to mitigate potential exposure to Category C or D impacted soil. Figure 19 depicts exposed soil in the “readily accessible soil” (0-2 feet bgs) category that requires immediate action. For this figure, exposed soil was considered any area that was not covered by hardscape or impervious surfaces, such as buildings or asphalt pavement. Any DU with exposed soil that had Category C or Category D TCOC-impacted soil from 0-2 feet bgs was included in Figure 19. The areas requiring immediate action were extended at the Thompson property and Foley property to include portions of the properties that are inferred to be impacted based on the extrapolations completed for the cross-sections.

Referring to Figure 19, there were two small non-contiguous areas identified on the Old Mill LLC property, associated with DU21 and DU23. Only the portion of DU21 along the western border of the Old Mill LLC property, adjacent to Aalona Street, had TCOC in Category C from 0-2 feet bgs. It is noted, as previously discussed, that the Category C classification is a result of deeper soil extrapolation, based upon the cross-sections; the 0-0.5 foot bgs interval is considered Category B based upon analytical data. As such, only this portion of DU21 is included in Figure 19 for immediate action; however, in the instance of this portion of DU21, it is expected this would be addressed by an EHMP, rather than actual remedial action.

Similarly, DU23, which is adjacent to the bakery building on the Old Mill LLC property, is the location of the property’s septic system. As with DU21, the 0-0.5 foot bgs interval was classified as Category B using analytical data, whereas the deeper extent is inferred to be Category C by extrapolation based upon the cross-sections. The vicinity of DU23 is heavily landscaped with tall foliage, generally limiting access. Further, the area of DU23 is the location of the Old Mill LLC property’s septic system. Due to the presence of the septic system, and the landscaped nature of this location, as well as the Category B soil on the surface, it is expected that any potential immediate actions in this vicinity would be limited, generally to any future septic system repair or upgrade activities. It is expected that this area would be addressed by an EHMP, rather than any potential physical remedial actions in the near term.

10 Immediate Remedial Action Objectives

10.1 Immediate Remedial Action Objectives

The HEER Office conducted a review of the site investigation findings, which included the sample analytical results, locations of samples with screening criteria exceedances, updated EHE, and focused evaluation of TCO. The HEER Office considered potentially applicable technologies to address the impacted soil at the site with an emphasis on immediate implementability, given the expedited nature of the site investigation.

Based on their review and evaluation, the HEER Office has developed the following objectives for the proposed immediate remedial action at the site:

Thompson and Foley Properties:

- For these properties, the yards will be restored to unrestricted residential use in the top two feet of soil in open yard areas, through physical removal of soils to 2 feet bgs (if possible). Long-term management will be required for all soils below hardscape or impervious surfaces (e.g., below buildings, driveways and sidewalk areas), as these soils are presumed to be contaminated. Soils in open yard areas below 2 feet bgs will be demarcated with a barrier material and managed in-place. The following conditions pertain to soil disposal from the yards:
 - Soils have been characterized in-place, and do not fail the TCLP screening criteria for arsenic. The characterization data is adequate for landfill determination and does not require additional sampling after excavation. The Kauai County Engineer has agreed to provide confirmation of this agreement upon review of the currently available site data.
 - Since soils have not been determined to be hazardous waste, soils may go to a solid waste landfill, pending the County of Kauai's approval.
 - Soils could be managed on-site within the adjacent commercial property boundaries, for example, within a constructed cap and drainage system.
 - The Thompson and Foley properties will be subject to deed restrictions, environmental covenants (under Universal Environmental Covenant Act [UECA]), and implementation of property-specific EHMPs.

Old Mill LLC Property:

- This property will be restored to commercial/industrial use, with contaminated soils left in-place and managed under a permanent cap structure that will include a stormwater drainage system to replace the existing Drainage Swale (DU10 and DU11). Long-term management will be required for all soils below hardscape or impervious surfaces, including the multi-use building, parking lot, and sidewalk areas, as these soils are presumed to be contaminated.

- All exposed soils at the Old Mill LLC property have been characterized in-place at the 0-0.5 feet interval, and the property boundaries have been characterized at depth to the extent of contamination. Exposed soils in the Drainage Swale area (DU10) have been characterized to 10 feet bgs. Within DU10, the 0.5-2 feet bgs depth interval, and the 7-10 feet bgs depth interval, both fail the TCLP screening criteria for arsenic, and the 0-0.5 feet bgs depth interval is presumed to fail, based on the total arsenic concentration.
- Soils that do not fail TCLP may be disposed of at a solid waste landfill. Soils that do not exceed Tier II commercial/industrial EALs for any contaminant may be used as daily cover at the Kekaha Landfill, located in Kekaha, on the Island of Kauai.
- Soils that fail TCLP will be managed entirely on-site to the extent practicable. Soils that are removed from the site and fail TCLP would require disposal at a RCRA landfill.
- Soils can be managed on-site in one of four ways, without triggering a RCRA hazardous waste determination. Excavation is allowed for the purpose of treatment or containment, if the work takes place entirely on-site.
 1. Excavate and place under cap: This involves excavating the impacted soil, consolidating the impacted soil, followed by placement of a clean cover cap over the impacted soil. This is acceptable if the soils are not containerized or removed from the site, which would trigger a RCRA hazardous waste determination. Deed restrictions will be implemented for the property.
 2. Treat soil in-situ: This involves immobilizing the contaminants through in-situ soil treatment technologies, followed by placement of a clean cover cap over the treated soil. Deed restrictions will be implemented for the purpose of treating the soil at the property.
 3. Excavate, treat soil ex-situ, and place soil back in the ground: This involves excavating the impacted soil, immobilizing the contaminants through ex-situ soil treatment technologies, followed by placing the treated soil back in the ground. No deed restrictions will be required if the treated soil has contaminant concentration below the residential cleanup standards.
 4. Excavate, treat soil ex-situ to concentrations below TCLP screening criteria, and then take treated soil to a solid waste landfill: This will require compliance with the landfill's permit conditions.
- The Old Mill LLC property will be subject to deed restriction, environmental covenant, and implementation of property-specific EHMP.

11 Summary and Recommendations

Tetra Tech completed a site investigation at the PMA of the former Kilauea Sugar Company Ltd. Mill, along Aalona Street and Oka Street in Kilauea, on Kauai. The site was formerly part of a sugarcane mill operation that operated from approximately 1877 to 1972. The site currently has 18 different properties in a residential setting, and consists predominantly of single-family homes. The HEER Office developed the scope of work and directed the site investigation.

The site investigation was to further characterize and delineate the extent and magnitude of COPC associated with the portion of the site defined as the Core PMA. The investigation focused on delineating the vertical and horizontal extent of identified COPC in and next to the Core PMA. Pending the results of the site investigation, the HEER Office will evaluate options for implementing a remedial action to reduce or eliminate exposure pathways to the impacted soil.

11.1 Field Activities

The field activities for the investigation occurred in July and August 2011. During the course of the investigation, 96 soil borings were advanced throughout the 26 DUs at the site. The DUs were grouped into five distinct site areas (Areas 1 to 5). Tetra Tech collected 118 soil samples from the 26 DUs. The DU samples were submitted for analysis of COPC that were grouped into four categories: primary COPC, full PMA COPC, waste categorization COPC, and other COPC. The specific COPC that each sample was analyzed for depended on the DU and the layer from which the sample was collected.

11.2 Findings

The analytical results indicated that several soil samples had one or more COPC that exceeded the applicable HEER Office Tier I EALs. At least one COPC in soil samples from 23 of the 26 DUs exceeded the applicable HEER Office Tier I EALs. The only DUs without any COPC exceedances were DU6, DU7, and DU9. The summary count of 23 of 26 DUs included total arsenic and lead COPC exceedances. The HEER Office uses bioaccessible arsenic data rather than total arsenic data for human health risk evaluation, and lead is not considered to be related to the PMA and is beyond the scope of this site investigation. As such, the summary count of DUs with COPC exceedances (excluding total arsenic and lead) is 12 of 26 DUs.

TEQ dioxins and arsenic (including total arsenic and bioaccessible arsenic) were the two most prevalent COPC with exceedances. Based on the analytical results from, the Core PMA (the primary area of impact) was confirmed to be composed of three properties: the Old Mill LLC, Thompson, and Foley properties. The Core PMA included DU10 to DU17 in Area 2, with DU10 having the most significant COPC impact.

After the initial screening against the HEER Office Tier I EALs, the TEQ dioxins and arsenic analytical results were compared to the HEER Office Tier II EAL Risk Categories. These two COPC were selected because the HEER Office has developed specific Tier II EALs for them. A brief summary of the findings of the Tier II EAL Risk Category screening for each area are presented below.

11.2.1 Area 1 (Perimeter of Core PMA) Summary

The majority of the Area 1 DUs (DU1 through DU9), had minimal TEQ dioxins and arsenic impacts.

- The most impacted soils in DU1, DU3, DU4, and DU6 through DU9 were classified as Category B soils, including readily accessible soil (0-2 feet bgs).
- The most impacted soils in DU2 and DU5 were classified as Category C soils. However, the Category C soils in each of these DUs was located at depths below 2 feet bgs. Readily accessible soil (0-2 feet bgs) in DU2 and DU5 is considered Category B.

11.2.2 Area 2 (Core PMA) Summary

Area 2 is comprised of eight (8) DUs located off of Aalona Street (DU10 through DU17), and two (2) off-site DUs (DU18 and DU19) which are located at the off-site West Drainage Outfall.

The eight (8) Area 2 DUs located off of Aalona Street, including DU10 through DU17, had the most significant TEQ dioxins and arsenic impacts compared to any other site area.

- The most impacted soils in DU10 at the Old Mill LLC property were classified as Category D soils, with Category D soils present in the readily accessible soil (0-2 feet bgs). DU10 is currently a drainage swale.
- The most impacted soils in DU11 at the Old LLC property were classified as Category C soils, with Category C soils present in the readily accessible soil (0-2 feet bgs). DU11 is currently a drainage swale.
- The most impacted soils in DU12, DU14, and DU15 at the Thompson property were classified as Category D soils, with Category C soils present in the readily accessible soil (0-2 feet bgs). The Thompson property is occupied by a single-family residence.
- The most impacted soils in DU13 at the Thompson property were classified as Category C soils, with Category C soils present in the readily accessible soil (0-2 feet bgs). As indicated above, the Thompson property is occupied by a single-family residence.
- The most impacted soils in DU16 and DU17 at the Foley property were classified as Category C soils, with Category C soils present in the readily accessible soil (0-2 feet bgs). The Foley property is occupied by a single-family residence.

The two (2) off-site DUs (DU18 and DU19) located at the West Drainage Outfall exhibited minimal TEQ dioxins and arsenic impacts.

- The most impacted soils in DU18 and DU19 were classified as Category B soils. Sampling in these DUs was limited to the surface (0-0.5 feet bgs) interval.

11.2.3 Area 3 (Potentially Impacted Exposed Surface Soils at Old Mill LLC Property) Summary

All of the Area 3 DUs had minimal TEQ dioxins and arsenic impacts in the interval sampled (0-0.5 foot bgs).

- The most impacted soils which were sampled in DU21 to DU23 were classified as Category B. Sampling in these DUs was limited to the surface (0-0.5 feet bgs) interval.
- Based on extrapolated data using Cross-Sections C-C' and D-D', the following additional interpretations are noted for soil below the 0-0.5 foot bgs interval:
 - The portion of DU21 which extends along Oka Street is underlain by Category A soils at depth (below 6 inches), based upon analytical data from DU9.
 - The portion of DU21 which extends along Aalona Street is assumed to be underlain by Category C soils at depth (below 6 inches). This is currently an area between Aalona Street and the sidewalk comprised of lawn and small trees, with a boulder perimeter.
 - DU22 (which abuts DU10) is assumed to be underlain immediately by Category D soils at depth (below 6 inches). This is an exposed soil area used for parking.
 - DU23 (adjacent to the bakery building) is assumed to be underlain by Category C soils at depth (below 6 inches). However, it is further noted that this is the location of the Old Mill LLC septic system, and the area is landscaped, with a perimeter of tall bushes.

11.2.4 Area 4 (Surrounding Residential Properties Across Oka Street) Summary

Both of the Area 4 DUs, located across Oka Street from the site, had minimal TEQ dioxins and arsenic impacts.

- The most impacted soils in DU24 and DU25 were classified as Category B soils. Sampling in these DUs was limited to the surface (0-0.5 feet bgs) interval. Both DU24 and DU25 are occupied by single-family residences.

11.2.5 Area 5 (HHA Property Debris Pit) Summary

Both of the Area 5 DUs had moderate TEQ dioxins and arsenic impacts.

- The most impacted soils in DU26 and DU27 were classified as Category C soils. Sampling in these DUs during the August 2010 investigation was limited to the depth interval of approximately 3-4.5 feet bgs.

However, samples collected by the DOH in these DUs indicated that surface soil in the 0-0.5 foot bgs interval was considered Category B.

The HHA property is occupied by a public housing development.

11.3 Updated EHE Summary

The updated EHE indicated that there were direct exposure and gross contamination soil hazards associated with the impacted soil at the site. Potential vapor intrusion, terrestrial ecology through runoff, and leaching soil hazards were eliminated for the site, based on site conditions.

A focused evaluation was conducted for two selected TCOC, TEQ dioxins and arsenic, because they were the primary drivers for potential human health risks, and were the two most prevalent COPC at the site. The evaluation focused on TCOC impacts in the readily accessible soil (0-2 feet bgs).

During the evaluation, the degree of impacts for the TCOC in each DU with respect to the applicable HEER Office Tier II EAL Risk Categories was assessed. The evaluation concluded the following:

- In Area 2, the readily accessible soil (0-2 feet bgs) in DU10 through DU17 was identified to be moderately to heavily impacted, and thereby classified as Category C and D. These findings warrant further action in order to mitigate exposure pathways to the impacted soil identified in DU10 through DU17.
- In Area 3, the readily accessible soil (0-2 feet bgs) in DU22, DU23, and the portion of DU21 along Aalona Street was identified by extrapolation to be moderately to heavily impacted (below the sampled depth of 0-0.5 feet bgs) and thereby classified as Category C and D.

It is noted, however that the 0-0.5 foot bgs interval in all three DUs was classified as Category B based upon analytical data. Further action for these DUs would be comprised of an EHMP rather than mitigative action based upon use and accessibility.

- The readily accessible soil (0-2 feet bgs) in Areas 1, 4, and 5, and the West Drainage Outfall portion of Area 2 was identified to be only minimally impacted, and thereby classified as Category B.

11.4 Pending Actions

- The HEER Office has proposed to implement an Immediate Remedial Action at the Core PMA (Thompson property, Foley property, and Old Mill LLC property [drainage swale portion and abutting gravel parking areas only]) based on their review and evaluation of the site investigation findings.
- The immediate remedial action will focus on mitigating exposure pathways to the TCOC-impacted readily accessible soil (0-2 feet bgs) in DU10 through DU17, and managing potential exposure pathways related to DU21 through DU23.
- Additional actions related to the immediate remedial action will include the following:
 - A fact sheet will be prepared that summarizes the key findings of the site investigation in a user-friendly format. The fact sheet will be sent to residents at the site neighborhood, including all properties where samples were collected.
 - A detailed letter will be prepared and sent to each of the three properties to be included in the proposed Immediate Remedial Action (Thompson, Foley, and Old Mill LLC properties). The letter

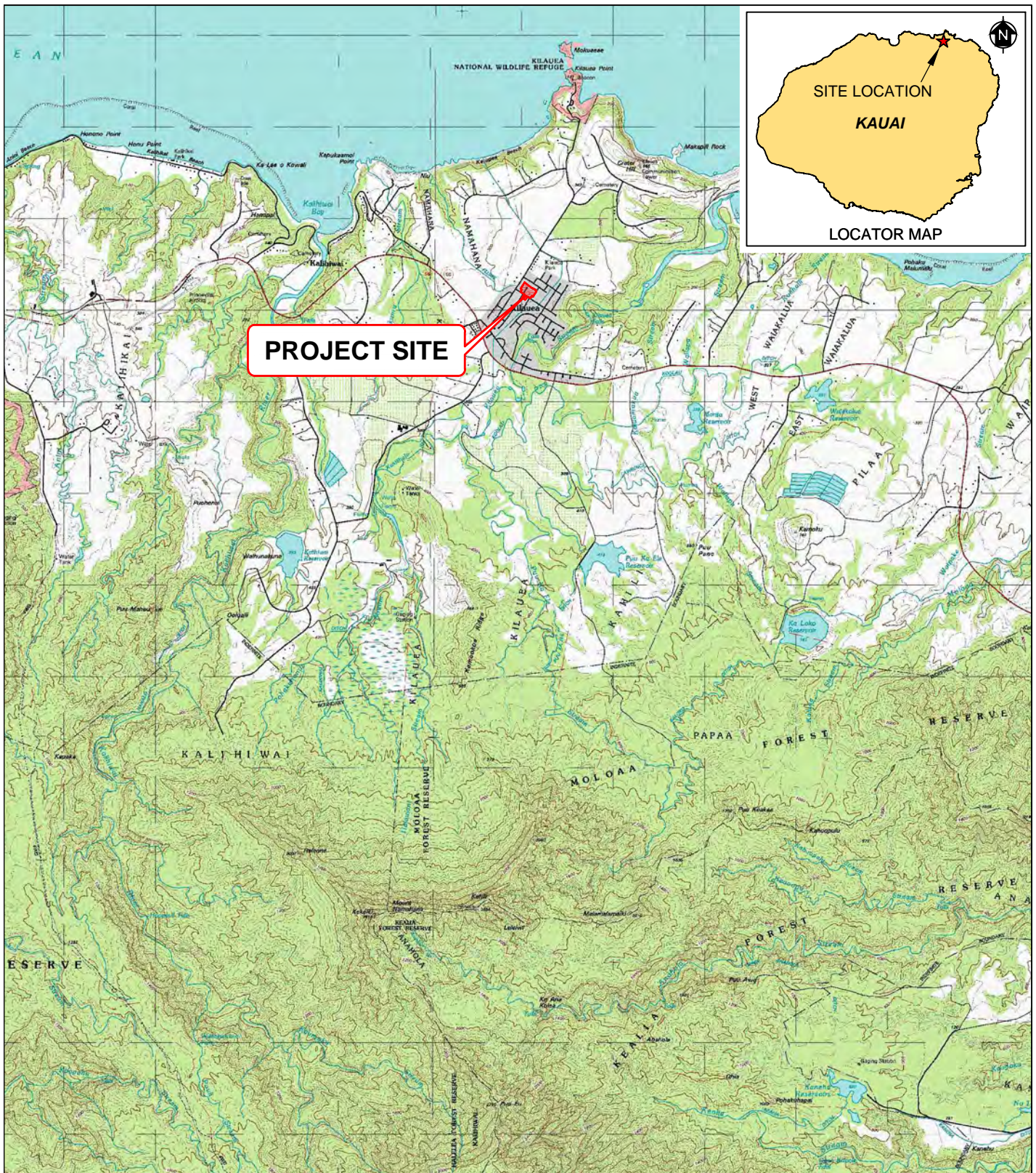
will identify the site-specific findings for each of the properties, and will discuss the proposed immediate remedial actions that will be conducted.

- Property-specific EHMPs will be prepared for any property or area at the site with residual contaminated or impacted soils. The EHMPs will outline future land use guidelines and restrictions, including applicable engineering controls and institutional controls. The EHMPs should be updated as site conditions change, including after the Immediate Remedial Action is completed.
- The Thompson, Foley, and Old Mill LLC properties will be subject to deed restrictions, environmental covenants, and implementation of property-specific EHMPs.

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TOPOGRAPHIC MAP SOURCE:
 USDA/NRCS DIGITAL RASTER GRAPHIC (2000)



2,500 0 2,500 5,000
 SCALE IN FEET

Kilauea Sugar PMA Site Investigation
 Kilauea, Hawaii

FIGURE 1
SITE LOCATION MAP





Figure 2_Site Plan.dwg - DWH - 05/18/2011



Figure 3_Site Plan With Property Ownership.dwg - DWH - 05/18/2011

	CATCH BASIN
	CULVERT
	HEADWALL
	MANHOLE
	COUNTY OF KAUAI TMK PARCEL LAYER 2009

35 0 35 70
 SCALE IN FEET

Kilauea Sugar PMA Site Investigation
 Kilauea, Hawaii

FIGURE 3
 SITE PLAN WITH PROPERTY OWNERSHIP

TETRA TECH EM, INC.

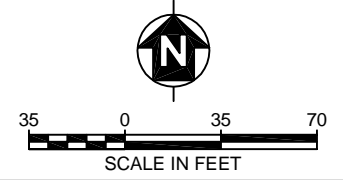


Figure 6_Historical Aerial Photograph.dwg - DWH - 04/13/2011



TABLE LEGEND
 ALL RESULTS ARE SHOWN IN PARTS PER MILLION (PPM) EXCEPT DIOXINS. DIOXIN RESULTS ARE IN PARTS PER TRILLION (PPT).
 * TRIPLICATE SAMPLE COLLECTED
 ↓ RESULTS BELOW HEER OFFICE TIER 1 EALS
 As ARSENIC
 Bio As BIOACCESSIBLE ARSENIC
 Hg MERCURY
 NA NOT ANALYZED
 Pb LEAD
 PCP PENTACHLOROPHENOL
 TEQ TOXICITY EQUIVALENT FOR DIOXINS
 LAYER A (0-0.5 ft bgs)
 LAYER B (0.5-2 ft bgs)
 LAYER C (2-4 ft bgs)
 LAYER D (4-7 ft bgs)
 LAYER E (7-10 ft bgs)
 DEBRIS LAYER (4-6 ft bgs) AS IDENTIFIED BY KAUAI ENVIRONMENTAL
 ft bgs FEET BELOW GROUND SURFACE

LEGEND
 HEER OFFICE AUGUST 2010 SAMPLING EVENT (8 SAMPLES FROM 6 DUs)
 HEER OFFICE DECEMBER 2010 SAMPLING EVENT (8 SAMPLES FROM 8 DUs)
 HEER OFFICE MARCH 2011 SAMPLING EVENT (2 SAMPLES FROM 2 DUs)
 KAUAI ENVIRONMENTAL HHA PROPERTY DEBRIS PIT JANUARY 2011 SAMPLING EVENT (1 SAMPLE FROM 1 DU)
 PROJECT SITE
 COUNTY OF KAUAI TMK PARCEL LAYER 2009



Kilauea Sugar PMA Site Investigation
 Kilauea, Hawaii

FIGURE 5
 PREVIOUS SAMPLING EVENTS
 ANALYTICAL RESULTS



HEER Office Tier II EAL Risk Category ¹	TEQ Dioxins (ppt)
A - Background	< 20
B - Minimally Impacted	≥ 20 but ≤ 240
C - Moderately Impacted	> 240 but ≤ 1500
D - Heavily Impacted	> 1500

NOTES:
1 = July 2010 HEER Office Tier II EALs

HEER Office Tier II EAL Risk Category ²	Total Arsenic / Bioaccessible Arsenic (ppm)
A - Background	< 24 Total Arsenic
B - Minimally Impacted	> 24 Total Arsenic and ≤ 23 Bioaccessible Arsenic
C - Moderately Impacted	> 23 but ≤ 95 Bioaccessible Arsenic
D - Heavily Impacted	> 95 Bioaccessible Arsenic

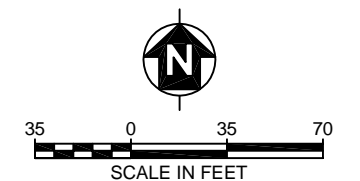
NOTES:
1 = Bioaccessible arsenic concentration was estimated by calculating 10% of the total arsenic concentration. This was only done for samples where bioaccessible arsenic was not analyzed.
2 = Fall 2011 HEER Office Tier II EALs



LEGEND

	PROJECT SITE
	COUNTY OF KAUAI TMK PARCEL LAYER 2009
	CATEGORY A SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC
	CATEGORY B SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC
	CATEGORY C SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC
	CATEGORY D SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC

NOTES
1) TCOC - TARGETED CONTAMINANTS OF CONCERN (TEQ DIOXINS AND ARSENIC) LAYER A (0-0.5 FT BGS).
2) THIS FIGURE ONLY PRESENTS THE IDENTIFIED TCOC ANALYTICAL DATA FOR THE LAYER A SOIL DEPTH INTERVAL AND FOR THE IDENTIFIED DEBRIS LAYER (4-6 FT BGS) FOR DU/SAMPLE ID KBV-01.
3) THE HIGHEST RISK CATEGORY IDENTIFIED AMONG ALL SAMPLES FOR A GIVEN DU/SAMPLE ID WAS THE RISK CATEGORY SELECTED FOR THAT DU/SAMPLE ID IN THIS FIGURE, IN AN EFFORT TO PRESENT THE MOST CONSERVATIVE SCENARIO.



Kilauea Sugar PMA Site Investigation
Kilauea, Hawaii

FIGURE 6
EXTENT OF TCOC
IN LAYER A (0-0.5 ft bgs)

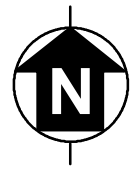




Date: 2/9/2012 User: jpeil,peters Path: S:\CADD\SI\1902\014M001\mxd\Kilauea\SugarPMA_7.mxd

LEGEND

- Flume - West Drainage Outfall
- TMK Parcel Boundary
- Decision Unit



Kilauea Sugar PMA Site Investigation
Kilauea, Hawaii

FIGURE 8
SITE PLAN FOR DU18-DU19



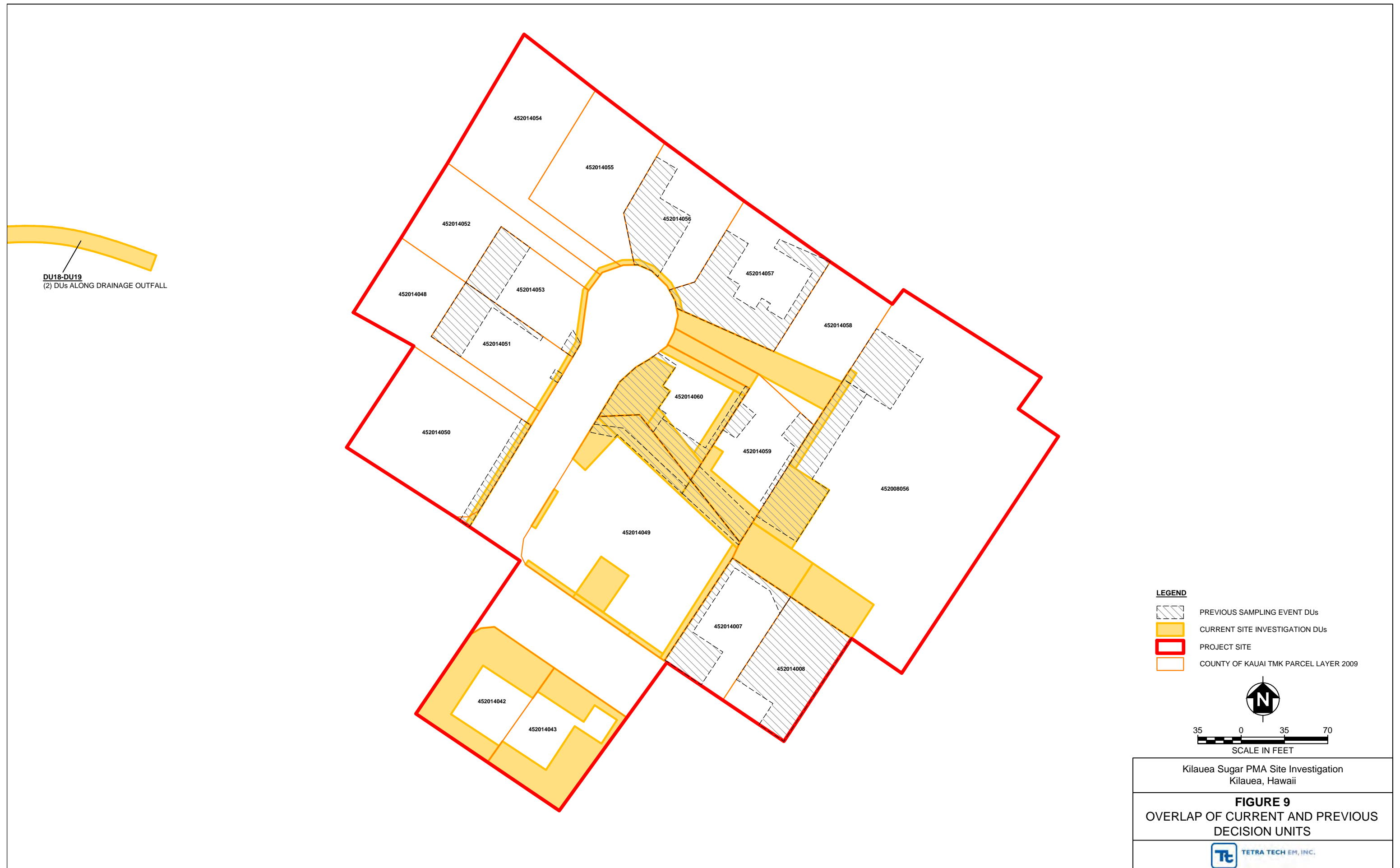


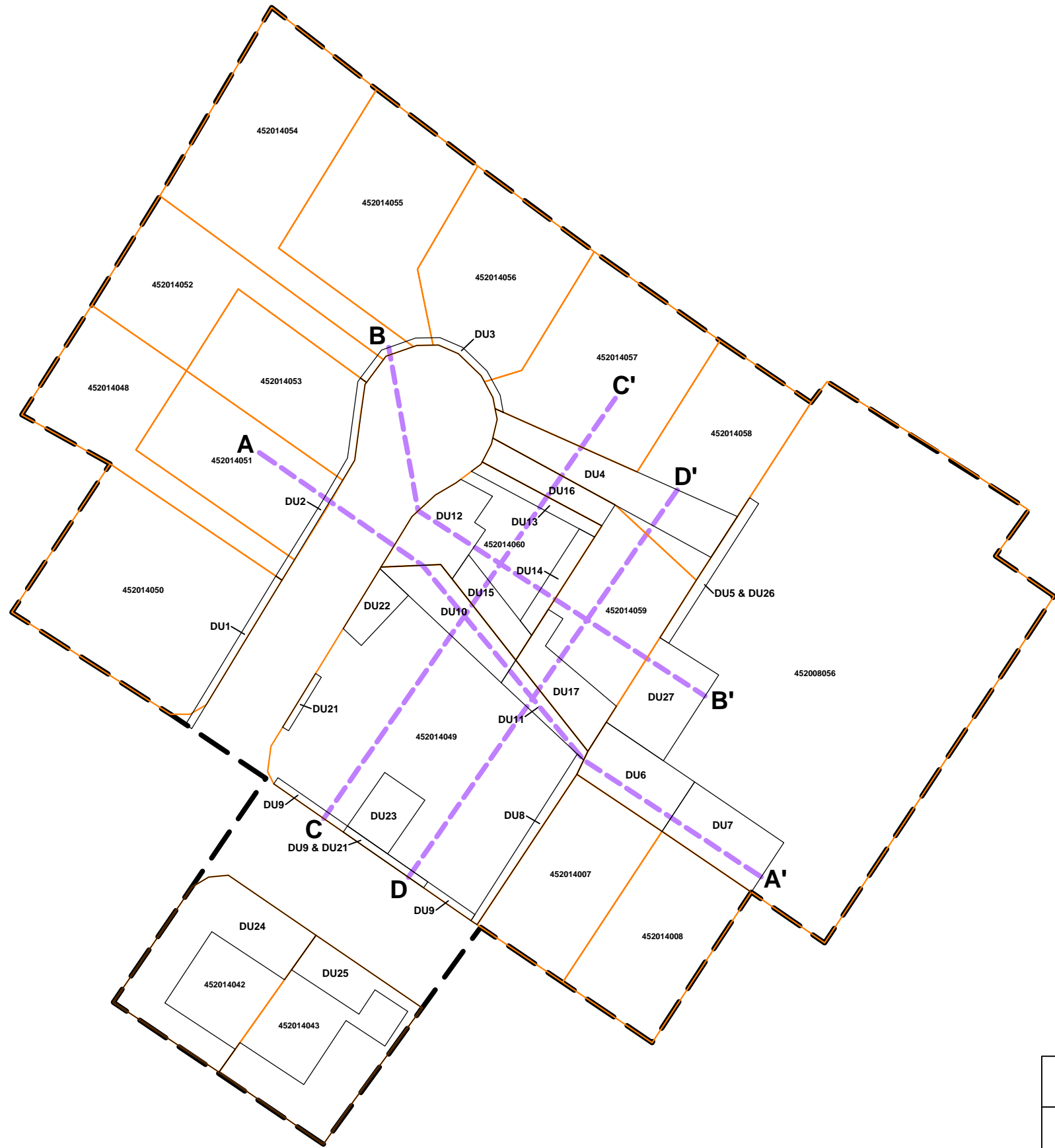


Figure 10_Detected Concentrations_Areas 1-3-4.dwg - DWH - 03/06/2012






Figure 11_Detected Concentrations_Areas 2-5.dwg - DWH - 03/05/2012

DU18-DU19
 (2) DUs ALONG DRAINAGE OUTFALL

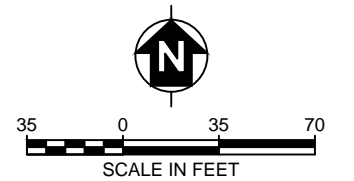


LEGEND

-  DU BOUNDARY
-  PROJECT SITE
-  COUNTY OF KAUAI TMK PARCEL LAYER 2009

NOTES

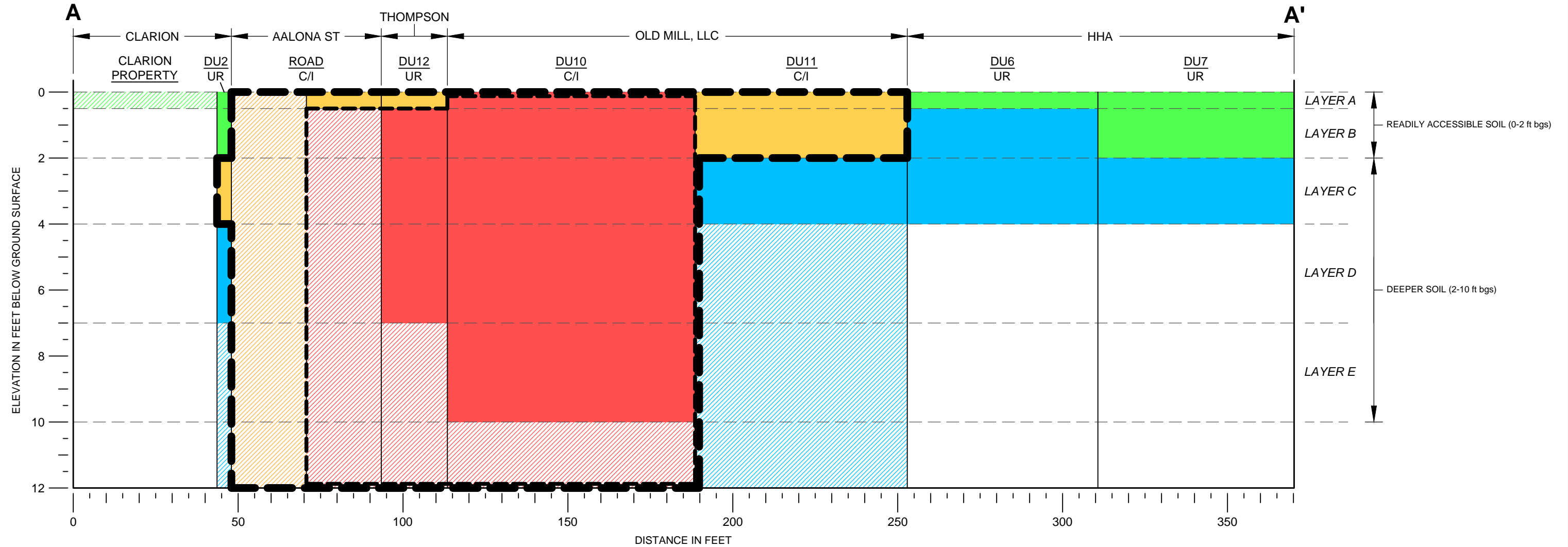
- 1) THE CROSS SECTIONS ONLY SHOW TARGETED CONTAMINANTS OF CONCERN (TEQ DIOXINS AND BIOACCESSIBLE ARSENIC) ANALYTICAL DATA.
- 2) THE HIGHEST RISK CATEGORY IDENTIFIED AMONG ALL SAMPLES FOR A GIVEN LAYER WAS THE RISK CATEGORY SELECTED FOR THAT LAYER IN THE CROSS SECTIONS.



Kilauea Sugar PMA Site Investigation
 Kilauea, Hawaii

FIGURE 12
 CROSS SECTION LOCATIONS





LEGEND


UR	UNRESTRICTED LAND USE
C/I	COMMERCIAL/INDUSTRIAL LAND USE
ft bgs	FEET BELOW GROUND SURFACE
--- (dashed line)	EXTENT OF CATEGORY D SOIL
--- (thick dashed line)	EXTENT OF CATEGORY C+D SOIL
Blue box	CATEGORY A SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (CONFIRMED BASED ON SAMPLE DATA)
Blue hatched box	CATEGORY A SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (EXTRAPOLATED BASED ON SAMPLE DATA FROM SURROUNDING AREAS)
Green box	CATEGORY B SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (CONFIRMED BASED ON SAMPLE DATA)
Green hatched box	CATEGORY B SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (EXTRAPOLATED BASED ON SAMPLE DATA FROM SURROUNDING AREAS)
Yellow box	CATEGORY C SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (CONFIRMED BASED ON SAMPLE DATA)
Yellow hatched box	CATEGORY C SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (EXTRAPOLATED BASED ON SAMPLE DATA FROM SURROUNDING AREAS)
Red box	CATEGORY D SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (CONFIRMED BASED ON SAMPLE DATA)
Red hatched box	CATEGORY D SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (EXTRAPOLATED BASED ON SAMPLE DATA FROM SURROUNDING AREAS)

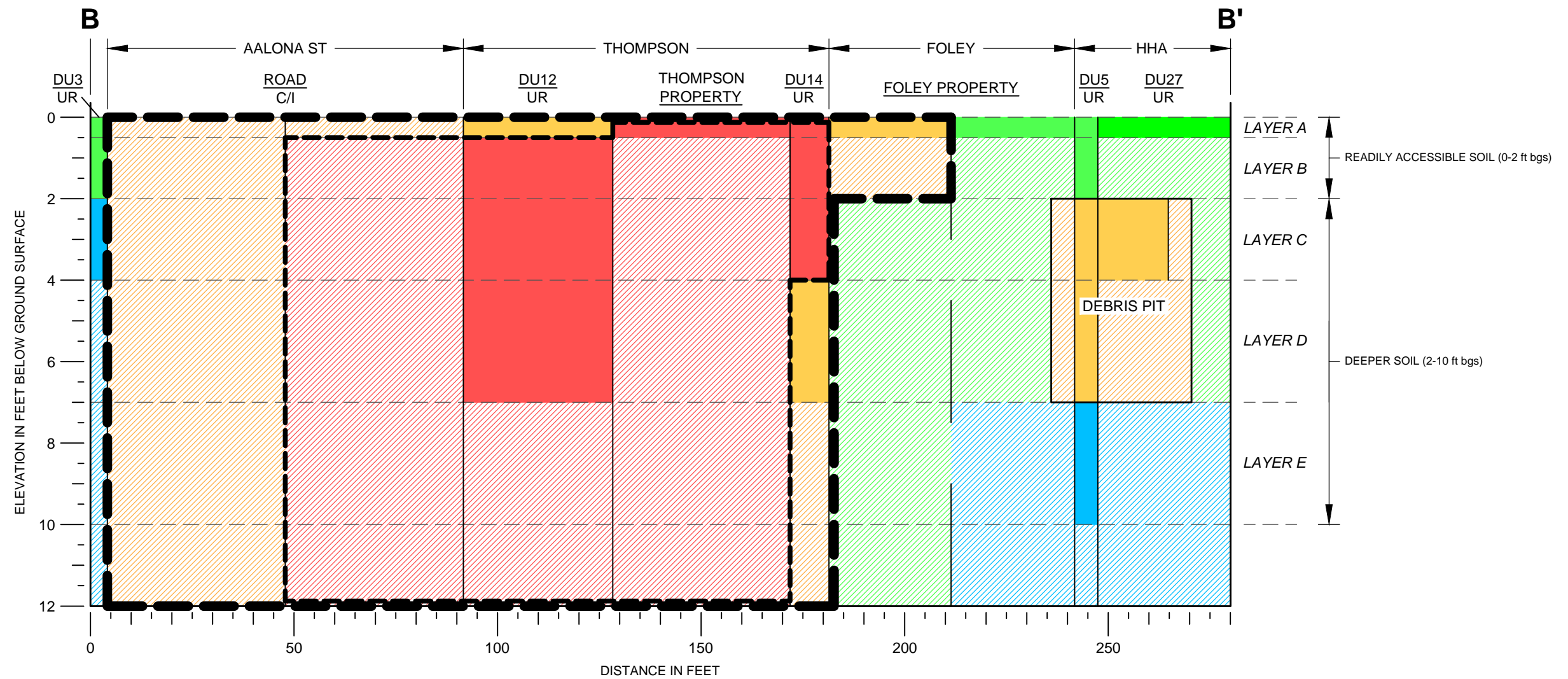
NOTES

- 1) THE CROSS SECTIONS ONLY SHOW TARGETED CONTAMINANTS OF CONCERN (TEQ DIOXINS AND BIOACCESSIBLE ARSENIC) ANALYTICAL DATA.
- 2) THE HIGHEST RISK CATEGORY IDENTIFIED AMONG ALL SAMPLES FOR A GIVEN LAYER WAS THE RISK CATEGORY SELECTED FOR THAT LAYER IN THE CROSS SECTIONS.
- 3) EXTRAPOLATED AREAS TO BE INCLUDED IN ENVIRONMENTAL HAZARD MANAGEMENT PLANS UNTIL SUCH TIME THAT FUTURE DATA CONFIRMS THE ABSENCE OF SIGNIFICANT CONTAMINATION IN THESE AREAS.

Kilauea Sugar PMA Site Investigation
Kilauea, Hawaii

FIGURE 13
CROSS SECTION A-A'

 TETRA TECH EM, INC.




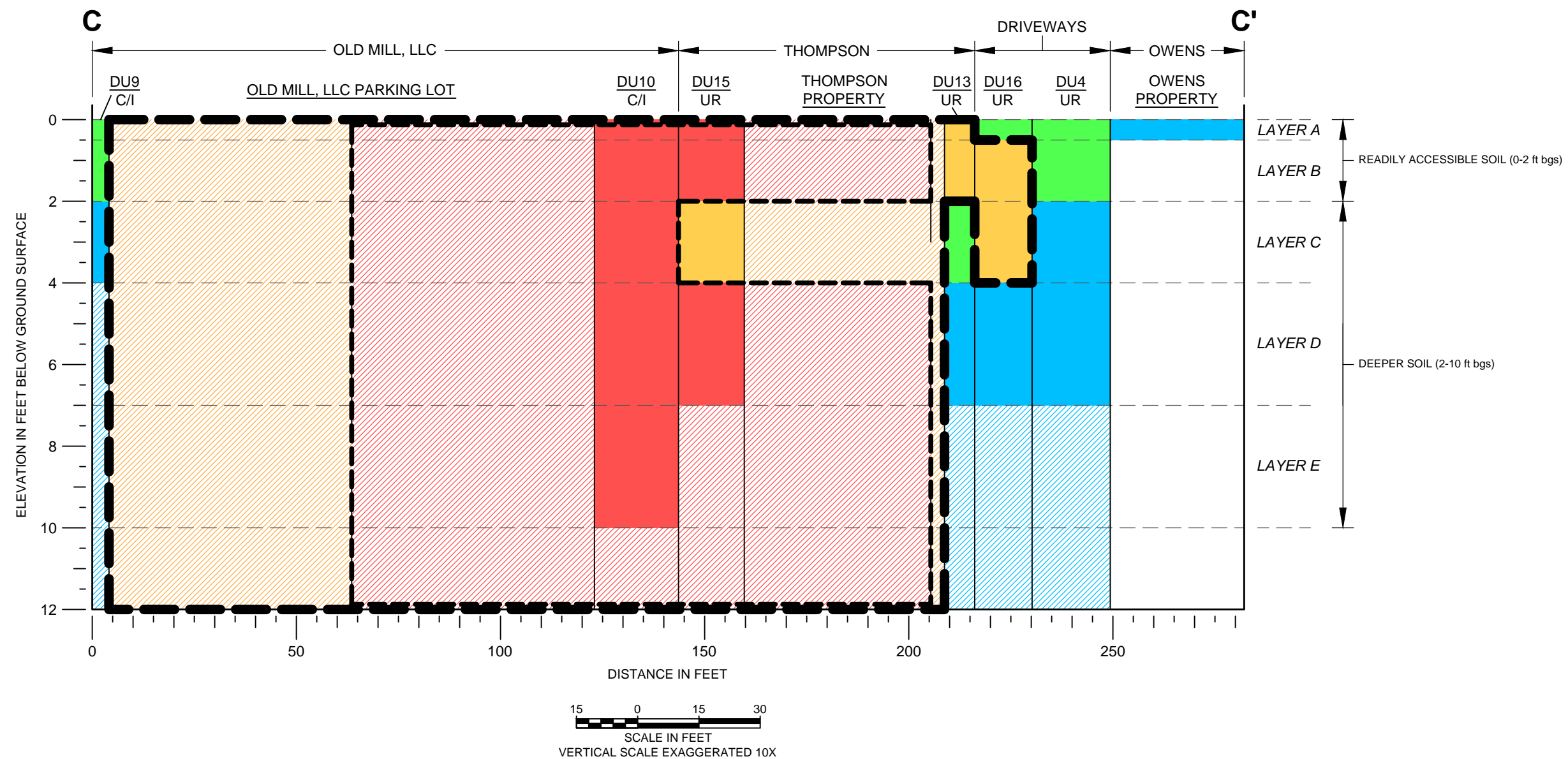
- LEGEND**
- UR UNRESTRICTED LAND USE
 - C/I COMMERCIAL/INDUSTRIAL LAND USE
 - ft bgs FEET BELOW GROUND SURFACE
 - EXTENT OF CATEGORY D SOIL
 - EXTENT OF CATEGORY C+D SOIL
 - [Blue Box] CATEGORY A SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (CONFIRMED BASED ON SAMPLE DATA)
 - [Light Blue Box] CATEGORY A SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (EXTRAPOLATED BASED ON SAMPLE DATA FROM SURROUNDING AREAS)
 - [Green Box] CATEGORY B SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (CONFIRMED BASED ON SAMPLE DATA)
 - [Light Green Box] CATEGORY B SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (EXTRAPOLATED BASED ON SAMPLE DATA FROM SURROUNDING AREAS)
 - [Yellow Box] CATEGORY C SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (CONFIRMED BASED ON SAMPLE DATA)
 - [Light Yellow Box] CATEGORY C SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (EXTRAPOLATED BASED ON SAMPLE DATA FROM SURROUNDING AREAS)
 - [Red Box] CATEGORY D SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (CONFIRMED BASED ON SAMPLE DATA)
 - [Light Red Box] CATEGORY D SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (EXTRAPOLATED BASED ON SAMPLE DATA FROM SURROUNDING AREAS)

- NOTES**
- 1) THE CROSS SECTIONS ONLY SHOW TARGETED CONTAMINANTS OF CONCERN (TEQ DIOXINS AND BIOACCESSIBLE ARSENIC) ANALYTICAL DATA.
 - 2) THE HIGHEST RISK CATEGORY IDENTIFIED AMONG ALL SAMPLES FOR A GIVEN LAYER WAS THE RISK CATEGORY SELECTED FOR THAT LAYER IN THE CROSS SECTIONS.
 - 3) EXTRAPOLATED AREAS TO BE INCLUDED IN ENVIRONMENTAL HAZARD MANAGEMENT PLANS UNTIL SUCH TIME THAT FUTURE DATA CONFIRMS THE ABSENCE OF SIGNIFICANT CONTAMINATION IN THESE AREAS.

Kilauea Sugar PMA Site Investigation
Kilauea, Hawaii

FIGURE 14
CROSS SECTION B-B'

 TETRA TECH EM, INC.



LEGEND

- UR UNRESTRICTED LAND USE
- C/I COMMERCIAL/INDUSTRIAL LAND USE
- ft bgs FEET BELOW GROUND SURFACE
- EXTENT OF CATEGORY D SOIL
- EXTENT OF CATEGORY C+D SOIL
- Category A Soils for TEQ Dioxins or Bioaccessible Arsenic (Confirmed based on sample data)
- Category A Soils for TEQ Dioxins or Bioaccessible Arsenic (Extrapolated based on sample data from surrounding areas)
- Category B Soils for TEQ Dioxins or Bioaccessible Arsenic (Confirmed based on sample data)
- Category B Soils for TEQ Dioxins or Bioaccessible Arsenic (Extrapolated based on sample data from surrounding areas)
- Category C Soils for TEQ Dioxins or Bioaccessible Arsenic (Confirmed based on sample data)
- Category C Soils for TEQ Dioxins or Bioaccessible Arsenic (Extrapolated based on sample data from surrounding areas)
- Category D Soils for TEQ Dioxins or Bioaccessible Arsenic (Confirmed based on sample data)
- Category D Soils for TEQ Dioxins or Bioaccessible Arsenic (Extrapolated based on sample data from surrounding areas)

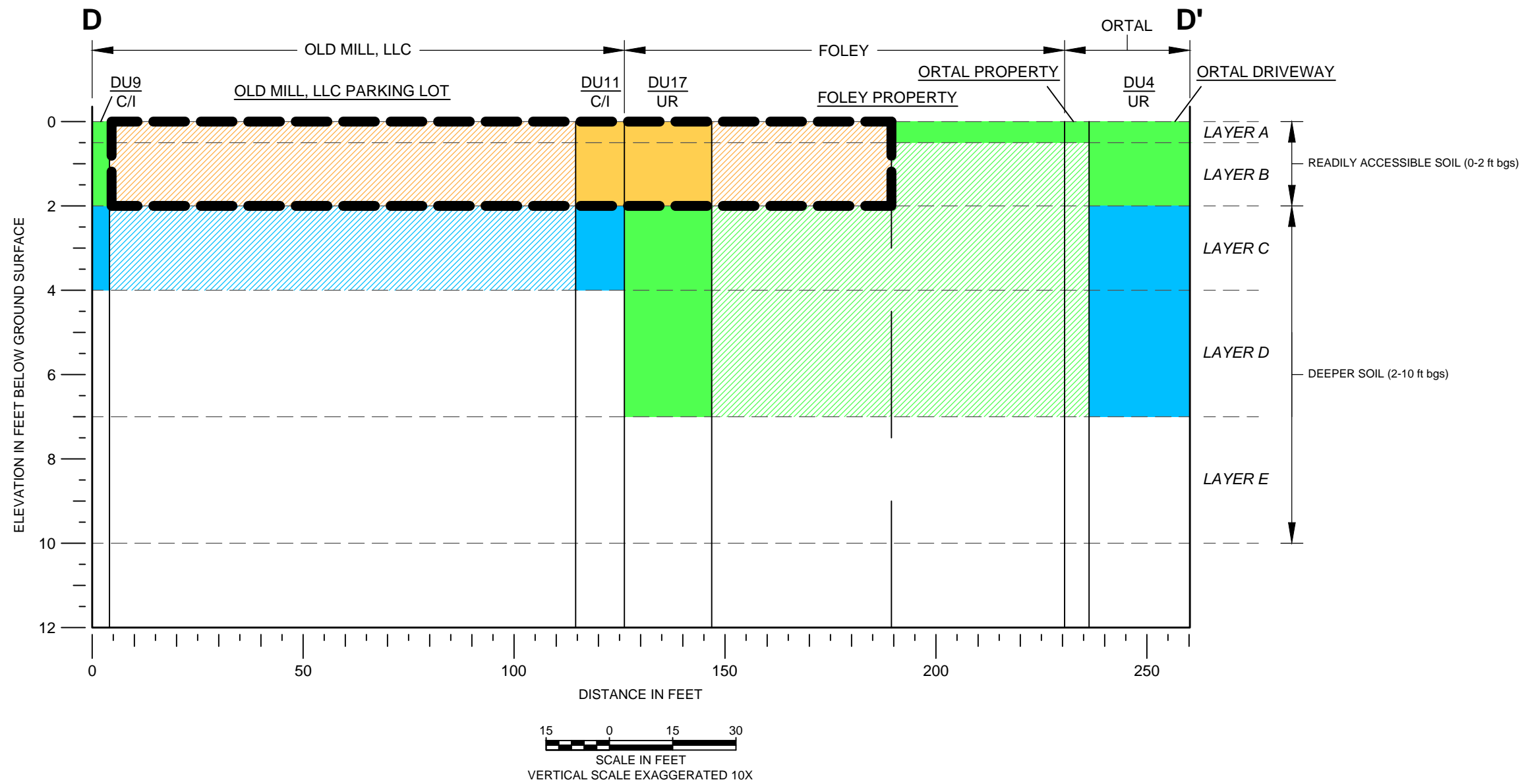
NOTES

- 1) THE CROSS SECTIONS ONLY SHOW TARGETED CONTAMINANTS OF CONCERN (TEQ DIOXINS AND BIOACCESSIBLE ARSENIC) ANALYTICAL DATA.
- 2) THE HIGHEST RISK CATEGORY IDENTIFIED AMONG ALL SAMPLES FOR A GIVEN LAYER WAS THE RISK CATEGORY SELECTED FOR THAT LAYER IN THE CROSS SECTIONS.
- 3) EXTRAPOLATED AREAS TO BE INCLUDED IN ENVIRONMENTAL HAZARD MANAGEMENT PLANS UNTIL SUCH TIME THAT FUTURE DATA CONFIRMS THE ABSENCE OF SIGNIFICANT CONTAMINATION IN THESE AREAS.

Kilauea Sugar PMA Site Investigation
Kilauea, Hawaii

FIGURE 15
CROSS SECTION C-C'





LEGEND

- UR UNRESTRICTED LAND USE
- C/I COMMERCIAL/INDUSTRIAL LAND USE
- ft bgs FEET BELOW GROUND SURFACE
- EXTENT OF CATEGORY D SOIL
- EXTENT OF CATEGORY C+D SOIL
- [Blue Box] CATEGORY A SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (CONFIRMED BASED ON SAMPLE DATA)
- [Blue Hatched Box] CATEGORY A SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (EXTRAPOLATED BASED ON SAMPLE DATA FROM SURROUNDING AREAS)
- [Green Box] CATEGORY B SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (CONFIRMED BASED ON SAMPLE DATA)
- [Green Hatched Box] CATEGORY B SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (EXTRAPOLATED BASED ON SAMPLE DATA FROM SURROUNDING AREAS)
- [Orange Box] CATEGORY C SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (CONFIRMED BASED ON SAMPLE DATA)
- [Orange Hatched Box] CATEGORY C SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (EXTRAPOLATED BASED ON SAMPLE DATA FROM SURROUNDING AREAS)
- [Red Box] CATEGORY D SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (CONFIRMED BASED ON SAMPLE DATA)
- [Red Hatched Box] CATEGORY D SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (EXTRAPOLATED BASED ON SAMPLE DATA FROM SURROUNDING AREAS)

NOTES

- 1) THE CROSS SECTIONS ONLY SHOW TARGETED CONTAMINANTS OF CONCERN (TEQ DIOXINS AND BIOACCESSIBLE ARSENIC) ANALYTICAL DATA.
- 2) THE HIGHEST RISK CATEGORY IDENTIFIED AMONG ALL SAMPLES FOR A GIVEN LAYER WAS THE RISK CATEGORY SELECTED FOR THAT LAYER IN THE CROSS SECTIONS.
- 3) EXTRAPOLATED AREAS TO BE INCLUDED IN ENVIRONMENTAL HAZARD MANAGEMENT PLANS UNTIL SUCH TIME THAT FUTURE DATA CONFIRMS THE ABSENCE OF SIGNIFICANT CONTAMINATION IN THESE AREAS.

Kilauea Sugar PMA Site Investigation
Kilauea, Hawaii

FIGURE 16
CROSS SECTION D-D'

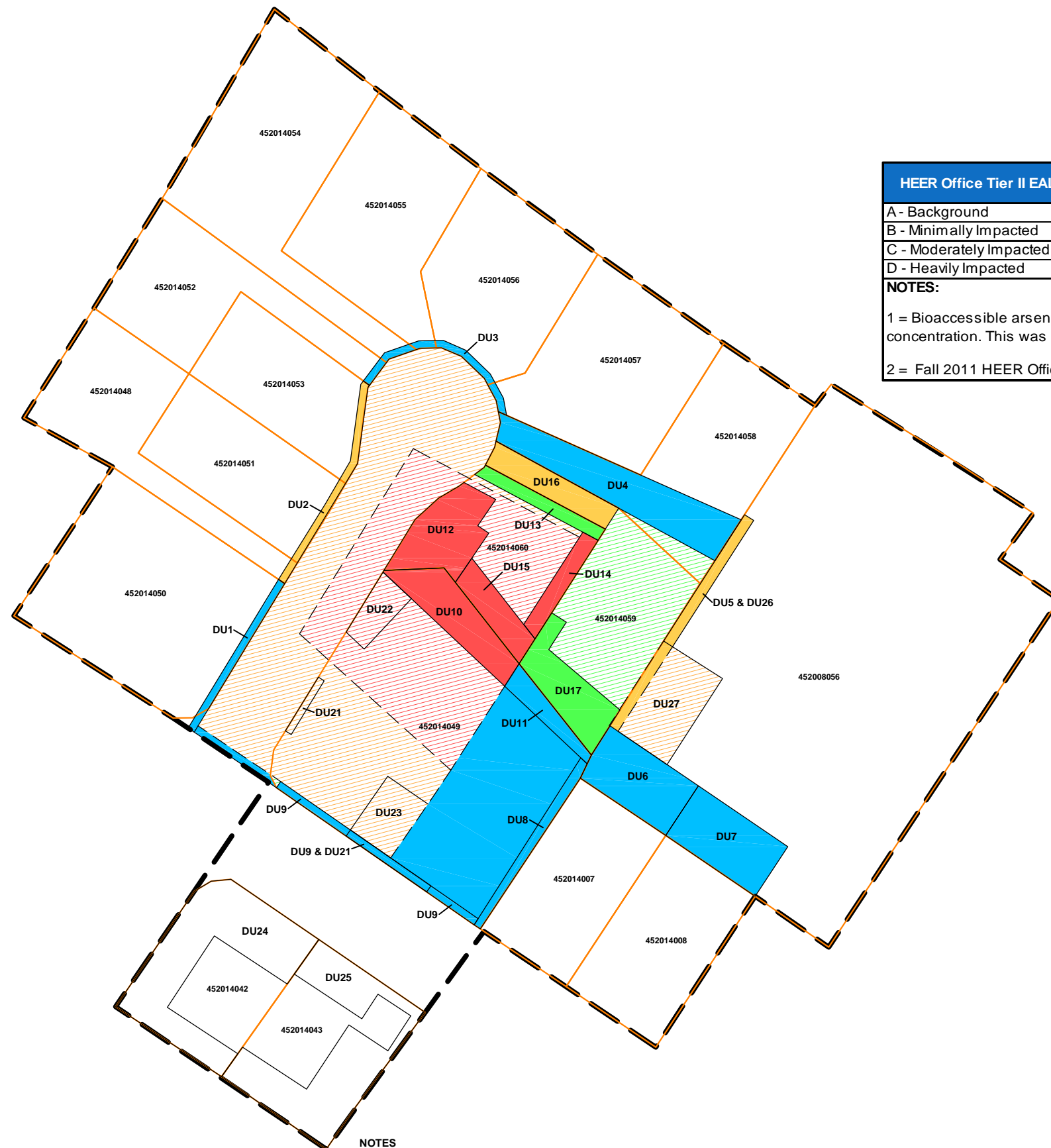


HEER Office Tier II EAL Risk Category ¹	TEQ Dioxins (ppt)
A - Background	< 20
B - Minimally Impacted	≥ 20 but ≤ 240
C - Moderately Impacted	> 240 but ≤ 1500
D - Heavily Impacted	> 1500

NOTES:
1 = July 2010 HEER Office Tier II EALs

HEER Office Tier II EAL Risk Category ²	Total Arsenic / Bioaccessible Arsenic (ppm)
A - Background	< 24 Total Arsenic
B - Minimally Impacted	> 24 Total Arsenic and ≤ 23 Bioaccessible Arsenic
C - Moderately Impacted	> 23 but ≤ 95 Bioaccessible Arsenic
D - Heavily Impacted	> 95 Bioaccessible Arsenic

NOTES:
1 = Bioaccessible arsenic concentration was estimated by calculating 10% of the total arsenic concentration. This was only done for samples where bioaccessible arsenic was not analyzed.
2 = Fall 2011 HEER Office Tier II EALs

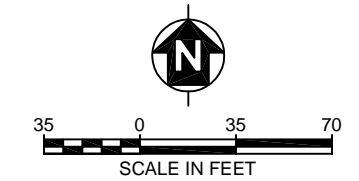


LEGEND

- PROJECT SITE
- COUNTY OF KAUAI TMK PARCEL LAYER 2009
- CATEGORY A SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (CONFIRMED BASED ON SAMPLE DATA)
- CATEGORY A SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (EXTRAPOLATED BASED ON SAMPLE DATA FROM SURROUNDING AREAS)
- CATEGORY B SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (CONFIRMED BASED ON SAMPLE DATA)
- CATEGORY B SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (EXTRAPOLATED BASED ON SAMPLE DATA FROM SURROUNDING AREAS)
- CATEGORY C SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (CONFIRMED BASED ON SAMPLE DATA)
- CATEGORY C SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (EXTRAPOLATED BASED ON SAMPLE DATA FROM SURROUNDING AREAS)
- CATEGORY D SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (CONFIRMED BASED ON SAMPLE DATA)
- CATEGORY D SOILS FOR TEQ DIOXINS OR BIOACCESSIBLE ARSENIC (EXTRAPOLATED BASED ON SAMPLE DATA FROM SURROUNDING AREAS)
- INFERRED BOUNDARY

NOTES

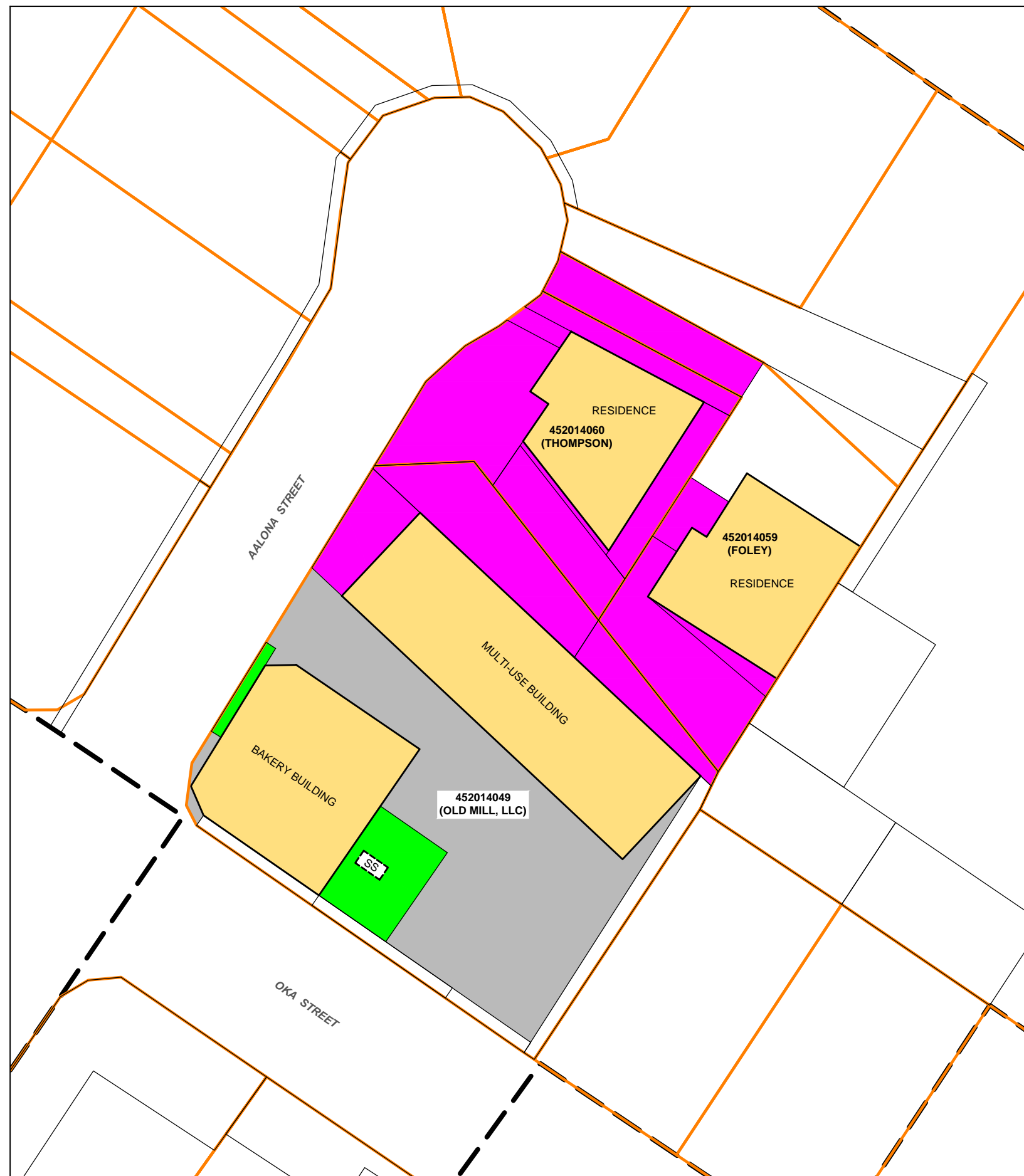
- 1) TCOC - TARGETED CONTAMINANTS OF CONCERN (TEQ DIOXINS AND ARSENIC) DEEPER SOILS (2-10 FT BGS).
- 2) THIS FIGURE ONLY PRESENTS THE IDENTIFIED AND EXTRAPOLATED TCOC ANALYTICAL DATA FOR THE "READILY ACCESSIBLE SOIL" DEPTH INTERVAL.
- 3) IN AREAS WHERE NO TCOC ANALYTICAL DATA WAS AVAILABLE (E.G., UNDER A BUILDING), THE RISK CATEGORY WAS EXTRAPOLATED BASED ON AVAILABLE TCOC ANALYTICAL DATA FOR SURROUNDING AREAS.
- 4) THE HIGHEST RISK CATEGORY IDENTIFIED AMONG ALL SAMPLES FOR A GIVEN DU WAS THE RISK CATEGORY SELECTED FOR THAT DU IN THIS FIGURE, IN AN EFFORT TO PRESENT THE MOST CONSERVATIVE SCENARIO.
- 5) EXTRAPOLATED AREAS TO BE INCLUDED IN ENVIRONMENTAL HAZARD MANAGEMENT PLANS UNTIL SUCH TIME THAT FUTURE DATA CONFIRMS THE ABSENCE OF SIGNIFICANT CONTAMINATION IN THESE AREAS.









Kilauea Sugar PMA Site Investigation
Kilauea, Hawaii

FIGURE 18
EXTRAPOLATED EXTENT OF TCOC
IN DEEPER SOILS (2-10 ft bgs)

TETRA TECH EM, INC.



- LEGEND**
-  PROJECT SITE
 -  COUNTY OF KAUAI TMK PARCEL LAYER 2009
 -  EXPOSED SOIL THAT REQUIRES IMMEDIATE ACTION
 -  LANDSCAPED AREA TO BE MANAGED VIA EHMP
 -  HARDSCAPE OR IMPERVIOUS SURFACES
 -  CURRENT SEPTIC SYSTEM LOCATION



SCALE IN FEET

Kilauea Sugar PMA Site Investigation
Kilauea, Hawaii

FIGURE 19
EXPOSED SOIL THAT REQUIRES
IMMEDIATE ACTION



Appendix A - Photo Journal

PRELIMINARY DRAFT Site Investigation Report

Former Kilauea Sugar Company, Ltd. Mill PMA



Photo 1

Orientation: West

View of DU10 in the drainage swale at the Old Mill LLC property. This DU is in the core PMA.



Photo 2

Orientation: Northeast

View of DU12 at the Thompson property. This DU is in the core PMA.



Photo 3

Orientation: East

View of DU17 at the Foley Property. This DU is in the core PMA.

PRELIMINARY DRAFT Site Investigation Report

Former Kilauea Sugar Company, Ltd. Mill PMA



Photo 4

Orientation: Northeast

View of DEI conducting subsurface utility clearance services in DU6 at the HHA property.



Photo 5

Orientation: East

View of DEI conducting subsurface utility clearance services in DU9 at the Old Mill LLC property.



Photo 6

Orientation: NA

View of proposed soil boring location in DU13 at the Thompson property. This DU is in the core PMA.

PRELIMINARY DRAFT Site Investigation Report

Former Kilauea Sugar Company, Ltd. Mill PMA



Photo 7

Orientation: West

View of DU18 in the west drainage outfall.



Photo 8

Orientation: NA

View of DU19 in the west drainage outfall.

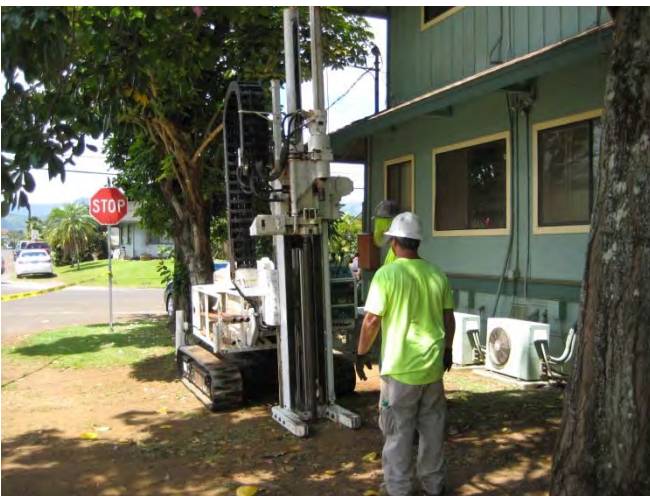


Photo 9

Orientation: Southwest

View of Geotek drilling in DU1 at the North Shore Health Center property. The track-mounted Geoprobe® 66 Series drilling rig was used here.

PRELIMINARY DRAFT Site Investigation Report

Former Kilauea Sugar Company, Ltd. Mill PMA



Photo 10

Orientation: Northeast

View of Geotek drilling in DU26 at the HHA property. The portable dolly-mounted Geoprobe® 420 Series drilling rig was used here.



Photo 11

Orientation: West

View of Geotek drilling in DU26 at the HHA property.



Photo 12

Orientation: NA

View of a soil boring in DU26 at the HHA property.

PRELIMINARY DRAFT Site Investigation Report

Former Kilauea Sugar Company, Ltd. Mill PMA



Photo 13

Orientation: West

View of Geotek drilling in DU17 at the Foley property. This DU is in the core PMA.



Photo 14

Orientation: East

View of Geotek drilling in DU10 at the Old Mill LLC property. This DU is in the core PMA.



Photo 15

Orientation: Northwest

View of Geotek drilling in DU15 at the Thompson property. This DU is in the core PMA.

PRELIMINARY DRAFT Site Investigation Report

Former Kilauea Sugar Company, Ltd. Mill PMA



Photo 16

Orientation: NA

View of the soil core from soil boring SB4 in DU10 for layers D-E.



Photo 17

Orientation: NA

Macro view of the soil core from soil boring SB4 in DU10 for layers D-E.



Photo 18

Orientation: NA

View of the soil core from soil boring SB2 in DU10 for layers D-E.

PRELIMINARY DRAFT Site Investigation Report

Former Kilauea Sugar Company, Ltd. Mill PMA



Photo 19

Orientation: NA

View of the soil core from soil boring SB1 in DU12 for layer C.



Photo 20

Orientation: NA

Macro view of the soil sample from DU12 for layer C (PMAK-DU12-C).



Photo 21

Orientation: Southwest

View of Tetra Tech collecting a sample from DU3 for layer C (PMAK-DU3-C).

PRELIMINARY DRAFT Site Investigation Report

Former Kilauea Sugar Company, Ltd. Mill PMA



Photo 22

Orientation: NA

View of the soil core from soil boring SB3 in DU13 for layer B.



Photo 23

Orientation: NA

View of the soil core from soil boring SB7 in DU27. The debris layer was typically from 3-4.5 feet bgs. Observed debris included glass, scrap metal, ash, and white powder.



Photo 24

Orientation: NA

Macro view of the soil core from soil boring SB7 in DU27. Note large piece of glass.

PRELIMINARY DRAFT Site Investigation Report

Former Kilauea Sugar Company, Ltd. Mill PMA



Photo 25

Orientation: NA

View of the plastic 5-gallon buckets used to temporarily contain the IDW soil cuttings and decontamination water. The buckets were stored at the Old Mill LLC property.



Photo 26

Orientation: NA

View of the IDW decontamination water stored in drum PMAK-D3.



Photo 27

Orientation: NA

View of drum PMAK-D2 containing IDW soil cuttings.

PRELIMINARY DRAFT Site Investigation Report

Former Kilauea Sugar Company, Ltd. Mill PMA



Photo 28

Orientation: West

View of PCS preparing the IDW drums for transport back to Oahu.



Photo 29

Orientation: North

View of Aloha Air Cargo transporting sample coolers to their freezer for storage.

Appendix B - Laboratory Analytical Data

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Honolulu
99-193 Aiea Heights Drive, Suite 121
Aiea, HI 96701
Tel: 808-486-5227

TestAmerica Job ID: HUH0012

Client Project/Site: Kilauea, Kauai PMA, 103S1902014.H003
Client Project Description: Kilauea, Kauai PMA

For:

Tetra Tech EM Inc.
737 Bishop Street, Suite 3010
Honolulu, HI 96813

Attn: Scott Duzan



Authorized for release by:
09/30/2011 02:37:03 PM

Margie Pascua Thach
Project Manager
margie.pascua@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Definitions/Glossary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Qualifiers

GCMS Semivolatiles

Qualifier	Qualifier Description
M1	The MS and/or MSD were outside the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
Z	Due to sample matrix effects, the surrogate recovery was below the acceptance limits.

DIOXIN

Qualifier	Qualifier Description
CON	Confirmation analysis.
D	Result was obtained from the analysis of a dilution.
E	Estimated result. Result concentration exceeds the calibration range.
*	Surrogate recovery is outside stated control limits.

Metals

Qualifier	Qualifier Description
M1	The MS and/or MSD were outside the acceptance limits due to sample matrix interference. See Blank Spike (LCS).

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Job ID: HUH0012

Laboratory: TestAmerica Denver

Narrative

CASE NARRATIVE

Client: TestAmerica Laboratories, Inc

Project: Tetra Tech EM Inc., Kilauea, Kauai, PMA

Report Number: 280-19836-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 09/02/2011; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 11.3 C.

METALS (ICP) - METHOD 6010B/7471A

Sample HUH0012-09 (280-19836-1)[5X] required dilution prior to analysis due to the abundance of non-target analytes. The reporting limits have been adjusted accordingly.

No other difficulties were encountered.

Laboratory: TestAmerica Honolulu

Narrative

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory unless otherwise stated in the report. 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 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

LABORATORY REPORT

Case Narrative

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Job ID: HUH0012 (Continued)

Laboratory: TestAmerica Honolulu (Continued)

At sample receipt, the cooler/sample was 6 degrees 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.

Samples were prepared in accordance with the State of Hawai'i Department of Health Office of Hazard Evaluation and Emergency Response's Technical Guidance Manual for the Implementation of the Hawai'i State Contingency Plan 2009 edition Laboratory Preparation of Multi-Increment Samples.

Subcontracted Analyses:

Please see data under the Subcontract section of this report:

Metals by 6010/7471 (select samples), TestAmerica Denver

Dioxins & Furans by 8290, TestAmerica West Sacramento

Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
HUH0012-01	PMAK-DU1-A	Solid/Soil	08/01/11 15:08	08/02/11 11:50
HUH0012-02	PMAK-DU1-B	Solid/Soil	08/01/11 15:05	08/02/11 11:50
HUH0012-03	PMAK-DU1-C	Solid/Soil	08/01/11 15:10	08/02/11 11:50
HUH0012-06	PMAK-DU2-A	Solid/Soil	08/01/11 16:25	08/02/11 11:50
HUH0012-07	PMAK-DU2-B	Solid/Soil	08/01/11 16:30	08/02/11 11:50
HUH0012-08	PMAK-DU2-C	Solid/Soil	08/01/11 16:35	08/02/11 11:50
HUH0012-09	PMAK-DU2-D	Solid/Soil	08/01/11 16:40	08/02/11 11:50



Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Client Sample ID: PMAK-DU1-A

Lab Sample ID: HUH0012-01

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	1.1		0.96	0.11	1	1.1	pg/g	0.95		8290	Total
Total TCDD	15		0.96	0.11			pg/g	0.95		8290	Total
1,2,3,7,8-PeCDD	11		4.8	0.27	1	11	pg/g	0.95		8290	Total
Total PeCDD	59		4.8	0.27			pg/g	0.95		8290	Total
1,2,3,4,7,8-HxCDD	26		4.8	0.16	0.1	2.6	pg/g	0.95		8290	Total
1,2,3,6,7,8-HxCDD	140		4.8	0.12	0.1	14	pg/g	0.95		8290	Total
1,2,3,7,8,9-HxCDD	65		4.8	0.14	0.1	6.5	pg/g	0.95		8290	Total
Total HxCDD	800		4.8	0.14			pg/g	0.95		8290	Total
1,2,3,4,6,7,8-HpCDD	4600	D	48	15	0.01	46	pg/g	0.95		8290	Total
Total HpCDD	8600		48	15			pg/g	0.95		8290	Total
OCDD	49000	E D	96	14	0.0003	15	pg/g	0.95		8290	Total
2,3,7,8-TCDF	1.1	CON	0.96	0.34	0.1	0.11	pg/g	0.95		8290	Total
Total TCDF	17		0.96	0.061			pg/g	0.95		8290	Total
Total PeCDF	95		4.8	0.13			pg/g	0.95		8290	Total
1,2,3,4,7,8-HxCDF	58		4.8	0.12	0.1	5.8	pg/g	0.95		8290	Total
1,2,3,6,7,8-HxCDF	32		4.8	0.097	0.1	3.2	pg/g	0.95		8290	Total
2,3,4,6,7,8-HxCDF	18		4.8	0.11	0.1	1.8	pg/g	0.95		8290	Total
Total HxCDF	1700		4.8	0.11			pg/g	0.95		8290	Total
1,2,3,4,6,7,8-HpCDF	1300		4.8	0.86	0.01	13	pg/g	0.95		8290	Total
1,2,3,4,7,8,9-HpCDF	99		4.8	1.0	0.01	0.99	pg/g	0.95		8290	Total
Total HpCDF	5700		4.8	0.94			pg/g	0.95		8290	Total
OCDF	3400	D	96	6.0	0.0003	1.0	pg/g	0.95		8290	Total
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type		
Arsenic Total	93.0		5.00		mg/kg	5.00		EPA 6010	Total		
Arsenic	38.0		8.47		mg/kg	1.00		EPA 6010	Total		
Lead	119		16.9		mg/kg	1.00		EPA 6010	Total		
Mercury	1.09		0.0971		mg/kg	20.0		EPA 7471	Total		

Client Sample ID: PMAK-DU1-B

Lab Sample ID: HUH0012-02

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	2.0		0.90	0.091	1	2.0	pg/g	0.9		8290	Total
Total TCDD	29		0.90	0.091			pg/g	0.9		8290	Total
1,2,3,7,8-PeCDD	25		4.5	0.23	1	25	pg/g	0.9		8290	Total
Total PeCDD	110		4.5	0.23			pg/g	0.9		8290	Total
1,2,3,4,7,8-HxCDD	60		4.5	0.25	0.1	6.0	pg/g	0.9		8290	Total
1,2,3,6,7,8-HxCDD	180		4.5	0.19	0.1	18	pg/g	0.9		8290	Total
1,2,3,7,8,9-HxCDD	130		4.5	0.21	0.1	13	pg/g	0.9		8290	Total
Total HxCDD	1100		4.5	0.22			pg/g	0.9		8290	Total
1,2,3,4,6,7,8-HpCDD	5100	D	45	21	0.01	51	pg/g	0.9		8290	Total
Total HpCDD	9200		45	21			pg/g	0.9		8290	Total
OCDD	38000	E D	90	14	0.0003	11	pg/g	0.9		8290	Total
2,3,7,8-TCDF	2.2	CON	0.90	0.30	0.1	0.22	pg/g	0.9		8290	Total
Total TCDF	26		0.90	0.062			pg/g	0.9		8290	Total
2,3,4,7,8-PeCDF	6.6		4.5	0.17	0.3	2.0	pg/g	0.9		8290	Total
Total PeCDF	130		4.5	0.17			pg/g	0.9		8290	Total
1,2,3,4,7,8-HxCDF	66		4.5	0.19	0.1	6.6	pg/g	0.9		8290	Total
1,2,3,6,7,8-HxCDF	45		4.5	0.15	0.1	4.5	pg/g	0.9		8290	Total
2,3,4,6,7,8-HxCDF	29		4.5	0.17	0.1	2.9	pg/g	0.9		8290	Total
Total HxCDF	2100		4.5	0.18			pg/g	0.9		8290	Total
1,2,3,4,6,7,8-HpCDF	1800	D	45	5.5	0.01	18	pg/g	0.9		8290	Total
1,2,3,4,7,8,9-HpCDF	110	D	45	6.9	0.01	1.1	pg/g	0.9		8290	Total
Total HpCDF	6300		45	6.1			pg/g	0.9		8290	Total

Detection Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Client Sample ID: PMAK-DU1-B (Continued)

Lab Sample ID: HUH0012-02

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
OCDF	3600	D	90	5.8	0.0003	1.1	pg/g	0.9		8290	Total
Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Arsenic	37.8			8.61			mg/kg	1.00		EPA 6010	Total
Lead	1070			86.1			mg/kg	5.00		EPA 6010	Total
Mercury	1.90			0.421			mg/kg	100		EPA 7471	Total

Client Sample ID: PMAK-DU1-C

Lab Sample ID: HUH0012-03

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Lead	246			18.5			mg/kg	1.00		EPA 6010	Total
Mercury	0.309			0.0392			mg/kg	10.0		EPA 7471	Total

Client Sample ID: PMAK-DU2-A

Lab Sample ID: HUH0012-06

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	5.2		4.7	0.20	0.1	0.52	pg/g	0.94		8290	Total
1,2,3,6,7,8-HxCDD	28		4.7	0.15	0.1	2.8	pg/g	0.94		8290	Total
1,2,3,7,8,9-HxCDD	13		4.7	0.17	0.1	1.3	pg/g	0.94		8290	Total
Total HxCDD	190		4.7	0.17			pg/g	0.94		8290	Total
1,2,3,4,6,7,8-HpCDD	870		4.7	0.77	0.01	8.7	pg/g	0.94		8290	Total
Total HpCDD	1700		4.7	0.77			pg/g	0.94		8290	Total
OCDD	11000	E	9.5	1.3	0.0003	3.3	pg/g	0.94		8290	Total
Total TCDF	2.3		0.95	0.055			pg/g	0.94		8290	Total
Total PeCDF	13		4.7	0.099			pg/g	0.94		8290	Total
1,2,3,4,7,8-HxCDF	11		4.7	0.12	0.1	1.1	pg/g	0.94		8290	Total
1,2,3,6,7,8-HxCDF	5.2		4.7	0.099	0.1	0.52	pg/g	0.94		8290	Total
Total HxCDF	320		4.7	0.12			pg/g	0.94		8290	Total
1,2,3,4,6,7,8-HpCDF	260		4.7	0.40	0.01	2.6	pg/g	0.94		8290	Total
1,2,3,4,7,8,9-HpCDF	21		4.7	0.48	0.01	0.21	pg/g	0.94		8290	Total
Total HpCDF	1100		4.7	0.44			pg/g	0.94		8290	Total
OCDF	710		9.5	0.37	0.0003	0.21	pg/g	0.94		8290	Total
Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Arsenic	15.4			9.75			mg/kg	1.00		EPA 6010	Total
Mercury	0.230			0.0500			mg/kg	10.0		EPA 7471	Total

Client Sample ID: PMAK-DU2-B

Lab Sample ID: HUH0012-07

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	1.0		0.97	0.092	1	1.0	pg/g	0.97		8290	Total
Total TCDD	19		0.97	0.092			pg/g	0.97		8290	Total
1,2,3,7,8-PeCDD	9.4		4.9	0.19	1	9.4	pg/g	0.97		8290	Total
Total PeCDD	63		4.9	0.19			pg/g	0.97		8290	Total
1,2,3,4,7,8-HxCDD	29		4.9	0.27	0.1	2.9	pg/g	0.97		8290	Total
1,2,3,6,7,8-HxCDD	99		4.9	0.20	0.1	9.9	pg/g	0.97		8290	Total
1,2,3,7,8,9-HxCDD	63		4.9	0.23	0.1	6.3	pg/g	0.97		8290	Total
Total HxCDD	850		4.9	0.23			pg/g	0.97		8290	Total
1,2,3,4,6,7,8-HpCDD	3000	E	4.9	0.98	0.01	30	pg/g	0.97		8290	Total
Total HpCDD	5700		4.9	0.98			pg/g	0.97		8290	Total
OCDD	38000	E	9.7	4.7	0.0003	11	pg/g	0.97		8290	Total
2,3,7,8-TCDF	1.1	CON	0.97	0.39	0.1	0.11	pg/g	0.97		8290	Total
Total TCDF	18		0.97	0.063			pg/g	0.97		8290	Total
Total PeCDF	64		4.9	0.17			pg/g	0.97		8290	Total
1,2,3,4,7,8-HxCDF	36		4.9	0.21	0.1	3.6	pg/g	0.97		8290	Total

Detection Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Client Sample ID: PMAK-DU2-B (Continued)

Lab Sample ID: HUH0012-07

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDF	18		4.9	0.17	0.1	1.8	pg/g	0.97		8290	Total
2,3,4,6,7,8-HxCDF	10		4.9	0.19	0.1	1.0	pg/g	0.97		8290	Total
Total HxCDF	1100		4.9	0.20			pg/g	0.97		8290	Total
1,2,3,4,6,7,8-HpCDF	810		4.9	0.51	0.01	8.1	pg/g	0.97		8290	Total
1,2,3,4,7,8,9-HpCDF	64		4.9	0.62	0.01	0.64	pg/g	0.97		8290	Total
Total HpCDF	3200		4.9	0.56			pg/g	0.97		8290	Total
OCDF	1900		9.7	0.75	0.0003	0.57	pg/g	0.97		8290	Total

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	55.4		9.52		mg/kg	1.00		EPA 6010	Total
Lead	118		19.0		mg/kg	1.00		EPA 6010	Total
Mercury	0.966		0.0493		mg/kg	10.0		EPA 7471	Total

Client Sample ID: PMAK-DU2-C

Lab Sample ID: HUH0012-08

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	114		10.1		mg/kg	1.00		EPA 6010	Total
Lead	1380		101		mg/kg	5.00		EPA 6010	Total
Mercury	0.474		0.0494		mg/kg	10.0		EPA 7471	Total

Client Sample ID: PMAK-DU2-D

Lab Sample ID: HUH0012-09

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	17		9.7		mg/Kg	5		6010B	Total/NA
Lead	130		3.9		mg/Kg	5		6010B	Total/NA
Mercury	0.63		0.016		mg/Kg	1		7471A	Total/NA

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Client Sample ID: PMAK-DU1-A

Lab Sample ID: HUH0012-01

Date Collected: 08/01/11 15:08

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.310		mg/kg		08/09/11 07:42	08/18/11 16:50	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	70		40 - 120				08/09/11 07:42	08/18/11 16:50	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	1.1		0.96	0.11	1	1.1	pg/g		08/29/11 15:00	09/04/11 14:09	0.95
Total TCDD	15		0.96	0.11			pg/g		08/29/11 15:00	09/04/11 14:09	0.95
1,2,3,7,8-PeCDD	11		4.8	0.27	1	11	pg/g		08/29/11 15:00	09/04/11 14:09	0.95
Total PeCDD	59		4.8	0.27			pg/g		08/29/11 15:00	09/04/11 14:09	0.95
1,2,3,4,7,8-HxCDD	26		4.8	0.16	0.1	2.6	pg/g		08/29/11 15:00	09/04/11 14:09	0.95
1,2,3,6,7,8-HxCDD	140		4.8	0.12	0.1	14	pg/g		08/29/11 15:00	09/04/11 14:09	0.95
1,2,3,7,8,9-HxCDD	65		4.8	0.14	0.1	6.5	pg/g		08/29/11 15:00	09/04/11 14:09	0.95
Total HxCDD	800		4.8	0.14			pg/g		08/29/11 15:00	09/04/11 14:09	0.95
1,2,3,4,6,7,8-HpCDD	4600	D	48	15	0.01	46	pg/g		08/29/11 15:00	09/04/11 14:09	0.95
Total HpCDD	8600		48	15			pg/g		08/29/11 15:00	09/04/11 14:09	0.95
OCDD	49000	E D	96	14	0.0003	15	pg/g		08/29/11 15:00	09/04/11 14:09	0.95
2,3,7,8-TCDF	1.1	CON	0.96	0.34	0.1	0.11	pg/g		08/29/11 15:00	09/04/11 14:09	0.95
Total TCDF	17		0.96	0.061			pg/g		08/29/11 15:00	09/04/11 14:09	0.95
1,2,3,7,8-PeCDF	ND		4.8	0.13	0.03		pg/g		08/29/11 15:00	09/04/11 14:09	0.95
2,3,4,7,8-PeCDF	ND		4.8	0.13	0.3		pg/g		08/29/11 15:00	09/04/11 14:09	0.95
Total PeCDF	95		4.8	0.13			pg/g		08/29/11 15:00	09/04/11 14:09	0.95
1,2,3,4,7,8-HxCDF	58		4.8	0.12	0.1	5.8	pg/g		08/29/11 15:00	09/04/11 14:09	0.95
1,2,3,6,7,8-HxCDF	32		4.8	0.097	0.1	3.2	pg/g		08/29/11 15:00	09/04/11 14:09	0.95
2,3,4,6,7,8-HxCDF	18		4.8	0.11	0.1	1.8	pg/g		08/29/11 15:00	09/04/11 14:09	0.95
1,2,3,7,8,9-HxCDF	ND		4.8	0.13	0.1		pg/g		08/29/11 15:00	09/04/11 14:09	0.95
Total HxCDF	1700		4.8	0.11			pg/g		08/29/11 15:00	09/04/11 14:09	0.95
1,2,3,4,6,7,8-HpCDF	1300		4.8	0.86	0.01	13	pg/g		08/29/11 15:00	09/04/11 14:09	0.95
1,2,3,4,7,8,9-HpCDF	99		4.8	1.0	0.01	0.99	pg/g		08/29/11 15:00	09/04/11 14:09	0.95
Total HpCDF	5700		4.8	0.94			pg/g		08/29/11 15:00	09/04/11 14:09	0.95
OCDF	3400	D	96	6.0	0.0003	1.0	pg/g		08/29/11 15:00	09/04/11 14:09	0.95

Total TEQ (WHO 2005) 120

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	75		40 - 135	08/29/11 15:00	09/04/11 14:09	0.95
13C-1,2,3,7,8-PeCDD	77		40 - 135	08/29/11 15:00	09/04/11 14:09	0.95
13C-1,2,3,6,7,8-HxCDD	82		40 - 135	08/29/11 15:00	09/04/11 14:09	0.95
13C-1,2,3,4,6,7,8-HpCDD	84		40 - 135	08/29/11 15:00	09/04/11 14:09	0.95
13C-OCDD	127		40 - 135	08/29/11 15:00	09/04/11 14:09	0.95
13C-2,3,7,8-TCDF	79		40 - 135	08/29/11 15:00	09/04/11 14:09	0.95
13C-1,2,3,7,8-PeCDF	82		40 - 135	08/29/11 15:00	09/04/11 14:09	0.95
13C-1,2,3,4,7,8-HxCDF	83		40 - 135	08/29/11 15:00	09/04/11 14:09	0.95
13C-1,2,3,4,6,7,8-HpCDF	87		40 - 135	08/29/11 15:00	09/04/11 14:09	0.95

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	ND		1.00		mg/kg		09/28/11 11:03	09/28/11 11:05	1.00
Arsenic Total	93.0		5.00		mg/kg		09/15/11 10:48	09/19/11 15:09	5.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Client Sample ID: PMAK-DU1-A

Lab Sample ID: HUH0012-01

Date Collected: 08/01/11 15:08

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Method: EPA 6010 - Total Metals by EPA Method 6010/7471

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	38.0		8.47		mg/kg		08/05/11 08:55	08/08/11 11:38	1.00
Lead	119		16.9		mg/kg		08/05/11 08:55	08/08/11 11:38	1.00

Method: EPA 7471 - Total Metals by EPA Method 6010/7471

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.09		0.0971		mg/kg		08/08/11 10:30	08/08/11 16:43	20.0

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	ND		0.200		% by Weight		09/28/11 11:03	09/28/11 11:05	1.00

Client Sample ID: PMAK-DU1-B

Lab Sample ID: HUH0012-02

Date Collected: 08/01/11 15:05

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.307		mg/kg		08/09/11 07:42	08/18/11 17:29	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	71		40 - 120				08/09/11 07:42	08/18/11 17:29	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	2.0		0.90	0.091	1	2.0	pg/g		08/29/11 15:00	09/04/11 15:00	0.9
Total TCDD	29		0.90	0.091			pg/g		08/29/11 15:00	09/04/11 15:00	0.9
1,2,3,7,8-PeCDD	25		4.5	0.23	1	25	pg/g		08/29/11 15:00	09/04/11 15:00	0.9
Total PeCDD	110		4.5	0.23			pg/g		08/29/11 15:00	09/04/11 15:00	0.9
1,2,3,4,7,8-HxCDD	60		4.5	0.25	0.1	6.0	pg/g		08/29/11 15:00	09/04/11 15:00	0.9
1,2,3,6,7,8-HxCDD	180		4.5	0.19	0.1	18	pg/g		08/29/11 15:00	09/04/11 15:00	0.9
1,2,3,7,8,9-HxCDD	130		4.5	0.21	0.1	13	pg/g		08/29/11 15:00	09/04/11 15:00	0.9
Total HxCDD	1100		4.5	0.22			pg/g		08/29/11 15:00	09/04/11 15:00	0.9
1,2,3,4,6,7,8-HpCDD	5100	D	45	21	0.01	51	pg/g		08/29/11 15:00	09/04/11 15:00	0.9
Total HpCDD	9200		45	21			pg/g		08/29/11 15:00	09/04/11 15:00	0.9
OCDD	38000	E D	90	14	0.0003	11	pg/g		08/29/11 15:00	09/04/11 15:00	0.9
2,3,7,8-TCDF	2.2	CON	0.90	0.30	0.1	0.22	pg/g		08/29/11 15:00	09/04/11 15:00	0.9
Total TCDF	26		0.90	0.062			pg/g		08/29/11 15:00	09/04/11 15:00	0.9
1,2,3,7,8-PeCDF	ND		4.5	0.16	0.03		pg/g		08/29/11 15:00	09/04/11 15:00	0.9
2,3,4,7,8-PeCDF	6.6		4.5	0.17	0.3	2.0	pg/g		08/29/11 15:00	09/04/11 15:00	0.9
Total PeCDF	130		4.5	0.17			pg/g		08/29/11 15:00	09/04/11 15:00	0.9
1,2,3,4,7,8-HxCDF	66		4.5	0.19	0.1	6.6	pg/g		08/29/11 15:00	09/04/11 15:00	0.9
1,2,3,6,7,8-HxCDF	45		4.5	0.15	0.1	4.5	pg/g		08/29/11 15:00	09/04/11 15:00	0.9
2,3,4,6,7,8-HxCDF	29		4.5	0.17	0.1	2.9	pg/g		08/29/11 15:00	09/04/11 15:00	0.9
1,2,3,7,8,9-HxCDF	ND		4.5	0.21	0.1		pg/g		08/29/11 15:00	09/04/11 15:00	0.9
Total HxCDF	2100		4.5	0.18			pg/g		08/29/11 15:00	09/04/11 15:00	0.9
1,2,3,4,6,7,8-HpCDF	1800	D	45	5.5	0.01	18	pg/g		08/29/11 15:00	09/04/11 15:00	0.9
1,2,3,4,7,8,9-HpCDF	110	D	45	6.9	0.01	1.1	pg/g		08/29/11 15:00	09/04/11 15:00	0.9
Total HpCDF	6300		45	6.1			pg/g		08/29/11 15:00	09/04/11 15:00	0.9
OCDF	3600	D	90	5.8	0.0003	1.1	pg/g		08/29/11 15:00	09/04/11 15:00	0.9

Total TEQ (WHO 2005)

160

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Client Sample ID: PMAK-DU1-B

Lab Sample ID: HUH0012-02

Date Collected: 08/01/11 15:05

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	92		40 - 135	08/29/11 15:00	09/04/11 15:00	0.9
13C-1,2,3,7,8-PeCDD	105		40 - 135	08/29/11 15:00	09/04/11 15:00	0.9
13C-1,2,3,6,7,8-HxCDD	93		40 - 135	08/29/11 15:00	09/04/11 15:00	0.9
13C-1,2,3,4,6,7,8-HpCDD	114		40 - 135	08/29/11 15:00	09/04/11 15:00	0.9
13C-OCDD	182 *		40 - 135	08/29/11 15:00	09/04/11 15:00	0.9
13C-2,3,7,8-TCDF	92		40 - 135	08/29/11 15:00	09/04/11 15:00	0.9
13C-1,2,3,7,8-PeCDF	110		40 - 135	08/29/11 15:00	09/04/11 15:00	0.9
13C-1,2,3,4,7,8-HxCDF	107		40 - 135	08/29/11 15:00	09/04/11 15:00	0.9
13C-1,2,3,4,6,7,8-HpCDF	116		40 - 135	08/29/11 15:00	09/04/11 15:00	0.9

Method: EPA 6010 - Total Metals by EPA Method 6010/7471

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	37.8		8.61		mg/kg		08/05/11 08:55	08/08/11 11:48	1.00
Lead	1070		86.1		mg/kg		08/05/11 08:55	08/10/11 13:13	5.00

Method: EPA 7471 - Total Metals by EPA Method 6010/7471

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.90		0.421		mg/kg		08/08/11 10:30	08/08/11 16:44	100

Client Sample ID: PMAK-DU1-C

Lab Sample ID: HUH0012-03

Date Collected: 08/01/11 15:10

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 - RE1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.313		mg/kg		08/15/11 08:51	08/29/11 18:01	1.00
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
2,4,6-Tribromophenol	79		40 - 120	08/15/11 08:51	08/29/11 18:01	1.00			

Method: EPA 6010 - Total Metals by EPA Method 6010/7471

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		9.26		mg/kg		08/05/11 08:55	08/08/11 11:54	1.00
Lead	246		18.5		mg/kg		08/05/11 08:55	08/08/11 11:54	1.00

Method: EPA 7471 - Total Metals by EPA Method 6010/7471

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.309		0.0392		mg/kg		08/08/11 10:30	08/08/11 16:25	10.0

Client Sample ID: PMAK-DU2-A

Lab Sample ID: HUH0012-06

Date Collected: 08/01/11 16:25

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.315		mg/kg		08/09/11 07:42	08/18/11 18:07	1.00
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
2,4,6-Tribromophenol	18	Z	40 - 120	08/09/11 07:42	08/18/11 18:07	1.00			

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Client Sample ID: PMAK-DU2-A

Lab Sample ID: HUH0012-06

Date Collected: 08/01/11 16:25

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.95	0.088	1		pg/g		08/29/11 15:00	09/04/11 15:52	0.94
Total TCDD	ND		0.95	0.088			pg/g		08/29/11 15:00	09/04/11 15:52	0.94
1,2,3,7,8-PeCDD	ND		4.7	0.23	1		pg/g		08/29/11 15:00	09/04/11 15:52	0.94
Total PeCDD	ND		4.7	0.23			pg/g		08/29/11 15:00	09/04/11 15:52	0.94
1,2,3,4,7,8-HxCDD	5.2		4.7	0.20	0.1	0.52	pg/g		08/29/11 15:00	09/04/11 15:52	0.94
1,2,3,6,7,8-HxCDD	28		4.7	0.15	0.1	2.8	pg/g		08/29/11 15:00	09/04/11 15:52	0.94
1,2,3,7,8,9-HxCDD	13		4.7	0.17	0.1	1.3	pg/g		08/29/11 15:00	09/04/11 15:52	0.94
Total HxCDD	190		4.7	0.17			pg/g		08/29/11 15:00	09/04/11 15:52	0.94
1,2,3,4,6,7,8-HpCDD	870		4.7	0.77	0.01	8.7	pg/g		08/29/11 15:00	09/04/11 15:52	0.94
Total HpCDD	1700		4.7	0.77			pg/g		08/29/11 15:00	09/04/11 15:52	0.94
OCDD	11000	E	9.5	1.3	0.0003	3.3	pg/g		08/29/11 15:00	09/04/11 15:52	0.94
2,3,7,8-TCDF	ND		0.95	0.055	0.1		pg/g		08/29/11 15:00	09/04/11 15:52	0.94
Total TCDF	2.3		0.95	0.055			pg/g		08/29/11 15:00	09/04/11 15:52	0.94
1,2,3,7,8-PeCDF	ND		4.7	0.098	0.03		pg/g		08/29/11 15:00	09/04/11 15:52	0.94
2,3,4,7,8-PeCDF	ND		4.7	0.10	0.3		pg/g		08/29/11 15:00	09/04/11 15:52	0.94
Total PeCDF	13		4.7	0.099			pg/g		08/29/11 15:00	09/04/11 15:52	0.94
1,2,3,4,7,8-HxCDF	11		4.7	0.12	0.1	1.1	pg/g		08/29/11 15:00	09/04/11 15:52	0.94
1,2,3,6,7,8-HxCDF	5.2		4.7	0.099	0.1	0.52	pg/g		08/29/11 15:00	09/04/11 15:52	0.94
2,3,4,6,7,8-HxCDF	ND		4.7	0.11	0.1		pg/g		08/29/11 15:00	09/04/11 15:52	0.94
1,2,3,7,8,9-HxCDF	ND		4.7	0.14	0.1		pg/g		08/29/11 15:00	09/04/11 15:52	0.94
Total HxCDF	320		4.7	0.12			pg/g		08/29/11 15:00	09/04/11 15:52	0.94
1,2,3,4,6,7,8-HpCDF	260		4.7	0.40	0.01	2.6	pg/g		08/29/11 15:00	09/04/11 15:52	0.94
1,2,3,4,7,8,9-HpCDF	21		4.7	0.48	0.01	0.21	pg/g		08/29/11 15:00	09/04/11 15:52	0.94
Total HpCDF	1100		4.7	0.44			pg/g		08/29/11 15:00	09/04/11 15:52	0.94
OCDF	710		9.5	0.37	0.0003	0.21	pg/g		08/29/11 15:00	09/04/11 15:52	0.94
Total TEQ (WHO 2005)						21					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	91		40 - 135	08/29/11 15:00	09/04/11 15:52	0.94
13C-1,2,3,7,8-PeCDD	99		40 - 135	08/29/11 15:00	09/04/11 15:52	0.94
13C-1,2,3,6,7,8-HxCDD	90		40 - 135	08/29/11 15:00	09/04/11 15:52	0.94
13C-1,2,3,4,6,7,8-HpCDD	85		40 - 135	08/29/11 15:00	09/04/11 15:52	0.94
13C-OCDD	73		40 - 135	08/29/11 15:00	09/04/11 15:52	0.94
13C-2,3,7,8-TCDF	94		40 - 135	08/29/11 15:00	09/04/11 15:52	0.94
13C-1,2,3,7,8-PeCDF	102		40 - 135	08/29/11 15:00	09/04/11 15:52	0.94
13C-1,2,3,4,7,8-HxCDF	113		40 - 135	08/29/11 15:00	09/04/11 15:52	0.94
13C-1,2,3,4,6,7,8-HpCDF	84		40 - 135	08/29/11 15:00	09/04/11 15:52	0.94

Method: EPA 6010 - Total Metals by EPA Method 6010/7471

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15.4		9.75		mg/kg		08/05/11 08:55	08/08/11 11:59	1.00
Lead	ND		19.5		mg/kg		08/05/11 08:55	08/08/11 11:59	1.00

Method: EPA 7471 - Total Metals by EPA Method 6010/7471

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.230		0.0500		mg/kg		08/08/11 10:30	08/08/11 16:26	10.0

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Client Sample ID: PMAK-DU2-B

Lab Sample ID: HUH0012-07

Date Collected: 08/01/11 16:30

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.316		mg/kg		08/09/11 07:42	08/18/11 18:46	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	64		40 - 120				08/09/11 07:42	08/18/11 18:46	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	1.0		0.97	0.092	1	1.0	pg/g		08/29/11 15:00	09/04/11 16:43	0.97
Total TCDD	19		0.97	0.092			pg/g		08/29/11 15:00	09/04/11 16:43	0.97
1,2,3,7,8-PeCDD	9.4		4.9	0.19	1	9.4	pg/g		08/29/11 15:00	09/04/11 16:43	0.97
Total PeCDD	63		4.9	0.19			pg/g		08/29/11 15:00	09/04/11 16:43	0.97
1,2,3,4,7,8-HxCDD	29		4.9	0.27	0.1	2.9	pg/g		08/29/11 15:00	09/04/11 16:43	0.97
1,2,3,6,7,8-HxCDD	99		4.9	0.20	0.1	9.9	pg/g		08/29/11 15:00	09/04/11 16:43	0.97
1,2,3,7,8,9-HxCDD	63		4.9	0.23	0.1	6.3	pg/g		08/29/11 15:00	09/04/11 16:43	0.97
Total HxCDD	850		4.9	0.23			pg/g		08/29/11 15:00	09/04/11 16:43	0.97
1,2,3,4,6,7,8-HpCDD	3000	E	4.9	0.98	0.01	30	pg/g		08/29/11 15:00	09/04/11 16:43	0.97
Total HpCDD	5700		4.9	0.98			pg/g		08/29/11 15:00	09/04/11 16:43	0.97
OCDD	38000	E	9.7	4.7	0.0003	11	pg/g		08/29/11 15:00	09/04/11 16:43	0.97
2,3,7,8-TCDF	1.1	CON	0.97	0.39	0.1	0.11	pg/g		08/29/11 15:00	09/04/11 16:43	0.97
Total TCDF	18		0.97	0.063			pg/g		08/29/11 15:00	09/04/11 16:43	0.97
1,2,3,7,8-PeCDF	ND		4.9	0.16	0.03		pg/g		08/29/11 15:00	09/04/11 16:43	0.97
2,3,4,7,8-PeCDF	ND		4.9	0.17	0.3		pg/g		08/29/11 15:00	09/04/11 16:43	0.97
Total PeCDF	64		4.9	0.17			pg/g		08/29/11 15:00	09/04/11 16:43	0.97
1,2,3,4,7,8-HxCDF	36		4.9	0.21	0.1	3.6	pg/g		08/29/11 15:00	09/04/11 16:43	0.97
1,2,3,6,7,8-HxCDF	18		4.9	0.17	0.1	1.8	pg/g		08/29/11 15:00	09/04/11 16:43	0.97
2,3,4,6,7,8-HxCDF	10		4.9	0.19	0.1	1.0	pg/g		08/29/11 15:00	09/04/11 16:43	0.97
1,2,3,7,8,9-HxCDF	ND		4.9	0.23	0.1		pg/g		08/29/11 15:00	09/04/11 16:43	0.97
Total HxCDF	1100		4.9	0.20			pg/g		08/29/11 15:00	09/04/11 16:43	0.97
1,2,3,4,6,7,8-HpCDF	810		4.9	0.51	0.01	8.1	pg/g		08/29/11 15:00	09/04/11 16:43	0.97
1,2,3,4,7,8,9-HpCDF	64		4.9	0.62	0.01	0.64	pg/g		08/29/11 15:00	09/04/11 16:43	0.97
Total HpCDF	3200		4.9	0.56			pg/g		08/29/11 15:00	09/04/11 16:43	0.97
OCDF	1900		9.7	0.75	0.0003	0.57	pg/g		08/29/11 15:00	09/04/11 16:43	0.97
Total TEQ (WHO 2005)						87					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	90		40 - 135	08/29/11 15:00	09/04/11 16:43	0.97
13C-1,2,3,7,8-PeCDD	101		40 - 135	08/29/11 15:00	09/04/11 16:43	0.97
13C-1,2,3,6,7,8-HxCDD	84		40 - 135	08/29/11 15:00	09/04/11 16:43	0.97
13C-1,2,3,4,6,7,8-HpCDD	108		40 - 135	08/29/11 15:00	09/04/11 16:43	0.97
13C-OCDD	114		40 - 135	08/29/11 15:00	09/04/11 16:43	0.97
13C-2,3,7,8-TCDF	98		40 - 135	08/29/11 15:00	09/04/11 16:43	0.97
13C-1,2,3,7,8-PeCDF	107		40 - 135	08/29/11 15:00	09/04/11 16:43	0.97
13C-1,2,3,4,7,8-HxCDF	119		40 - 135	08/29/11 15:00	09/04/11 16:43	0.97
13C-1,2,3,4,6,7,8-HpCDF	95		40 - 135	08/29/11 15:00	09/04/11 16:43	0.97

Method: EPA 6010 - Total Metals by EPA Method 6010/7471

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	55.4		9.52		mg/kg		08/05/11 08:55	08/08/11 12:05	1.00
Lead	118		19.0		mg/kg		08/05/11 08:55	08/08/11 12:05	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Client Sample ID: PMAK-DU2-B

Date Collected: 08/01/11 16:30

Date Received: 08/02/11 11:50

Lab Sample ID: HUH0012-07

Matrix: Solid/Soil

Method: EPA 7471 - Total Metals by EPA Method 6010/7471

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.966		0.0493		mg/kg		08/08/11 10:30	08/08/11 16:30	10.0

Client Sample ID: PMAK-DU2-C

Date Collected: 08/01/11 16:35

Date Received: 08/02/11 11:50

Lab Sample ID: HUH0012-08

Matrix: Solid/Soil

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.329		mg/kg		08/09/11 07:42	08/18/11 19:26	1.00

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	70		40 - 120	08/09/11 07:42	08/18/11 19:26	1.00

Method: EPA 6010 - Total Metals by EPA Method 6010/7471

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	114		10.1		mg/kg		08/05/11 08:55	08/08/11 12:10	1.00
Lead	1380		101		mg/kg		08/05/11 08:55	08/10/11 13:18	5.00

Method: EPA 7471 - Total Metals by EPA Method 6010/7471

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.474		0.0494		mg/kg		08/08/11 10:30	08/08/11 16:32	10.0

Client Sample ID: PMAK-DU2-D

Date Collected: 08/01/11 16:40

Date Received: 08/02/11 11:50

Lab Sample ID: HUH0012-09

Matrix: Solid/Soil

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.325		mg/kg		08/09/11 07:42	09/13/11 13:46	1.00

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	72		40 - 120	08/09/11 07:42	09/13/11 13:46	1.00

Method: 6010B - RCRA Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	17		9.7		mg/Kg		09/07/11 06:00	09/08/11 08:17	5
Lead	130		3.9		mg/Kg		09/07/11 06:00	09/08/11 08:17	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.63		0.016		mg/Kg		09/06/11 14:40	09/06/11 18:26	1

Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Matrix: Solid/Soil

Prep Type: Total

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TBP (40-120)
11H0033-BLK1	Method Blank	70
11H0033-BS1	Lab Control Sample	83
11H0033-MS1	PMAK-DU1-A	67
11H0033-MSD1	PMAK-DU1-A	72
11H0065-BLK1	Method Blank	73
11H0065-BS1	Lab Control Sample	84
11H0065-MS1	Matrix Spike	89
11H0065-MSD1	Matrix Spike Duplicate	90
HUH0012-01	PMAK-DU1-A	70
HUH0012-02	PMAK-DU1-B	71
HUH0012-03 - RE1	PMAK-DU1-C	79
HUH0012-06	PMAK-DU2-A	18 Z
HUH0012-07	PMAK-DU2-B	64
HUH0012-08	PMAK-DU2-C	70
HUH0012-09	PMAK-DU2-D	72

Surrogate Legend

TBP = 2,4,6-Tribromophenol

Internal Standard Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Matrix: Solid

Prep Type: Total

		Percent Internal Standard Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (40-135)	PeCDD (40-135)	HxCDD2 (40-135)	HpCDD (40-135)	OCDD (40-135)	TCDF (40-135)	PeCDF1 (40-135)	HxCDF1 (40-135)
G1H290000179B	Method Blank	79	78	75	91	88	82	84	78
G1H290000179C	Lab Control Sample	82	91	73	89	91	87	93	82

		Percent Internal Standard Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HpCDF1 (40-135)							
G1H290000179B	Method Blank	91							
G1H290000179C	Lab Control Sample	88							

Internal Standard Legend

- TCDD = 13C-2,3,7,8-TCDD
- PeCDD = 13C-1,2,3,7,8-PeCDD
- HxCDD2 = 13C-1,2,3,6,7,8-HxCDD
- HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
- OCDD = 13C-OCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDF1 = 13C-1,2,3,7,8-PeCDF
- HxCDF1 = 13C-1,2,3,4,7,8-HxCDF
- HpCDF1 = 13C-1,2,3,4,6,7,8-HpCDF

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Matrix: Solid/Soil

Prep Type: Total

		Percent Internal Standard Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (40-135)	PeCDD (40-135)	HxCDD2 (40-135)	HpCDD (40-135)	OCDD (40-135)	TCDF (40-135)	PeCDF1 (40-135)	HxCDF1 (40-135)
HUH0012-01	PMAK-DU1-A	75	77	82	84	127	79	82	83
HUH0012-02	PMAK-DU1-B	92	105	93	114	182 *	92	110	107
HUH0012-06	PMAK-DU2-A	91	99	90	85	73	94	102	113
HUH0012-07	PMAK-DU2-B	90	101	84	108	114	98	107	119

		Percent Internal Standard Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HpCDF1 (40-135)							
HUH0012-01	PMAK-DU1-A	87							
HUH0012-02	PMAK-DU1-B	116							
HUH0012-06	PMAK-DU2-A	84							
HUH0012-07	PMAK-DU2-B	95							

Internal Standard Legend

- TCDD = 13C-2,3,7,8-TCDD
- PeCDD = 13C-1,2,3,7,8-PeCDD
- HxCDD2 = 13C-1,2,3,6,7,8-HxCDD
- HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
- OCDD = 13C-OCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDF1 = 13C-1,2,3,7,8-PeCDF
- HxCDF1 = 13C-1,2,3,4,7,8-HxCDF
- HpCDF1 = 13C-1,2,3,4,6,7,8-HpCDF

QC Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Lab Sample ID: 11H0033-BLK1
Matrix: Solid/Soil
Analysis Batch: 11H0033

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 11H0033_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.330		mg/kg		08/09/11 07:42	08/11/11 16:31	1.00
Surrogate	% Recovery	Blank Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	70		40 - 120				08/09/11 07:42	08/11/11 16:31	1.00

Lab Sample ID: 11H0033-BS1
Matrix: Solid/Soil
Analysis Batch: 11H0033

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 11H0033_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Pentachlorophenol	1.67	1.22		mg/kg		73	50 - 120
Surrogate	% Recovery	LCS Qualifier	Limits				
2,4,6-Tribromophenol	83		40 - 120				

Lab Sample ID: 11H0033-MS1
Matrix: Solid/Soil
Analysis Batch: 11H0033

Client Sample ID: PMAK-DU1-A
Prep Type: Total
Prep Batch: 11H0033_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Pentachlorophenol	0.195		1.62	0.516	M1	mg/kg		20	50 - 120
Surrogate	% Recovery	Matrix Spike Qualifier	Limits						
2,4,6-Tribromophenol	67		40 - 120						

Lab Sample ID: 11H0033-MSD1
Matrix: Solid/Soil
Analysis Batch: 11H0033

Client Sample ID: PMAK-DU1-A
Prep Type: Total
Prep Batch: 11H0033_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Pentachlorophenol	0.195		1.69	0.592	M1	mg/kg		24	50 - 120	14	30
Surrogate	% Recovery	Matrix Spike Dup Qualifier	Limits								
2,4,6-Tribromophenol	72		40 - 120								

Lab Sample ID: 11H0065-BLK1
Matrix: Solid/Soil
Analysis Batch: 11H0065

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 11H0065_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.330		mg/kg		08/15/11 08:51	08/29/11 15:26	1.00
Surrogate	% Recovery	Blank Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	73		40 - 120				08/15/11 08:51	08/29/11 15:26	1.00

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Lab Sample ID: 11H0065-BS1
Matrix: Solid/Soil
Analysis Batch: 11H0065

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 11H0065_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Pentachlorophenol	1.67	1.27		mg/kg		76	50 - 120
Surrogate	% Recovery	Qualifier	Limits				
2,4,6-Tribromophenol	84		40 - 120				

Lab Sample ID: 11H0065-MS1
Matrix: Solid/Soil
Analysis Batch: 11H0065

Client Sample ID: Matrix Spike
Prep Type: Total
Prep Batch: 11H0065_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Pentachlorophenol	0.292		1.65	0.685	M1	mg/kg		24	50 - 120
Surrogate	% Recovery	Qualifier	Limits						
2,4,6-Tribromophenol	89		40 - 120						

Lab Sample ID: 11H0065-MSD1
Matrix: Solid/Soil
Analysis Batch: 11H0065

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total
Prep Batch: 11H0065_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	Limit
Pentachlorophenol	0.292		1.62	0.626	M1	mg/kg		21	50 - 120	9	30
Surrogate	% Recovery	Qualifier	Limits								
2,4,6-Tribromophenol	90		40 - 120								

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Lab Sample ID: G1H290000179B
Matrix: Solid
Analysis Batch: 1241179

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 1241179_P

Analyte	MB Result	MB Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.0	0.053	1		pg/g		08/29/11 15:00	08/31/11 02:50	1
Total TCDD	ND		1.0	0.053			pg/g		08/29/11 15:00	08/31/11 02:50	1
1,2,3,7,8-PeCDD	ND		5.0	0.10	1		pg/g		08/29/11 15:00	08/31/11 02:50	1
Total PeCDD	ND		5.0	0.10			pg/g		08/29/11 15:00	08/31/11 02:50	1
1,2,3,4,7,8-HxCDD	ND		5.0	0.079	0.1		pg/g		08/29/11 15:00	08/31/11 02:50	1
1,2,3,6,7,8-HxCDD	ND		5.0	0.059	0.1		pg/g		08/29/11 15:00	08/31/11 02:50	1
1,2,3,7,8,9-HxCDD	ND		5.0	0.067	0.1		pg/g		08/29/11 15:00	08/31/11 02:50	1
Total HxCDD	ND		5.0	0.068			pg/g		08/29/11 15:00	08/31/11 02:50	1
1,2,3,4,6,7,8-HpCDD	ND		5.0	0.15	0.01		pg/g		08/29/11 15:00	08/31/11 02:50	1
Total HpCDD	ND		5.0	0.070			pg/g		08/29/11 15:00	08/31/11 02:50	1
OCDD	ND		10	0.12	0.0003		pg/g		08/29/11 15:00	08/31/11 02:50	1
2,3,7,8-TCDF	ND		1.0	0.041	0.1		pg/g		08/29/11 15:00	08/31/11 02:50	1
Total TCDF	ND		1.0	0.041			pg/g		08/29/11 15:00	08/31/11 02:50	1
1,2,3,7,8-PeCDF	ND		5.0	0.050	0.03		pg/g		08/29/11 15:00	08/31/11 02:50	1
2,3,4,7,8-PeCDF	ND		5.0	0.051	0.3		pg/g		08/29/11 15:00	08/31/11 02:50	1
Total PeCDF	ND		5.0	0.050			pg/g		08/29/11 15:00	08/31/11 02:50	1

QC Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Lab Sample ID: G1H290000179B

Matrix: Solid

Analysis Batch: 1241179

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 1241179_P

Analyte	MB MB		ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier									
1,2,3,4,7,8-HxCDF	ND		5.0	0.040	0.1		pg/g		08/29/11 15:00	08/31/11 02:50	1
1,2,3,6,7,8-HxCDF	ND		5.0	0.032	0.1		pg/g		08/29/11 15:00	08/31/11 02:50	1
2,3,4,6,7,8-HxCDF	ND		5.0	0.037	0.1		pg/g		08/29/11 15:00	08/31/11 02:50	1
1,2,3,7,8,9-HxCDF	ND		5.0	0.045	0.1		pg/g		08/29/11 15:00	08/31/11 02:50	1
Total HxCDF	ND		5.0	0.038			pg/g		08/29/11 15:00	08/31/11 02:50	1
1,2,3,4,6,7,8-HpCDF	ND		5.0	0.092	0.01		pg/g		08/29/11 15:00	08/31/11 02:50	1
1,2,3,4,7,8,9-HpCDF	ND		5.0	0.11	0.01		pg/g		08/29/11 15:00	08/31/11 02:50	1
Total HpCDF	ND		5.0	0.10			pg/g		08/29/11 15:00	08/31/11 02:50	1
OCDF	ND		10	0.082	0.0003		pg/g		08/29/11 15:00	08/31/11 02:50	1
Total TEQ						0.00					

Internal Standard	MB MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
13C-2,3,7,8-TCDD	79		40 - 135	08/29/11 15:00	08/31/11 02:50	1
13C-1,2,3,7,8-PeCDD	78		40 - 135	08/29/11 15:00	08/31/11 02:50	1
13C-1,2,3,6,7,8-HxCDD	75		40 - 135	08/29/11 15:00	08/31/11 02:50	1
13C-1,2,3,4,6,7,8-HpCDD	91		40 - 135	08/29/11 15:00	08/31/11 02:50	1
13C-OCDD	88		40 - 135	08/29/11 15:00	08/31/11 02:50	1
13C-2,3,7,8-TCDF	82		40 - 135	08/29/11 15:00	08/31/11 02:50	1
13C-1,2,3,7,8-PeCDF	84		40 - 135	08/29/11 15:00	08/31/11 02:50	1
13C-1,2,3,4,7,8-HxCDF	78		40 - 135	08/29/11 15:00	08/31/11 02:50	1
13C-1,2,3,4,6,7,8-HpCDF	91		40 - 135	08/29/11 15:00	08/31/11 02:50	1

Lab Sample ID: G1H290000179C

Matrix: Solid

Analysis Batch: 1241179

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 1241179_P

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
2,3,7,8-TCDD	20.0	22.7		pg/g		114	60 - 138
1,2,3,7,8-PeCDD	100	114		pg/g		114	70 - 122
1,2,3,4,7,8-HxCDD	100	116		pg/g		116	60 - 138
1,2,3,6,7,8-HxCDD	100	117		pg/g		117	68 - 136
1,2,3,7,8,9-HxCDD	100	131		pg/g		131	68 - 138
1,2,3,4,6,7,8-HpCDD	100	117		pg/g		117	71 - 128
OCDD	200	255		pg/g		127	70 - 128
2,3,7,8-TCDF	20.0	22.8		pg/g		114	56 - 158
1,2,3,7,8-PeCDF	100	111		pg/g		111	69 - 134
2,3,4,7,8-PeCDF	100	114		pg/g		114	70 - 131
1,2,3,4,7,8-HxCDF	100	113		pg/g		113	74 - 128
1,2,3,6,7,8-HxCDF	100	99.8		pg/g		100	67 - 140
2,3,4,6,7,8-HxCDF	100	110		pg/g		110	71 - 137
1,2,3,7,8,9-HxCDF	100	122		pg/g		122	72 - 134
1,2,3,4,6,7,8-HpCDF	100	116		pg/g		116	71 - 134
1,2,3,4,7,8,9-HpCDF	100	120		pg/g		120	68 - 129
OCDF	200	238		pg/g		119	63 - 141

Internal Standard	LCS LCS		Limits
	% Recovery	Qualifier	
13C-2,3,7,8-TCDD	82		40 - 135
13C-1,2,3,7,8-PeCDD	91		40 - 135
13C-1,2,3,6,7,8-HxCDD	73		40 - 135

QC Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Lab Sample ID: G1H290000179C
 Matrix: Solid
 Analysis Batch: 1241179

Client Sample ID: Lab Control Sample
 Prep Type: Total
 Prep Batch: 1241179_P

Internal Standard	LCS % Recovery	LCS Qualifier	Limits
13C-1,2,3,4,6,7,8-HpCDD	89		40 - 135
13C-OCDD	91		40 - 135
13C-2,3,7,8-TCDF	87		40 - 135
13C-1,2,3,7,8-PeCDF	93		40 - 135
13C-1,2,3,4,7,8-HxCDF	82		40 - 135
13C-1,2,3,4,6,7,8-HpCDF	88		40 - 135

Method: 6010B - RCRA Metals

Lab Sample ID: MB 280-84428/1-A
 Matrix: Solid
 Analysis Batch: 85118

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 84428

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.0		mg/Kg		09/07/11 06:00	09/08/11 03:16	1
Lead	ND		0.80		mg/Kg		09/07/11 06:00	09/08/11 03:16	1

Lab Sample ID: LCS 280-84428/2-A
 Matrix: Solid
 Analysis Batch: 85118

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 84428

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic	49.3	49.3		mg/Kg		100	85 - 110
Lead	24.6	24.4		mg/Kg		99	86 - 110

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 280-84433/1-A
 Matrix: Solid
 Analysis Batch: 84767

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 84433

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.017		mg/Kg		09/06/11 14:40	09/06/11 18:05	1

Lab Sample ID: LCS 280-84433/2-A
 Matrix: Solid
 Analysis Batch: 84767

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 84433

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.413	0.402		mg/Kg		98	87 - 111

Method: EPA 6010 - Bio-available Metals

Lab Sample ID: 11I0037-BLK1
 Matrix: Solid/Soil
 Analysis Batch: 11I0037

Client Sample ID: Method Blank
 Prep Type: Total
 Prep Batch: 11I0037_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Total	ND		1.00		mg/kg		09/15/11 10:48	09/19/11 14:48	1.00

QC Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Method: EPA 6010 - Bio-available Metals (Continued)

Lab Sample ID: 11I0037-BS1
Matrix: Solid/Soil
Analysis Batch: 11I0037

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 11I0037_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic Total	50.0	48.1		mg/kg		96	80 - 120

Lab Sample ID: 11I0037-MS1
Matrix: Solid/Soil
Analysis Batch: 11I0037

Client Sample ID: Matrix Spike
Prep Type: Total
Prep Batch: 11I0037_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic Total	45.9		49.5	80.1	M1	mg/kg		69	80 - 120

Lab Sample ID: 11I0037-MSD1
Matrix: Solid/Soil
Analysis Batch: 11I0037

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total
Prep Batch: 11I0037_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Arsenic Total	45.9		49.5	75.9	M1	mg/kg		61	80 - 120	5	20

Method: EPA 6010 - Total Metals by EPA Method 6010/7471

Lab Sample ID: 11H0025-BLK1
Matrix: Solid/Soil
Analysis Batch: 11H0025

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 11H0025_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		10.0		mg/kg		08/05/11 08:55	08/08/11 11:06	1.00
Lead	ND		20.0		mg/kg		08/05/11 08:55	08/08/11 11:06	1.00

Lab Sample ID: 11H0025-BS1
Matrix: Solid/Soil
Analysis Batch: 11H0025

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 11H0025_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic	100	103		mg/kg		103	80 - 120
Lead	100	94.3		mg/kg		94	80 - 120

Lab Sample ID: 11H0025-MS1
Matrix: Solid/Soil
Analysis Batch: 11H0025

Client Sample ID: PMAK-DU1-A
Prep Type: Total
Prep Batch: 11H0025_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic	38.0		102	99.9	M1	mg/kg		60	80 - 120
Lead	119		102	234		mg/kg		113	80 - 120

Lab Sample ID: 11H0025-MSD1
Matrix: Solid/Soil
Analysis Batch: 11H0025

Client Sample ID: PMAK-DU1-A
Prep Type: Total
Prep Batch: 11H0025_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Arsenic	38.0		91.5	94.4	M1	mg/kg		62	80 - 120	6	20
Lead	119		91.5	221		mg/kg		112	80 - 120	6	20

QC Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Method: EPA 7471 - Total Metals by EPA Method 6010/7471

Lab Sample ID: 11H0032-BLK1
Matrix: Solid/Soil
Analysis Batch: 11H0032

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 11H0032_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00500		mg/kg		08/08/11 10:30	08/08/11 15:59	1.00

Lab Sample ID: 11H0032-BS1
Matrix: Solid/Soil
Analysis Batch: 11H0032

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 11H0032_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.0400	0.0412		mg/kg		103	80 - 120

Lab Sample ID: 11H0032-MS1
Matrix: Solid/Soil
Analysis Batch: 11H0032

Client Sample ID: Matrix Spike
Prep Type: Total
Prep Batch: 11H0032_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.301		0.0345	0.340		mg/kg		113	75 - 125

Lab Sample ID: 11H0032-MSD1
Matrix: Solid/Soil
Analysis Batch: 11H0032

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total
Prep Batch: 11H0032_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Mercury	0.301		0.0360	0.342		mg/kg		114	75 - 125	0.6	20

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

GCMS Semivolatiles

Analysis Batch: 11H0033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0033-BLK1	Method Blank	Total	Solid/Soil	EPA 8270	11H0033_P
11H0033-BS1	Lab Control Sample	Total	Solid/Soil	EPA 8270	11H0033_P
11H0033-MS1	PMAK-DU1-A	Total	Solid/Soil	EPA 8270	11H0033_P
11H0033-MSD1	PMAK-DU1-A	Total	Solid/Soil	EPA 8270	11H0033_P
HUH0012-01	PMAK-DU1-A	Total	Solid/Soil	EPA 8270	11H0033_P
HUH0012-02	PMAK-DU1-B	Total	Solid/Soil	EPA 8270	11H0033_P
HUH0012-06	PMAK-DU2-A	Total	Solid/Soil	EPA 8270	11H0033_P
HUH0012-07	PMAK-DU2-B	Total	Solid/Soil	EPA 8270	11H0033_P
HUH0012-08	PMAK-DU2-C	Total	Solid/Soil	EPA 8270	11H0033_P
HUH0012-09	PMAK-DU2-D	Total	Solid/Soil	EPA 8270	11H0033_P

Analysis Batch: 11H0065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0065-BLK1	Method Blank	Total	Solid/Soil	EPA 8270	11H0065_P
11H0065-BS1	Lab Control Sample	Total	Solid/Soil	EPA 8270	11H0065_P
11H0065-MS1	Matrix Spike	Total	Solid/Soil	EPA 8270	11H0065_P
11H0065-MSD1	Matrix Spike Duplicate	Total	Solid/Soil	EPA 8270	11H0065_P
HUH0012-03 - RE1	PMAK-DU1-C	Total	Solid/Soil	EPA 8270	11H0065_P

Prep Batch: 11H0033_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0033-BLK1	Method Blank	Total	Solid/Soil	EPA 3550 MS	
11H0033-BS1	Lab Control Sample	Total	Solid/Soil	EPA 3550 MS	
11H0033-MS1	PMAK-DU1-A	Total	Solid/Soil	EPA 3550 MS	
11H0033-MSD1	PMAK-DU1-A	Total	Solid/Soil	EPA 3550 MS	
HUH0012-01	PMAK-DU1-A	Total	Solid/Soil	EPA 3550 MS	
HUH0012-02	PMAK-DU1-B	Total	Solid/Soil	EPA 3550 MS	
HUH0012-06	PMAK-DU2-A	Total	Solid/Soil	EPA 3550 MS	
HUH0012-07	PMAK-DU2-B	Total	Solid/Soil	EPA 3550 MS	
HUH0012-08	PMAK-DU2-C	Total	Solid/Soil	EPA 3550 MS	
HUH0012-09	PMAK-DU2-D	Total	Solid/Soil	EPA 3550 MS	

Prep Batch: 11H0065_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0065-BLK1	Method Blank	Total	Solid/Soil	EPA 3550 MS	
11H0065-BS1	Lab Control Sample	Total	Solid/Soil	EPA 3550 MS	
11H0065-MS1	Matrix Spike	Total	Solid/Soil	EPA 3550 MS	
11H0065-MSD1	Matrix Spike Duplicate	Total	Solid/Soil	EPA 3550 MS	
HUH0012-03 - RE1	PMAK-DU1-C	Total	Solid/Soil	EPA 3550 MS	

DIOXIN

Analysis Batch: 1241179

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
G1H290000179B	Method Blank	Total	Solid	8290	
G1H290000179C	Lab Control Sample	Total	Solid	8290	
HUH0012-01	PMAK-DU1-A	Total	Solid/Soil	8290	
HUH0012-02	PMAK-DU1-B	Total	Solid/Soil	8290	
HUH0012-06	PMAK-DU2-A	Total	Solid/Soil	8290	
HUH0012-07	PMAK-DU2-B	Total	Solid/Soil	8290	

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

DIOXIN (Continued)

Prep Batch: 1241179_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
G1H290000179B	Method Blank	Total	Solid	8290	
G1H290000179C	Lab Control Sample	Total	Solid	8290	
HUH0012-01	PMAK-DU1-A	Total	Solid/Soil	8290	
HUH0012-02	PMAK-DU1-B	Total	Solid/Soil	8290	
HUH0012-06	PMAK-DU2-A	Total	Solid/Soil	8290	
HUH0012-07	PMAK-DU2-B	Total	Solid/Soil	8290	

Metals

Prep Batch: 84428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0012-09	PMAK-DU2-D	Total/NA	Solid/Soil	3050B	84434
LCS 280-84428/2-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 280-84428/1-A	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 84433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0012-09	PMAK-DU2-D	Total/NA	Solid/Soil	7471A	84434
LCS 280-84433/2-A	Lab Control Sample	Total/NA	Solid	7471A	
MB 280-84433/1-A	Method Blank	Total/NA	Solid	7471A	

Leach Batch: 84434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0012-09	PMAK-DU2-D	Total/NA	Solid/Soil	Increm, Prep	

Analysis Batch: 84767

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0012-09	PMAK-DU2-D	Total/NA	Solid/Soil	7471A	84433
LCS 280-84433/2-A	Lab Control Sample	Total/NA	Solid	7471A	84433
MB 280-84433/1-A	Method Blank	Total/NA	Solid	7471A	84433

Analysis Batch: 85118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0012-09	PMAK-DU2-D	Total/NA	Solid/Soil	6010B	84428
LCS 280-84428/2-A	Lab Control Sample	Total/NA	Solid	6010B	84428
MB 280-84428/1-A	Method Blank	Total/NA	Solid	6010B	84428

Analysis Batch: 11H0025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0025-BLK1	Method Blank	Total	Solid/Soil	EPA 6010	11H0025_P
11H0025-BS1	Lab Control Sample	Total	Solid/Soil	EPA 6010	11H0025_P
11H0025-MS1	PMAK-DU1-A	Total	Solid/Soil	EPA 6010	11H0025_P
11H0025-MSD1	PMAK-DU1-A	Total	Solid/Soil	EPA 6010	11H0025_P
HUH0012-01	PMAK-DU1-A	Total	Solid/Soil	EPA 6010	11H0025_P
HUH0012-02	PMAK-DU1-B	Total	Solid/Soil	EPA 6010	11H0025_P
HUH0012-03	PMAK-DU1-C	Total	Solid/Soil	EPA 6010	11H0025_P
HUH0012-06	PMAK-DU2-A	Total	Solid/Soil	EPA 6010	11H0025_P
HUH0012-07	PMAK-DU2-B	Total	Solid/Soil	EPA 6010	11H0025_P
HUH0012-08	PMAK-DU2-C	Total	Solid/Soil	EPA 6010	11H0025_P

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Metals (Continued)

Analysis Batch: 11H0032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0032-BLK1	Method Blank	Total	Solid/Soil	EPA 7471	11H0032_P
11H0032-BS1	Lab Control Sample	Total	Solid/Soil	EPA 7471	11H0032_P
11H0032-MS1	Matrix Spike	Total	Solid/Soil	EPA 7471	11H0032_P
11H0032-MSD1	Matrix Spike Duplicate	Total	Solid/Soil	EPA 7471	11H0032_P
HUH0012-01	PMAK-DU1-A	Total	Solid/Soil	EPA 7471	11H0032_P
HUH0012-02	PMAK-DU1-B	Total	Solid/Soil	EPA 7471	11H0032_P
HUH0012-03	PMAK-DU1-C	Total	Solid/Soil	EPA 7471	11H0032_P
HUH0012-06	PMAK-DU2-A	Total	Solid/Soil	EPA 7471	11H0032_P
HUH0012-07	PMAK-DU2-B	Total	Solid/Soil	EPA 7471	11H0032_P
HUH0012-08	PMAK-DU2-C	Total	Solid/Soil	EPA 7471	11H0032_P

Pre prep Batch: 11I0030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0012-01	PMAK-DU1-A	Total	Solid/Soil	SBRC Appendix C Rev. #8	

Analysis Batch: 11I0037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11I0037-BLK1	Method Blank	Total	Solid/Soil	EPA 6010	11I0037_P
11I0037-BS1	Lab Control Sample	Total	Solid/Soil	EPA 6010	11I0037_P
11I0037-MS1	Matrix Spike	Total	Solid/Soil	EPA 6010	11I0037_P
11I0037-MSD1	Matrix Spike Duplicate	Total	Solid/Soil	EPA 6010	11I0037_P
HUH0012-01	PMAK-DU1-A	Total	Solid/Soil	EPA 6010	11I0037_P

Analysis Batch: 11I0082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0012-01	PMAK-DU1-A	Total	Solid/Soil	SBRC Appendix C Rev. #8	11I0082_P
HUH0012-01	PMAK-DU1-A	Total	Solid/Soil	EPA 6010	11I0082_P

Prep Batch: 11H0025_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0025-BLK1	Method Blank	Total	Solid/Soil	EPA 3050	
11H0025-BS1	Lab Control Sample	Total	Solid/Soil	EPA 3050	
11H0025-MS1	PMAK-DU1-A	Total	Solid/Soil	EPA 3050	
11H0025-MSD1	PMAK-DU1-A	Total	Solid/Soil	EPA 3050	
HUH0012-01	PMAK-DU1-A	Total	Solid/Soil	EPA 3050	
HUH0012-02	PMAK-DU1-B	Total	Solid/Soil	EPA 3050	
HUH0012-03	PMAK-DU1-C	Total	Solid/Soil	EPA 3050	
HUH0012-06	PMAK-DU2-A	Total	Solid/Soil	EPA 3050	
HUH0012-07	PMAK-DU2-B	Total	Solid/Soil	EPA 3050	
HUH0012-08	PMAK-DU2-C	Total	Solid/Soil	EPA 3050	

Prep Batch: 11H0032_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0032-BLK1	Method Blank	Total	Solid/Soil	EPA 7471	
11H0032-BS1	Lab Control Sample	Total	Solid/Soil	EPA 7471	
11H0032-MS1	Matrix Spike	Total	Solid/Soil	EPA 7471	
11H0032-MSD1	Matrix Spike Duplicate	Total	Solid/Soil	EPA 7471	
HUH0012-01	PMAK-DU1-A	Total	Solid/Soil	EPA 7471	
HUH0012-02	PMAK-DU1-B	Total	Solid/Soil	EPA 7471	
HUH0012-03	PMAK-DU1-C	Total	Solid/Soil	EPA 7471	
HUH0012-06	PMAK-DU2-A	Total	Solid/Soil	EPA 7471	

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QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Metals (Continued)

Prep Batch: 11H0032_P (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0012-07	PMAK-DU2-B	Total	Solid/Soil	EPA 7471	
HUH0012-08	PMAK-DU2-C	Total	Solid/Soil	EPA 7471	

Prep Batch: 11I0037_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11I0037-BLK1	Method Blank	Total	Solid/Soil	EPA 3050	
11I0037-BS1	Lab Control Sample	Total	Solid/Soil	EPA 3050	
11I0037-MS1	Matrix Spike	Total	Solid/Soil	EPA 3050	
11I0037-MSD1	Matrix Spike Duplicate	Total	Solid/Soil	EPA 3050	
HUH0012-01	PMAK-DU1-A	Total	Solid/Soil	EPA 3050	

Prep Batch: 11I0082_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0012-01	PMAK-DU1-A	Total	Solid/Soil	SBRC Appendix C Rev. #8	11I0030

Lab Chronicle

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Client Sample ID: PMAK-DU1-A

Lab Sample ID: HUH0012-01

Date Collected: 08/01/11 15:08

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.940	11H0033_P	08/09/11 07:42	SUI	TAL HON
Total	Analysis	EPA 8270		1.00	11H0033	08/18/11 16:50	VH	TAL HON
Total	Prep	8290			1241179_P	08/29/11 15:00	TL	TAL WSC
Total	Analysis	8290		0.95	1241179	09/04/11 14:09	SO	TAL WSC
Total	Prep	EPA 3050		0.847	11H0025_P	08/05/11 08:55	DJK	TAL HON
Total	Analysis	EPA 6010		1.00	11H0025	08/08/11 11:38	DJK	TAL HON
Total	Prep	EPA 3050		1.00	11I0037_P	09/15/11 10:48	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11I0037	09/19/11 15:09	HM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11I0030	09/14/11 10:03	HJM	TAL HON
Total	Prep	SBRC Appendix C Rev. #8		1.00	11I0082_P	09/28/11 11:03	BWN	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11I0082	09/28/11 11:05	BWN	TAL HON
Total	Analysis	EPA 6010		1.00	11I0082	09/28/11 11:05	BWN	TAL HON
Total	Prep	EPA 7471		0.971	11H0032_P	08/08/11 10:30	JLM	TAL HON
Total	Analysis	EPA 7471		20.0	11H0032	08/08/11 16:43	JLM	TAL HON

Client Sample ID: PMAK-DU1-B

Lab Sample ID: HUH0012-02

Date Collected: 08/01/11 15:05

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.929	11H0033_P	08/09/11 07:42	SUI	TAL HON
Total	Analysis	EPA 8270		1.00	11H0033	08/18/11 17:29	VH	TAL HON
Total	Prep	8290			1241179_P	08/29/11 15:00	TL	TAL WSC
Total	Analysis	8290		0.9	1241179	09/04/11 15:00	SO	TAL WSC
Total	Prep	EPA 3050		0.861	11H0025_P	08/05/11 08:55	DJK	TAL HON
Total	Analysis	EPA 6010		1.00	11H0025	08/08/11 11:48	DJK	TAL HON
Total	Analysis	EPA 6010		5.00	11H0025	08/10/11 13:13	DJK	TAL HON
Total	Prep	EPA 7471		0.842	11H0032_P	08/08/11 10:30	JLM	TAL HON
Total	Analysis	EPA 7471		100	11H0032	08/08/11 16:44	JLM	TAL HON

Client Sample ID: PMAK-DU1-C

Lab Sample ID: HUH0012-03

Date Collected: 08/01/11 15:10

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS	RE1	0.949	11H0065_P	08/15/11 08:51	KR	TAL HON
Total	Analysis	EPA 8270	RE1	1.00	11H0065	08/29/11 18:01	BWN	TAL HON
Total	Prep	EPA 3050		0.926	11H0025_P	08/05/11 08:55	DJK	TAL HON
Total	Analysis	EPA 6010		1.00	11H0025	08/08/11 11:54	DJK	TAL HON
Total	Prep	EPA 7471		0.784	11H0032_P	08/08/11 10:30	JLM	TAL HON
Total	Analysis	EPA 7471		10.0	11H0032	08/08/11 16:25	JLM	TAL HON

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Client Sample ID: PMAK-DU2-A

Lab Sample ID: HUH0012-06

Date Collected: 08/01/11 16:25

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.955	11H0033_P	08/09/11 07:42	SUI	TAL HON
Total	Analysis	EPA 8270		1.00	11H0033	08/18/11 18:07	VH	TAL HON
Total	Prep	8290			1241179_P	08/29/11 15:00	TL	TAL WSC
Total	Analysis	8290		0.94	1241179	09/04/11 15:52	SO	TAL WSC
Total	Prep	EPA 3050		0.975	11H0025_P	08/05/11 08:55	DJK	TAL HON
Total	Analysis	EPA 6010		1.00	11H0025	08/08/11 11:59	DJK	TAL HON
Total	Prep	EPA 7471		1.00	11H0032_P	08/08/11 10:30	JLM	TAL HON
Total	Analysis	EPA 7471		10.0	11H0032	08/08/11 16:26	JLM	TAL HON

Client Sample ID: PMAK-DU2-B

Lab Sample ID: HUH0012-07

Date Collected: 08/01/11 16:30

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.958	11H0033_P	08/09/11 07:42	SUI	TAL HON
Total	Analysis	EPA 8270		1.00	11H0033	08/18/11 18:46	VH	TAL HON
Total	Prep	8290			1241179_P	08/29/11 15:00	TL	TAL WSC
Total	Analysis	8290		0.97	1241179	09/04/11 16:43	SO	TAL WSC
Total	Prep	EPA 3050		0.952	11H0025_P	08/05/11 08:55	DJK	TAL HON
Total	Analysis	EPA 6010		1.00	11H0025	08/08/11 12:05	DJK	TAL HON
Total	Prep	EPA 7471		0.986	11H0032_P	08/08/11 10:30	JLM	TAL HON
Total	Analysis	EPA 7471		10.0	11H0032	08/08/11 16:30	JLM	TAL HON

Client Sample ID: PMAK-DU2-C

Lab Sample ID: HUH0012-08

Date Collected: 08/01/11 16:35

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.997	11H0033_P	08/09/11 07:42	SUI	TAL HON
Total	Analysis	EPA 8270		1.00	11H0033	08/18/11 19:26	VH	TAL HON
Total	Prep	EPA 3050		1.01	11H0025_P	08/05/11 08:55	DJK	TAL HON
Total	Analysis	EPA 6010		1.00	11H0025	08/08/11 12:10	DJK	TAL HON
Total	Analysis	EPA 6010		5.00	11H0025	08/10/11 13:18	DJK	TAL HON
Total	Prep	EPA 7471		0.988	11H0032_P	08/08/11 10:30	JLM	TAL HON
Total	Analysis	EPA 7471		10.0	11H0032	08/08/11 16:32	JLM	TAL HON

Client Sample ID: PMAK-DU2-D

Lab Sample ID: HUH0012-09

Date Collected: 08/01/11 16:40

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.984	11H0033_P	08/09/11 07:42	SUI	TAL HON
Total	Analysis	EPA 8270		1.00	11H0033	09/13/11 13:46	VH	TAL HON
Total/NA	Leach	Incram, Prep			84434	09/02/11 14:45	BMS	TAL DEN

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Client Sample ID: PMAK-DU2-D

Lab Sample ID: HUH0012-09

Date Collected: 08/01/11 16:40

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			84433	09/06/11 14:40	HEB	TAL DEN
Total/NA	Analysis	7471A		1	84767	09/06/11 18:26	HEB	TAL DEN
Total/NA	Prep	3050B			84428	09/07/11 06:00	CLI	TAL DEN
Total/NA	Analysis	6010B		5	85118	09/08/11 08:17	LT	TAL DEN

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303) 736-0100

TAL HON = TestAmerica Honolulu, 99-193 Aiea Heights Drive, Suite 121, Aiea, HI 96701, TEL 808-486-5227

TAL WSC = TestAmerica West Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916) 373-5600



Certification Summary

Client: Tetra Tech EM Inc.

TestAmerica Job ID: HUH0012

Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Honolulu	Florida	NELAC	4	E87907
TestAmerica Honolulu	Hawaii	State Program	9	
TestAmerica Honolulu	L-A-B	DoD ELAP		L2250
TestAmerica Honolulu	USDA	USDA		HON-S-206
TestAmerica Denver	A2LA	DoD ELAP		2907.01
TestAmerica Denver	A2LA	ISO/IEC 17025		2907.01
TestAmerica Denver	Alabama	State Program	4	40730
TestAmerica Denver	Alaska	Alaska UST	10	UST-30
TestAmerica Denver	Arizona	State Program	9	AZ0713
TestAmerica Denver	Arkansas	State Program	6	88-0687
TestAmerica Denver	California	State Program	9	2513
TestAmerica Denver	Colorado	State Program	8	N/A
TestAmerica Denver	Connecticut	State Program	1	PH-0686
TestAmerica Denver	Florida	NELAC	4	E87667
TestAmerica Denver	Georgia	State Program	4	N/A
TestAmerica Denver	Idaho	State Program	10	CO00026
TestAmerica Denver	Illinois	NELAC	5	200017
TestAmerica Denver	Iowa	State Program	7	370
TestAmerica Denver	Kansas	NELAC	7	E-10166
TestAmerica Denver	Louisiana	NELAC	6	30785
TestAmerica Denver	Maine	State Program	1	CO0002
TestAmerica Denver	Maryland	State Program	3	268
TestAmerica Denver	Minnesota	NELAC	5	8-999-405
TestAmerica Denver	Nevada	State Program	9	CO0026
TestAmerica Denver	New Hampshire	NELAC	1	205310
TestAmerica Denver	New Jersey	NELAC	2	CO004
TestAmerica Denver	New Mexico	State Program	6	N/A
TestAmerica Denver	New York	NELAC	2	11964
TestAmerica Denver	North Carolina	North Carolina DENR	4	358
TestAmerica Denver	North Dakota	State Program	8	R-034
TestAmerica Denver	Oklahoma	State Program	6	8614
TestAmerica Denver	Oregon	NELAC	10	CO200001
TestAmerica Denver	Pennsylvania	NELAC	3	68-00664
TestAmerica Denver	South Carolina	State Program	4	72002
TestAmerica Denver	Tennessee	State Program	4	TN02944
TestAmerica Denver	Texas	NELAC	6	T104704183-08-TX
TestAmerica Denver	USDA	USDA		P330-08-00036
TestAmerica Denver	Utah	NELAC	8	QUAN5
TestAmerica Denver	Washington	State Program	10	C1284
TestAmerica Denver	West Virginia	West Virginia DEP	3	354
TestAmerica Denver	Wisconsin	State Program	5	999615430
TestAmerica West Sacramento		USEPA UCMR		CA00044
TestAmerica West Sacramento	A2LA	DoD ELAP		2928-01
TestAmerica West Sacramento	Alaska	Alaska UST	10	UST-055
TestAmerica West Sacramento	Arizona	State Program	9	AZ0708
TestAmerica West Sacramento	Arkansas	State Program	6	88-0691
TestAmerica West Sacramento	California	NELAC	9	1119CA
TestAmerica West Sacramento	Colorado	State Program	8	N/A
TestAmerica West Sacramento	Connecticut	State Program	1	PH-0691
TestAmerica West Sacramento	Florida	NELAC	4	E87570
TestAmerica West Sacramento	Georgia	State Program	4	960
TestAmerica West Sacramento	Guam	State Program	9	N/A
TestAmerica West Sacramento	Hawaii	State Program	9	N/A
TestAmerica West Sacramento	Illinois	NELAC	5	200060

Certification Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica West Sacramento	Kansas	NELAC	7	E-10375
TestAmerica West Sacramento	Louisiana	NELAC	6	30612
TestAmerica West Sacramento	Michigan	State Program	5	9947
TestAmerica West Sacramento	Nevada	State Program	9	CA44
TestAmerica West Sacramento	New Jersey	NELAC	2	CA005
TestAmerica West Sacramento	New Mexico	State Program	6	N/A
TestAmerica West Sacramento	New York	NELAC	2	11666
TestAmerica West Sacramento	Oregon	NELAC	10	CA200005
TestAmerica West Sacramento	Pennsylvania	NELAC	3	68-01272
TestAmerica West Sacramento	South Carolina	State Program	4	87014
TestAmerica West Sacramento	Texas	NELAC	6	T104704399-08-TX
TestAmerica West Sacramento	US Fish & Wildlife	US Fish & Wildlife		LE148388-0
TestAmerica West Sacramento	USDA	USDA		P330-09-00055
TestAmerica West Sacramento	Utah	NELAC	8	QUAN1
TestAmerica West Sacramento	Virginia	State Program	3	178
TestAmerica West Sacramento	Washington	State Program	10	C581
TestAmerica West Sacramento	West Virginia	West Virginia DEP	3	334
TestAmerica West Sacramento	West Virginia	West Virginia DHHR (DW)	3	9930C
TestAmerica West Sacramento	Wisconsin	State Program	5	998204680
TestAmerica West Sacramento	Wyoming	State Program	8	8TMS-Q

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: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0012

Method	Method Description	Protocol	Laboratory
EPA 8270	Semivolatile Organics Compounds by EPA 8270		TAL HON
8290	Dioxins/Furans, HRGC/HRMS (8290)	SW846	TAL WSC
6010B	RCRA Metals	SW846	TAL DEN
7471A	Mercury (CVAA)	SW846	TAL DEN
EPA 6010	Total Metals by EPA Method 6010/7471		TAL HON
EPA 6010	Bio-available Metals		TAL HON
EPA 7471	Total Metals by EPA Method 6010/7471		TAL HON
SBRC Appendix C Rev. #8	Bio-available Metals		TAL HON
EPA 6010	Total Metals by EPA Method 6010/7471		TAL DEN
EPA 7471	Total Metals by EPA Method 6010/7471		TAL DEN
EPA 8290	Subcontracted Analyses		TAL WSC

Protocol References:

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303) 736-0100

TAL HON = TestAmerica Honolulu, 99-193 Aiea Heights Drive, Suite 121, Aiea, HI 96701, TEL 808-486-5227

TAL WSC = TestAmerica West Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916) 373-5600

September 11, 2011

TestAmerica Project Number: G1H120420
PO/Contract: Sub HON HUH0012

Margie Pascua Thach
TestAmerica - Honolulu
RL Cushing Building
99-193 Aiea Heights Dr
Aiea, HI 96701

Dear Mr. Pascua Thach,

This report contains the analytical results for the samples received under chain of custody by TestAmerica on August 12, 2011. These samples are associated with your HUH0012 project.

The test results in this report meet all NELAC requirements for parameters that accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The case narrative is an integral part of this report.

If you have any questions, please feel free to call me at (916) 374-4383.

Sincerely,



DAVID R. ALLTUCKER
Project Manager



Table of Contents

TestAmerica West Sacramento Project Number G1H120420

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- Sacramento Quality Assurance Program
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- Executive Summary
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- Method / Analyst Summary
- Sample Data Sheets
- SOLID, 8290, Dioxins/Furans-incremental
Samples: 1, 2, 3, 4
- QC Data Association Summary
- Laboratory QC Reports
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- Shipping and Receiving Documents

Case Narrative

TestAmerica West Sacramento Project Number G1H120420

SOLID, 8290, Dioxins/Furans

Sample(s): 1, 2, 3, 4

The concentrations of OCDD in the above samples exceeded the upper quantitation level of the initial calibration curve, but the peaks did not saturate the instrument detector. Historical data indicates that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported with the 'E' qualifier.

Sample(s): 1, 2, 4

The result for 2, 3, 7, 8-TCDF is reported from the confirmation analysis that occurred on September 2, 2011.

Several analytes are reported from dilutions performed on September 7, 2011. All analytes reported from the diluted extracts will be flagged with a D qualifier.

Sample(s): 4

The concentration of 1,2,3,4,6,7,8 HpCDD in the sample exceeded the upper quantitation level of the initial calibration curve, but the peak did not saturate the instrument detector. Historical data indicates that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported with the 'E' qualifier.

Sample(s): 2

The internal standard recovery for 13C-OCDD is above the method recommended goal. The high concentration of OCDD in the above sample contributes to elevated IS recovery. The quantitation of the target analyte is not adversely impacted by this anomaly.

There were no other anomalies associated with this project.

TestAmerica Laboratories West Sacramento Certifications/Accreditations

Certifying State	Certificate #	Certifying State	Certificate #
A2LA (DoD-ELAP)	2928-01	New Mexico	NA
Alaska	UST-055	New York*	11666
Arizona	AZ0708	Oregon*	CA 200005
Arkansas	88-0691	Pennsylvania*	68-1272
California*	01119CA	South Carolina	87014
Colorado	NA	Texas*	T104704399-08-TX
Connecticut	PH-0691	UCMR	CA00044
Florida*	E87570	US Fish & Wildlife	LE148388-0
Georgia	960	USDA Foreign Plant	37-82605
Guam	10-009r	USDA Foreign Soil	P330-09-00055
Hawaii	NA	Utah*	QUAN1
Illinois*	002701	Virginia	178
Kansas*	E-10375	Washington	C581
Louisiana*	01944	West Virginia	9930C, 334
Michigan	9947	Wisconsin	998204680
Nevada	CA44	Wyoming	8TMS-Q
New Jersey*	CA005		

*NELAP accredited. A more detailed parameter list is available upon request. Updated 5/25/2011

QC Parameter Definitions

QC Batch: The QC batch consists of a set of up to 20 field samples that behave similarly (i.e., same matrix) and are processed using the same procedures, reagents, and standards at the same time.

Method Blank: An analytical control consisting of all reagents, which may include internal standards and surrogates, and is carried through the entire analytical procedure. The method blank is used to define the level of laboratory background contamination.

Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD): An aliquot of blank matrix spiked with known amounts of representative target analytes. The LCS (and LCSD as required) is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects. If an LCSD is performed, it may also be used to evaluate the precision of the process.

Duplicate Sample (DU): Different aliquots of the same sample are analyzed to evaluate the precision of an analysis.

Surrogates: Organic compounds not expected to be detected in field samples, which behave similarly to target analytes. These are added to every sample within a batch at a known concentration to determine the efficiency of the sample preparation and analytical process.

Matrix Spike and Matrix Spike Duplicate (MS/MSD): An MS is an aliquot of a matrix fortified with known quantities of specific compounds and subjected to an entire analytical procedure in order to indicate the appropriateness of the method for a particular matrix. The percent recovery for the respective compound(s) is then calculated. The MSD is a second aliquot of the same matrix as the matrix spike, also spiked, in order to determine the precision of the method.

Isotope Dilution: For isotope dilution methods, isotopically labeled analogs (internal standards) of the native target analytes are spiked into the sample at time of extraction. These internal standards are used for quantitation, and monitor and correct for matrix effects. Since matrix effects on method performance can be judged by the recovery of these analogs, there is little added benefit of performing MS/MSD for these methods. MS/MSD are only performed for client or QAPP requirements.

Control Limits: The reported control limits are either based on laboratory historical data, method requirements, or project data quality objectives. The control limits represent the estimated uncertainty of the test results.

Sample Summary

TestAmerica West Sacramento Project Number G1H120420

<u>WO#</u>	<u>Sample #</u>	<u>Client Sample ID</u>	<u>Sampling Date</u>	<u>Received Date</u>
MLK9M	1	HUH0012-01	8/1/2011 03:08 PM	8/12/2011 08:55 AM
MLLAL	2	HUH0012-02	8/1/2011 03:05 PM	8/12/2011 08:55 AM
MLLCL	3	HUH0012-06	8/1/2011 04:25 PM	8/12/2011 08:55 AM
MLLCN	4	HUH0012-07	8/1/2011 04:30 PM	8/12/2011 08:55 AM

Notes(s):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity, pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

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SOLID, 8290, Dioxins/Furans

EXECUTIVE SUMMARY - Detection Highlights

G1H120420

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
HUH0012-01 08/01/11 15:08 001				
2,3,7,8-TCDD	1.1	0.96	pg/g	SW846 8290
Total TCDD	15	0.96	pg/g	SW846 8290
1,2,3,7,8-PeCDD	11	4.8	pg/g	SW846 8290
Total PeCDD	59	4.8	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	26	4.8	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	140	4.8	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	65	4.8	pg/g	SW846 8290
Total HxCDD	800	4.8	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	4600 D	48	pg/g	SW846 8290
Total HpCDD	8600	48	pg/g	SW846 8290
OCDD	49000 E,D	96	pg/g	SW846 8290
2,3,7,8-TCDF	1.1 CON	0.96	pg/g	SW846 8290
Total TCDF	17	0.96	pg/g	SW846 8290
Total PeCDF	95	4.8	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	58	4.8	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	32	4.8	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	18	4.8	pg/g	SW846 8290
Total HxCDF	1700	4.8	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	1300	4.8	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	99	4.8	pg/g	SW846 8290
Total HpCDF	5700	4.8	pg/g	SW846 8290
OCDF	3400 D	96	pg/g	SW846 8290
HUH0012-02 08/01/11 15:05 002				
2,3,7,8-TCDD	2.0	0.90	pg/g	SW846 8290
Total TCDD	29	0.90	pg/g	SW846 8290
1,2,3,7,8-PeCDD	25	4.5	pg/g	SW846 8290
Total PeCDD	110	4.5	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	60	4.5	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	180	4.5	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	130	4.5	pg/g	SW846 8290
Total HxCDD	1100	4.5	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	5100 D	45	pg/g	SW846 8290
Total HpCDD	9200	45	pg/g	SW846 8290
OCDD	38000 E,D	90	pg/g	SW846 8290
2,3,7,8-TCDF	2.2 CON	0.90	pg/g	SW846 8290
Total TCDF	26	0.90	pg/g	SW846 8290
2,3,4,7,8-PeCDF	6.6	4.5	pg/g	SW846 8290
Total PeCDF	130	4.5	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	66	4.5	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	45	4.5	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	29	4.5	pg/g	SW846 8290

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

G1H120420

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
HUH0012-02 08/01/11 15:05 002				
Total HxCDF	2100	4.5	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	1800 D	45	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	110 D	45	pg/g	SW846 8290
Total HpCDF	6300	45	pg/g	SW846 8290
OCDF	3600 D	90	pg/g	SW846 8290
HUH0012-06 08/01/11 16:25 003				
1,2,3,4,7,8-HxCDD	5.2	4.7	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	28	4.7	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	13	4.7	pg/g	SW846 8290
Total HxCDD	190	4.7	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	870	4.7	pg/g	SW846 8290
Total HpCDD	1700	4.7	pg/g	SW846 8290
OCDD	11000 E	9.5	pg/g	SW846 8290
Total TCDF	2.3	0.95	pg/g	SW846 8290
Total PeCDF	13	4.7	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	11	4.7	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	5.2	4.7	pg/g	SW846 8290
Total HxCDF	320	4.7	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	260	4.7	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	21	4.7	pg/g	SW846 8290
Total HpCDF	1100	4.7	pg/g	SW846 8290
OCDF	710	9.5	pg/g	SW846 8290
HUH0012-07 08/01/11 16:30 004				
2,3,7,8-TCDD	1.0	0.97	pg/g	SW846 8290
Total TCDD	19	0.97	pg/g	SW846 8290
1,2,3,7,8-PeCDD	9.4	4.9	pg/g	SW846 8290
Total PeCDD	63	4.9	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	29	4.9	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	99	4.9	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	63	4.9	pg/g	SW846 8290
Total HxCDD	850	4.9	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	3000 E	4.9	pg/g	SW846 8290
Total HpCDD	5700	4.9	pg/g	SW846 8290
OCDD	38000 E	9.7	pg/g	SW846 8290
2,3,7,8-TCDF	1.1 CON	0.97	pg/g	SW846 8290
Total TCDF	18	0.97	pg/g	SW846 8290
Total PeCDF	64	4.9	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	36	4.9	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	18	4.9	pg/g	SW846 8290

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

G1H120420

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
HUH0012-07 08/01/11 16:30 004				
2,3,4,6,7,8-HxCDF	10	4.9	pg/g	SW846 8290
Total HxCDF	1100	4.9	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	810	4.9	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	64	4.9	pg/g	SW846 8290
Total HpCDF	3200	4.9	pg/g	SW846 8290
OCDF	1900	9.7	pg/g	SW846 8290

ANALYTICAL METHODS SUMMARY

G1H120420

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Dibenzodioxins and Dibenzofurans, HRGC/HRMS	SW846 8290

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.



METHOD / ANALYST SUMMARY

G1H120420

<u>ANALYTICAL METHOD</u>	<u>ANALYST</u>	<u>ANALYST ID</u>
SW846 8290	Sonia Ouni	006881

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

TestAmerica Honolulu
Sample ID: HUH0012-01
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120420 - 001	Work Order #....:	MLK9M2AA	Matrix....:	SOLID
Date Sampled....:	08/01/11	Date Received....:	08/12/11	Dilution Factor:	0.95
Prep Date....:	08/29/11	Analysis Date....:	09/04/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.43 g	Analyst ID....:	Sonia Ouni		

PARAMETER	RESULT		REPORTING LIMIT	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	1.1		0.96	0.11	pg/g
Total TCDD	15		0.96	0.11	pg/g
1,2,3,7,8-PeCDD	11		4.8	0.27	pg/g
Total PeCDD	59		4.8	0.27	pg/g
1,2,3,4,7,8-HxCDD	26		4.8	0.16	pg/g
1,2,3,6,7,8-HxCDD	140		4.8	0.12	pg/g
1,2,3,7,8,9-HxCDD	65		4.8	0.14	pg/g
Total HxCDD	800		4.8	0.14	pg/g
1,2,3,4,6,7,8-HpCDD	4600	D	48	15	pg/g
Total HpCDD	8600		48	15	pg/g
OCDD	49000	E D	96	14	pg/g
2,3,7,8-TCDF	1.1	CON	0.96	0.34	pg/g
Total TCDF	17		0.96	0.061	pg/g
1,2,3,7,8-PeCDF	ND		4.8	0.13	pg/g
2,3,4,7,8-PeCDF	ND		4.8	0.13	pg/g
Total PeCDF	95		4.8	0.13	pg/g
1,2,3,4,7,8-HxCDF	58		4.8	0.12	pg/g
1,2,3,6,7,8-HxCDF	32		4.8	0.097	pg/g
2,3,4,6,7,8-HxCDF	18		4.8	0.11	pg/g
1,2,3,7,8,9-HxCDF	ND		4.8	0.13	pg/g
Total HxCDF	1700		4.8	0.11	pg/g
1,2,3,4,6,7,8-HpCDF	1300		4.8	0.86	pg/g
1,2,3,4,7,8,9-HpCDF	99		4.8	1.0	pg/g
Total HpCDF	5700		4.8	0.94	pg/g
OCDF	3400	D	96	6.0	pg/g

TestAmerica Honolulu
Sample ID: HUH0012-01
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120420 - 001	Work Order #....:	MLK9M2AA	Matrix....:	SOLID
Date Sampled....:	08/01/11	Date Received....:	08/12/11	Dilution Factor:	0.95
Prep Date....:	08/29/11	Analysis Date....:	09/04/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.43 g	Analyst ID....:	Sonia Ouni		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	75	40 - 135
13C-1,2,3,7,8-PeCDD	77	40 - 135
13C-1,2,3,6,7,8-HxCDD	82	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	84	40 - 135
13C-OCDD	127	40 - 135
13C-2,3,7,8-TCDF	79	40 - 135
13C-1,2,3,7,8-PeCDF	82	40 - 135
13C-1,2,3,4,7,8-HxCDF	83	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	87	40 - 135

QUALIFIERS

- CON Confirmation analysis.
- D Result was obtained from the analysis of a dilution.
- E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu
Sample ID: HUH0012-02
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120420 - 002	Work Order #....:	MLLAL2AA	Matrix....:	SOLID
Date Sampled....:	08/01/11	Date Received....:	08/12/11	Dilution Factor:	0.9
Prep Date....:	08/29/11	Analysis Date....:	09/04/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	11.1 g	Analyst ID....:	Sonia Ouni		

PARAMETER	RESULT		REPORTING LIMIT	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	2.0		0.90	0.091	pg/g
Total TCDD	29		0.90	0.091	pg/g
1,2,3,7,8-PeCDD	25		4.5	0.23	pg/g
Total PeCDD	110		4.5	0.23	pg/g
1,2,3,4,7,8-HxCDD	60		4.5	0.25	pg/g
1,2,3,6,7,8-HxCDD	180		4.5	0.19	pg/g
1,2,3,7,8,9-HxCDD	130		4.5	0.21	pg/g
Total HxCDD	1100		4.5	0.22	pg/g
1,2,3,4,6,7,8-HpCDD	5100	D	45	21	pg/g
Total HpCDD	9200		45	21	pg/g
OCDD	38000	E D	90	14	pg/g
2,3,7,8-TCDF	2.2	CON	0.90	0.30	pg/g
Total TCDF	26		0.90	0.062	pg/g
1,2,3,7,8-PeCDF	ND		4.5	0.16	pg/g
2,3,4,7,8-PeCDF	6.6		4.5	0.17	pg/g
Total PeCDF	130		4.5	0.17	pg/g
1,2,3,4,7,8-HxCDF	66		4.5	0.19	pg/g
1,2,3,6,7,8-HxCDF	45		4.5	0.15	pg/g
2,3,4,6,7,8-HxCDF	29		4.5	0.17	pg/g
1,2,3,7,8,9-HxCDF	ND		4.5	0.21	pg/g
Total HxCDF	2100		4.5	0.18	pg/g
1,2,3,4,6,7,8-HpCDF	1800	D	45	5.5	pg/g
1,2,3,4,7,8,9-HpCDF	110	D	45	6.9	pg/g
Total HpCDF	6300		45	6.1	pg/g
OCDF	3600	D	90	5.8	pg/g

TestAmerica Honolulu
Sample ID: HUH0012-02
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....: G1H120420 - 002	Work Order #....: MLLAL2AA	Matrix....: SOLID
Date Sampled....: 08/01/11	Date Received....: 08/12/11	Dilution Factor: 0.9
Prep Date....: 08/29/11	Analysis Date....: 09/04/11	Percent Moisture:
Prep Batch #: 1241179	Instrument ID....: 3D5	
Initial Wgt/Vol : 11.1 g	Analyst ID....: Sonia Ouni	

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	92	40 - 135
13C-1,2,3,7,8-PeCDD	105	40 - 135
13C-1,2,3,6,7,8-HxCDD	93	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	114	40 - 135
13C-OCDD	182 *	40 - 135
13C-2,3,7,8-TCDF	92	40 - 135
13C-1,2,3,7,8-PeCDF	110	40 - 135
13C-1,2,3,4,7,8-HxCDF	107	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	116	40 - 135

QUALIFIERS

- * Surrogate recovery is outside stated control limits
- CON Confirmation analysis.
- D Result was obtained from the analysis of a dilution.
- E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu
Sample ID: HUH0012-06
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	GIH120420 - 003	Work Order #....:	MLLCL2AA	Matrix....:	SOLID
Date Sampled....:	08/01/11	Date Received....:	08/12/11	Dilution Factor:	0.94
Prep Date....:	08/29/11	Analysis Date....:	09/04/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.57 g	Analyst ID....:	Sonia Ouni		

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>ESTIMATED DETECTION LIMIT</u>	<u>UNITS</u>
2,3,7,8-TCDD	ND	0.95	0.088	pg/g
Total TCDD	ND	0.95	0.088	pg/g
1,2,3,7,8-PeCDD	ND	4.7	0.23	pg/g
Total PeCDD	ND	4.7	0.23	pg/g
1,2,3,4,7,8-HxCDD	5.2	4.7	0.20	pg/g
1,2,3,6,7,8-HxCDD	28	4.7	0.15	pg/g
1,2,3,7,8,9-HxCDD	13	4.7	0.17	pg/g
Total HxCDD	190	4.7	0.17	pg/g
1,2,3,4,6,7,8-HpCDD	870	4.7	0.77	pg/g
Total HpCDD	1700	4.7	0.77	pg/g
OCDD	11000 E	9.5	1.3	pg/g
2,3,7,8-TCDF	ND	0.95	0.055	pg/g
Total TCDF	2.3	0.95	0.055	pg/g
1,2,3,7,8-PeCDF	ND	4.7	0.098	pg/g
2,3,4,7,8-PeCDF	ND	4.7	0.10	pg/g
Total PeCDF	13	4.7	0.099	pg/g
1,2,3,4,7,8-HxCDF	11	4.7	0.12	pg/g
1,2,3,6,7,8-HxCDF	5.2	4.7	0.099	pg/g
2,3,4,6,7,8-HxCDF	ND	4.7	0.11	pg/g
1,2,3,7,8,9-HxCDF	ND	4.7	0.14	pg/g
Total HxCDF	320	4.7	0.12	pg/g
1,2,3,4,6,7,8-HpCDF	260	4.7	0.40	pg/g
1,2,3,4,7,8,9-HpCDF	21	4.7	0.48	pg/g
Total HpCDF	1100	4.7	0.44	pg/g
OCDF	710	9.5	0.37	pg/g

TestAmerica Honolulu
Sample ID: HUH0012-06
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....: G1H120420 - 003	Work Order #....: MLLCL2AA	Matrix....: SOLID
Date Sampled....: 08/01/11	Date Received....: 08/12/11	Dilution Factor: 0.94
Prep Date....: 08/29/11	Analysis Date....: 09/04/11	Percent Moisture:
Prep Batch #: 1241179	Instrument ID....: 3D5	
Initial Wgt/Vol: 10.57 g	Analyst ID....: Sonia Ouni	

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	91	40 - 135
13C-1,2,3,7,8-PeCDD	99	40 - 135
13C-1,2,3,6,7,8-HxCDD	90	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	85	40 - 135
13C-OCDD	73	40 - 135
13C-2,3,7,8-TCDF	94	40 - 135
13C-1,2,3,7,8-PeCDF	102	40 - 135
13C-1,2,3,4,7,8-HxCDF	113	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	84	40 - 135

QUALIFIERS

E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu
Sample ID: HUH0012-07
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120420 - 004	Work Order #....:	MLLCN2AA	Matrix....:	SOLID
Date Sampled....:	08/01/11	Date Received....:	08/12/11	Dilution Factor:	0.97
Prep Date....:	08/29/11	Analysis Date....:	09/04/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.27 g	Analyst ID....:	Sonia Ouni		

PARAMETER	RESULT		REPORTING LIMIT	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	1.0		0.97	0.092	pg/g
Total TCDD	19		0.97	0.092	pg/g
1,2,3,7,8-PeCDD	9.4		4.9	0.19	pg/g
Total PeCDD	63		4.9	0.19	pg/g
1,2,3,4,7,8-HxCDD	29		4.9	0.27	pg/g
1,2,3,6,7,8-HxCDD	99		4.9	0.20	pg/g
1,2,3,7,8,9-HxCDD	63		4.9	0.23	pg/g
Total HxCDD	850		4.9	0.23	pg/g
1,2,3,4,6,7,8-HpCDD	3000	E	4.9	0.98	pg/g
Total HpCDD	5700		4.9	0.98	pg/g
OCDD	38000	E	9.7	4.7	pg/g
2,3,7,8-TCDF	1.1	CON	0.97	0.39	pg/g
Total TCDF	18		0.97	0.063	pg/g
1,2,3,7,8-PeCDF	ND		4.9	0.16	pg/g
2,3,4,7,8-PeCDF	ND		4.9	0.17	pg/g
Total PeCDF	64		4.9	0.17	pg/g
1,2,3,4,7,8-HxCDF	36		4.9	0.21	pg/g
1,2,3,6,7,8-HxCDF	18		4.9	0.17	pg/g
2,3,4,6,7,8-HxCDF	10		4.9	0.19	pg/g
1,2,3,7,8,9-HxCDF	ND		4.9	0.23	pg/g
Total HxCDF	1100		4.9	0.20	pg/g
1,2,3,4,6,7,8-HpCDF	810		4.9	0.51	pg/g
1,2,3,4,7,8,9-HpCDF	64		4.9	0.62	pg/g
Total HpCDF	3200		4.9	0.56	pg/g
OCDF	1900		9.7	0.75	pg/g

TestAmerica Honolulu
Sample ID: HUH0012-07
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....: G1H120420 - 004	Work Order #....: MLLCN2AA	Matrix....: SOLID
Date Sampled....: 08/01/11	Date Received....: 08/12/11	Dilution Factor: 0.97
Prep Date....: 08/29/11	Analysis Date....: 09/04/11	Percent Moisture:
Prep Batch #: 1241179	Instrument ID....: 3D5	
Initial Wgt/Vol : 10.27 g	Analyst ID....: Sonia Ouni	

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	90	40 - 135
13C-1,2,3,7,8-PeCDD	101	40 - 135
13C-1,2,3,6,7,8-HxCDD	84	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	108	40 - 135
13C-OCDD	114	40 - 135
13C-2,3,7,8-TCDF	98	40 - 135
13C-1,2,3,7,8-PeCDF	107	40 - 135
13C-1,2,3,4,7,8-HxCDF	119	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	95	40 - 135

QUALIFIERS

- CON Confirmation analysis.
- E Estimated result. Result concentration exceeds the calibration range.

QC DATA ASSOCIATION SUMMARY

G1H120420

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	SOLID	SW846 8290		1241179	
002	SOLID	SW846 8290		1241179	
003	SOLID	SW846 8290		1241179	
004	SOLID	SW846 8290		1241179	

Method Blank Report
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H290000 - 179B	Work Order #....:	ML4LV1AA	Matrix....:	SOLID
Date Sampled....:	08/01/11	Date Received....:	08/12/11	Dilution Factor:	1
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	100
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10 g	Analyst ID....:	Grandfield S. Virginia		

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>ESTIMATED DETECTION LIMIT</u>	<u>UNITS</u>
2,3,7,8-TCDD	ND	1.0	0.053	pg/g
Total TCDD	ND	1.0	0.053	pg/g
1,2,3,7,8-PeCDD	ND	5.0	0.10	pg/g
Total PeCDD	ND	5.0	0.10	pg/g
1,2,3,4,7,8-HxCDD	ND	5.0	0.079	pg/g
1,2,3,6,7,8-HxCDD	ND	5.0	0.059	pg/g
1,2,3,7,8,9-HxCDD	ND	5.0	0.067	pg/g
Total HxCDD	ND	5.0	0.068	pg/g
1,2,3,4,6,7,8-HpCDD	ND	5.0	0.15	pg/g
Total HpCDD	ND	5.0	0.070	pg/g
OCDD	ND	10	0.12	pg/g
2,3,7,8-TCDF	ND	1.0	0.041	pg/g
Total TCDF	ND	1.0	0.041	pg/g
1,2,3,7,8-PeCDF	ND	5.0	0.050	pg/g
2,3,4,7,8-PeCDF	ND	5.0	0.051	pg/g
Total PeCDF	ND	5.0	0.050	pg/g
1,2,3,4,7,8-HxCDF	ND	5.0	0.040	pg/g
1,2,3,6,7,8-HxCDF	ND	5.0	0.032	pg/g
2,3,4,6,7,8-HxCDF	ND	5.0	0.037	pg/g
1,2,3,7,8,9-HxCDF	ND	5.0	0.045	pg/g
Total HxCDF	ND	5.0	0.038	pg/g
1,2,3,4,6,7,8-HpCDF	ND	5.0	0.092	pg/g
1,2,3,4,7,8,9-HpCDF	ND	5.0	0.11	pg/g
Total HpCDF	ND	5.0	0.10	pg/g
OCDF	ND	10	0.082	pg/g

Method Blank Report
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H290000 - 179B	Work Order #....:	ML4LV1AA	Matrix....:	SOLID
Date Sampled....:	08/01/11	Date Received....:	08/12/11	Dilution Factor:	1
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	100
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol:	10 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	79	40 - 135
13C-1,2,3,7,8-PeCDD	78	40 - 135
13C-1,2,3,6,7,8-HxCDD	75	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	91	40 - 135
13C-OCDD	88	40 - 135
13C-2,3,7,8-TCDF	82	40 - 135
13C-1,2,3,7,8-PeCDF	84	40 - 135
13C-1,2,3,4,7,8-HxCDF	78	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	91	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	G1H120420	Work Order # ...:	ML4LV1AC-LCS	Matrix	SOLID
LCS Lot-Sample# :	G1H290000 - 179				
Prep Date	08/29/11	Analysis Date ..:	08/31/11		
Prep Batch # ...:	1241179				
Dilution Factor :	1				
Analyst ID.....:	Lisa L. Hernandez	Instrument ID.:	3D5	Method.....:	SW846 8290
Initial Wgt/Vol:	10 g				

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2,3,7,8-TCDD	20.0	22.7	pg/g	114	(60 - 138)
1,2,3,7,8-PeCDD	100	114	pg/g	114	(70 - 122)
1,2,3,4,7,8-HxCDD	100	116	pg/g	116	(60 - 138)
1,2,3,6,7,8-HxCDD	100	117	pg/g	117	(68 - 136)
1,2,3,7,8,9-HxCDD	100	131	pg/g	131	(68 - 138)
1,2,3,4,6,7,8-HpCDD	100	117	pg/g	117	(71 - 128)
OCDD	200	255	pg/g	127	(70 - 128)
2,3,7,8-TCDF	20.0	22.8	pg/g	114	(56 - 158)
1,2,3,7,8-PeCDF	100	111	pg/g	111	(69 - 134)
2,3,4,7,8-PeCDF	100	114	pg/g	114	(70 - 131)
1,2,3,4,7,8-HxCDF	100	113	pg/g	113	(74 - 128)
1,2,3,6,7,8-HxCDF	100	99.8	pg/g	100	(67 - 140)
2,3,4,6,7,8-HxCDF	100	110	pg/g	110	(71 - 137)
1,2,3,7,8,9-HxCDF	100	122	pg/g	122	(72 - 134)
1,2,3,4,6,7,8-HpCDF	100	116	pg/g	116	(71 - 134)
1,2,3,4,7,8,9-HpCDF	100	120	pg/g	120	(68 - 129)
OCDF	200	238	pg/g	119	(63 - 141)

<u>INTERNAL STANDARD</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	82	(40 - 135)
13C-1,2,3,7,8-PeCDD	91	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	73	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	89	(40 - 135)
13C-OCDD	91	(40 - 135)
13C-2,3,7,8-TCDF	87	(40 - 135)
13C-1,2,3,7,8-PeCDF	93	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	82	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	88	(40 - 135)

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

- 1
- 2
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- 14
- 15
- 16

Shipping and Receiving Documents

Subcontract Order - TestAmerica Honolulu (HUH0012)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0012**

SENDING LABORATORY:

TestAmerica Honolulu
 99-193 Aiea Heights Drive, Suite 121
 Aiea, HI 96701
 Phone: 808-486-5227
 Fax: 808-486-2456
 Project Manager: Margie Pascua Thach
 Client: Tetra Tech EM Inc.

RECEIVING LABORATORY:

TestAmerica West Sacramento
 880 Riverside Parkway
 West Sacramento, CA 95605
 Phone : (916) 373-5600
 Fax: (916) 372-1059
 Project Location: Hawaii
 Receipt Temperature: _____ °C Ice: Y / N

8290 Dioxin: 38 samples for COPC, 2 samples for combined PMA COPC. 8015 DRO/RRO: 10 samples for COPC, 2 samples for combined PMA COPC. For total Metals, first metal is \$22.50, succeeding metals is \$10, except for Mercury is \$35.

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
----------	-------	-----	---------	----------------	-------	----------

Sample ID: HUH0012-01 (PMAK-DU1-A - Solid/Soil)						
			Sampled: 08/01/11 15:08	As PBET pending total results		
Dioxins - Furans 8290	%	09/12/11	08/31/11 15:08	\$637.50	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

Sample ID: HUH0012-02 (PMAK-DU1-B - Solid/Soil)						
			Sampled: 08/01/11 15:05			
Dioxins - Furans 8290	%	09/12/11	08/31/11 15:05	\$637.50	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

Sample ID: HUH0012-06 (PMAK-DU2-A - Solid/Soil)						
			Sampled: 08/01/11 16:25	As PBET pending total results		
Dioxins - Furans 8290	%	09/12/11	08/31/11 16:25	\$637.50	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

Sample ID: HUH0012-07 (PMAK-DU2-B - Solid/Soil)						
			Sampled: 08/01/11 16:30			
Dioxins - Furans 8290	%	09/12/11	08/31/11 16:30	\$637.50	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

	08/01/11 940		8/1/11 1015
Released By	Date/Time	Received By	Date/Time



THE LEADER IN ENVIRONMENTAL TESTING

LOT RECEIPT CHECKLIST
TestAmerica West Sacramento

CLIENT TAL Honolulu PM KS LOG # 72178

LOT# (QUANTIMS ID) G1H120420 QUOTE# 73910 LOCATION WSTD

DATE RECEIVED 8/11/11 TIME RECEIVED 855 Checked (✓)

DELIVERED BY FEDEX ON TRAC OTHER
 GOLDENSTATE UPS EZ PARCEL
 TAL COURIER TAL SF CLIENT

SHIPPING CONTAINER(S) TAL CLIENT N/A

CUSTODY SEAL STATUS INTACT BROKEN N/A

CUSTODY SEAL #(S) N/A

COC #(S) HUHO012

TEMPERATURE BLANK Observed: 0 Corrected: 1

SAMPLE TEMPERATURE - (TEMPERATURES ARE IN °C)

Observed: 2 4 2 Average 3 Corrected Average >

LABORATORY THERMOMETER ID:
IR UNIT: #4 #5 OTHER

JS 8/11/11
Initials Date

pH MEASURED YES ANOMALY N/A

LABELED BY.....

LABELS CHECKED BY.....

PEER REVIEW NA

SHORT HOLD TEST NOTIFICATION SAMPLE RECEIVING

WETCHEM N/A

VOA-ENCORES N/A

METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL N/A

COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES N/A

CLOUSEAU TEMPERATURE EXCEEDED (2 °C - 6 °C)* N/A

WET ICE BLUE ICE GEL PACK NO COOLING AGENTS USED PM NOTIFIED

JS 8/11/11
Initials Date

Notes Temp blank frozen 8/11/11 JS

*1 Acceptable temperature range for State of Wisconsin samples is ≤4°C.

Lot ID: _____

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VOA*	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
VOAh*	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
AGB																				
AGBs																				
250AGB																				
250AGBs																				
250AGBn																				
500AGB																				
___AGJ																				
500AGJ																				
250AGJ																				
125AGJ																				
___CGJ																				
500CGJ																				
250CGJ																				
125CGJ	4	2	2	2																
PJ																				
PJn																				
500PJ																				
500PJn																				
500PJna																				
500PJzn/na																				
250PJ																				
250PJn																				
250PJna																				
250PJzn/na																				
Acetate Tube																				
___CT																				
Encore																				
Folder/filter																				
PUF																				
Petri/Filter																				
XAD Trap																				
Ziploc																				

h = hydrochloric acid s = sulfuric acid na = sodium hydroxide n = nitric acid zn = zinc acetate

Number of VOAs with air bubbles present / total number of VOA's

Chain of Custody / Analysis Request Form

Report to: Scott Duzan, scott.duzan@tetratech.com		Project identification																
Company name: Tetra Tech EMI		Job name: <u>Kilauea PMA</u>																
Address: 737 Bishop Street, Suite 3010		Job number: <u>103S1902014.H003</u>																
City: Honolulu State: HI Zip: 96813		Contact email address: <u>scott.duzan@tetratech.com</u>																
Phone: 808.441.6645		Contact email address: <u>scott.duzan@tetratech.com</u>																
Sampler: SD		# samples in shipment: <u>14</u>																
Item no.	Client sample ID	MIS	GRAB	Water	Soil	Wastewater	Drinking water	Sludge	Liquid	Solid	Oil	Other	Preservation method	Sampling		No of containers	Indicate analyses requested	Laboratory ID no.
														Date	Time			
1	PMAX-DU1-A	X	X	X									NA	8/11/11	15:05	1	TPH-DRO and TPH-RR0 8015	MU10012-01
2	PMAX-DU1-B	X	X	X									NA	15:05	1	Mercury 7471	02	
3	PMAX-DU1-C	X	X	X									NA	15:10	1	Bioaccessible Arsenic PBT	02	
4	PMAX-DU1-D	X	X	X									NA	15:15	2	Lead 6010	02	
5	PMAX-DU1-E	X	X	X									NA	15:20	2	Mercury 7471	02	
6	PMAX-DU2-A	X	X	X									NA	16:25	1	Total Arsenic 6010	02	
7	PMAX-DU2-B	X	X	X									NA	16:30	1	Total Arsenic 6010	02	
8	PMAX-DU2-C	X	X	X									NA	16:35	1	TEQ Dioxins 8290	02	
9	PMAX-DU2-D	X	X	X									NA	16:40	2	TPH-DRO and TPH-RR0 8015	02	
10	PMAX-DU2-E	X	X	X									NA	16:45	2	TPH-DRO and TPH-RR0 8015	02	
Released by (print / sign): <u>Rosiland Salbach</u>		Date / time released: <u>8/11/11 18:45</u>		Received by (print / sign): <u>Juan</u>		Date / time received: <u>8/11/11</u>		Company / Agency affiliation: <u>TestAmerica</u>		Condition noted: <u>Best Wet/look 62</u>								

Comments: Provide data in PDF and MS Excel format. Run bioaccessible arsenic only if the total arsenic arsenic concentration in soil is greater than 80ppm Run indicated analysis for layers A,B,C only. Pending results of A,B & C layers D+E.

Tetra Tech will instruct Test America whether or not to conduct analysis on layers D+E.

Please check one:
 Dispose by lab
 Return to client
 Archive

Page 1 of 1



Rush TAT Confirmation (Initial/Date) _____

Sample Receipt Checklist

Client Name: Tetra Tech Date/ Time Received: 8/2/11 11:50

Received By: [Signature]

Matrices: Soil

Carrier: Alpha

Airbil# :

- Shipping container/cooler in good condition? Yes No Not Present
- Chain of Custody present? Yes No
- Chain of Custody Signed when relinquished and received? Yes No
- Chain of Custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sample containers on ice? Yes No Type: Wet / Cool
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Water - VOA Vials have Zero Headspace? Yes No No VOA vials present:
- Water - pH acceptable upon receipt? Yes No Not Checked:
- pH Adjusted? Yes No Final pH: _____
- Encores / MI-VOC / 5035 Vials Present? Yes No Location: _____
- Sample Filtration Needed? Yes No Filtered in Field:
- Dry Weight Corrected Results? Yes No Take Action:
- DODQSM / QAPP Project? Yes No Type: _____
- Temperature Blank Present? Yes No
- Sample Container Temperature: 6 °C

Comments/ Sampling Handling Notes:

From: (808) 486-5227
Sample Control
TestAmerica Honolulu
99-193 AIEA HEIGHTS DRIVE
SUITE 121
AIEA, HI 96701

Origin ID: HNLA



Ship Date: 10AUG11
ActWgt: 20.0 LB
CAD: 2315095/NET3180

Delivery Address Bar Code



SHIP TO: (916) 373-5600
Sample Receiving
TestAmerica - West Sacramento
880 Riverside Parkway

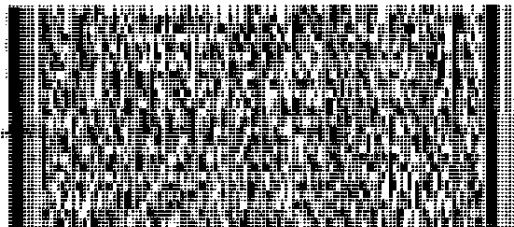
BILL THIRD PARTY

Ref # 162-260
Invoice #
PO #
Dept #

West Sacramento, CA 95605

THU - 11 AUG A1
STANDARD OVERNIGHT

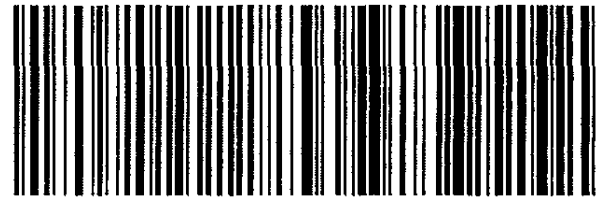
TRK# 7973 9933 6690
0201



Amount of Plant Health Insp. Serv.
Plant Protection & Quarantine
LIMITED PERMIT NO.
OAHU S-0019

WD BLUA

95605
CA-US
SMF



50FG1VEE7F5F4

Movement Authorized By
Federal Quarantine \$30.00

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2. ~~Fold~~ the printed page along the horizontal line.
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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Denver

4955 Yarrow Street

Arvada, CO 80002

Tel: (303)736-0100

TestAmerica Job ID: 280-19836-1

TestAmerica Sample Delivery Group: HUH0012

Client Project/Site: Tetra Tech EM Inc., Kilauea, Kauai, PMA

For:

TestAmerica Laboratories, Inc

99-193 Aiea Heights Drive

Suite 121

Aiea, Hawaii 96701

Attn: Margie F Pascua



Authorized for release by:

09/13/2011 11:08:24 AM

DiLea Griego

Project Manager I

dilea.griego@testamericainc.com

LINKS

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results through

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www.testamericainc.com

Results relate only to the items tested and the sample(s) as received by the laboratory. The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.



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Case Narrative

Client: TestAmerica Laboratories, Inc
Project/Site: Tetra Tech EM Inc., Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19836-1
SDG: HUH0012

Job ID: 280-19836-1

Laboratory: TestAmerica Denver

Narrative

CASE NARRATIVE

Client: TestAmerica Laboratories, Inc

Project: Tetra Tech EM Inc., Kilauea, Kauai, PMA

Report Number: 280-19836-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 09/02/2011; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 11.3 C.

METALS (ICP) - METHOD 6010B/7471A

Sample HUH0012-09 (280-19836-1)[5X] required dilution prior to analysis due to the abundance of non-target analytes. The reporting limits have been adjusted accordingly.

No other difficulties were encountered.

Definitions/Glossary

Client: TestAmerica Laboratories, Inc
Project/Site: Tetra Tech EM Inc., Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19836-1
SDG: HUH0012

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit (Dioxin)
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or method detection limit if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: TestAmerica Laboratories, Inc
Project/Site: Tetra Tech EM Inc., Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19836-1
SDG: HUH0012

Client Sample ID: HUH0012-09

Lab Sample ID: 280-19836-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	17		9.7		mg/Kg	5		6010B	Total/NA
Lead	130		3.9		mg/Kg	5		6010B	Total/NA
Mercury	0.63		0.016		mg/Kg	1		7471A	Total/NA

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Method Summary

Client: TestAmerica Laboratories, Inc
Project/Site: Tetra Tech EM Inc., Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19836-1
SDG: HUH0012

Method	Method Description	Protocol	Laboratory
6010B	RCRA Metals	SW846	TAL DEN
7471A	Mercury (CVAA)	SW846	TAL DEN

Protocol References:

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



Sample Summary

Client: TestAmerica Laboratories, Inc
Project/Site: Tetra Tech EM Inc., Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19836-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-19836-1	HUH0012-09	Solid	09/01/11 16:40	09/02/11 09:30

- 1
- 2
- 3
- 4
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- 6
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- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Client Sample Results

Client: TestAmerica Laboratories, Inc
Project/Site: Tetra Tech EM Inc., Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19836-1
SDG: HUH0012

Method: 6010B - RCRA Metals

Client Sample ID: HUH0012-09
Date Collected: 09/01/11 16:40
Date Received: 09/02/11 09:30

Lab Sample ID: 280-19836-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	17		9.7		mg/Kg		09/07/11 06:00	09/08/11 08:17	5
Lead	130		3.9		mg/Kg		09/07/11 06:00	09/08/11 08:17	5

Method: 7471A - Mercury (CVAA)

Client Sample ID: HUH0012-09
Date Collected: 09/01/11 16:40
Date Received: 09/02/11 09:30

Lab Sample ID: 280-19836-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.63		0.016		mg/Kg		09/06/11 14:40	09/06/11 18:26	1

QC Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: Tetra Tech EM Inc., Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19836-1
 SDG: HUH0012

Method: 6010B - RCRA Metals

Lab Sample ID: MB 280-84428/1-A
 Matrix: Solid
 Analysis Batch: 85118

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 84428

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		2.0		mg/Kg		09/07/11 06:00	09/08/11 03:16	1
Lead	ND		0.80		mg/Kg		09/07/11 06:00	09/08/11 03:16	1

Lab Sample ID: LCS 280-84428/2-A
 Matrix: Solid
 Analysis Batch: 85118

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 84428

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec.	Limits
		Result	Qualifier					
Arsenic	49.3	49.3		mg/Kg		100		85 - 110
Lead	24.6	24.4		mg/Kg		99		86 - 110

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 280-84433/1-A
 Matrix: Solid
 Analysis Batch: 84767

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 84433

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.017		mg/Kg		09/06/11 14:40	09/06/11 18:05	1

Lab Sample ID: LCS 280-84433/2-A
 Matrix: Solid
 Analysis Batch: 84767

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 84433

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec.	Limits
		Result	Qualifier					
Mercury	0.413	0.402		mg/Kg		98		87 - 111

QC Association Summary

Client: TestAmerica Laboratories, Inc
Project/Site: Tetra Tech EM Inc., Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19836-1
SDG: HUH0012

Metals

Prep Batch: 84428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19836-1	HUH0012-09	Total/NA	Solid	3050B	84434
LCS 280-84428/2-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 280-84428/1-A	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 84433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19836-1	HUH0012-09	Total/NA	Solid	7471A	84434
LCS 280-84433/2-A	Lab Control Sample	Total/NA	Solid	7471A	
MB 280-84433/1-A	Method Blank	Total/NA	Solid	7471A	

Leach Batch: 84434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19836-1	HUH0012-09	Total/NA	Solid	Increm, Prep	

Analysis Batch: 84767

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19836-1	HUH0012-09	Total/NA	Solid	7471A	84433
LCS 280-84433/2-A	Lab Control Sample	Total/NA	Solid	7471A	84433
MB 280-84433/1-A	Method Blank	Total/NA	Solid	7471A	84433

Analysis Batch: 85118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19836-1	HUH0012-09	Total/NA	Solid	6010B	84428
LCS 280-84428/2-A	Lab Control Sample	Total/NA	Solid	6010B	84428
MB 280-84428/1-A	Method Blank	Total/NA	Solid	6010B	84428

Lab Chronicle

Client: TestAmerica Laboratories, Inc
Project/Site: Tetra Tech EM Inc., Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19836-1
SDG: HUH0012

Client Sample ID: HUH0012-09

Lab Sample ID: 280-19836-1

Date Collected: 09/01/11 16:40

Matrix: Solid

Date Received: 09/02/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Leach	Increm, Prep				1.0 mL	84434	09/02/11 14:45	BMS	TAL DEN
Total/NA	Prep	7471A			3.18 g	250 mL	84433	09/06/11 14:40	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84767	09/06/11 18:26	HEB	TAL DEN
Total/NA	Prep	3050B			10.35 g	500 mL	84428	09/07/11 06:00	CLI	TAL DEN
Total/NA	Analysis	6010B		5			85118	09/08/11 08:17	LT	TAL DEN

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



Login Sample Receipt Checklist

Client: TestAmerica Laboratories, Inc

Job Number: 280-19836-1

SDG Number: HUH0012

Login Number: 19836

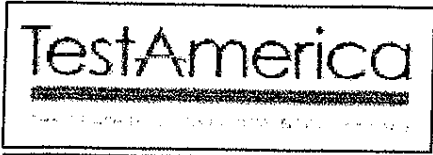
List Number: 1

Creator: Paulsen, Lindsay T

List Source: TestAmerica Denver

Question	Answer	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.	False	
Cooler Temperature is acceptable.	False	11.3 BLUE ICE NOT FROZEN
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	
Is the Field Sampler's name present on COC?	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	
Sample Preservation Verified.	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	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





Rush TAT Confirmation (Initial/Date) _____

Sample Receipt Checklist

Client Name: Tetra Tech Date/ Time Received: 8/2/11 1150

Received By: 2

Matrices: Soil

Carrier: Alpha

Airbill# :

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Chain of Custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>
Chain of Custody Signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of Custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Type: <u>Wet / cool</u>
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Water - VOA Vials have Zero Headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials present: <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Checked: <input checked="" type="checkbox"/>
	pH Adjusted? Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Final pH: _____
Encores / MI-VOC / 5035 Vials Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Location: _____
Sample Filtration Needed?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Filtered in Field: <input type="checkbox"/>
Dry Weight Corrected Results?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Take Action: <input type="checkbox"/>
DODQSM / QAPP Project?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Type: _____
Temperature Blank Present? Yes <input type="checkbox"/>		No <input checked="" type="checkbox"/>	
Sample Container Temperature: <u>6</u> °C			

Comments/ Sampling Handling Notes:

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Honolulu
99-193 Aiea Heights Drive, Suite 121
Aiea, HI 96701
Tel: 808-486-5227

TestAmerica Job ID: HUH0028
Client Project/Site: Kilauea, PMA; 103S1902014.H003
Client Project Description: Kilauea, Kauai PMA

For:
Tetra Tech EM Inc.
737 Bishop Street, Suite 3010
Honolulu, HI 96813

Attn: Scott Duzan



Authorized for release by:
09/30/2011 02:50:52 PM

Margie Pascua Thach
Project Manager
margie.pascua@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Definitions/Glossary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Qualifiers

GCMS Semivolatiles

Qualifier	Qualifier Description
M1	The MS and/or MSD were outside the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
RL9	Sample extract volume increased due to sample matrix which has resulted in an increase in the reporting limit for all analytes
Z	Due to sample matrix effects, the surrogate recovery was below the acceptance limits.
RL2	Reporting limit raised due to high concentrations of hydrocarbons.

GC Semivolatiles

Qualifier	Qualifier Description
Z1	Surrogate recovery was above acceptance limits.

DIOXIN

Qualifier	Qualifier Description
CON	Confirmation analysis.
D	Result was obtained from the analysis of a dilution.
E	Estimated result. Result concentration exceeds the calibration range.
*	Surrogate recovery is outside stated control limits.
Q	Estimated maximum possible concentration (EMPC).
a	Spiked analyte recovery is outside stated control limits.

Metals

Qualifier	Qualifier Description
M1	The MS and/or MSD were outside the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
F	MS or MSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Job ID: HUH0028

Laboratory: TestAmerica Honolulu

Narrative

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory unless otherwise stated in the report. 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 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

LABORATORY REPORT

At sample receipt, the cooler/sample was 2 degrees 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.

Samples were prepared in accordance with the State of Hawai'i Department of Health Office of Hazard Evaluation and Emergency Response's Technical Guidance Manual for the Implementation of the Hawai'i State Contingency Plan 2009 edition Laboratory Preparation of Multi-Increment Samples.

Subcontracted Analyses:

Please see data under the Subcontract section of this report:

Metals by 6010/7471, TestAmerica Seattle

Dioxins & Furans by 8290, TestAmerica West Sacramento.

Laboratory: TestAmerica Seattle

Narrative

Receipt

All samples were received in good condition within temperature requirements.

Metals - Method 6010

Limited volume submitted for sample 580-27995-2; only 2 jars provided...a 5g container for Hg, and the container used contained only 5g. Reporting limits have been adjusted accordingly.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 580-93644 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.

Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
HUH0028-01	PMAK-DU3-A	Solid/Soil	08/02/11 10:45	08/05/11 13:42
HUH0028-02	PMAK-DU3-B	Solid/Soil	08/02/11 10:50	08/05/11 13:42
HUH0028-03	PMAK-DU3-C	Solid/Soil	08/02/11 10:55	08/05/11 13:42
HUH0028-04	PMAK-DU3-D	Solid/Soil	08/02/11 11:00	08/05/11 13:42
HUH0028-05	PMAK-DU3-E	Solid/Soil	08/02/11 11:05	08/05/11 13:42
HUH0028-06	PMAK-DU8-A	Solid/Soil	08/02/11 12:10	08/05/11 13:42
HUH0028-07	PMAK-DU8-B	Solid/Soil	08/02/11 12:15	08/05/11 13:42
HUH0028-08	PMAK-DU8-C	Solid/Soil	08/02/11 12:20	08/05/11 13:42
HUH0028-09	PMAK-DU8-D	Solid/Soil	08/02/11 12:25	08/05/11 13:42
HUH0028-10	PMAK-DU8-E	Solid/Soil	08/02/11 12:30	08/05/11 13:42
HUH0028-11	PMAK-DU9-A	Solid/Soil	08/02/11 15:50	08/05/11 13:42
HUH0028-12	PMAK-DU9-B	Solid/Soil	08/02/11 15:55	08/05/11 13:42
HUH0028-13	PMAK-DU9-C	Solid/Soil	08/02/11 16:00	08/05/11 13:42
HUH0028-14	PMAK-DU9-D	Solid/Soil	08/02/11 16:05	08/05/11 13:42
HUH0028-15	PMAK-DU9-E	Solid/Soil	08/02/11 16:10	08/05/11 13:42
HUH0028-16	PMAK-DU16-A	Solid/Soil	08/03/11 09:50	08/05/11 13:42
HUH0028-17	PMAK-DU16-B	Solid/Soil	08/03/11 09:55	08/05/11 13:42
HUH0028-18	PMAK-DU16-C	Solid/Soil	08/03/11 10:00	08/05/11 13:42
HUH0028-19	PMAK-DU16-D	Solid/Soil	08/03/11 10:05	08/05/11 13:42
HUH0028-20	PMAK-DU16-E	Solid/Soil	08/03/11 10:10	08/05/11 13:42
HUH0028-21	PMAK-DU13-A	Solid/Soil	08/03/11 10:45	08/05/11 13:42
HUH0028-22	PMAK-DU13-B	Solid/Soil	08/03/11 10:50	08/05/11 13:42
HUH0028-23	PMAK-DU13-C	Solid/Soil	08/03/11 10:55	08/05/11 13:42
HUH0028-24	PMAK-DU13-D	Solid/Soil	08/03/11 11:00	08/05/11 13:42
HUH0028-25	PMAK-DU13-E	Solid/Soil	08/03/11 11:05	08/05/11 13:42
HUH0028-26	PMAK-DU4-A-P	Solid/Soil	08/03/11 15:00	08/05/11 13:42
HUH0028-27	PMAK-DU4-A-T1	Solid/Soil	08/03/11 15:00	08/05/11 13:42
HUH0028-28	PMAK-DU4-A-T2	Solid/Soil	08/03/11 15:00	08/05/11 13:42
HUH0028-29	PMAK-DU4-B-P	Solid/Soil	08/03/11 15:05	08/05/11 13:42
HUH0028-30	PMAK-DU4-B-T1	Solid/Soil	08/03/11 15:05	08/05/11 13:42
HUH0028-31	PMAK-DU4-B-T2	Solid/Soil	08/03/11 15:05	08/05/11 13:42
HUH0028-32	PMAK-DU4-C-P	Solid/Soil	08/03/11 15:10	08/05/11 13:42
HUH0028-33	PMAK-DU4-C-T1	Solid/Soil	08/03/11 15:10	08/05/11 13:42
HUH0028-34	PMAK-DU4-C-T2	Solid/Soil	08/03/11 15:10	08/05/11 13:42
HUH0028-35	PMAK-DU4-D-P	Solid/Soil	08/03/11 15:15	08/05/11 13:42
HUH0028-36	PMAK-DU4-D-T1	Solid/Soil	08/03/11 15:15	08/05/11 13:42
HUH0028-37	PMAK-DU4-D-T2	Solid/Soil	08/03/11 15:15	08/05/11 13:42
HUH0028-38	PMAK-DU4-E-P	Solid/Soil	08/03/11 15:20	08/05/11 13:42
HUH0028-39	PMAK-DU4-E-T1	Solid/Soil	08/03/11 15:20	08/05/11 13:42
HUH0028-40	PMAK-DU4-E-T2	Solid/Soil	08/03/11 15:20	08/05/11 13:42

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU3-A

Lab Sample ID: HUH0028-01

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	5.6		0.94	0.077			pg/g	0.93		8290	Total
Total PeCDD	12		4.7	0.16			pg/g	0.93		8290	Total
1,2,3,4,7,8-HxCDD	9.9		4.7	0.13	0.1	0.99	pg/g	0.93		8290	Total
1,2,3,6,7,8-HxCDD	74		4.7	0.10	0.1	7.4	pg/g	0.93		8290	Total
1,2,3,7,8,9-HxCDD	26		4.7	0.11	0.1	2.6	pg/g	0.93		8290	Total
Total HxCDD	450		4.7	0.12			pg/g	0.93		8290	Total
1,2,3,4,6,7,8-HpCDD	2900	D	94	12	0.01	29	pg/g	0.93		8290	Total
Total HpCDD	6000		94	12			pg/g	0.93		8290	Total
OCDD	35000	D	190	15	0.0003	11	pg/g	0.93		8290	Total
Total TCDF	6.2		0.94	0.037			pg/g	0.93		8290	Total
Total PeCDF	31		4.7	0.075			pg/g	0.93		8290	Total
1,2,3,4,7,8-HxCDF	26		4.7	0.059	0.1	2.6	pg/g	0.93		8290	Total
1,2,3,6,7,8-HxCDF	12		4.7	0.048	0.1	1.2	pg/g	0.93		8290	Total
2,3,4,6,7,8-HxCDF	8.0		4.7	0.054	0.1	0.80	pg/g	0.93		8290	Total
Total HxCDF	840		4.7	0.056			pg/g	0.93		8290	Total
1,2,3,4,6,7,8-HpCDF	780		4.7	0.94	0.01	7.8	pg/g	0.93		8290	Total
1,2,3,4,7,8,9-HpCDF	56		4.7	1.1	0.01	0.56	pg/g	0.93		8290	Total
Total HpCDF	3500		4.7	1.0			pg/g	0.93		8290	Total
OCDF	2900	D	190	6.5	0.0003	0.87	pg/g	0.93		8290	Total
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type		
Arsenic	11		5.8		mg/Kg	10		6010B	Total/NA		
Lead	25		2.9		mg/Kg	10		6010B	Total/NA		
Mercury	0.44		0.018		mg/Kg	10		7471A	Total/NA		

Client Sample ID: PMAK-DU3-B

Lab Sample ID: HUH0028-02

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	9.8		0.98	0.056			pg/g	0.97		8290	Total
Total PeCDD	32		4.9	0.14			pg/g	0.97		8290	Total
1,2,3,4,7,8-HxCDD	13		4.9	0.18	0.1	1.3	pg/g	0.97		8290	Total
1,2,3,6,7,8-HxCDD	240		4.9	0.13	0.1	24	pg/g	0.97		8290	Total
1,2,3,7,8,9-HxCDD	39		4.9	0.15	0.1	3.9	pg/g	0.97		8290	Total
Total HxCDD	1200		4.9	0.15			pg/g	0.97		8290	Total
1,2,3,4,6,7,8-HpCDD	5500	D	98	9.4	0.01	55	pg/g	0.97		8290	Total
Total HpCDD	10000		98	9.4			pg/g	0.97		8290	Total
OCDD	45000	D	200	18	0.0003	14	pg/g	0.97		8290	Total
Total TCDF	9.9		0.98	0.046			pg/g	0.97		8290	Total
Total PeCDF	41		4.9	0.090			pg/g	0.97		8290	Total
1,2,3,4,7,8-HxCDF	48		4.9	0.12	0.1	4.8	pg/g	0.97		8290	Total
1,2,3,6,7,8-HxCDF	22		4.9	0.099	0.1	2.2	pg/g	0.97		8290	Total
2,3,4,6,7,8-HxCDF	10		4.9	0.11	0.1	1.0	pg/g	0.97		8290	Total
Total HxCDF	2500		4.9	0.12			pg/g	0.97		8290	Total
1,2,3,4,6,7,8-HpCDF	2500	D	98	5.5	0.01	25	pg/g	0.97		8290	Total
1,2,3,4,7,8,9-HpCDF	180	D	98	6.6	0.01	1.8	pg/g	0.97		8290	Total
Total HpCDF	14000		98	6.0			pg/g	0.97		8290	Total
OCDF	7800	D	200	6.6	0.0003	2.3	pg/g	0.97		8290	Total
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type		
Arsenic	28		11		mg/Kg	10		6010B	Total/NA		
Lead	28		5.4		mg/Kg	10		6010B	Total/NA		
Mercury	0.82		0.019		mg/Kg	10		7471A	Total/NA		

Client Sample ID: PMAK-DU3-C

Lab Sample ID: HUH0028-03

Detection Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU3-C (Continued)

Lab Sample ID: HUH0028-03

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	6.8		3.0		mg/Kg	10		6010B	Total/NA
Mercury	0.49		0.018		mg/Kg	10		7471A	Total/NA

Client Sample ID: PMAK-DU3-D

Lab Sample ID: HUH0028-04

No Detections

Client Sample ID: PMAK-DU3-E

Lab Sample ID: HUH0028-05

No Detections

Client Sample ID: PMAK-DU8-A

Lab Sample ID: HUH0028-06

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	8.2		0.98	0.061			pg/g	0.97		8290	Total
1,2,3,4,7,8-HxCDD	8.4		4.9	0.15	0.1	0.84	pg/g	0.97		8290	Total
1,2,3,6,7,8-HxCDD	39		4.9	0.11	0.1	3.9	pg/g	0.97		8290	Total
1,2,3,7,8,9-HxCDD	22		4.9	0.12	0.1	2.2	pg/g	0.97		8290	Total
Total HxCDD	220		4.9	0.13			pg/g	0.97		8290	Total
1,2,3,4,6,7,8-HpCDD	1100		4.9	0.52	0.01	11	pg/g	0.97		8290	Total
Total HpCDD	1800		4.9	0.52			pg/g	0.97		8290	Total
OCDD	12000	E	9.8	1.6	0.0003	3.6	pg/g	0.97		8290	Total
Total TCDF	4.6		0.98	0.044			pg/g	0.97		8290	Total
Total PeCDF	20		4.9	0.089			pg/g	0.97		8290	Total
1,2,3,4,7,8-HxCDF	17		4.9	0.11	0.1	1.7	pg/g	0.97		8290	Total
1,2,3,6,7,8-HxCDF	9.0		4.9	0.091	0.1	0.90	pg/g	0.97		8290	Total
2,3,4,6,7,8-HxCDF	4.9		4.9	0.10	0.1	0.49	pg/g	0.97		8290	Total
Total HxCDF	460		4.9	0.11			pg/g	0.97		8290	Total
1,2,3,4,6,7,8-HpCDF	400		4.9	0.33	0.01	4.0	pg/g	0.97		8290	Total
1,2,3,4,7,8,9-HpCDF	30		4.9	0.40	0.01	0.30	pg/g	0.97		8290	Total
Total HpCDF	1600		4.9	0.36			pg/g	0.97		8290	Total
OCDF	1000		9.8	0.36	0.0003	0.30	pg/g	0.97		8290	Total
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type		
Arsenic	32		5.6		mg/Kg	10		6010B	Total/NA		
Lead	72		2.8		mg/Kg	10		6010B	Total/NA		
Mercury	0.25		0.019		mg/Kg	10		7471A	Total/NA		
Arsenic Bio-accessible	16.5		1.00		mg/kg	1.00		EPA 6010	Total		
Arsenic Total	130		1.00		mg/kg	1.00		EPA 6010	Total		
Arsenic Bio-accessible percent	12.7		0.200		% by Weight	1.00		SBRC Appendix C	Total		

Client Sample ID: PMAK-DU8-B

Lab Sample ID: HUH0028-07

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	1.2		0.93	0.048	1	1.2	pg/g	0.92		8290	Total
Total TCDD	20		0.93	0.048			pg/g	0.92		8290	Total
1,2,3,7,8-PeCDD	7.0		4.6	0.13	1	7.0	pg/g	0.92		8290	Total
Total PeCDD	45		4.6	0.13			pg/g	0.92		8290	Total
1,2,3,4,7,8-HxCDD	18		4.6	0.15	0.1	1.8	pg/g	0.92		8290	Total
1,2,3,6,7,8-HxCDD	69		4.6	0.11	0.1	6.9	pg/g	0.92		8290	Total
1,2,3,7,8,9-HxCDD	31		4.6	0.12	0.1	3.1	pg/g	0.92		8290	Total
Total HxCDD	470		4.6	0.12			pg/g	0.92		8290	Total
1,2,3,4,6,7,8-HpCDD	2000	E	4.6	0.58	0.01	20	pg/g	0.92		8290	Total
Total HpCDD	3500		4.6	0.58			pg/g	0.92		8290	Total
OCDD	28000	E	9.3	2.0	0.0003	8.4	pg/g	0.92		8290	Total

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU8-B (Continued)

Lab Sample ID: HUH0028-07

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDF	1.6	CON	0.93	0.35	0.1	0.16	pg/g	0.92		8290	Total
Total TCDF	19		0.93	0.045			pg/g	0.92		8290	Total
Total PeCDF	63		4.6	0.070			pg/g	0.92		8290	Total
1,2,3,4,7,8-HxCDF	36		4.6	0.074	0.1	3.6	pg/g	0.92		8290	Total
1,2,3,6,7,8-HxCDF	19		4.6	0.060	0.1	1.9	pg/g	0.92		8290	Total
2,3,4,6,7,8-HxCDF	9.5		4.6	0.068	0.1	0.95	pg/g	0.92		8290	Total
Total HxCDF	840		4.6	0.071			pg/g	0.92		8290	Total
1,2,3,4,6,7,8-HpCDF	690		4.6	0.47	0.01	6.9	pg/g	0.92		8290	Total
1,2,3,4,7,8,9-HpCDF	60		4.6	0.57	0.01	0.60	pg/g	0.92		8290	Total
Total HpCDF	2500		4.6	0.52			pg/g	0.92		8290	Total
OCDF	2000		9.3	0.47	0.0003	0.60	pg/g	0.92		8290	Total
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type		
Arsenic	7.9		5.8		mg/Kg	10		6010B	Total/NA		
Lead	160		2.9		mg/Kg	10		6010B	Total/NA		
Mercury	0.69		0.020		mg/Kg	10		7471A	Total/NA		

Client Sample ID: PMAK-DU8-C

Lab Sample ID: HUH0028-08

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	240		2.9		mg/Kg	10		6010B	Total/NA
Mercury	0.72		0.019		mg/Kg	10		7471A	Total/NA

Client Sample ID: PMAK-DU8-D

Lab Sample ID: HUH0028-09

No Detections

Client Sample ID: PMAK-DU8-E

Lab Sample ID: HUH0028-10

No Detections

Client Sample ID: PMAK-DU9-A

Lab Sample ID: HUH0028-11

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	14		0.97	0.087			pg/g	0.96		8290	Total
Total PeCDD	12		4.8	0.28			pg/g	0.96		8290	Total
1,2,3,4,7,8-HxCDD	8.4		4.8	0.31	0.1	0.84	pg/g	0.96		8290	Total
1,2,3,6,7,8-HxCDD	33		4.8	0.27	0.1	3.3	pg/g	0.96		8290	Total
1,2,3,7,8,9-HxCDD	22		4.8	0.26	0.1	2.2	pg/g	0.96		8290	Total
Total HxCDD	200		4.8	0.28			pg/g	0.96		8290	Total
1,2,3,4,6,7,8-HpCDD	1100		4.8	2.1	0.01	11	pg/g	0.96		8290	Total
Total HpCDD	1900		4.8	2.1			pg/g	0.96		8290	Total
OCDD	12000	E	9.7	6.8	0.0003	3.6	pg/g	0.96		8290	Total
Total TCDF	9.4		0.97	0.13			pg/g	0.96		8290	Total
Total PeCDF	49		4.8	0.26			pg/g	0.96		8290	Total
1,2,3,4,7,8-HxCDF	26		4.8	0.56	0.1	2.6	pg/g	0.96		8290	Total
1,2,3,6,7,8-HxCDF	15		4.8	0.52	0.1	1.5	pg/g	0.96		8290	Total
2,3,4,6,7,8-HxCDF	9.0		4.8	0.55	0.1	0.90	pg/g	0.96		8290	Total
Total HxCDF	530		4.8	0.57			pg/g	0.96		8290	Total
1,2,3,4,6,7,8-HpCDF	440		4.8	1.3	0.01	4.4	pg/g	0.96		8290	Total
1,2,3,4,7,8,9-HpCDF	30		4.8	1.5	0.01	0.30	pg/g	0.96		8290	Total
Total HpCDF	1500		4.8	1.4			pg/g	0.96		8290	Total
OCDF	1200		9.7	0.84	0.0003	0.36	pg/g	0.96		8290	Total

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU9-A (Continued)

Lab Sample ID: HUH0028-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.8		6.5		mg/Kg	10		6010B	Total/NA
Lead	69		3.2		mg/Kg	10		6010B	Total/NA
Mercury	0.38		0.017		mg/Kg	10		7471A	Total/NA

Client Sample ID: PMAK-DU9-B

Lab Sample ID: HUH0028-12

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	22		1.7	0.11			pg/g	1.71		8290	Total
1,2,3,4,7,8-HxCDD	13		8.6	0.26	0.1	1.3	pg/g	1.71		8290	Total
1,2,3,6,7,8-HxCDD	47		8.6	0.19	0.1	4.7	pg/g	1.71		8290	Total
1,2,3,7,8,9-HxCDD	36		8.6	0.22	0.1	3.6	pg/g	1.71		8290	Total
Total HxCDD	330		8.6	0.22			pg/g	1.71		8290	Total
1,2,3,4,6,7,8-HpCDD	1500		8.6	0.77	0.01	15	pg/g	1.71		8290	Total
Total HpCDD	2600		8.6	0.77			pg/g	1.71		8290	Total
OCDD	17000	E	17	1.4	0.0003	5.1	pg/g	1.71		8290	Total
2,3,7,8-TCDF	2.0	CON	1.7	0.72	0.1	0.20	pg/g	1.71		8290	Total
Total TCDF	14		1.7	0.070			pg/g	1.71		8290	Total
Total PeCDF	28		8.6	0.10			pg/g	1.71		8290	Total
1,2,3,4,7,8-HxCDF	25		8.6	0.19	0.1	2.5	pg/g	1.71		8290	Total
1,2,3,6,7,8-HxCDF	14		8.6	0.15	0.1	1.4	pg/g	1.71		8290	Total
2,3,4,6,7,8-HxCDF	9.5		8.6	0.17	0.1	0.95	pg/g	1.71		8290	Total
Total HxCDF	500		8.6	0.18			pg/g	1.71		8290	Total
1,2,3,4,6,7,8-HpCDF	510		8.6	0.54	0.01	5.1	pg/g	1.71		8290	Total
1,2,3,4,7,8,9-HpCDF	46		8.6	0.64	0.01	0.46	pg/g	1.71		8290	Total
Total HpCDF	1700		8.6	0.58			pg/g	1.71		8290	Total
OCDF	1500		17	0.49	0.0003	0.45	pg/g	1.71		8290	Total

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	12		5.7		mg/Kg	10		6010B	Total/NA
Lead	270		2.8		mg/Kg	10		6010B	Total/NA
Mercury	0.46		0.019		mg/Kg	10		7471A	Total/NA

Client Sample ID: PMAK-DU9-C

Lab Sample ID: HUH0028-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	130		2.8		mg/Kg	10		6010B	Total/NA
Mercury	0.37		0.019		mg/Kg	10		7471A	Total/NA

Client Sample ID: PMAK-DU9-D

Lab Sample ID: HUH0028-14

No Detections

Client Sample ID: PMAK-DU9-E

Lab Sample ID: HUH0028-15

No Detections

Client Sample ID: PMAK-DU16-A

Lab Sample ID: HUH0028-16

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	9.2		0.95	0.052			pg/g	0.95		8290	Total
1,2,3,7,8-PeCDD	5.6		4.8	0.14	1	5.6	pg/g	0.95		8290	Total
Total PeCDD	22		4.8	0.14			pg/g	0.95		8290	Total
1,2,3,4,7,8-HxCDD	16		4.8	0.12	0.1	1.6	pg/g	0.95		8290	Total
1,2,3,6,7,8-HxCDD	130		4.8	0.090	0.1	13	pg/g	0.95		8290	Total
1,2,3,7,8,9-HxCDD	45		4.8	0.10	0.1	4.5	pg/g	0.95		8290	Total

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU16-A (Continued)

Lab Sample ID: HUH0028-16

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total HxCDD	620		4.8	0.10			pg/g	0.95		8290	Total
1,2,3,4,6,7,8-HpCDD	4900	D	95	9.1	0.01	49	pg/g	0.95		8290	Total
Total HpCDD	9600		95	9.1			pg/g	0.95		8290	Total
OCDD	61000	D	190	15	0.0003	18	pg/g	0.95		8290	Total
Total TCDF	15		0.95	0.037			pg/g	0.95		8290	Total
Total PeCDF	49		4.8	0.062			pg/g	0.95		8290	Total
1,2,3,4,7,8-HxCDF	50		4.8	0.074	0.1	5.0	pg/g	0.95		8290	Total
1,2,3,6,7,8-HxCDF	18		4.8	0.060	0.1	1.8	pg/g	0.95		8290	Total
2,3,4,6,7,8-HxCDF	8.9		4.8	0.068	0.1	0.89	pg/g	0.95		8290	Total
Total HxCDF	1400		4.8	0.070			pg/g	0.95		8290	Total
1,2,3,4,6,7,8-HpCDF	1600	D	95	4.9	0.01	16	pg/g	0.95		8290	Total
1,2,3,4,7,8,9-HpCDF	130	D	95	5.9	0.01	1.3	pg/g	0.95		8290	Total
Total HpCDF	7900		95	5.3			pg/g	0.95		8290	Total
OCDF	6000	D	190	5.5	0.0003	1.8	pg/g	0.95		8290	Total
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type		
Arsenic	17		6.1		mg/Kg	10		6010B	Total/NA		
Lead	24		3.0		mg/Kg	10		6010B	Total/NA		
Mercury	0.61		0.017		mg/Kg	10		7471A	Total/NA		
pH	7.67		1.00		pH Units	1.00		EPA 9045	Total		

Client Sample ID: PMAK-DU16-B

Lab Sample ID: HUH0028-17

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	1.4		0.97	0.060	1	1.4	pg/g	0.97		8290	Total
Total TCDD	22		0.97	0.060			pg/g	0.97		8290	Total
1,2,3,7,8-PeCDD	14		4.9	0.13	1	14	pg/g	0.97		8290	Total
Total PeCDD	86		4.9	0.13			pg/g	0.97		8290	Total
1,2,3,4,7,8-HxCDD	40		4.9	0.14	0.1	4.0	pg/g	0.97		8290	Total
1,2,3,6,7,8-HxCDD	280		4.9	0.10	0.1	28	pg/g	0.97		8290	Total
1,2,3,7,8,9-HxCDD	110		4.9	0.12	0.1	11	pg/g	0.97		8290	Total
Total HxCDD	1400		4.9	0.12			pg/g	0.97		8290	Total
1,2,3,4,6,7,8-HpCDD	10000	D	97	10	0.01	100	pg/g	0.97		8290	Total
Total HpCDD	20000		97	10			pg/g	0.97		8290	Total
OCDD	130000	E D	190	9.5	0.0003	39	pg/g	0.97		8290	Total
Total TCDF	31		0.97	0.039			pg/g	0.97		8290	Total
Total PeCDF	110		4.9	0.10			pg/g	0.97		8290	Total
1,2,3,4,7,8-HxCDF	130		4.9	0.20	0.1	13	pg/g	0.97		8290	Total
1,2,3,6,7,8-HxCDF	46		4.9	0.16	0.1	4.6	pg/g	0.97		8290	Total
2,3,4,6,7,8-HxCDF	28		4.9	0.18	0.1	2.8	pg/g	0.97		8290	Total
Total HxCDF	3500		4.9	0.19			pg/g	0.97		8290	Total
1,2,3,4,6,7,8-HpCDF	3400	D	97	6.5	0.01	34	pg/g	0.97		8290	Total
1,2,3,4,7,8,9-HpCDF	290	D	97	7.8	0.01	2.9	pg/g	0.97		8290	Total
Total HpCDF	17000		97	7.0			pg/g	0.97		8290	Total
OCDF	10000	D	190	3.8	0.0003	3.0	pg/g	0.97		8290	Total
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type		
Arsenic	22		5.5		mg/Kg	10		6010B	Total/NA		
Lead	78		2.8		mg/Kg	10		6010B	Total/NA		
Mercury	0.97		0.19		mg/Kg	100		7471A	Total/NA		
pH	7.77		1.00		pH Units	1.00		EPA 9045	Total		

Client Sample ID: PMAK-DU16-C

Lab Sample ID: HUH0028-18

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU16-C (Continued)

Lab Sample ID: HUH0028-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	37		5.7		mg/Kg	10		6010B	Total/NA
Lead	190		2.9		mg/Kg	10		6010B	Total/NA
Mercury	0.50		0.018		mg/Kg	10		7471A	Total/NA
pH	7.55		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU16-D

Lab Sample ID: HUH0028-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.25		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU16-E

Lab Sample ID: HUH0028-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.14		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU13-A

Lab Sample ID: HUH0028-21

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	6.3		4.7	0.24	1	6.3	pg/g	4.7		8290	Total
Total TCDD	96		4.7	0.24			pg/g	4.7		8290	Total
1,2,3,7,8-PeCDD	49		24	0.61	1	49	pg/g	4.7		8290	Total
Total PeCDD	300		24	0.61			pg/g	4.7		8290	Total
1,2,3,4,7,8-HxCDD	120		24	0.62	0.1	12	pg/g	4.7		8290	Total
1,2,3,6,7,8-HxCDD	640		24	0.47	0.1	64	pg/g	4.7		8290	Total
1,2,3,7,8,9-HxCDD	260		24	0.53	0.1	26	pg/g	4.7		8290	Total
Total HxCDD	3400		24	0.53			pg/g	4.7		8290	Total
1,2,3,4,6,7,8-HpCDD	30000	D	470	59	0.01	300	pg/g	4.7		8290	Total
Total HpCDD	61000		470	59			pg/g	4.7		8290	Total
OCDD	500000	E D	940	180	0.0003	150	pg/g	4.7		8290	Total
Total TCDF	240		4.7	0.19			pg/g	4.7		8290	Total
Total PeCDF	330		24	0.44			pg/g	4.7		8290	Total
1,2,3,4,7,8-HxCDF	410		24	0.56	0.1	41	pg/g	4.7		8290	Total
1,2,3,6,7,8-HxCDF	140		24	0.45	0.1	14	pg/g	4.7		8290	Total
2,3,4,6,7,8-HxCDF	73		24	0.51	0.1	7.3	pg/g	4.7		8290	Total
Total HxCDF	9900		24	0.53			pg/g	4.7		8290	Total
1,2,3,4,6,7,8-HpCDF	7100	D	470	24	0.01	71	pg/g	4.7		8290	Total
1,2,3,4,7,8,9-HpCDF	680	D	470	28	0.01	6.8	pg/g	4.7		8290	Total
Total HpCDF	36000		470	26			pg/g	4.7		8290	Total
OCDF	27000	D	940	34	0.0003	8.1	pg/g	4.7		8290	Total

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	75		5.8		mg/Kg	10		6010B	Total/NA
Lead	90		2.9		mg/Kg	10		6010B	Total/NA
Mercury	2.5		0.34		mg/Kg	200		7471A	Total/NA
pH	7.60		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU13-B

Lab Sample ID: HUH0028-22

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	7.6		4.5	0.66	1	7.6	pg/g	4.48		8290	Total
Total TCDD	280		4.5	0.66			pg/g	4.48		8290	Total
1,2,3,7,8-PeCDD	93		22	1.9	1	93	pg/g	4.48		8290	Total
Total PeCDD	760		22	1.9			pg/g	4.48		8290	Total
1,2,3,4,7,8-HxCDD	270		22	4.3	0.1	27	pg/g	4.48		8290	Total

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU13-B (Continued)

Lab Sample ID: HUH0028-22

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDD	1900		22	3.7	0.1	190	pg/g	4.48		8290	Total
1,2,3,7,8,9-HxCDD	570		22	3.7	0.1	57	pg/g	4.48		8290	Total
Total HxCDD	8600		22	3.8			pg/g	4.48		8290	Total
1,2,3,4,6,7,8-HpCDD	54000	D	450	130	0.01	540	pg/g	4.48		8290	Total
Total HpCDD	100000		450	130			pg/g	4.48		8290	Total
OCDD	460000	E D	900	81	0.0003	140	pg/g	4.48		8290	Total
2,3,7,8-TCDF	6.3	CON	4.5	1.2	0.1	0.63	pg/g	4.48		8290	Total
Total TCDF	760		4.5	1.2			pg/g	4.48		8290	Total
1,2,3,7,8-PeCDF	43		22	4.4	0.03	1.3	pg/g	4.48		8290	Total
2,3,4,7,8-PeCDF	33		22	4.8	0.3	9.9	pg/g	4.48		8290	Total
Total PeCDF	1900		22	4.6			pg/g	4.48		8290	Total
1,2,3,4,7,8-HxCDF	820		22	16	0.1	82	pg/g	4.48		8290	Total
1,2,3,6,7,8-HxCDF	270		22	15	0.1	27	pg/g	4.48		8290	Total
2,3,4,6,7,8-HxCDF	190		22	16	0.1	19	pg/g	4.48		8290	Total
Total HxCDF	29000		22	16			pg/g	4.48		8290	Total
1,2,3,4,6,7,8-HpCDF	20000	D	450	62	0.01	200	pg/g	4.48		8290	Total
1,2,3,4,7,8,9-HpCDF	1800	D	450	77	0.01	18	pg/g	4.48		8290	Total
Total HpCDF	110000		450	68			pg/g	4.48		8290	Total
OCDF	35000	D	900	29	0.0003	11	pg/g	4.48		8290	Total

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	46		5.9		mg/Kg	10		6010B	Total/NA
Lead	54		3.0		mg/Kg	10		6010B	Total/NA
Mercury	2.1		0.37		mg/Kg	200		7471A	Total/NA
pH	7.72		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU13-C

Lab Sample ID: HUH0028-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	26		5.8		mg/Kg	10		6010B	Total/NA
Lead	220		2.9		mg/Kg	10		6010B	Total/NA
Mercury	0.58		0.020		mg/Kg	10		7471A	Total/NA
pH	6.59		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU13-D

Lab Sample ID: HUH0028-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.28		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU13-E

Lab Sample ID: HUH0028-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	5.89		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU4-A-P

Lab Sample ID: HUH0028-26

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	1.0		0.90	0.053	1	1.0	pg/g	0.89		8290	Total
Total TCDD	26		0.90	0.053			pg/g	0.89		8290	Total
1,2,3,7,8-PeCDD	11		4.5	0.16	1	11	pg/g	0.89		8290	Total
Total PeCDD	71		4.5	0.16			pg/g	0.89		8290	Total
1,2,3,4,7,8-HxCDD	25		4.5	0.21	0.1	2.5	pg/g	0.89		8290	Total
1,2,3,6,7,8-HxCDD	170		4.5	0.16	0.1	17	pg/g	0.89		8290	Total
1,2,3,7,8,9-HxCDD	67		4.5	0.18	0.1	6.7	pg/g	0.89		8290	Total

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU4-A-P (Continued)

Lab Sample ID: HUH0028-26

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total HxCDD	870		4.5	0.18			pg/g	0.89		8290	Total
1,2,3,4,6,7,8-HpCDD	6500	D	90	21	0.01	65	pg/g	0.89		8290	Total
Total HpCDD	13000		90	21			pg/g	0.89		8290	Total
OCDD	94000	E D	180	28	0.0003	28	pg/g	0.89		8290	Total
2,3,7,8-TCDF	1.6	CON	0.90	0.38	0.1	0.16	pg/g	0.89		8290	Total
Total TCDF	23		0.90	0.045			pg/g	0.89		8290	Total
Total PeCDF	87		4.5	0.10			pg/g	0.89		8290	Total
1,2,3,4,7,8-HxCDF	85		4.5	0.14	0.1	8.5	pg/g	0.89		8290	Total
1,2,3,6,7,8-HxCDF	34		4.5	0.11	0.1	3.4	pg/g	0.89		8290	Total
2,3,4,6,7,8-HxCDF	22		4.5	0.13	0.1	2.2	pg/g	0.89		8290	Total
Total HxCDF	2200		4.5	0.13			pg/g	0.89		8290	Total
1,2,3,4,6,7,8-HpCDF	1800	D	90	8.3	0.01	18	pg/g	0.89		8290	Total
1,2,3,4,7,8,9-HpCDF	160	D	90	10	0.01	1.6	pg/g	0.89		8290	Total
Total HpCDF	9500		90	9.1			pg/g	0.89		8290	Total
OCDF	6300	D	180	7.7	0.0003	1.9	pg/g	0.89		8290	Total
Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
DRO	35.8			3.93			mg/kg	1.00		EPA 8015	Total
RRO	165			19.7			mg/kg	1.00		EPA 8015	Total
Arsenic	18			5.7			mg/Kg	10		6010B	Total/NA
Lead	43			2.9			mg/Kg	10		6010B	Total/NA
Mercury	0.99			0.18			mg/Kg	100		7471A	Total/NA

Client Sample ID: PMAK-DU4-A-T1

Lab Sample ID: HUH0028-27

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	1.1		0.98	0.081	1	1.1	pg/g	0.98		8290	Total
Total TCDD	24		0.98	0.081			pg/g	0.98		8290	Total
1,2,3,7,8-PeCDD	12		4.9	0.18	1	12	pg/g	0.98		8290	Total
Total PeCDD	77		4.9	0.18			pg/g	0.98		8290	Total
1,2,3,4,7,8-HxCDD	26		4.9	0.20	0.1	2.6	pg/g	0.98		8290	Total
1,2,3,6,7,8-HxCDD	210		4.9	0.15	0.1	21	pg/g	0.98		8290	Total
1,2,3,7,8,9-HxCDD	75		4.9	0.17	0.1	7.5	pg/g	0.98		8290	Total
Total HxCDD	1000		4.9	0.17			pg/g	0.98		8290	Total
1,2,3,4,6,7,8-HpCDD	7100	D	98	17	0.01	71	pg/g	0.98		8290	Total
Total HpCDD	14000		98	17			pg/g	0.98		8290	Total
OCDD	99000	E D	200	35	0.0003	30	pg/g	0.98		8290	Total
2,3,7,8-TCDF	1.2	CON	0.98	0.53	0.1	0.12	pg/g	0.98		8290	Total
Total TCDF	29		0.98	0.056			pg/g	0.98		8290	Total
Total PeCDF	96		4.9	0.092			pg/g	0.98		8290	Total
1,2,3,4,7,8-HxCDF	97		4.9	0.28	0.1	9.7	pg/g	0.98		8290	Total
1,2,3,6,7,8-HxCDF	38		4.9	0.23	0.1	3.8	pg/g	0.98		8290	Total
2,3,4,6,7,8-HxCDF	20		4.9	0.26	0.1	2.0	pg/g	0.98		8290	Total
Total HxCDF	2600		4.9	0.27			pg/g	0.98		8290	Total
1,2,3,4,6,7,8-HpCDF	2500	D	98	9.2	0.01	25	pg/g	0.98		8290	Total
1,2,3,4,7,8,9-HpCDF	210	D	98	11	0.01	2.1	pg/g	0.98		8290	Total
Total HpCDF	13000		98	10			pg/g	0.98		8290	Total
OCDF	7200	D	200	8.4	0.0003	2.2	pg/g	0.98		8290	Total
Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
DRO	32.7			3.88			mg/kg	1.00		EPA 8015	Total
RRO	125			19.4			mg/kg	1.00		EPA 8015	Total
Arsenic	18			5.9			mg/Kg	10		6010B	Total/NA
Lead	39			3.0			mg/Kg	10		6010B	Total/NA
Mercury	0.91			0.020			mg/Kg	10		7471A	Total/NA

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU4-A-T2

Lab Sample ID: HUH0028-28

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	1.1		0.96	0.070	1	1.1	pg/g	0.95		8290	Total
Total TCDD	23		0.96	0.070			pg/g	0.95		8290	Total
1,2,3,7,8-PeCDD	11		4.8	0.18	1	11	pg/g	0.95		8290	Total
Total PeCDD	59		4.8	0.18			pg/g	0.95		8290	Total
1,2,3,4,7,8-HxCDD	24		4.8	0.21	0.1	2.4	pg/g	0.95		8290	Total
1,2,3,6,7,8-HxCDD	200		4.8	0.15	0.1	20	pg/g	0.95		8290	Total
1,2,3,7,8,9-HxCDD	74		4.8	0.17	0.1	7.4	pg/g	0.95		8290	Total
Total HxCDD	980		4.8	0.18			pg/g	0.95		8290	Total
1,2,3,4,6,7,8-HpCDD	6600	D	96	21	0.01	66	pg/g	0.95		8290	Total
Total HpCDD	14000		96	21			pg/g	0.95		8290	Total
OCDD	100000	E D	190	31	0.0003	30	pg/g	0.95		8290	Total
2,3,7,8-TCDF	1.1	Q CON	0.96	0.49	0.1	0.11	pg/g	0.95		8290	Total
Total TCDF	25		0.96	0.054			pg/g	0.95		8290	Total
Total PeCDF	93		4.8	0.12			pg/g	0.95		8290	Total
1,2,3,4,7,8-HxCDF	94		4.8	0.10	0.1	9.4	pg/g	0.95		8290	Total
1,2,3,6,7,8-HxCDF	38		4.8	0.083	0.1	3.8	pg/g	0.95		8290	Total
2,3,4,6,7,8-HxCDF	22		4.8	0.094	0.1	2.2	pg/g	0.95		8290	Total
Total HxCDF	2300		4.8	0.097			pg/g	0.95		8290	Total
1,2,3,4,6,7,8-HpCDF	2000	D	96	8.9	0.01	20	pg/g	0.95		8290	Total
1,2,3,4,7,8,9-HpCDF	160	D	96	11	0.01	1.6	pg/g	0.95		8290	Total
Total HpCDF	10000		96	9.7			pg/g	0.95		8290	Total
OCDF	7200	D	190	12	0.0003	2.2	pg/g	0.95		8290	Total

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
DRO	32.4		3.90		mg/kg	1.00		EPA 8015	Total
RRO	121		19.5		mg/kg	1.00		EPA 8015	Total
Arsenic	17		5.8		mg/Kg	10		6010B	Total/NA
Lead	40		2.9		mg/Kg	10		6010B	Total/NA
Mercury	0.84		0.018		mg/Kg	10		7471A	Total/NA

Client Sample ID: PMAK-DU4-B-P

Lab Sample ID: HUH0028-29

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	15		0.89	0.073			pg/g	0.88		8290	Total
1,2,3,7,8-PeCDD	7.0		4.4	0.17	1	7.0	pg/g	0.88		8290	Total
Total PeCDD	32		4.4	0.17			pg/g	0.88		8290	Total
1,2,3,4,7,8-HxCDD	15		4.4	0.21	0.1	1.5	pg/g	0.88		8290	Total
1,2,3,6,7,8-HxCDD	110		4.4	0.15	0.1	11	pg/g	0.88		8290	Total
1,2,3,7,8,9-HxCDD	43		4.4	0.17	0.1	4.3	pg/g	0.88		8290	Total
Total HxCDD	590		4.4	0.18			pg/g	0.88		8290	Total
1,2,3,4,6,7,8-HpCDD	4300	D	44	6.0	0.01	43	pg/g	0.88		8290	Total
Total HpCDD	7900		44	6.0			pg/g	0.88		8290	Total
OCDD	69000	E D	89	12	0.0003	21	pg/g	0.88		8290	Total
Total TCDF	21		0.89	0.041			pg/g	0.88		8290	Total
Total PeCDF	72		4.4	0.088			pg/g	0.88		8290	Total
1,2,3,4,7,8-HxCDF	62		4.4	0.18	0.1	6.2	pg/g	0.88		8290	Total
1,2,3,6,7,8-HxCDF	26		4.4	0.15	0.1	2.6	pg/g	0.88		8290	Total
2,3,4,6,7,8-HxCDF	11		4.4	0.17	0.1	1.1	pg/g	0.88		8290	Total
Total HxCDF	1800		4.4	0.17			pg/g	0.88		8290	Total
1,2,3,4,6,7,8-HpCDF	1500	D	44	3.1	0.01	15	pg/g	0.88		8290	Total
1,2,3,4,7,8,9-HpCDF	130	D	44	3.8	0.01	1.3	pg/g	0.88		8290	Total
Total HpCDF	7500		44	3.4			pg/g	0.88		8290	Total
OCDF	5200	D	89	2.8	0.0003	1.6	pg/g	0.88		8290	Total

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU4-B-P (Continued)

Lab Sample ID: HUH0028-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
DRO	259		3.95		mg/kg	1.00		EPA 8015	Total
RRO	182		19.7		mg/kg	1.00		EPA 8015	Total
Arsenic	24		5.8		mg/Kg	10		6010B	Total/NA
Lead	45		2.9		mg/Kg	10		6010B	Total/NA
Mercury	0.54		0.019		mg/Kg	10		7471A	Total/NA

Client Sample ID: PMAK-DU4-B-T1

Lab Sample ID: HUH0028-30

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	17		0.99	0.13			pg/g	0.98		8290	Total
1,2,3,7,8-PeCDD	9.9		4.9	0.22	1	9.9	pg/g	0.98		8290	Total
Total PeCDD	53		4.9	0.22			pg/g	0.98		8290	Total
1,2,3,4,7,8-HxCDD	26		4.9	0.26	0.1	2.6	pg/g	0.98		8290	Total
1,2,3,6,7,8-HxCDD	180		4.9	0.20	0.1	18	pg/g	0.98		8290	Total
1,2,3,7,8,9-HxCDD	66		4.9	0.22	0.1	6.6	pg/g	0.98		8290	Total
Total HxCDD	920		4.9	0.22			pg/g	0.98		8290	Total
1,2,3,4,6,7,8-HpCDD	6300	D	49	15	0.01	63	pg/g	0.98		8290	Total
Total HpCDD	11000		49	15			pg/g	0.98		8290	Total
OCDD	95000	E D	99	10	0.0003	29	pg/g	0.98		8290	Total
Total TCDF	27		0.99	0.079			pg/g	0.98		8290	Total
Total PeCDF	95		4.9	0.12			pg/g	0.98		8290	Total
1,2,3,4,7,8-HxCDF	88		4.9	0.12	0.1	8.8	pg/g	0.98		8290	Total
1,2,3,6,7,8-HxCDF	34		4.9	0.094	0.1	3.4	pg/g	0.98		8290	Total
2,3,4,6,7,8-HxCDF	19		4.9	0.11	0.1	1.9	pg/g	0.98		8290	Total
Total HxCDF	2600		4.9	0.11			pg/g	0.98		8290	Total
1,2,3,4,6,7,8-HpCDF	2300	D	49	4.1	0.01	23	pg/g	0.98		8290	Total
1,2,3,4,7,8,9-HpCDF	190	D	49	5.0	0.01	1.9	pg/g	0.98		8290	Total
Total HpCDF	11000		49	4.5			pg/g	0.98		8290	Total
OCDF	7000	D	99	4.2	0.0003	2.1	pg/g	0.98		8290	Total

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
DRO	164		19.3		mg/kg	5.00		EPA 8015	Total
RRO	298		96.5		mg/kg	5.00		EPA 8015	Total
Arsenic	26		5.9		mg/Kg	10		6010B	Total/NA
Lead	72		3.0		mg/Kg	10		6010B	Total/NA
Mercury	0.62		0.019		mg/Kg	10		7471A	Total/NA

Client Sample ID: PMAK-DU4-B-T2

Lab Sample ID: HUH0028-31

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	12		0.96	0.096			pg/g	0.95		8290	Total
1,2,3,7,8-PeCDD	6.9		4.8	0.21	1	6.9	pg/g	0.95		8290	Total
Total PeCDD	31		4.8	0.21			pg/g	0.95		8290	Total
1,2,3,4,7,8-HxCDD	15		4.8	0.22	0.1	1.5	pg/g	0.95		8290	Total
1,2,3,6,7,8-HxCDD	100		4.8	0.16	0.1	10	pg/g	0.95		8290	Total
1,2,3,7,8,9-HxCDD	45		4.8	0.18	0.1	4.5	pg/g	0.95		8290	Total
Total HxCDD	600		4.8	0.18			pg/g	0.95		8290	Total
1,2,3,4,6,7,8-HpCDD	4100	D	48	7.7	0.01	41	pg/g	0.95		8290	Total
Total HpCDD	7400		48	7.7			pg/g	0.95		8290	Total
OCDD	62000	E D	96	16	0.0003	19	pg/g	0.95		8290	Total
Total TCDF	14		0.96	0.069			pg/g	0.95		8290	Total
Total PeCDF	64		4.8	0.11			pg/g	0.95		8290	Total
1,2,3,4,7,8-HxCDF	53		4.8	0.15	0.1	5.3	pg/g	0.95		8290	Total
1,2,3,6,7,8-HxCDF	24		4.8	0.12	0.1	2.4	pg/g	0.95		8290	Total

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU4-B-T2 (Continued)

Lab Sample ID: HUH0028-31

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
2,3,4,6,7,8-HxCDF	12		4.8	0.14	0.1	1.2	pg/g	0.95		8290	Total
Total HxCDF	1500		4.8	0.14			pg/g	0.95		8290	Total
1,2,3,4,6,7,8-HpCDF	1200	D	48	3.1	0.01	12	pg/g	0.95		8290	Total
1,2,3,4,7,8,9-HpCDF	110	D	48	3.7	0.01	1.1	pg/g	0.95		8290	Total
Total HpCDF	5700		48	3.4			pg/g	0.95		8290	Total
OCDF	4200	D	96	3.2	0.0003	1.3	pg/g	0.95		8290	Total

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
DRO	151		19.0		mg/kg	5.00		EPA 8015	Total
RRO	303		94.9		mg/kg	5.00		EPA 8015	Total
Arsenic	33		5.9		mg/Kg	10		6010B	Total/NA
Lead	80		2.9		mg/Kg	10		6010B	Total/NA
Mercury	0.52		0.020		mg/Kg	10		7471A	Total/NA

Client Sample ID: PMAK-DU4-C-P

Lab Sample ID: HUH0028-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
DRO	275		19.9		mg/kg	5.00		EPA 8015	Total
RRO	303		99.7		mg/kg	5.00		EPA 8015	Total
Arsenic	13		5.7		mg/Kg	10		6010B	Total/NA
Lead	2800		2.9		mg/Kg	10		6010B	Total/NA
Mercury	0.55		0.019		mg/Kg	10		7471A	Total/NA

Client Sample ID: PMAK-DU4-C-T1

Lab Sample ID: HUH0028-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
DRO	181		3.97		mg/kg	1.00		EPA 8015	Total
RRO	264		19.9		mg/kg	1.00		EPA 8015	Total
Arsenic	16		6.0		mg/Kg	10		6010B	Total/NA
Lead	1400		3.0		mg/Kg	10		6010B	Total/NA
Mercury	0.52		0.019		mg/Kg	10		7471A	Total/NA

Client Sample ID: PMAK-DU4-C-T2

Lab Sample ID: HUH0028-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
DRO	179		19.7		mg/kg	5.00		EPA 8015	Total
RRO	182		98.4		mg/kg	5.00		EPA 8015	Total
Arsenic	12		6.0		mg/Kg	10		6010B	Total/NA
Lead	1700		3.0		mg/Kg	10		6010B	Total/NA
Mercury	0.47		0.019		mg/Kg	10		7471A	Total/NA

Client Sample ID: PMAK-DU4-D-P

Lab Sample ID: HUH0028-35

No Detections

Client Sample ID: PMAK-DU4-D-T1

Lab Sample ID: HUH0028-36

No Detections

Client Sample ID: PMAK-DU4-D-T2

Lab Sample ID: HUH0028-37

No Detections

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU4-E-P

Lab Sample ID: HUH0028-38

No Detections

Client Sample ID: PMAK-DU4-E-T1

Lab Sample ID: HUH0028-39

No Detections

Client Sample ID: PMAK-DU4-E-T2

Lab Sample ID: HUH0028-40

No Detections

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU3-A

Lab Sample ID: HUH0028-01

Date Collected: 08/02/11 10:45

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	RL9	1.62		mg/kg		08/11/11 07:38	08/18/11 21:24	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	65	RL9	40 - 120				08/11/11 07:38	08/18/11 21:24	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.94	0.077	1		pg/g		08/29/11 15:00	08/31/11 03:41	0.93
Total TCDD	5.6		0.94	0.077			pg/g		08/29/11 15:00	08/31/11 03:41	0.93
1,2,3,7,8-PeCDD	ND		4.7	0.16	1		pg/g		08/29/11 15:00	08/31/11 03:41	0.93
Total PeCDD	12		4.7	0.16			pg/g		08/29/11 15:00	08/31/11 03:41	0.93
1,2,3,4,7,8-HxCDD	9.9		4.7	0.13	0.1	0.99	pg/g		08/29/11 15:00	08/31/11 03:41	0.93
1,2,3,6,7,8-HxCDD	74		4.7	0.10	0.1	7.4	pg/g		08/29/11 15:00	08/31/11 03:41	0.93
1,2,3,7,8,9-HxCDD	26		4.7	0.11	0.1	2.6	pg/g		08/29/11 15:00	08/31/11 03:41	0.93
Total HxCDD	450		4.7	0.12			pg/g		08/29/11 15:00	08/31/11 03:41	0.93
1,2,3,4,6,7,8-HpCDD	2900	D	94	12	0.01	29	pg/g		08/29/11 15:00	08/31/11 03:41	0.93
Total HpCDD	6000		94	12			pg/g		08/29/11 15:00	08/31/11 03:41	0.93
OCDD	35000	D	190	15	0.0003	11	pg/g		08/29/11 15:00	08/31/11 03:41	0.93
2,3,7,8-TCDF	ND	CON	0.94	0.40	0.1		pg/g		08/29/11 15:00	08/31/11 03:41	0.93
Total TCDF	6.2		0.94	0.037			pg/g		08/29/11 15:00	08/31/11 03:41	0.93
1,2,3,7,8-PeCDF	ND		4.7	0.074	0.03		pg/g		08/29/11 15:00	08/31/11 03:41	0.93
2,3,4,7,8-PeCDF	ND		4.7	0.076	0.3		pg/g		08/29/11 15:00	08/31/11 03:41	0.93
Total PeCDF	31		4.7	0.075			pg/g		08/29/11 15:00	08/31/11 03:41	0.93
1,2,3,4,7,8-HxCDF	26		4.7	0.059	0.1	2.6	pg/g		08/29/11 15:00	08/31/11 03:41	0.93
1,2,3,6,7,8-HxCDF	12		4.7	0.048	0.1	1.2	pg/g		08/29/11 15:00	08/31/11 03:41	0.93
2,3,4,6,7,8-HxCDF	8.0		4.7	0.054	0.1	0.80	pg/g		08/29/11 15:00	08/31/11 03:41	0.93
1,2,3,7,8,9-HxCDF	ND		4.7	0.066	0.1		pg/g		08/29/11 15:00	08/31/11 03:41	0.93
Total HxCDF	840		4.7	0.056			pg/g		08/29/11 15:00	08/31/11 03:41	0.93
1,2,3,4,6,7,8-HpCDF	780		4.7	0.94	0.01	7.8	pg/g		08/29/11 15:00	08/31/11 03:41	0.93
1,2,3,4,7,8,9-HpCDF	56		4.7	1.1	0.01	0.56	pg/g		08/29/11 15:00	08/31/11 03:41	0.93
Total HpCDF	3500		4.7	1.0			pg/g		08/29/11 15:00	08/31/11 03:41	0.93
OCDF	2900	D	190	6.5	0.0003	0.87	pg/g		08/29/11 15:00	08/31/11 03:41	0.93

Total TEQ (WHO 2005) 64

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	93		40 - 135	08/29/11 15:00	08/31/11 03:41	0.93
13C-1,2,3,7,8-PeCDD	100		40 - 135	08/29/11 15:00	08/31/11 03:41	0.93
13C-1,2,3,6,7,8-HxCDD	91		40 - 135	08/29/11 15:00	08/31/11 03:41	0.93
13C-1,2,3,4,6,7,8-HpCDD	88		40 - 135	08/29/11 15:00	08/31/11 03:41	0.93
13C-OCDD	97		40 - 135	08/29/11 15:00	08/31/11 03:41	0.93
13C-2,3,7,8-TCDF	100		40 - 135	08/29/11 15:00	08/31/11 03:41	0.93
13C-1,2,3,7,8-PeCDF	108		40 - 135	08/29/11 15:00	08/31/11 03:41	0.93
13C-1,2,3,4,7,8-HxCDF	100		40 - 135	08/29/11 15:00	08/31/11 03:41	0.93
13C-1,2,3,4,6,7,8-HpCDF	98		40 - 135	08/29/11 15:00	08/31/11 03:41	0.93

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11		5.8		mg/Kg		08/23/11 13:00	08/24/11 08:51	10
Lead	25		2.9		mg/Kg		08/23/11 13:00	08/24/11 08:51	10

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU3-A

Lab Sample ID: HUH0028-01

Date Collected: 08/02/11 10:45

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.44		0.018		mg/Kg		08/26/11 06:37	08/26/11 11:02	10

Client Sample ID: PMAK-DU3-B

Lab Sample ID: HUH0028-02

Date Collected: 08/02/11 10:50

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.318		mg/kg		08/11/11 07:38	08/12/11 11:52	1.00

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	63		40 - 120	08/11/11 07:38	08/12/11 11:52	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.98	0.056	1		pg/g		08/29/11 15:00	08/31/11 04:33	0.97
Total TCDD	9.8		0.98	0.056			pg/g		08/29/11 15:00	08/31/11 04:33	0.97
1,2,3,7,8-PeCDD	ND		4.9	0.14	1		pg/g		08/29/11 15:00	08/31/11 04:33	0.97
Total PeCDD	32		4.9	0.14			pg/g		08/29/11 15:00	08/31/11 04:33	0.97
1,2,3,4,7,8-HxCDD	13		4.9	0.18	0.1	1.3	pg/g		08/29/11 15:00	08/31/11 04:33	0.97
1,2,3,6,7,8-HxCDD	240		4.9	0.13	0.1	24	pg/g		08/29/11 15:00	08/31/11 04:33	0.97
1,2,3,7,8,9-HxCDD	39		4.9	0.15	0.1	3.9	pg/g		08/29/11 15:00	08/31/11 04:33	0.97
Total HxCDD	1200		4.9	0.15			pg/g		08/29/11 15:00	08/31/11 04:33	0.97
1,2,3,4,6,7,8-HpCDD	5500 D		98	9.4	0.01	55	pg/g		08/29/11 15:00	08/31/11 04:33	0.97
Total HpCDD	10000		98	9.4			pg/g		08/29/11 15:00	08/31/11 04:33	0.97
OCDD	45000 D		200	18	0.0003	14	pg/g		08/29/11 15:00	08/31/11 04:33	0.97
2,3,7,8-TCDF	ND	CON	0.98	0.42	0.1		pg/g		08/29/11 15:00	08/31/11 04:33	0.97
Total TCDF	9.9		0.98	0.046			pg/g		08/29/11 15:00	08/31/11 04:33	0.97
1,2,3,7,8-PeCDF	ND		4.9	0.089	0.03		pg/g		08/29/11 15:00	08/31/11 04:33	0.97
2,3,4,7,8-PeCDF	ND		4.9	0.092	0.3		pg/g		08/29/11 15:00	08/31/11 04:33	0.97
Total PeCDF	41		4.9	0.090			pg/g		08/29/11 15:00	08/31/11 04:33	0.97
1,2,3,4,7,8-HxCDF	48		4.9	0.12	0.1	4.8	pg/g		08/29/11 15:00	08/31/11 04:33	0.97
1,2,3,6,7,8-HxCDF	22		4.9	0.099	0.1	2.2	pg/g		08/29/11 15:00	08/31/11 04:33	0.97
2,3,4,6,7,8-HxCDF	10		4.9	0.11	0.1	1.0	pg/g		08/29/11 15:00	08/31/11 04:33	0.97
1,2,3,7,8,9-HxCDF	ND		4.9	0.14	0.1		pg/g		08/29/11 15:00	08/31/11 04:33	0.97
Total HxCDF	2500		4.9	0.12			pg/g		08/29/11 15:00	08/31/11 04:33	0.97
1,2,3,4,6,7,8-HpCDF	2500 D		98	5.5	0.01	25	pg/g		08/29/11 15:00	08/31/11 04:33	0.97
1,2,3,4,7,8,9-HpCDF	180 D		98	6.6	0.01	1.8	pg/g		08/29/11 15:00	08/31/11 04:33	0.97
Total HpCDF	14000		98	6.0			pg/g		08/29/11 15:00	08/31/11 04:33	0.97
OCDF	7800 D		200	6.6	0.0003	2.3	pg/g		08/29/11 15:00	08/31/11 04:33	0.97
Total TEQ (WHO 2005)						130					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	89		40 - 135	08/29/11 15:00	08/31/11 04:33	0.97
13C-1,2,3,7,8-PeCDD	94		40 - 135	08/29/11 15:00	08/31/11 04:33	0.97
13C-1,2,3,6,7,8-HxCDD	78		40 - 135	08/29/11 15:00	08/31/11 04:33	0.97
13C-1,2,3,4,6,7,8-HpCDD	96		40 - 135	08/29/11 15:00	08/31/11 04:33	0.97
13C-OCDD	96		40 - 135	08/29/11 15:00	08/31/11 04:33	0.97
13C-2,3,7,8-TCDF	94		40 - 135	08/29/11 15:00	08/31/11 04:33	0.97

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU3-B

Date Collected: 08/02/11 10:50

Date Received: 08/05/11 13:42

Lab Sample ID: HUH0028-02

Matrix: Solid/Soil

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	96		40 - 135	08/29/11 15:00	08/31/11 04:33	0.97
13C-1,2,3,4,7,8-HxCDF	90		40 - 135	08/29/11 15:00	08/31/11 04:33	0.97
13C-1,2,3,4,6,7,8-HpCDF	104		40 - 135	08/29/11 15:00	08/31/11 04:33	0.97

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	28		11		mg/Kg		08/23/11 13:00	08/24/11 08:58	10
Lead	28		5.4		mg/Kg		08/23/11 13:00	08/24/11 08:58	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.82		0.019		mg/Kg		08/26/11 06:37	08/26/11 11:08	10

Client Sample ID: PMAK-DU3-C

Date Collected: 08/02/11 10:55

Date Received: 08/05/11 13:42

Lab Sample ID: HUH0028-03

Matrix: Solid/Soil

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.325		mg/kg		08/11/11 07:38	08/12/11 12:31	1.00
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
2,4,6-Tribromophenol	66		40 - 120	08/11/11 07:38	08/12/11 12:31	1.00			

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		6.0		mg/Kg		08/23/11 13:00	08/24/11 09:04	10
Lead	6.8		3.0		mg/Kg		08/23/11 13:00	08/24/11 09:04	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.49		0.018		mg/Kg		08/26/11 06:37	08/26/11 11:09	10

Client Sample ID: PMAK-DU8-A

Date Collected: 08/02/11 12:10

Date Received: 08/05/11 13:42

Lab Sample ID: HUH0028-06

Matrix: Solid/Soil

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.326		mg/kg		08/11/11 07:38	08/18/11 22:03	1.00
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
2,4,6-Tribromophenol	53		40 - 120	08/11/11 07:38	08/18/11 22:03	1.00			

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.98	0.061	1		pg/g		08/29/11 15:00	08/31/11 05:24	0.97
Total TCDD	8.2		0.98	0.061			pg/g		08/29/11 15:00	08/31/11 05:24	0.97
1,2,3,7,8-PeCDD	ND		4.9	0.15	1		pg/g		08/29/11 15:00	08/31/11 05:24	0.97

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU8-A

Lab Sample ID: HUH0028-06

Date Collected: 08/02/11 12:10

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
Total PeCDD	ND		4.9	0.15			pg/g		08/29/11 15:00	08/31/11 05:24	0.97
1,2,3,4,7,8-HxCDD	8.4		4.9	0.15	0.1	0.84	pg/g		08/29/11 15:00	08/31/11 05:24	0.97
1,2,3,6,7,8-HxCDD	39		4.9	0.11	0.1	3.9	pg/g		08/29/11 15:00	08/31/11 05:24	0.97
1,2,3,7,8,9-HxCDD	22		4.9	0.12	0.1	2.2	pg/g		08/29/11 15:00	08/31/11 05:24	0.97
Total HxCDD	220		4.9	0.13			pg/g		08/29/11 15:00	08/31/11 05:24	0.97
1,2,3,4,6,7,8-HpCDD	1100		4.9	0.52	0.01	11	pg/g		08/29/11 15:00	08/31/11 05:24	0.97
Total HpCDD	1800		4.9	0.52			pg/g		08/29/11 15:00	08/31/11 05:24	0.97
OCDD	12000	E	9.8	1.6	0.0003	3.6	pg/g		08/29/11 15:00	08/31/11 05:24	0.97
2,3,7,8-TCDF	ND	CON	0.98	0.47	0.1		pg/g		08/29/11 15:00	08/31/11 05:24	0.97
Total TCDF	4.6		0.98	0.044			pg/g		08/29/11 15:00	08/31/11 05:24	0.97
1,2,3,7,8-PeCDF	ND		4.9	0.088	0.03		pg/g		08/29/11 15:00	08/31/11 05:24	0.97
2,3,4,7,8-PeCDF	ND		4.9	0.090	0.3		pg/g		08/29/11 15:00	08/31/11 05:24	0.97
Total PeCDF	20		4.9	0.089			pg/g		08/29/11 15:00	08/31/11 05:24	0.97
1,2,3,4,7,8-HxCDF	17		4.9	0.11	0.1	1.7	pg/g		08/29/11 15:00	08/31/11 05:24	0.97
1,2,3,6,7,8-HxCDF	9.0		4.9	0.091	0.1	0.90	pg/g		08/29/11 15:00	08/31/11 05:24	0.97
2,3,4,6,7,8-HxCDF	4.9		4.9	0.10	0.1	0.49	pg/g		08/29/11 15:00	08/31/11 05:24	0.97
1,2,3,7,8,9-HxCDF	ND		4.9	0.13	0.1		pg/g		08/29/11 15:00	08/31/11 05:24	0.97
Total HxCDF	460		4.9	0.11			pg/g		08/29/11 15:00	08/31/11 05:24	0.97
1,2,3,4,6,7,8-HpCDF	400		4.9	0.33	0.01	4.0	pg/g		08/29/11 15:00	08/31/11 05:24	0.97
1,2,3,4,7,8,9-HpCDF	30		4.9	0.40	0.01	0.30	pg/g		08/29/11 15:00	08/31/11 05:24	0.97
Total HpCDF	1600		4.9	0.36			pg/g		08/29/11 15:00	08/31/11 05:24	0.97
OCDF	1000		9.8	0.36	0.0003	0.30	pg/g		08/29/11 15:00	08/31/11 05:24	0.97

Total TEQ (WHO 2005)

29

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	92		40 - 135	08/29/11 15:00	08/31/11 05:24	0.97
13C-1,2,3,7,8-PeCDD	94		40 - 135	08/29/11 15:00	08/31/11 05:24	0.97
13C-1,2,3,6,7,8-HxCDD	80		40 - 135	08/29/11 15:00	08/31/11 05:24	0.97
13C-1,2,3,4,6,7,8-HpCDD	89		40 - 135	08/29/11 15:00	08/31/11 05:24	0.97
13C-OCDD	97		40 - 135	08/29/11 15:00	08/31/11 05:24	0.97
13C-2,3,7,8-TCDF	99		40 - 135	08/29/11 15:00	08/31/11 05:24	0.97
13C-1,2,3,7,8-PeCDF	101		40 - 135	08/29/11 15:00	08/31/11 05:24	0.97
13C-1,2,3,4,7,8-HxCDF	106		40 - 135	08/29/11 15:00	08/31/11 05:24	0.97
13C-1,2,3,4,6,7,8-HpCDF	92		40 - 135	08/29/11 15:00	08/31/11 05:24	0.97

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	32		5.6		mg/Kg		08/23/11 13:00	08/24/11 09:26	10
Lead	72		2.8		mg/Kg		08/23/11 13:00	08/24/11 09:26	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.25		0.019		mg/Kg		08/26/11 06:37	08/26/11 11:11	10

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	16.5		1.00		mg/kg		09/28/11 11:03	09/28/11 11:05	1.00
Arsenic Total	130		1.00		mg/kg		09/15/11 10:48	09/19/11 15:20	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU8-A

Date Collected: 08/02/11 12:10

Date Received: 08/05/11 13:42

Lab Sample ID: HUH0028-06

Matrix: Solid/Soil

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	12.7		0.200		% by Weight		09/28/11 11:03	09/28/11 11:05	1.00

Client Sample ID: PMAK-DU8-B

Date Collected: 08/02/11 12:15

Date Received: 08/05/11 13:42

Lab Sample ID: HUH0028-07

Matrix: Solid/Soil

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.318		mg/kg		08/11/11 07:38	08/18/11 22:42	1.00

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	37	Z	40 - 120	08/11/11 07:38	08/18/11 22:42	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	1.2		0.93	0.048	1	1.2	pg/g		08/29/11 15:00	08/31/11 06:15	0.92
Total TCDD	20		0.93	0.048			pg/g		08/29/11 15:00	08/31/11 06:15	0.92
1,2,3,7,8-PeCDD	7.0		4.6	0.13	1	7.0	pg/g		08/29/11 15:00	08/31/11 06:15	0.92
Total PeCDD	45		4.6	0.13			pg/g		08/29/11 15:00	08/31/11 06:15	0.92
1,2,3,4,7,8-HxCDD	18		4.6	0.15	0.1	1.8	pg/g		08/29/11 15:00	08/31/11 06:15	0.92
1,2,3,6,7,8-HxCDD	69		4.6	0.11	0.1	6.9	pg/g		08/29/11 15:00	08/31/11 06:15	0.92
1,2,3,7,8,9-HxCDD	31		4.6	0.12	0.1	3.1	pg/g		08/29/11 15:00	08/31/11 06:15	0.92
Total HxCDD	470		4.6	0.12			pg/g		08/29/11 15:00	08/31/11 06:15	0.92
1,2,3,4,6,7,8-HpCDD	2000	E	4.6	0.58	0.01	20	pg/g		08/29/11 15:00	08/31/11 06:15	0.92
Total HpCDD	3500		4.6	0.58			pg/g		08/29/11 15:00	08/31/11 06:15	0.92
OCDD	28000	E	9.3	2.0	0.0003	8.4	pg/g		08/29/11 15:00	08/31/11 06:15	0.92
2,3,7,8-TCDF	1.6	CON	0.93	0.35	0.1	0.16	pg/g		08/29/11 15:00	08/31/11 06:15	0.92
Total TCDF	19		0.93	0.045			pg/g		08/29/11 15:00	08/31/11 06:15	0.92
1,2,3,7,8-PeCDF	ND		4.6	0.069	0.03		pg/g		08/29/11 15:00	08/31/11 06:15	0.92
2,3,4,7,8-PeCDF	ND		4.6	0.071	0.3		pg/g		08/29/11 15:00	08/31/11 06:15	0.92
Total PeCDF	63		4.6	0.070			pg/g		08/29/11 15:00	08/31/11 06:15	0.92
1,2,3,4,7,8-HxCDF	36		4.6	0.074	0.1	3.6	pg/g		08/29/11 15:00	08/31/11 06:15	0.92
1,2,3,6,7,8-HxCDF	19		4.6	0.060	0.1	1.9	pg/g		08/29/11 15:00	08/31/11 06:15	0.92
2,3,4,6,7,8-HxCDF	9.5		4.6	0.068	0.1	0.95	pg/g		08/29/11 15:00	08/31/11 06:15	0.92
1,2,3,7,8,9-HxCDF	ND		4.6	0.084	0.1		pg/g		08/29/11 15:00	08/31/11 06:15	0.92
Total HxCDF	840		4.6	0.071			pg/g		08/29/11 15:00	08/31/11 06:15	0.92
1,2,3,4,6,7,8-HpCDF	690		4.6	0.47	0.01	6.9	pg/g		08/29/11 15:00	08/31/11 06:15	0.92
1,2,3,4,7,8,9-HpCDF	60		4.6	0.57	0.01	0.60	pg/g		08/29/11 15:00	08/31/11 06:15	0.92
Total HpCDF	2500		4.6	0.52			pg/g		08/29/11 15:00	08/31/11 06:15	0.92
OCDF	2000		9.3	0.47	0.0003	0.60	pg/g		08/29/11 15:00	08/31/11 06:15	0.92

Total TEQ (WHO 2005) 63

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	91		40 - 135	08/29/11 15:00	08/31/11 06:15	0.92
13C-1,2,3,7,8-PeCDD	94		40 - 135	08/29/11 15:00	08/31/11 06:15	0.92
13C-1,2,3,6,7,8-HxCDD	78		40 - 135	08/29/11 15:00	08/31/11 06:15	0.92
13C-1,2,3,4,6,7,8-HpCDD	99		40 - 135	08/29/11 15:00	08/31/11 06:15	0.92
13C-OCDD	100		40 - 135	08/29/11 15:00	08/31/11 06:15	0.92
13C-2,3,7,8-TCDF	96		40 - 135	08/29/11 15:00	08/31/11 06:15	0.92

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU8-B

Date Collected: 08/02/11 12:15

Date Received: 08/05/11 13:42

Lab Sample ID: HUH0028-07

Matrix: Solid/Soil

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	98		40 - 135	08/29/11 15:00	08/31/11 06:15	0.92
13C-1,2,3,4,7,8-HxCDF	110		40 - 135	08/29/11 15:00	08/31/11 06:15	0.92
13C-1,2,3,4,6,7,8-HpCDF	99		40 - 135	08/29/11 15:00	08/31/11 06:15	0.92

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.9		5.8		mg/Kg		08/23/11 13:00	08/24/11 09:32	10
Lead	160		2.9		mg/Kg		08/23/11 13:00	08/24/11 09:32	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.69		0.020		mg/Kg		08/26/11 06:37	08/26/11 11:13	10

Client Sample ID: PMAK-DU8-C

Date Collected: 08/02/11 12:20

Date Received: 08/05/11 13:42

Lab Sample ID: HUH0028-08

Matrix: Solid/Soil

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.320		mg/kg		08/11/11 07:38	08/18/11 23:21	1.00
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
2,4,6-Tribromophenol	41		40 - 120	08/11/11 07:38	08/18/11 23:21	1.00			

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.8		mg/Kg		08/23/11 13:00	08/24/11 09:38	10
Lead	240		2.9		mg/Kg		08/23/11 13:00	08/24/11 09:38	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.72		0.019		mg/Kg		08/26/11 06:37	08/26/11 11:19	10

Client Sample ID: PMAK-DU9-A

Date Collected: 08/02/11 15:50

Date Received: 08/05/11 13:42

Lab Sample ID: HUH0028-11

Matrix: Solid/Soil

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.325		mg/kg		08/11/11 08:46	08/19/11 00:01	1.00
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
2,4,6-Tribromophenol	54		40 - 120	08/11/11 08:46	08/19/11 00:01	1.00			

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.97	0.087	1		pg/g		08/31/11 17:00	09/03/11 02:20	0.96
Total TCDD	14		0.97	0.087			pg/g		08/31/11 17:00	09/03/11 02:20	0.96
1,2,3,7,8-PeCDD	ND		4.8	0.28	1		pg/g		08/31/11 17:00	09/03/11 02:20	0.96

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU9-A

Lab Sample ID: HUH0028-11

Date Collected: 08/02/11 15:50

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
Total PeCDD	12		4.8	0.28			pg/g		08/31/11 17:00	09/03/11 02:20	0.96
1,2,3,4,7,8-HxCDD	8.4		4.8	0.31	0.1	0.84	pg/g		08/31/11 17:00	09/03/11 02:20	0.96
1,2,3,6,7,8-HxCDD	33		4.8	0.27	0.1	3.3	pg/g		08/31/11 17:00	09/03/11 02:20	0.96
1,2,3,7,8,9-HxCDD	22		4.8	0.26	0.1	2.2	pg/g		08/31/11 17:00	09/03/11 02:20	0.96
Total HxCDD	200		4.8	0.28			pg/g		08/31/11 17:00	09/03/11 02:20	0.96
1,2,3,4,6,7,8-HpCDD	1100		4.8	2.1	0.01	11	pg/g		08/31/11 17:00	09/03/11 02:20	0.96
Total HpCDD	1900		4.8	2.1			pg/g		08/31/11 17:00	09/03/11 02:20	0.96
OCDD	12000	E	9.7	6.8	0.0003	3.6	pg/g		08/31/11 17:00	09/03/11 02:20	0.96
2,3,7,8-TCDF	ND	CON	0.97	0.26	0.1		pg/g		08/31/11 17:00	09/03/11 02:20	0.96
Total TCDF	9.4		0.97	0.13			pg/g		08/31/11 17:00	09/03/11 02:20	0.96
1,2,3,7,8-PeCDF	ND		4.8	0.25	0.03		pg/g		08/31/11 17:00	09/03/11 02:20	0.96
2,3,4,7,8-PeCDF	ND		4.8	0.28	0.3		pg/g		08/31/11 17:00	09/03/11 02:20	0.96
Total PeCDF	49		4.8	0.26			pg/g		08/31/11 17:00	09/03/11 02:20	0.96
1,2,3,4,7,8-HxCDF	26		4.8	0.56	0.1	2.6	pg/g		08/31/11 17:00	09/03/11 02:20	0.96
1,2,3,6,7,8-HxCDF	15		4.8	0.52	0.1	1.5	pg/g		08/31/11 17:00	09/03/11 02:20	0.96
2,3,4,6,7,8-HxCDF	9.0		4.8	0.55	0.1	0.90	pg/g		08/31/11 17:00	09/03/11 02:20	0.96
1,2,3,7,8,9-HxCDF	ND		4.8	0.63	0.1		pg/g		08/31/11 17:00	09/03/11 02:20	0.96
Total HxCDF	530		4.8	0.57			pg/g		08/31/11 17:00	09/03/11 02:20	0.96
1,2,3,4,6,7,8-HpCDF	440		4.8	1.3	0.01	4.4	pg/g		08/31/11 17:00	09/03/11 02:20	0.96
1,2,3,4,7,8,9-HpCDF	30		4.8	1.5	0.01	0.30	pg/g		08/31/11 17:00	09/03/11 02:20	0.96
Total HpCDF	1500		4.8	1.4			pg/g		08/31/11 17:00	09/03/11 02:20	0.96
OCDF	1200		9.7	0.84	0.0003	0.36	pg/g		08/31/11 17:00	09/03/11 02:20	0.96
Total TEQ (WHO 2005)						31					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	82		40 - 135	08/31/11 17:00	09/03/11 02:20	0.96
13C-1,2,3,7,8-PeCDD	80		40 - 135	08/31/11 17:00	09/03/11 02:20	0.96
13C-1,2,3,6,7,8-HxCDD	91		40 - 135	08/31/11 17:00	09/03/11 02:20	0.96
13C-1,2,3,4,6,7,8-HpCDD	75		40 - 135	08/31/11 17:00	09/03/11 02:20	0.96
13C-OCDD	84		40 - 135	08/31/11 17:00	09/03/11 02:20	0.96
13C-2,3,7,8-TCDF	88		40 - 135	08/31/11 17:00	09/03/11 02:20	0.96
13C-1,2,3,7,8-PeCDF	79		40 - 135	08/31/11 17:00	09/03/11 02:20	0.96
13C-1,2,3,4,7,8-HxCDF	80		40 - 135	08/31/11 17:00	09/03/11 02:20	0.96
13C-1,2,3,4,6,7,8-HpCDF	80		40 - 135	08/31/11 17:00	09/03/11 02:20	0.96

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.8		6.5		mg/Kg		08/23/11 13:00	08/24/11 09:45	10
Lead	69		3.2		mg/Kg		08/23/11 13:00	08/24/11 09:45	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.38		0.017		mg/Kg		08/26/11 06:37	08/26/11 11:21	10

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU9-B

Lab Sample ID: HUH0028-12

Date Collected: 08/02/11 15:55

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.325		mg/kg		08/11/11 08:46	08/19/11 00:39	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	53		40 - 120				08/11/11 08:46	08/19/11 00:39	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.7	0.11	1		pg/g		08/29/11 15:00	08/31/11 07:07	1.71
Total TCDD	22		1.7	0.11			pg/g		08/29/11 15:00	08/31/11 07:07	1.71
1,2,3,7,8-PeCDD	ND		8.6	0.22	1		pg/g		08/29/11 15:00	08/31/11 07:07	1.71
Total PeCDD	ND		8.6	0.22			pg/g		08/29/11 15:00	08/31/11 07:07	1.71
1,2,3,4,7,8-HxCDD	13		8.6	0.26	0.1	1.3	pg/g		08/29/11 15:00	08/31/11 07:07	1.71
1,2,3,6,7,8-HxCDD	47		8.6	0.19	0.1	4.7	pg/g		08/29/11 15:00	08/31/11 07:07	1.71
1,2,3,7,8,9-HxCDD	36		8.6	0.22	0.1	3.6	pg/g		08/29/11 15:00	08/31/11 07:07	1.71
Total HxCDD	330		8.6	0.22			pg/g		08/29/11 15:00	08/31/11 07:07	1.71
1,2,3,4,6,7,8-HpCDD	1500		8.6	0.77	0.01	15	pg/g		08/29/11 15:00	08/31/11 07:07	1.71
Total HpCDD	2600		8.6	0.77			pg/g		08/29/11 15:00	08/31/11 07:07	1.71
OCDD	17000	E	17	1.4	0.0003	5.1	pg/g		08/29/11 15:00	08/31/11 07:07	1.71
2,3,7,8-TCDF	2.0	CON	1.7	0.72	0.1	0.20	pg/g		08/29/11 15:00	08/31/11 07:07	1.71
Total TCDF	14		1.7	0.070			pg/g		08/29/11 15:00	08/31/11 07:07	1.71
1,2,3,7,8-PeCDF	ND		8.6	0.10	0.03		pg/g		08/29/11 15:00	08/31/11 07:07	1.71
2,3,4,7,8-PeCDF	ND		8.6	0.10	0.3		pg/g		08/29/11 15:00	08/31/11 07:07	1.71
Total PeCDF	28		8.6	0.10			pg/g		08/29/11 15:00	08/31/11 07:07	1.71
1,2,3,4,7,8-HxCDF	25		8.6	0.19	0.1	2.5	pg/g		08/29/11 15:00	08/31/11 07:07	1.71
1,2,3,6,7,8-HxCDF	14		8.6	0.15	0.1	1.4	pg/g		08/29/11 15:00	08/31/11 07:07	1.71
2,3,4,6,7,8-HxCDF	9.5		8.6	0.17	0.1	0.95	pg/g		08/29/11 15:00	08/31/11 07:07	1.71
1,2,3,7,8,9-HxCDF	ND		8.6	0.21	0.1		pg/g		08/29/11 15:00	08/31/11 07:07	1.71
Total HxCDF	500		8.6	0.18			pg/g		08/29/11 15:00	08/31/11 07:07	1.71
1,2,3,4,6,7,8-HpCDF	510		8.6	0.54	0.01	5.1	pg/g		08/29/11 15:00	08/31/11 07:07	1.71
1,2,3,4,7,8,9-HpCDF	46		8.6	0.64	0.01	0.46	pg/g		08/29/11 15:00	08/31/11 07:07	1.71
Total HpCDF	1700		8.6	0.58			pg/g		08/29/11 15:00	08/31/11 07:07	1.71
OCDF	1500		17	0.49	0.0003	0.45	pg/g		08/29/11 15:00	08/31/11 07:07	1.71
Total TEQ (WHO 2005)						41					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	89		40 - 135	08/29/11 15:00	08/31/11 07:07	1.71
13C-1,2,3,7,8-PeCDD	98		40 - 135	08/29/11 15:00	08/31/11 07:07	1.71
13C-1,2,3,6,7,8-HxCDD	79		40 - 135	08/29/11 15:00	08/31/11 07:07	1.71
13C-1,2,3,4,6,7,8-HpCDD	91		40 - 135	08/29/11 15:00	08/31/11 07:07	1.71
13C-OCDD	96		40 - 135	08/29/11 15:00	08/31/11 07:07	1.71
13C-2,3,7,8-TCDF	94		40 - 135	08/29/11 15:00	08/31/11 07:07	1.71
13C-1,2,3,7,8-PeCDF	102		40 - 135	08/29/11 15:00	08/31/11 07:07	1.71
13C-1,2,3,4,7,8-HxCDF	98		40 - 135	08/29/11 15:00	08/31/11 07:07	1.71
13C-1,2,3,4,6,7,8-HpCDF	92		40 - 135	08/29/11 15:00	08/31/11 07:07	1.71

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12		5.7		mg/Kg		08/23/11 13:00	08/24/11 09:51	10
Lead	270		2.8		mg/Kg		08/23/11 13:00	08/24/11 09:51	10

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU9-B

Lab Sample ID: HUH0028-12

Date Collected: 08/02/11 15:55

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.46		0.019		mg/Kg		08/26/11 06:37	08/26/11 11:23	10

Client Sample ID: PMAK-DU9-C

Lab Sample ID: HUH0028-13

Date Collected: 08/02/11 16:00

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.326		mg/kg		08/11/11 08:46	08/12/11 13:10	1.00

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	64		40 - 120	08/11/11 08:46	08/12/11 13:10	1.00

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.7		mg/Kg		08/23/11 13:58	08/24/11 11:02	10
Lead	130		2.8		mg/Kg		08/23/11 13:58	08/24/11 11:02	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.37		0.019		mg/Kg		08/26/11 06:37	08/26/11 11:24	10

Client Sample ID: PMAK-DU16-A

Lab Sample ID: HUH0028-16

Date Collected: 08/03/11 09:50

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.322		mg/kg		08/11/11 08:46	08/12/11 13:49	1.00

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	55		40 - 120	08/11/11 08:46	08/12/11 13:49	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.95	0.052	1		pg/g		08/29/11 15:00	08/31/11 07:58	0.95
Total TCDD	9.2		0.95	0.052			pg/g		08/29/11 15:00	08/31/11 07:58	0.95
1,2,3,7,8-PeCDD	5.6		4.8	0.14	1	5.6	pg/g		08/29/11 15:00	08/31/11 07:58	0.95
Total PeCDD	22		4.8	0.14			pg/g		08/29/11 15:00	08/31/11 07:58	0.95
1,2,3,4,7,8-HxCDD	16		4.8	0.12	0.1	1.6	pg/g		08/29/11 15:00	08/31/11 07:58	0.95
1,2,3,6,7,8-HxCDD	130		4.8	0.090	0.1	13	pg/g		08/29/11 15:00	08/31/11 07:58	0.95
1,2,3,7,8,9-HxCDD	45		4.8	0.10	0.1	4.5	pg/g		08/29/11 15:00	08/31/11 07:58	0.95
Total HxCDD	620		4.8	0.10			pg/g		08/29/11 15:00	08/31/11 07:58	0.95
1,2,3,4,6,7,8-HpCDD	4900	D	95	9.1	0.01	49	pg/g		08/29/11 15:00	08/31/11 07:58	0.95
Total HpCDD	9600		95	9.1			pg/g		08/29/11 15:00	08/31/11 07:58	0.95
OCDD	61000	D	190	15	0.0003	18	pg/g		08/29/11 15:00	08/31/11 07:58	0.95
2,3,7,8-TCDF	ND	CON	0.95	0.34	0.1		pg/g		08/29/11 15:00	08/31/11 07:58	0.95
Total TCDF	15		0.95	0.037			pg/g		08/29/11 15:00	08/31/11 07:58	0.95
1,2,3,7,8-PeCDF	ND		4.8	0.061	0.03		pg/g		08/29/11 15:00	08/31/11 07:58	0.95

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU16-A

Lab Sample ID: HUH0028-16

Date Collected: 08/03/11 09:50

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,7,8-PeCDF	ND		4.8	0.062	0.3		pg/g		08/29/11 15:00	08/31/11 07:58	0.95
Total PeCDF	49		4.8	0.062			pg/g		08/29/11 15:00	08/31/11 07:58	0.95
1,2,3,4,7,8-HxCDF	50		4.8	0.074	0.1	5.0	pg/g		08/29/11 15:00	08/31/11 07:58	0.95
1,2,3,6,7,8-HxCDF	18		4.8	0.060	0.1	1.8	pg/g		08/29/11 15:00	08/31/11 07:58	0.95
2,3,4,6,7,8-HxCDF	8.9		4.8	0.068	0.1	0.89	pg/g		08/29/11 15:00	08/31/11 07:58	0.95
1,2,3,7,8,9-HxCDF	ND		4.8	0.083	0.1		pg/g		08/29/11 15:00	08/31/11 07:58	0.95
Total HxCDF	1400		4.8	0.070			pg/g		08/29/11 15:00	08/31/11 07:58	0.95
1,2,3,4,6,7,8-HpCDF	1600	D	95	4.9	0.01	16	pg/g		08/29/11 15:00	08/31/11 07:58	0.95
1,2,3,4,7,8,9-HpCDF	130	D	95	5.9	0.01	1.3	pg/g		08/29/11 15:00	08/31/11 07:58	0.95
Total HpCDF	7900		95	5.3			pg/g		08/29/11 15:00	08/31/11 07:58	0.95
OCDF	6000	D	190	5.5	0.0003	1.8	pg/g		08/29/11 15:00	08/31/11 07:58	0.95
Total TEQ (WHO 2005)						120					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	87		40 - 135	08/29/11 15:00	08/31/11 07:58	0.95
13C-1,2,3,7,8-PeCDD	89		40 - 135	08/29/11 15:00	08/31/11 07:58	0.95
13C-1,2,3,6,7,8-HxCDD	82		40 - 135	08/29/11 15:00	08/31/11 07:58	0.95
13C-1,2,3,4,6,7,8-HpCDD	87		40 - 135	08/29/11 15:00	08/31/11 07:58	0.95
13C-OCDD	91		40 - 135	08/29/11 15:00	08/31/11 07:58	0.95
13C-2,3,7,8-TCDF	92		40 - 135	08/29/11 15:00	08/31/11 07:58	0.95
13C-1,2,3,7,8-PeCDF	95		40 - 135	08/29/11 15:00	08/31/11 07:58	0.95
13C-1,2,3,4,7,8-HxCDF	97		40 - 135	08/29/11 15:00	08/31/11 07:58	0.95
13C-1,2,3,4,6,7,8-HpCDF	96		40 - 135	08/29/11 15:00	08/31/11 07:58	0.95

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	17		6.1		mg/Kg		08/23/11 13:58	08/24/11 11:08	10
Lead	24		3.0		mg/Kg		08/23/11 13:58	08/24/11 11:08	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.61		0.017		mg/Kg		08/26/11 06:37	08/26/11 11:26	10

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.67		1.00		pH Units		08/08/11 16:41	08/08/11 16:43	1.00

Client Sample ID: PMAK-DU16-B

Lab Sample ID: HUH0028-17

Date Collected: 08/03/11 09:55

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.318		mg/kg		08/11/11 08:46	08/12/11 14:28	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	66		40 - 120				08/11/11 08:46	08/12/11 14:28	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU16-B

Lab Sample ID: HUH0028-17

Date Collected: 08/03/11 09:55

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	1.4		0.97	0.060	1	1.4	pg/g		08/29/11 15:00	08/31/11 08:49	0.97
Total TCDD	22		0.97	0.060			pg/g		08/29/11 15:00	08/31/11 08:49	0.97
1,2,3,7,8-PeCDD	14		4.9	0.13	1	14	pg/g		08/29/11 15:00	08/31/11 08:49	0.97
Total PeCDD	86		4.9	0.13			pg/g		08/29/11 15:00	08/31/11 08:49	0.97
1,2,3,4,7,8-HxCDD	40		4.9	0.14	0.1	4.0	pg/g		08/29/11 15:00	08/31/11 08:49	0.97
1,2,3,6,7,8-HxCDD	280		4.9	0.10	0.1	28	pg/g		08/29/11 15:00	08/31/11 08:49	0.97
1,2,3,7,8,9-HxCDD	110		4.9	0.12	0.1	11	pg/g		08/29/11 15:00	08/31/11 08:49	0.97
Total HxCDD	1400		4.9	0.12			pg/g		08/29/11 15:00	08/31/11 08:49	0.97
1,2,3,4,6,7,8-HpCDD	10000	D	97	10	0.01	100	pg/g		08/29/11 15:00	08/31/11 08:49	0.97
Total HpCDD	20000		97	10			pg/g		08/29/11 15:00	08/31/11 08:49	0.97
OCDD	130000	E D	190	9.5	0.0003	39	pg/g		08/29/11 15:00	08/31/11 08:49	0.97
2,3,7,8-TCDF	ND	CON	0.97	0.40	0.1		pg/g		08/29/11 15:00	08/31/11 08:49	0.97
Total TCDF	31		0.97	0.039			pg/g		08/29/11 15:00	08/31/11 08:49	0.97
1,2,3,7,8-PeCDF	ND		4.9	0.10	0.03		pg/g		08/29/11 15:00	08/31/11 08:49	0.97
2,3,4,7,8-PeCDF	ND		4.9	0.11	0.3		pg/g		08/29/11 15:00	08/31/11 08:49	0.97
Total PeCDF	110		4.9	0.10			pg/g		08/29/11 15:00	08/31/11 08:49	0.97
1,2,3,4,7,8-HxCDF	130		4.9	0.20	0.1	13	pg/g		08/29/11 15:00	08/31/11 08:49	0.97
1,2,3,6,7,8-HxCDF	46		4.9	0.16	0.1	4.6	pg/g		08/29/11 15:00	08/31/11 08:49	0.97
2,3,4,6,7,8-HxCDF	28		4.9	0.18	0.1	2.8	pg/g		08/29/11 15:00	08/31/11 08:49	0.97
1,2,3,7,8,9-HxCDF	ND		4.9	0.23	0.1		pg/g		08/29/11 15:00	08/31/11 08:49	0.97
Total HxCDF	3500		4.9	0.19			pg/g		08/29/11 15:00	08/31/11 08:49	0.97
1,2,3,4,6,7,8-HpCDF	3400	D	97	6.5	0.01	34	pg/g		08/29/11 15:00	08/31/11 08:49	0.97
1,2,3,4,7,8,9-HpCDF	290	D	97	7.8	0.01	2.9	pg/g		08/29/11 15:00	08/31/11 08:49	0.97
Total HpCDF	17000		97	7.0			pg/g		08/29/11 15:00	08/31/11 08:49	0.97
OCDF	10000	D	190	3.8	0.0003	3.0	pg/g		08/29/11 15:00	08/31/11 08:49	0.97
Total TEQ (WHO 2005)						260					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	95		40 - 135	08/29/11 15:00	08/31/11 08:49	0.97
13C-1,2,3,7,8-PeCDD	100		40 - 135	08/29/11 15:00	08/31/11 08:49	0.97
13C-1,2,3,6,7,8-HxCDD	87		40 - 135	08/29/11 15:00	08/31/11 08:49	0.97
13C-1,2,3,4,6,7,8-HpCDD	100		40 - 135	08/29/11 15:00	08/31/11 08:49	0.97
13C-OCDD	131		40 - 135	08/29/11 15:00	08/31/11 08:49	0.97
13C-2,3,7,8-TCDF	102		40 - 135	08/29/11 15:00	08/31/11 08:49	0.97
13C-1,2,3,7,8-PeCDF	106		40 - 135	08/29/11 15:00	08/31/11 08:49	0.97
13C-1,2,3,4,7,8-HxCDF	95		40 - 135	08/29/11 15:00	08/31/11 08:49	0.97
13C-1,2,3,4,6,7,8-HpCDF	93		40 - 135	08/29/11 15:00	08/31/11 08:49	0.97

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	22		5.5		mg/Kg		08/23/11 13:58	08/24/11 11:30	10
Lead	78		2.8		mg/Kg		08/23/11 13:58	08/24/11 11:30	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.97		0.19		mg/Kg		08/26/11 06:37	08/26/11 12:43	100

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.77		1.00		pH Units		08/08/11 16:41	08/08/11 16:43	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU16-C

Lab Sample ID: HUH0028-18

Date Collected: 08/03/11 10:00

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.326		mg/kg		08/11/11 08:46	08/31/11 05:04	1.00
<i>Surrogate</i>	<i>% Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
2,4,6-Tribromophenol	62		40 - 120				08/11/11 08:46	08/31/11 05:04	1.00

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	37		5.7		mg/Kg		08/23/11 13:58	08/24/11 11:36	10
Lead	190		2.9		mg/Kg		08/23/11 13:58	08/24/11 11:36	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.50		0.018		mg/Kg		08/26/11 06:37	08/26/11 11:30	10

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.55		1.00		pH Units		08/08/11 16:41	08/08/11 16:43	1.00

Client Sample ID: PMAK-DU16-D

Lab Sample ID: HUH0028-19

Date Collected: 08/03/11 10:05

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.321		mg/kg		08/11/11 08:46	09/13/11 13:04	1.00
<i>Surrogate</i>	<i>% Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
2,4,6-Tribromophenol	80		40 - 120				08/11/11 08:46	09/13/11 13:04	1.00

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.25		1.00		pH Units		08/08/11 16:41	08/08/11 16:43	1.00

Client Sample ID: PMAK-DU16-E

Lab Sample ID: HUH0028-20

Date Collected: 08/03/11 10:10

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.14		1.00		pH Units		08/08/11 16:41	08/08/11 16:43	1.00

Client Sample ID: PMAK-DU13-A

Lab Sample ID: HUH0028-21

Date Collected: 08/03/11 10:45

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.321		mg/kg		08/15/11 08:51	08/29/11 18:41	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU13-A

Lab Sample ID: HUH0028-21

Date Collected: 08/03/11 10:45

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	87		40 - 120	08/15/11 08:51	08/29/11 18:41	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	6.3		4.7	0.24	1	6.3	pg/g		08/29/11 15:00	08/31/11 15:25	4.7
Total TCDD	96		4.7	0.24			pg/g		08/29/11 15:00	08/31/11 15:25	4.7
1,2,3,7,8-PeCDD	49		24	0.61	1	49	pg/g		08/29/11 15:00	08/31/11 15:25	4.7
Total PeCDD	300		24	0.61			pg/g		08/29/11 15:00	08/31/11 15:25	4.7
1,2,3,4,7,8-HxCDD	120		24	0.62	0.1	12	pg/g		08/29/11 15:00	08/31/11 15:25	4.7
1,2,3,6,7,8-HxCDD	640		24	0.47	0.1	64	pg/g		08/29/11 15:00	08/31/11 15:25	4.7
1,2,3,7,8,9-HxCDD	260		24	0.53	0.1	26	pg/g		08/29/11 15:00	08/31/11 15:25	4.7
Total HxCDD	3400		24	0.53			pg/g		08/29/11 15:00	08/31/11 15:25	4.7
1,2,3,4,6,7,8-HpCDD	30000	D	470	59	0.01	300	pg/g		08/29/11 15:00	08/31/11 15:25	4.7
Total HpCDD	61000		470	59			pg/g		08/29/11 15:00	08/31/11 15:25	4.7
OCDD	500000	E D	940	180	0.0003	150	pg/g		08/29/11 15:00	08/31/11 15:25	4.7
2,3,7,8-TCDF	ND	CON	4.7	1.8	0.1		pg/g		08/29/11 15:00	08/31/11 15:25	4.7
Total TCDF	240		4.7	0.19			pg/g		08/29/11 15:00	08/31/11 15:25	4.7
1,2,3,7,8-PeCDF	ND		24	0.43	0.03		pg/g		08/29/11 15:00	08/31/11 15:25	4.7
2,3,4,7,8-PeCDF	ND		24	0.44	0.3		pg/g		08/29/11 15:00	08/31/11 15:25	4.7
Total PeCDF	330		24	0.44			pg/g		08/29/11 15:00	08/31/11 15:25	4.7
1,2,3,4,7,8-HxCDF	410		24	0.56	0.1	41	pg/g		08/29/11 15:00	08/31/11 15:25	4.7
1,2,3,6,7,8-HxCDF	140		24	0.45	0.1	14	pg/g		08/29/11 15:00	08/31/11 15:25	4.7
2,3,4,6,7,8-HxCDF	73		24	0.51	0.1	7.3	pg/g		08/29/11 15:00	08/31/11 15:25	4.7
1,2,3,7,8,9-HxCDF	ND		24	0.63	0.1		pg/g		08/29/11 15:00	08/31/11 15:25	4.7
Total HxCDF	9900		24	0.53			pg/g		08/29/11 15:00	08/31/11 15:25	4.7
1,2,3,4,6,7,8-HpCDF	7100	D	470	24	0.01	71	pg/g		08/29/11 15:00	08/31/11 15:25	4.7
1,2,3,4,7,8,9-HpCDF	680	D	470	28	0.01	6.8	pg/g		08/29/11 15:00	08/31/11 15:25	4.7
Total HpCDF	36000		470	26			pg/g		08/29/11 15:00	08/31/11 15:25	4.7
OCDF	27000	D	940	34	0.0003	8.1	pg/g		08/29/11 15:00	08/31/11 15:25	4.7
Total TEQ (WHO 2005)						760					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	86		40 - 135	08/29/11 15:00	08/31/11 15:25	4.7
13C-1,2,3,7,8-PeCDD	83		40 - 135	08/29/11 15:00	08/31/11 15:25	4.7
13C-1,2,3,6,7,8-HxCDD	78		40 - 135	08/29/11 15:00	08/31/11 15:25	4.7
13C-1,2,3,4,6,7,8-HpCDD	97		40 - 135	08/29/11 15:00	08/31/11 15:25	4.7
13C-OCDD	94		40 - 135	08/29/11 15:00	08/31/11 15:25	4.7
13C-2,3,7,8-TCDF	97		40 - 135	08/29/11 15:00	08/31/11 15:25	4.7
13C-1,2,3,7,8-PeCDF	102		40 - 135	08/29/11 15:00	08/31/11 15:25	4.7
13C-1,2,3,4,7,8-HxCDF	89		40 - 135	08/29/11 15:00	08/31/11 15:25	4.7
13C-1,2,3,4,6,7,8-HpCDF	106		40 - 135	08/29/11 15:00	08/31/11 15:25	4.7

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	75		5.8		mg/Kg		08/23/11 13:58	08/24/11 10:36	10
Lead	90		2.9		mg/Kg		08/23/11 13:58	08/24/11 10:36	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	2.5		0.34		mg/Kg		08/26/11 06:37	08/26/11 12:45	200

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU13-A

Date Collected: 08/03/11 10:45

Date Received: 08/05/11 13:42

Lab Sample ID: HUH0028-21

Matrix: Solid/Soil

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.60		1.00		pH Units		08/08/11 16:41	08/08/11 16:43	1.00

Client Sample ID: PMAK-DU13-B

Date Collected: 08/03/11 10:50

Date Received: 08/05/11 13:42

Lab Sample ID: HUH0028-22

Matrix: Solid/Soil

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.324		mg/kg		08/15/11 08:51	08/29/11 19:20	1.00

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	66		40 - 120	08/15/11 08:51	08/29/11 19:20	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	7.6		4.5	0.66	1	7.6	pg/g		08/31/11 17:00	09/03/11 03:05	4.48
Total TCDD	280		4.5	0.66			pg/g		08/31/11 17:00	09/03/11 03:05	4.48
1,2,3,7,8-PeCDD	93		22	1.9	1	93	pg/g		08/31/11 17:00	09/03/11 03:05	4.48
Total PeCDD	760		22	1.9			pg/g		08/31/11 17:00	09/03/11 03:05	4.48
1,2,3,4,7,8-HxCDD	270		22	4.3	0.1	27	pg/g		08/31/11 17:00	09/03/11 03:05	4.48
1,2,3,6,7,8-HxCDD	1900		22	3.7	0.1	190	pg/g		08/31/11 17:00	09/03/11 03:05	4.48
1,2,3,7,8,9-HxCDD	570		22	3.7	0.1	57	pg/g		08/31/11 17:00	09/03/11 03:05	4.48
Total HxCDD	8600		22	3.8			pg/g		08/31/11 17:00	09/03/11 03:05	4.48
1,2,3,4,6,7,8-HpCDD	54000	D	450	130	0.01	540	pg/g		08/31/11 17:00	09/03/11 03:05	4.48
Total HpCDD	100000		450	130			pg/g		08/31/11 17:00	09/03/11 03:05	4.48
OCDD	460000	E D	900	81	0.0003	140	pg/g		08/31/11 17:00	09/03/11 03:05	4.48
2,3,7,8-TCDF	6.3	CON	4.5	1.2	0.1	0.63	pg/g		08/31/11 17:00	09/03/11 03:05	4.48
Total TCDF	760		4.5	1.2			pg/g		08/31/11 17:00	09/03/11 03:05	4.48
1,2,3,7,8-PeCDF	43		22	4.4	0.03	1.3	pg/g		08/31/11 17:00	09/03/11 03:05	4.48
2,3,4,7,8-PeCDF	33		22	4.8	0.3	9.9	pg/g		08/31/11 17:00	09/03/11 03:05	4.48
Total PeCDF	1900		22	4.6			pg/g		08/31/11 17:00	09/03/11 03:05	4.48
1,2,3,4,7,8-HxCDF	820		22	16	0.1	82	pg/g		08/31/11 17:00	09/03/11 03:05	4.48
1,2,3,6,7,8-HxCDF	270		22	15	0.1	27	pg/g		08/31/11 17:00	09/03/11 03:05	4.48
2,3,4,6,7,8-HxCDF	190		22	16	0.1	19	pg/g		08/31/11 17:00	09/03/11 03:05	4.48
1,2,3,7,8,9-HxCDF	ND		22	18	0.1		pg/g		08/31/11 17:00	09/03/11 03:05	4.48
Total HxCDF	29000		22	16			pg/g		08/31/11 17:00	09/03/11 03:05	4.48
1,2,3,4,6,7,8-HpCDF	20000	D	450	62	0.01	200	pg/g		08/31/11 17:00	09/03/11 03:05	4.48
1,2,3,4,7,8,9-HpCDF	1800	D	450	77	0.01	18	pg/g		08/31/11 17:00	09/03/11 03:05	4.48
Total HpCDF	110000		450	68			pg/g		08/31/11 17:00	09/03/11 03:05	4.48
OCDF	35000	D	900	29	0.0003	11	pg/g		08/31/11 17:00	09/03/11 03:05	4.48

Total TEQ (WHO 2005) 1400

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	80		40 - 135	08/31/11 17:00	09/03/11 03:05	4.48
13C-1,2,3,7,8-PeCDD	75		40 - 135	08/31/11 17:00	09/03/11 03:05	4.48
13C-1,2,3,6,7,8-HxCDD	74		40 - 135	08/31/11 17:00	09/03/11 03:05	4.48
13C-1,2,3,4,6,7,8-HpCDD	102		40 - 135	08/31/11 17:00	09/03/11 03:05	4.48
13C-OCDD	197 *		40 - 135	08/31/11 17:00	09/03/11 03:05	4.48
13C-2,3,7,8-TCDF	84		40 - 135	08/31/11 17:00	09/03/11 03:05	4.48

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU13-B

Lab Sample ID: HUH0028-22

Date Collected: 08/03/11 10:50

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	75		40 - 135	08/31/11 17:00	09/03/11 03:05	4.48
13C-1,2,3,4,7,8-HxCDF	72		40 - 135	08/31/11 17:00	09/03/11 03:05	4.48
13C-1,2,3,4,6,7,8-HpCDF	78		40 - 135	08/31/11 17:00	09/03/11 03:05	4.48

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	46		5.9		mg/Kg		08/23/11 13:58	08/24/11 11:43	10
Lead	54		3.0		mg/Kg		08/23/11 13:58	08/24/11 11:43	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	2.1		0.37		mg/Kg		08/26/11 06:37	08/26/11 12:47	200

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.72		1.00		pH Units		08/08/11 16:41	08/08/11 16:43	1.00

Client Sample ID: PMAK-DU13-C

Lab Sample ID: HUH0028-23

Date Collected: 08/03/11 10:55

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	RL2	1.60		mg/kg		08/15/11 08:51	08/29/11 19:59	5.00
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
2,4,6-Tribromophenol	60		40 - 120	08/15/11 08:51	08/29/11 19:59	5.00			

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	26		5.8		mg/Kg		08/23/11 13:58	08/24/11 11:49	10
Lead	220		2.9		mg/Kg		08/23/11 13:58	08/24/11 11:49	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.58		0.020		mg/Kg		08/26/11 06:37	08/26/11 11:36	10

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.59		1.00		pH Units		08/08/11 16:41	08/08/11 16:43	1.00

Client Sample ID: PMAK-DU13-D

Lab Sample ID: HUH0028-24

Date Collected: 08/03/11 11:00

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.327		mg/kg		08/15/11 08:51	09/13/11 10:29	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU13-D

Date Collected: 08/03/11 11:00

Date Received: 08/05/11 13:42

Lab Sample ID: HUH0028-24

Matrix: Solid/Soil

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	60		40 - 120	08/15/11 08:51	09/13/11 10:29	1.00

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.28		1.00		pH Units		08/08/11 16:41	08/08/11 16:43	1.00

Client Sample ID: PMAK-DU13-E

Date Collected: 08/03/11 11:05

Date Received: 08/05/11 13:42

Lab Sample ID: HUH0028-25

Matrix: Solid/Soil

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	61		40 - 120	08/15/11 08:51	08/29/11 20:39	1.00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.89		1.00		pH Units		08/08/11 16:41	08/08/11 16:43	1.00

Method: EPA 9045 - General Chemistry Parameters

Client Sample ID: PMAK-DU4-A-P

Date Collected: 08/03/11 15:00

Date Received: 08/05/11 13:42

Lab Sample ID: HUH0028-26

Matrix: Solid/Soil

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	61		40 - 120	08/15/11 08:51	08/29/11 20:39	1.00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.325		mg/kg		08/15/11 08:51	08/29/11 20:39	1.00

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	35.8		3.93		mg/kg		08/12/11 10:03	08/16/11 10:46	1.00
RRO	165		19.7		mg/kg		08/12/11 10:03	08/16/11 10:46	1.00

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	79		40 - 120	08/12/11 10:03	08/16/11 10:46	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	1.0		0.90	0.053	1	1.0	pg/g		08/29/11 15:00	08/31/11 16:16	0.89
Total TCDD	26		0.90	0.053			pg/g		08/29/11 15:00	08/31/11 16:16	0.89
1,2,3,7,8-PeCDD	11		4.5	0.16	1	11	pg/g		08/29/11 15:00	08/31/11 16:16	0.89
Total PeCDD	71		4.5	0.16			pg/g		08/29/11 15:00	08/31/11 16:16	0.89
1,2,3,4,7,8-HxCDD	25		4.5	0.21	0.1	2.5	pg/g		08/29/11 15:00	08/31/11 16:16	0.89
1,2,3,6,7,8-HxCDD	170		4.5	0.16	0.1	17	pg/g		08/29/11 15:00	08/31/11 16:16	0.89
1,2,3,7,8,9-HxCDD	67		4.5	0.18	0.1	6.7	pg/g		08/29/11 15:00	08/31/11 16:16	0.89
Total HxCDD	870		4.5	0.18			pg/g		08/29/11 15:00	08/31/11 16:16	0.89
1,2,3,4,6,7,8-HpCDD	6500	D	90	21	0.01	65	pg/g		08/29/11 15:00	08/31/11 16:16	0.89
Total HpCDD	13000		90	21			pg/g		08/29/11 15:00	08/31/11 16:16	0.89
OCDD	94000	E D	180	28	0.0003	28	pg/g		08/29/11 15:00	08/31/11 16:16	0.89
2,3,7,8-TCDF	1.6	CON	0.90	0.38	0.1	0.16	pg/g		08/29/11 15:00	08/31/11 16:16	0.89
Total TCDF	23		0.90	0.045			pg/g		08/29/11 15:00	08/31/11 16:16	0.89
1,2,3,7,8-PeCDF	ND		4.5	0.10	0.03		pg/g		08/29/11 15:00	08/31/11 16:16	0.89
2,3,4,7,8-PeCDF	ND		4.5	0.10	0.3		pg/g		08/29/11 15:00	08/31/11 16:16	0.89

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU4-A-P

Lab Sample ID: HUH0028-26

Date Collected: 08/03/11 15:00

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
Total PeCDF	87		4.5	0.10			pg/g		08/29/11 15:00	08/31/11 16:16	0.89
1,2,3,4,7,8-HxCDF	85		4.5	0.14	0.1	8.5	pg/g		08/29/11 15:00	08/31/11 16:16	0.89
1,2,3,6,7,8-HxCDF	34		4.5	0.11	0.1	3.4	pg/g		08/29/11 15:00	08/31/11 16:16	0.89
2,3,4,6,7,8-HxCDF	22		4.5	0.13	0.1	2.2	pg/g		08/29/11 15:00	08/31/11 16:16	0.89
1,2,3,7,8,9-HxCDF	ND		4.5	0.16	0.1		pg/g		08/29/11 15:00	08/31/11 16:16	0.89
Total HxCDF	2200		4.5	0.13			pg/g		08/29/11 15:00	08/31/11 16:16	0.89
1,2,3,4,6,7,8-HpCDF	1800	D	90	8.3	0.01	18	pg/g		08/29/11 15:00	08/31/11 16:16	0.89
1,2,3,4,7,8,9-HpCDF	160	D	90	10	0.01	1.6	pg/g		08/29/11 15:00	08/31/11 16:16	0.89
Total HpCDF	9500		90	9.1			pg/g		08/29/11 15:00	08/31/11 16:16	0.89
OCDF	6300	D	180	7.7	0.0003	1.9	pg/g		08/29/11 15:00	08/31/11 16:16	0.89
Total TEQ (WHO 2005)						170					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	82		40 - 135	08/29/11 15:00	08/31/11 16:16	0.89
13C-1,2,3,7,8-PeCDD	84		40 - 135	08/29/11 15:00	08/31/11 16:16	0.89
13C-1,2,3,6,7,8-HxCDD	78		40 - 135	08/29/11 15:00	08/31/11 16:16	0.89
13C-1,2,3,4,6,7,8-HpCDD	90		40 - 135	08/29/11 15:00	08/31/11 16:16	0.89
13C-OCDD	108		40 - 135	08/29/11 15:00	08/31/11 16:16	0.89
13C-2,3,7,8-TCDF	91		40 - 135	08/29/11 15:00	08/31/11 16:16	0.89
13C-1,2,3,7,8-PeCDF	89		40 - 135	08/29/11 15:00	08/31/11 16:16	0.89
13C-1,2,3,4,7,8-HxCDF	91		40 - 135	08/29/11 15:00	08/31/11 16:16	0.89
13C-1,2,3,4,6,7,8-HpCDF	97		40 - 135	08/29/11 15:00	08/31/11 16:16	0.89

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	18		5.7		mg/Kg		08/23/11 13:58	08/24/11 11:55	10
Lead	43		2.9		mg/Kg		08/23/11 13:58	08/24/11 11:55	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.99		0.18		mg/Kg		08/26/11 08:32	08/26/11 12:49	100

Client Sample ID: PMAK-DU4-A-T1

Lab Sample ID: HUH0028-27

Date Collected: 08/03/11 15:00

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.297		mg/kg		08/15/11 14:48	08/29/11 21:18	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	66		40 - 120				08/15/11 14:48	08/29/11 21:18	1.00

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	32.7		3.88		mg/kg		08/12/11 10:03	08/16/11 11:34	1.00
RRO	125		19.4		mg/kg		08/12/11 10:03	08/16/11 11:34	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	82		40 - 120				08/12/11 10:03	08/16/11 11:34	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU4-A-T1

Lab Sample ID: HUH0028-27

Date Collected: 08/03/11 15:00

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	1.1		0.98	0.081	1	1.1	pg/g		08/29/11 15:00	08/31/11 17:08	0.98
Total TCDD	24		0.98	0.081			pg/g		08/29/11 15:00	08/31/11 17:08	0.98
1,2,3,7,8-PeCDD	12		4.9	0.18	1	12	pg/g		08/29/11 15:00	08/31/11 17:08	0.98
Total PeCDD	77		4.9	0.18			pg/g		08/29/11 15:00	08/31/11 17:08	0.98
1,2,3,4,7,8-HxCDD	26		4.9	0.20	0.1	2.6	pg/g		08/29/11 15:00	08/31/11 17:08	0.98
1,2,3,6,7,8-HxCDD	210		4.9	0.15	0.1	21	pg/g		08/29/11 15:00	08/31/11 17:08	0.98
1,2,3,7,8,9-HxCDD	75		4.9	0.17	0.1	7.5	pg/g		08/29/11 15:00	08/31/11 17:08	0.98
Total HxCDD	1000		4.9	0.17			pg/g		08/29/11 15:00	08/31/11 17:08	0.98
1,2,3,4,6,7,8-HpCDD	7100	D	98	17	0.01	71	pg/g		08/29/11 15:00	08/31/11 17:08	0.98
Total HpCDD	14000		98	17			pg/g		08/29/11 15:00	08/31/11 17:08	0.98
OCDD	99000	E D	200	35	0.0003	30	pg/g		08/29/11 15:00	08/31/11 17:08	0.98
2,3,7,8-TCDF	1.2	CON	0.98	0.53	0.1	0.12	pg/g		08/29/11 15:00	08/31/11 17:08	0.98
Total TCDF	29		0.98	0.056			pg/g		08/29/11 15:00	08/31/11 17:08	0.98
1,2,3,7,8-PeCDF	ND		4.9	0.091	0.03		pg/g		08/29/11 15:00	08/31/11 17:08	0.98
2,3,4,7,8-PeCDF	ND		4.9	0.093	0.3		pg/g		08/29/11 15:00	08/31/11 17:08	0.98
Total PeCDF	96		4.9	0.092			pg/g		08/29/11 15:00	08/31/11 17:08	0.98
1,2,3,4,7,8-HxCDF	97		4.9	0.28	0.1	9.7	pg/g		08/29/11 15:00	08/31/11 17:08	0.98
1,2,3,6,7,8-HxCDF	38		4.9	0.23	0.1	3.8	pg/g		08/29/11 15:00	08/31/11 17:08	0.98
2,3,4,6,7,8-HxCDF	20		4.9	0.26	0.1	2.0	pg/g		08/29/11 15:00	08/31/11 17:08	0.98
1,2,3,7,8,9-HxCDF	ND		4.9	0.32	0.1		pg/g		08/29/11 15:00	08/31/11 17:08	0.98
Total HxCDF	2600		4.9	0.27			pg/g		08/29/11 15:00	08/31/11 17:08	0.98
1,2,3,4,6,7,8-HpCDF	2500	D	98	9.2	0.01	25	pg/g		08/29/11 15:00	08/31/11 17:08	0.98
1,2,3,4,7,8,9-HpCDF	210	D	98	11	0.01	2.1	pg/g		08/29/11 15:00	08/31/11 17:08	0.98
Total HpCDF	13000		98	10			pg/g		08/29/11 15:00	08/31/11 17:08	0.98
OCDF	7200	D	200	8.4	0.0003	2.2	pg/g		08/29/11 15:00	08/31/11 17:08	0.98
Total TEQ (WHO 2005)						190					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	75		40 - 135	08/29/11 15:00	08/31/11 17:08	0.98
13C-1,2,3,7,8-PeCDD	83		40 - 135	08/29/11 15:00	08/31/11 17:08	0.98
13C-1,2,3,6,7,8-HxCDD	68		40 - 135	08/29/11 15:00	08/31/11 17:08	0.98
13C-1,2,3,4,6,7,8-HpCDD	82		40 - 135	08/29/11 15:00	08/31/11 17:08	0.98
13C-OCDD	100		40 - 135	08/29/11 15:00	08/31/11 17:08	0.98
13C-2,3,7,8-TCDF	89		40 - 135	08/29/11 15:00	08/31/11 17:08	0.98
13C-1,2,3,7,8-PeCDF	95		40 - 135	08/29/11 15:00	08/31/11 17:08	0.98
13C-1,2,3,4,7,8-HxCDF	83		40 - 135	08/29/11 15:00	08/31/11 17:08	0.98
13C-1,2,3,4,6,7,8-HpCDF	70		40 - 135	08/29/11 15:00	08/31/11 17:08	0.98

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	18		5.9		mg/Kg		08/23/11 13:58	08/24/11 12:02	10
Lead	39		3.0		mg/Kg		08/23/11 13:58	08/24/11 12:02	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.91		0.020		mg/Kg		08/26/11 08:32	08/26/11 12:24	10

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU4-A-T2

Lab Sample ID: HUH0028-28

Date Collected: 08/03/11 15:00

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.320		mg/kg		08/15/11 08:51	08/29/11 21:57	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	70		40 - 120				08/15/11 08:51	08/29/11 21:57	1.00

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	32.4		3.90		mg/kg		08/12/11 10:03	08/16/11 11:50	1.00
RRO	121		19.5		mg/kg		08/12/11 10:03	08/16/11 11:50	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	83		40 - 120				08/12/11 10:03	08/16/11 11:50	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	1.1		0.96	0.070	1	1.1	pg/g		08/29/11 15:00	08/31/11 17:59	0.95
Total TCDD	23		0.96	0.070			pg/g		08/29/11 15:00	08/31/11 17:59	0.95
1,2,3,7,8-PeCDD	11		4.8	0.18	1	11	pg/g		08/29/11 15:00	08/31/11 17:59	0.95
Total PeCDD	59		4.8	0.18			pg/g		08/29/11 15:00	08/31/11 17:59	0.95
1,2,3,4,7,8-HxCDD	24		4.8	0.21	0.1	2.4	pg/g		08/29/11 15:00	08/31/11 17:59	0.95
1,2,3,6,7,8-HxCDD	200		4.8	0.15	0.1	20	pg/g		08/29/11 15:00	08/31/11 17:59	0.95
1,2,3,7,8,9-HxCDD	74		4.8	0.17	0.1	7.4	pg/g		08/29/11 15:00	08/31/11 17:59	0.95
Total HxCDD	980		4.8	0.18			pg/g		08/29/11 15:00	08/31/11 17:59	0.95
1,2,3,4,6,7,8-HpCDD	6600	D	96	21	0.01	66	pg/g		08/29/11 15:00	08/31/11 17:59	0.95
Total HpCDD	14000		96	21			pg/g		08/29/11 15:00	08/31/11 17:59	0.95
OCDD	100000	E D	190	31	0.0003	30	pg/g		08/29/11 15:00	08/31/11 17:59	0.95
2,3,7,8-TCDF	1.1	Q CON	0.96	0.49	0.1	0.11	pg/g		08/29/11 15:00	08/31/11 17:59	0.95
Total TCDF	25		0.96	0.054			pg/g		08/29/11 15:00	08/31/11 17:59	0.95
1,2,3,7,8-PeCDF	ND		4.8	0.12	0.03		pg/g		08/29/11 15:00	08/31/11 17:59	0.95
2,3,4,7,8-PeCDF	ND		4.8	0.12	0.3		pg/g		08/29/11 15:00	08/31/11 17:59	0.95
Total PeCDF	93		4.8	0.12			pg/g		08/29/11 15:00	08/31/11 17:59	0.95
1,2,3,4,7,8-HxCDF	94		4.8	0.10	0.1	9.4	pg/g		08/29/11 15:00	08/31/11 17:59	0.95
1,2,3,6,7,8-HxCDF	38		4.8	0.083	0.1	3.8	pg/g		08/29/11 15:00	08/31/11 17:59	0.95
2,3,4,6,7,8-HxCDF	22		4.8	0.094	0.1	2.2	pg/g		08/29/11 15:00	08/31/11 17:59	0.95
1,2,3,7,8,9-HxCDF	ND		4.8	0.11	0.1		pg/g		08/29/11 15:00	08/31/11 17:59	0.95
Total HxCDF	2300		4.8	0.097			pg/g		08/29/11 15:00	08/31/11 17:59	0.95
1,2,3,4,6,7,8-HpCDF	2000	D	96	8.9	0.01	20	pg/g		08/29/11 15:00	08/31/11 17:59	0.95
1,2,3,4,7,8,9-HpCDF	160	D	96	11	0.01	1.6	pg/g		08/29/11 15:00	08/31/11 17:59	0.95
Total HpCDF	10000		96	9.7			pg/g		08/29/11 15:00	08/31/11 17:59	0.95
OCDF	7200	D	190	12	0.0003	2.2	pg/g		08/29/11 15:00	08/31/11 17:59	0.95
Total TEQ (WHO 2005)						180					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	76		40 - 135	08/29/11 15:00	08/31/11 17:59	0.95
13C-1,2,3,7,8-PeCDD	83		40 - 135	08/29/11 15:00	08/31/11 17:59	0.95
13C-1,2,3,6,7,8-HxCDD	66		40 - 135	08/29/11 15:00	08/31/11 17:59	0.95
13C-1,2,3,4,6,7,8-HpCDD	94		40 - 135	08/29/11 15:00	08/31/11 17:59	0.95
13C-OCDD	98		40 - 135	08/29/11 15:00	08/31/11 17:59	0.95
13C-2,3,7,8-TCDF	89		40 - 135	08/29/11 15:00	08/31/11 17:59	0.95
13C-1,2,3,7,8-PeCDF	93		40 - 135	08/29/11 15:00	08/31/11 17:59	0.95
13C-1,2,3,4,7,8-HxCDF	79		40 - 135	08/29/11 15:00	08/31/11 17:59	0.95

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU4-A-T2

Lab Sample ID: HUH0028-28

Date Collected: 08/03/11 15:00

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDF	96		40 - 135	08/29/11 15:00	08/31/11 17:59	0.95

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	17		5.8		mg/Kg		08/23/11 13:58	08/24/11 12:08	10
Lead	40		2.9		mg/Kg		08/23/11 13:58	08/24/11 12:08	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.84		0.018		mg/Kg		08/26/11 08:32	08/26/11 12:26	10

Client Sample ID: PMAK-DU4-B-P

Lab Sample ID: HUH0028-29

Date Collected: 08/03/11 15:05

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.326		mg/kg		08/15/11 08:51	08/29/11 22:37	1.00
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
2,4,6-Tribromophenol	81		40 - 120	08/15/11 08:51	08/29/11 22:37	1.00			

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	259		3.95		mg/kg		08/12/11 10:03	08/16/11 12:06	1.00
RRO	182		19.7		mg/kg		08/12/11 10:03	08/16/11 12:06	1.00
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
o-Terphenyl	144	Z1	40 - 120	08/12/11 10:03	08/16/11 12:06	1.00			

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.89	0.073	1		pg/g		08/29/11 15:00	08/31/11 18:50	0.88
Total TCDD	15		0.89	0.073			pg/g		08/29/11 15:00	08/31/11 18:50	0.88
1,2,3,7,8-PeCDD	7.0		4.4	0.17	1	7.0	pg/g		08/29/11 15:00	08/31/11 18:50	0.88
Total PeCDD	32		4.4	0.17			pg/g		08/29/11 15:00	08/31/11 18:50	0.88
1,2,3,4,7,8-HxCDD	15		4.4	0.21	0.1	1.5	pg/g		08/29/11 15:00	08/31/11 18:50	0.88
1,2,3,6,7,8-HxCDD	110		4.4	0.15	0.1	11	pg/g		08/29/11 15:00	08/31/11 18:50	0.88
1,2,3,7,8,9-HxCDD	43		4.4	0.17	0.1	4.3	pg/g		08/29/11 15:00	08/31/11 18:50	0.88
Total HxCDD	590		4.4	0.18			pg/g		08/29/11 15:00	08/31/11 18:50	0.88
1,2,3,4,6,7,8-HpCDD	4300	D	44	6.0	0.01	43	pg/g		08/29/11 15:00	08/31/11 18:50	0.88
Total HpCDD	7900		44	6.0			pg/g		08/29/11 15:00	08/31/11 18:50	0.88
OCDD	69000	E D	89	12	0.0003	21	pg/g		08/29/11 15:00	08/31/11 18:50	0.88
2,3,7,8-TCDF	ND	CON	0.89	0.58	0.1		pg/g		08/29/11 15:00	08/31/11 18:50	0.88
Total TCDF	21		0.89	0.041			pg/g		08/29/11 15:00	08/31/11 18:50	0.88
1,2,3,7,8-PeCDF	ND		4.4	0.087	0.03		pg/g		08/29/11 15:00	08/31/11 18:50	0.88
2,3,4,7,8-PeCDF	ND		4.4	0.089	0.3		pg/g		08/29/11 15:00	08/31/11 18:50	0.88
Total PeCDF	72		4.4	0.088			pg/g		08/29/11 15:00	08/31/11 18:50	0.88
1,2,3,4,7,8-HxCDF	62		4.4	0.18	0.1	6.2	pg/g		08/29/11 15:00	08/31/11 18:50	0.88
1,2,3,6,7,8-HxCDF	26		4.4	0.15	0.1	2.6	pg/g		08/29/11 15:00	08/31/11 18:50	0.88

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU4-B-P

Lab Sample ID: HUH0028-29

Date Collected: 08/03/11 15:05

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,6,7,8-HxCDF	11		4.4	0.17	0.1	1.1	pg/g		08/29/11 15:00	08/31/11 18:50	0.88
1,2,3,7,8,9-HxCDF	ND		4.4	0.21	0.1		pg/g		08/29/11 15:00	08/31/11 18:50	0.88
Total HxCDF	1800		4.4	0.17			pg/g		08/29/11 15:00	08/31/11 18:50	0.88
1,2,3,4,6,7,8-HpCDF	1500	D	44	3.1	0.01	15	pg/g		08/29/11 15:00	08/31/11 18:50	0.88
1,2,3,4,7,8,9-HpCDF	130	D	44	3.8	0.01	1.3	pg/g		08/29/11 15:00	08/31/11 18:50	0.88
Total HpCDF	7500		44	3.4			pg/g		08/29/11 15:00	08/31/11 18:50	0.88
OCDF	5200	D	89	2.8	0.0003	1.6	pg/g		08/29/11 15:00	08/31/11 18:50	0.88
Total TEQ (WHO 2005)						120					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	75		40 - 135	08/29/11 15:00	08/31/11 18:50	0.88
13C-1,2,3,7,8-PeCDD	80		40 - 135	08/29/11 15:00	08/31/11 18:50	0.88
13C-1,2,3,6,7,8-HxCDD	71		40 - 135	08/29/11 15:00	08/31/11 18:50	0.88
13C-1,2,3,4,6,7,8-HpCDD	81		40 - 135	08/29/11 15:00	08/31/11 18:50	0.88
13C-OCDD	98		40 - 135	08/29/11 15:00	08/31/11 18:50	0.88
13C-2,3,7,8-TCDF	88		40 - 135	08/29/11 15:00	08/31/11 18:50	0.88
13C-1,2,3,7,8-PeCDF	91		40 - 135	08/29/11 15:00	08/31/11 18:50	0.88
13C-1,2,3,4,7,8-HxCDF	83		40 - 135	08/29/11 15:00	08/31/11 18:50	0.88
13C-1,2,3,4,6,7,8-HpCDF	83		40 - 135	08/29/11 15:00	08/31/11 18:50	0.88

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	24		5.8		mg/Kg		08/23/11 13:58	08/24/11 12:33	10
Lead	45		2.9		mg/Kg		08/23/11 13:58	08/24/11 12:33	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.54		0.019		mg/Kg		08/26/11 08:32	08/26/11 12:28	10

Client Sample ID: PMAK-DU4-B-T1

Lab Sample ID: HUH0028-30

Date Collected: 08/03/11 15:05

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.322		mg/kg		08/15/11 14:48	08/29/11 23:16	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	82		40 - 120				08/15/11 14:48	08/29/11 23:16	1.00

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	164		19.3		mg/kg		08/12/11 10:03	08/16/11 16:37	5.00
RRO	298		96.5		mg/kg		08/12/11 10:03	08/16/11 16:37	5.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	112		40 - 120				08/12/11 10:03	08/16/11 16:37	5.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU4-B-T1

Lab Sample ID: HUH0028-30

Date Collected: 08/03/11 15:05

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.99	0.13	1		pg/g		08/29/11 15:00	08/31/11 19:41	0.98
Total TCDD	17		0.99	0.13			pg/g		08/29/11 15:00	08/31/11 19:41	0.98
1,2,3,7,8-PeCDD	9.9		4.9	0.22	1	9.9	pg/g		08/29/11 15:00	08/31/11 19:41	0.98
Total PeCDD	53		4.9	0.22			pg/g		08/29/11 15:00	08/31/11 19:41	0.98
1,2,3,4,7,8-HxCDD	26		4.9	0.26	0.1	2.6	pg/g		08/29/11 15:00	08/31/11 19:41	0.98
1,2,3,6,7,8-HxCDD	180		4.9	0.20	0.1	18	pg/g		08/29/11 15:00	08/31/11 19:41	0.98
1,2,3,7,8,9-HxCDD	66		4.9	0.22	0.1	6.6	pg/g		08/29/11 15:00	08/31/11 19:41	0.98
Total HxCDD	920		4.9	0.22			pg/g		08/29/11 15:00	08/31/11 19:41	0.98
1,2,3,4,6,7,8-HpCDD	6300	D	49	15	0.01	63	pg/g		08/29/11 15:00	08/31/11 19:41	0.98
Total HpCDD	11000		49	15			pg/g		08/29/11 15:00	08/31/11 19:41	0.98
OCDD	95000	E D	99	10	0.0003	29	pg/g		08/29/11 15:00	08/31/11 19:41	0.98
2,3,7,8-TCDF	ND	CON	0.99	0.73	0.1		pg/g		08/29/11 15:00	08/31/11 19:41	0.98
Total TCDF	27		0.99	0.079			pg/g		08/29/11 15:00	08/31/11 19:41	0.98
1,2,3,7,8-PeCDF	ND		4.9	0.12	0.03		pg/g		08/29/11 15:00	08/31/11 19:41	0.98
2,3,4,7,8-PeCDF	ND		4.9	0.12	0.3		pg/g		08/29/11 15:00	08/31/11 19:41	0.98
Total PeCDF	95		4.9	0.12			pg/g		08/29/11 15:00	08/31/11 19:41	0.98
1,2,3,4,7,8-HxCDF	88		4.9	0.12	0.1	8.8	pg/g		08/29/11 15:00	08/31/11 19:41	0.98
1,2,3,6,7,8-HxCDF	34		4.9	0.094	0.1	3.4	pg/g		08/29/11 15:00	08/31/11 19:41	0.98
2,3,4,6,7,8-HxCDF	19		4.9	0.11	0.1	1.9	pg/g		08/29/11 15:00	08/31/11 19:41	0.98
1,2,3,7,8,9-HxCDF	ND		4.9	0.13	0.1		pg/g		08/29/11 15:00	08/31/11 19:41	0.98
Total HxCDF	2600		4.9	0.11			pg/g		08/29/11 15:00	08/31/11 19:41	0.98
1,2,3,4,6,7,8-HpCDF	2300	D	49	4.1	0.01	23	pg/g		08/29/11 15:00	08/31/11 19:41	0.98
1,2,3,4,7,8,9-HpCDF	190	D	49	5.0	0.01	1.9	pg/g		08/29/11 15:00	08/31/11 19:41	0.98
Total HpCDF	11000		49	4.5			pg/g		08/29/11 15:00	08/31/11 19:41	0.98
OCDF	7000	D	99	4.2	0.0003	2.1	pg/g		08/29/11 15:00	08/31/11 19:41	0.98
Total TEQ (WHO 2005)						170					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	58		40 - 135	08/29/11 15:00	08/31/11 19:41	0.98
13C-1,2,3,7,8-PeCDD	62		40 - 135	08/29/11 15:00	08/31/11 19:41	0.98
13C-1,2,3,6,7,8-HxCDD	52		40 - 135	08/29/11 15:00	08/31/11 19:41	0.98
13C-1,2,3,4,6,7,8-HpCDD	61		40 - 135	08/29/11 15:00	08/31/11 19:41	0.98
13C-OCDD	78		40 - 135	08/29/11 15:00	08/31/11 19:41	0.98
13C-2,3,7,8-TCDF	65		40 - 135	08/29/11 15:00	08/31/11 19:41	0.98
13C-1,2,3,7,8-PeCDF	69		40 - 135	08/29/11 15:00	08/31/11 19:41	0.98
13C-1,2,3,4,7,8-HxCDF	64		40 - 135	08/29/11 15:00	08/31/11 19:41	0.98
13C-1,2,3,4,6,7,8-HpCDF	59		40 - 135	08/29/11 15:00	08/31/11 19:41	0.98

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	26		5.9		mg/Kg		08/23/11 13:58	08/24/11 12:39	10
Lead	72		3.0		mg/Kg		08/23/11 13:58	08/24/11 12:39	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.62		0.019		mg/Kg		08/26/11 08:32	08/26/11 12:30	10

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU4-B-T2

Lab Sample ID: HUH0028-31

Date Collected: 08/03/11 15:05

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.321		mg/kg		08/15/11 08:51	08/29/11 23:54	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	79		40 - 120				08/15/11 08:51	08/29/11 23:54	1.00

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	151		19.0		mg/kg		08/12/11 10:03	08/16/11 16:53	5.00
RRO	303		94.9		mg/kg		08/12/11 10:03	08/16/11 16:53	5.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	100		40 - 120				08/12/11 10:03	08/16/11 16:53	5.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.96	0.096	1		pg/g		08/29/11 15:00	08/31/11 20:33	0.95
Total TCDD	12		0.96	0.096			pg/g		08/29/11 15:00	08/31/11 20:33	0.95
1,2,3,7,8-PeCDD	6.9		4.8	0.21	1	6.9	pg/g		08/29/11 15:00	08/31/11 20:33	0.95
Total PeCDD	31		4.8	0.21			pg/g		08/29/11 15:00	08/31/11 20:33	0.95
1,2,3,4,7,8-HxCDD	15		4.8	0.22	0.1	1.5	pg/g		08/29/11 15:00	08/31/11 20:33	0.95
1,2,3,6,7,8-HxCDD	100		4.8	0.16	0.1	10	pg/g		08/29/11 15:00	08/31/11 20:33	0.95
1,2,3,7,8,9-HxCDD	45		4.8	0.18	0.1	4.5	pg/g		08/29/11 15:00	08/31/11 20:33	0.95
Total HxCDD	600		4.8	0.18			pg/g		08/29/11 15:00	08/31/11 20:33	0.95
1,2,3,4,6,7,8-HpCDD	4100	D	48	7.7	0.01	41	pg/g		08/29/11 15:00	08/31/11 20:33	0.95
Total HpCDD	7400		48	7.7			pg/g		08/29/11 15:00	08/31/11 20:33	0.95
OCDD	62000	E D	96	16	0.0003	19	pg/g		08/29/11 15:00	08/31/11 20:33	0.95
2,3,7,8-TCDF	ND	CON	0.96	0.77	0.1		pg/g		08/29/11 15:00	08/31/11 20:33	0.95
Total TCDF	14		0.96	0.069			pg/g		08/29/11 15:00	08/31/11 20:33	0.95
1,2,3,7,8-PeCDF	ND		4.8	0.11	0.03		pg/g		08/29/11 15:00	08/31/11 20:33	0.95
2,3,4,7,8-PeCDF	ND		4.8	0.11	0.3		pg/g		08/29/11 15:00	08/31/11 20:33	0.95
Total PeCDF	64		4.8	0.11			pg/g		08/29/11 15:00	08/31/11 20:33	0.95
1,2,3,4,7,8-HxCDF	53		4.8	0.15	0.1	5.3	pg/g		08/29/11 15:00	08/31/11 20:33	0.95
1,2,3,6,7,8-HxCDF	24		4.8	0.12	0.1	2.4	pg/g		08/29/11 15:00	08/31/11 20:33	0.95
2,3,4,6,7,8-HxCDF	12		4.8	0.14	0.1	1.2	pg/g		08/29/11 15:00	08/31/11 20:33	0.95
1,2,3,7,8,9-HxCDF	ND		4.8	0.17	0.1		pg/g		08/29/11 15:00	08/31/11 20:33	0.95
Total HxCDF	1500		4.8	0.14			pg/g		08/29/11 15:00	08/31/11 20:33	0.95
1,2,3,4,6,7,8-HpCDF	1200	D	48	3.1	0.01	12	pg/g		08/29/11 15:00	08/31/11 20:33	0.95
1,2,3,4,7,8,9-HpCDF	110	D	48	3.7	0.01	1.1	pg/g		08/29/11 15:00	08/31/11 20:33	0.95
Total HpCDF	5700		48	3.4			pg/g		08/29/11 15:00	08/31/11 20:33	0.95
OCDF	4200	D	96	3.2	0.0003	1.3	pg/g		08/29/11 15:00	08/31/11 20:33	0.95
Total TEQ (WHO 2005)						110					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	60		40 - 135	08/29/11 15:00	08/31/11 20:33	0.95
13C-1,2,3,7,8-PeCDD	61		40 - 135	08/29/11 15:00	08/31/11 20:33	0.95
13C-1,2,3,6,7,8-HxCDD	54		40 - 135	08/29/11 15:00	08/31/11 20:33	0.95
13C-1,2,3,4,6,7,8-HpCDD	61		40 - 135	08/29/11 15:00	08/31/11 20:33	0.95
13C-OCDD	69		40 - 135	08/29/11 15:00	08/31/11 20:33	0.95
13C-2,3,7,8-TCDF	68		40 - 135	08/29/11 15:00	08/31/11 20:33	0.95
13C-1,2,3,7,8-PeCDF	69		40 - 135	08/29/11 15:00	08/31/11 20:33	0.95
13C-1,2,3,4,7,8-HxCDF	66		40 - 135	08/29/11 15:00	08/31/11 20:33	0.95

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU4-B-T2

Lab Sample ID: HUH0028-31

Date Collected: 08/03/11 15:05

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDF	66		40 - 135	08/29/11 15:00	08/31/11 20:33	0.95

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	33		5.9		mg/Kg		08/23/11 13:58	08/24/11 12:46	10
Lead	80		2.9		mg/Kg		08/23/11 13:58	08/24/11 12:46	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.52		0.020		mg/Kg		08/26/11 08:32	08/26/11 12:32	10

Client Sample ID: PMAK-DU4-C-P

Lab Sample ID: HUH0028-32

Date Collected: 08/03/11 15:10

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.325		mg/kg		08/15/11 08:51	08/30/11 00:34	1.00
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
2,4,6-Tribromophenol	70		40 - 120	08/15/11 08:51	08/30/11 00:34	1.00			

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	275		19.9		mg/kg		08/12/11 10:03	08/16/11 17:09	5.00
RRO	303		99.7		mg/kg		08/12/11 10:03	08/16/11 17:09	5.00
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
o-Terphenyl	194	Z1	40 - 120	08/12/11 10:03	08/16/11 17:09	5.00			

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13		5.7		mg/Kg		08/23/11 13:58	08/24/11 12:52	10
Lead	2800		2.9		mg/Kg		08/23/11 13:58	08/24/11 12:52	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.55		0.019		mg/Kg		08/26/11 08:32	08/26/11 12:38	10

Client Sample ID: PMAK-DU4-C-T1

Lab Sample ID: HUH0028-33

Date Collected: 08/03/11 15:10

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.313		mg/kg		08/15/11 14:48	08/30/11 01:13	1.00
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
2,4,6-Tribromophenol	73		40 - 120	08/15/11 14:48	08/30/11 01:13	1.00			

Client Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU4-C-T1

Lab Sample ID: HUH0028-33

Date Collected: 08/03/11 15:10

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	181		3.97		mg/kg		08/12/11 10:03	08/16/11 17:40	1.00
RRO	264		19.9		mg/kg		08/12/11 10:03	08/16/11 17:40	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	119		40 - 120				08/12/11 10:03	08/16/11 17:40	1.00

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16		6.0		mg/Kg		08/23/11 13:58	08/24/11 12:59	10
Lead	1400		3.0		mg/Kg		08/23/11 13:58	08/24/11 12:59	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.52		0.019		mg/Kg		08/26/11 08:32	08/26/11 12:40	10

Client Sample ID: PMAK-DU4-C-T2

Lab Sample ID: HUH0028-34

Date Collected: 08/03/11 15:10

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.322		mg/kg		08/15/11 08:51	08/30/11 01:52	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>2,4,6</i> -Tribromophenol	87		40 - 120				08/15/11 08:51	08/30/11 01:52	1.00

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	179		19.7		mg/kg		08/12/11 10:03	08/16/11 17:25	5.00
RRO	182		98.4		mg/kg		08/12/11 10:03	08/16/11 17:25	5.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	128	Z1	40 - 120				08/12/11 10:03	08/16/11 17:25	5.00

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12		6.0		mg/Kg		08/23/11 13:58	08/24/11 13:05	10
Lead	1700		3.0		mg/Kg		08/23/11 13:58	08/24/11 13:05	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.47		0.019		mg/Kg		08/26/11 08:32	08/26/11 12:41	10

Client Sample ID: PMAK-DU4-D-P

Lab Sample ID: HUH0028-35

Date Collected: 08/03/11 15:10

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.316		mg/kg		08/15/11 08:51	09/13/11 11:08	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU4-D-P


Date Collected: 08/03/11 15:15
 Date Received: 08/05/11 13:42

Lab Sample ID: HUH0028-35

Matrix: Solid/Soil

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	63		40 - 120	08/15/11 08:51	09/13/11 11:08	1.00

Client Sample ID: PMAK-DU4-D-T1

Date Collected: 08/03/11 15:15 
 Date Received: 08/05/11 13:42

Lab Sample ID: HUH0028-36


Matrix: Solid/Soil

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.318		mg/kg		08/15/11 08:51	09/13/11 11:46	1.00

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	56		40 - 120	08/15/11 08:51	09/13/11 11:46	1.00

Client Sample ID: PMAK-DU4-D-T2

Date Collected: 08/03/11 
 Date Received: 08/05/11 13:42

Lab Sample ID: HUH0028-37

Matrix: Solid/Soil

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.327		mg/kg		08/15/11 08:51	09/13/11 12:25	1.00

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	71		40 - 120	08/15/11 08:51	09/13/11 12:25	1.00

Surrogate Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Matrix: Solid/Soil

Prep Type: Total

Lab Sample ID	Client Sample ID	TBP (40-120)	Percent Surrogate Recovery (Acceptance Limits)
11H0051-BLK1	Method Blank	63	
11H0051-BS1	Lab Control Sample	73	
11H0051-MS1	PMAK-DU3-A	74	
11H0051-MSD1	PMAK-DU3-A	72	
11H0065-BLK1	Method Blank	73	
11H0065-BS1	Lab Control Sample	84	
11H0065-MS1	PMAK-DU13-A	89	
11H0065-MSD1	PMAK-DU13-A	90	
HUH0028-01	PMAK-DU3-A	65 RL9	
HUH0028-02	PMAK-DU3-B	63	
HUH0028-03	PMAK-DU3-C	66	
HUH0028-06	PMAK-DU8-A	53	
HUH0028-07	PMAK-DU8-B	37 Z	
HUH0028-08	PMAK-DU8-C	41	
HUH0028-11	PMAK-DU9-A	54	
HUH0028-12	PMAK-DU9-B	53	
HUH0028-13	PMAK-DU9-C	64	
HUH0028-16	PMAK-DU16-A	55	
HUH0028-17	PMAK-DU16-B	66	
HUH0028-18	PMAK-DU16-C	62	
HUH0028-19	PMAK-DU16-D	80	
HUH0028-21	PMAK-DU13-A	87	
HUH0028-22	PMAK-DU13-B	66	
HUH0028-23	PMAK-DU13-C	60	
HUH0028-24	PMAK-DU13-D	60	
HUH0028-26	PMAK-DU4-A-P	61	
HUH0028-27	PMAK-DU4-A-T1	66	
HUH0028-28	PMAK-DU4-A-T2	70	
HUH0028-29	PMAK-DU4-B-P	81	
HUH0028-30	PMAK-DU4-B-T1	82	
HUH0028-31	PMAK-DU4-B-T2	79	
HUH0028-32	PMAK-DU4-C-P	70	
HUH0028-33	PMAK-DU4-C-T1	73	
HUH0028-34	PMAK-DU4-C-T2	87	
HUH0028-35	PMAK-DU4-D-P	63	
HUH0028-36	PMAK-DU4-D-T1	56	
HUH0028-37	PMAK-DU4-D-T2	71	

Surrogate Legend

TBP = 2,4,6-Tribromophenol

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Matrix: Solid/Soil

Prep Type: Total

Lab Sample ID	Client Sample ID	OTPH (40-120)	Percent Surrogate Recovery (Acceptance Limits)
11H0054-BLK1	Method Blank	71	
11H0054-BS1	Lab Control Sample	89	
11H0054-MS1	PMAK-DU4-A-P	99	
11H0054-MSD1	PMAK-DU4-A-P	95	

Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M (Continued)

Matrix: Solid/Soil

Prep Type: Total

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTPH (40-120)
HUH0028-26	PMAK-DU4-A-P	79
HUH0028-27	PMAK-DU4-A-T1	82
HUH0028-28	PMAK-DU4-A-T2	83
HUH0028-29	PMAK-DU4-B-P	144 Z1
HUH0028-30	PMAK-DU4-B-T1	112
HUH0028-31	PMAK-DU4-B-T2	100
HUH0028-32	PMAK-DU4-C-P	194 Z1
HUH0028-33	PMAK-DU4-C-T1	119
HUH0028-34	PMAK-DU4-C-T2	128 Z1

Surrogate Legend

OTPH = o-Terphenyl



Internal Standard Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Matrix: Solid

Prep Type: Total

		Percent Internal Standard Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (40-135)	PeCDD (40-135)	HxCDD2 (40-135)	HpCDD (40-135)	OCDD (40-135)	TCDF (40-135)	PeCDF1 (40-135)	HxCDF1 (40-135)
G1H290000179B	Method Blank	79	78	75	91	88	82	84	78
G1H290000179C	Lab Control Sample	82	91	73	89	91	87	93	82
G1H310000100B	Method Blank	76	75	82	68	67	81	72	76
G1H310000100C	Lab Control Sample	77	73	83	65	67	80	74	75

		Percent Internal Standard Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HpCDF1 (40-135)							
G1H290000179B	Method Blank	91							
G1H290000179C	Lab Control Sample	88							
G1H310000100B	Method Blank	73							
G1H310000100C	Lab Control Sample	70							

Internal Standard Legend

- TCDD = 13C-2,3,7,8-TCDD
- PeCDD = 13C-1,2,3,7,8-PeCDD
- HxCDD2 = 13C-1,2,3,6,7,8-HxCDD
- HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
- OCDD = 13C-OCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDF1 = 13C-1,2,3,7,8-PeCDF
- HxCDF1 = 13C-1,2,3,4,7,8-HxCDF
- HpCDF1 = 13C-1,2,3,4,6,7,8-HpCDF

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Matrix: Solid/Soil

Prep Type: Total

		Percent Internal Standard Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (40-135)	PeCDD (40-135)	HxCDD2 (40-135)	HpCDD (40-135)	OCDD (40-135)	TCDF (40-135)	PeCDF1 (40-135)	HxCDF1 (40-135)
HUH0028-01	PMAK-DU3-A	93	100	91	88	97	100	108	100
HUH0028-02	PMAK-DU3-B	89	94	78	96	96	94	96	90
HUH0028-06	PMAK-DU8-A	92	94	80	89	97	99	101	106
HUH0028-07	PMAK-DU8-B	91	94	78	99	100	96	98	110
HUH0028-11	PMAK-DU9-A	82	80	91	75	84	88	79	80
HUH0028-12	PMAK-DU9-B	89	98	79	91	96	94	102	98
HUH0028-16	PMAK-DU16-A	87	89	82	87	91	92	95	97
HUH0028-17	PMAK-DU16-B	95	100	87	100	131	102	106	95
HUH0028-21	PMAK-DU13-A	86	83	78	97	94	97	102	89
HUH0028-22	PMAK-DU13-B	80	75	74	102	197 *	84	75	72
HUH0028-26	PMAK-DU4-A-P	82	84	78	90	108	91	89	91
HUH0028-27	PMAK-DU4-A-T1	75	83	68	82	100	89	95	83
HUH0028-28	PMAK-DU4-A-T2	76	83	66	94	98	89	93	79
HUH0028-29	PMAK-DU4-B-P	75	80	71	81	98	88	91	83
HUH0028-30	PMAK-DU4-B-T1	58	62	52	61	78	65	69	64
HUH0028-31	PMAK-DU4-B-T2	60	61	54	61	69	68	69	66

		Percent Internal Standard Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HpCDF1 (40-135)							
HUH0028-01	PMAK-DU3-A	98							
HUH0028-02	PMAK-DU3-B	104							

Internal Standard Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Matrix: Solid/Soil

Prep Type: Total

Percent Internal Standard Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HpCDF1 (40-135)
HUH0028-06	PMAK-DU8-A	92
HUH0028-07	PMAK-DU8-B	99
HUH0028-11	PMAK-DU9-A	80
HUH0028-12	PMAK-DU9-B	92
HUH0028-16	PMAK-DU16-A	96
HUH0028-17	PMAK-DU16-B	93
HUH0028-21	PMAK-DU13-A	106
HUH0028-22	PMAK-DU13-B	78
HUH0028-26	PMAK-DU4-A-P	97
HUH0028-27	PMAK-DU4-A-T1	70
HUH0028-28	PMAK-DU4-A-T2	96
HUH0028-29	PMAK-DU4-B-P	83
HUH0028-30	PMAK-DU4-B-T1	59
HUH0028-31	PMAK-DU4-B-T2	66

Internal Standard Legend

- TCDD = 13C-2,3,7,8-TCDD
- PeCDD = 13C-1,2,3,7,8-PeCDD
- HxCDD2 = 13C-1,2,3,6,7,8-HxCDD
- HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
- OCDD = 13C-OCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDF1 = 13C-1,2,3,7,8-PeCDF
- HxCDF1 = 13C-1,2,3,4,7,8-HxCDF
- HpCDF1 = 13C-1,2,3,4,6,7,8-HpCDF

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Lab Sample ID: 11H0051-BLK1
Matrix: Solid/Soil
Analysis Batch: 11H0051

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 11H0051_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.330		mg/kg		08/11/11 07:38	08/11/11 17:50	1.00
Surrogate	% Recovery	Blank Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	63		40 - 120				08/11/11 07:38	08/11/11 17:50	1.00

Lab Sample ID: 11H0051-BS1
Matrix: Solid/Soil
Analysis Batch: 11H0051

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 11H0051_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Pentachlorophenol	1.67	1.12		mg/kg		67	50 - 120
Surrogate	% Recovery	LCS Qualifier	Limits				
2,4,6-Tribromophenol	73		40 - 120				

Lab Sample ID: 11H0051-MS1
Matrix: Solid/Soil
Analysis Batch: 11H0051

Client Sample ID: PMAK-DU3-A
Prep Type: Total
Prep Batch: 11H0051_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Pentachlorophenol	ND	RL9	1.64	1.00		mg/kg		61	50 - 120
Surrogate	% Recovery	Matrix Spike Qualifier	Limits						
2,4,6-Tribromophenol	74		40 - 120						

Lab Sample ID: 11H0051-MSD1
Matrix: Solid/Soil
Analysis Batch: 11H0051

Client Sample ID: PMAK-DU3-A
Prep Type: Total
Prep Batch: 11H0051_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Pentachlorophenol	ND	RL9	1.62	ND	M1	mg/kg			50 - 120		30
Surrogate	% Recovery	Matrix Spike Dup Qualifier	Limits								
2,4,6-Tribromophenol	72		40 - 120								

Lab Sample ID: 11H0065-BLK1
Matrix: Solid/Soil
Analysis Batch: 11H0065

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 11H0065_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.330		mg/kg		08/15/11 08:51	08/29/11 15:26	1.00
Surrogate	% Recovery	Blank Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	73		40 - 120				08/15/11 08:51	08/29/11 15:26	1.00

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Lab Sample ID: 11H0065-BS1
Matrix: Solid/Soil
Analysis Batch: 11H0065

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 11H0065_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Pentachlorophenol	1.67	1.27		mg/kg		76	50 - 120
Surrogate		LCS	LCS				
2,4,6-Tribromophenol		% Recovery	Qualifier				Limits
		84					40 - 120

Lab Sample ID: 11H0065-MS1
Matrix: Solid/Soil
Analysis Batch: 11H0065

Client Sample ID: PMAK-DU13-A
Prep Type: Total
Prep Batch: 11H0065_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Pentachlorophenol	0.292		1.65	0.685	M1	mg/kg		24	50 - 120
Surrogate		Matrix Spike	Matrix Spike						
2,4,6-Tribromophenol		% Recovery	Qualifier						Limits
		89							40 - 120

Lab Sample ID: 11H0065-MSD1
Matrix: Solid/Soil
Analysis Batch: 11H0065

Client Sample ID: PMAK-DU13-A
Prep Type: Total
Prep Batch: 11H0065_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	Limit
Pentachlorophenol	0.292		1.62	0.626	M1	mg/kg		21	50 - 120	9	30
Surrogate		Matrix Spike Dup	Matrix Spike Dup								
2,4,6-Tribromophenol		% Recovery	Qualifier								Limits
		90									40 - 120

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Lab Sample ID: 11H0054-BLK1
Matrix: Solid/Soil
Analysis Batch: 11H0054

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 11H0054_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	ND		4.00		mg/kg		08/12/11 10:03	08/16/11 09:43	1.00
RRO	ND		20.0		mg/kg		08/12/11 10:03	08/16/11 09:43	1.00
Surrogate		Blank	Blank						
o-Terphenyl		% Recovery	Qualifier				Prepared	Analyzed	Dil Fac
		71					08/12/11 10:03	08/16/11 09:43	1.00

Lab Sample ID: 11H0054-BS1
Matrix: Solid/Soil
Analysis Batch: 11H0054

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 11H0054_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
DRO	167	162		mg/kg		97	55 - 125
Surrogate		LCS	LCS				
o-Terphenyl		% Recovery	Qualifier				Limits
		89					40 - 120

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M (Continued)

Lab Sample ID: 11H0054-MS1

Matrix: Solid/Soil

Analysis Batch: 11H0054

Client Sample ID: PMAK-DU4-A-P

Prep Type: Total

Prep Batch: 11H0054_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
DRO	35.8		163	186		mg/kg		92		55 - 125
Surrogate	Matrix Spike	Matrix Spike	Qualifier	Limits						
<i>o</i> -Terphenyl	99			40 - 120						

Lab Sample ID: 11H0054-MSD1

Matrix: Solid/Soil

Analysis Batch: 11H0054

Client Sample ID: PMAK-DU4-A-P

Prep Type: Total

Prep Batch: 11H0054_P

Analyte	Sample	Sample	Spike	Matrix Spike Dup	Matrix Spike Dup	Unit	D	% Rec	% Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
DRO	35.8		163	190		mg/kg		94		55 - 125	2	30
Surrogate	Matrix Spike Dup	Matrix Spike Dup	Qualifier	Limits								
<i>o</i> -Terphenyl	95			40 - 120								

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Lab Sample ID: G1H290000179B

Matrix: Solid

Analysis Batch: 1241179

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 1241179_P

Analyte	MB	MB	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac	
	Result	Qualifier										
2,3,7,8-TCDD	ND		1.0	0.053	1		pg/g		08/29/11 15:00	08/31/11 02:50	1	
Total TCDD	ND		1.0	0.053			pg/g		08/29/11 15:00	08/31/11 02:50	1	
1,2,3,7,8-PeCDD	ND		5.0	0.10	1		pg/g		08/29/11 15:00	08/31/11 02:50	1	
Total PeCDD	ND		5.0	0.10			pg/g		08/29/11 15:00	08/31/11 02:50	1	
1,2,3,4,7,8-HxCDD	ND		5.0	0.079	0.1		pg/g		08/29/11 15:00	08/31/11 02:50	1	
1,2,3,6,7,8-HxCDD	ND		5.0	0.059	0.1		pg/g		08/29/11 15:00	08/31/11 02:50	1	
1,2,3,7,8,9-HxCDD	ND		5.0	0.067	0.1		pg/g		08/29/11 15:00	08/31/11 02:50	1	
Total HxCDD	ND		5.0	0.068			pg/g		08/29/11 15:00	08/31/11 02:50	1	
1,2,3,4,6,7,8-HpCDD	ND		5.0	0.15	0.01		pg/g		08/29/11 15:00	08/31/11 02:50	1	
Total HpCDD	ND		5.0	0.070			pg/g		08/29/11 15:00	08/31/11 02:50	1	
OCDD	ND		10	0.12	0.0003		pg/g		08/29/11 15:00	08/31/11 02:50	1	
2,3,7,8-TCDF	ND		1.0	0.041	0.1		pg/g		08/29/11 15:00	08/31/11 02:50	1	
Total TCDF	ND		1.0	0.041			pg/g		08/29/11 15:00	08/31/11 02:50	1	
1,2,3,7,8-PeCDF	ND		5.0	0.050	0.03		pg/g		08/29/11 15:00	08/31/11 02:50	1	
2,3,4,7,8-PeCDF	ND		5.0	0.051	0.3		pg/g		08/29/11 15:00	08/31/11 02:50	1	
Total PeCDF	ND		5.0	0.050			pg/g		08/29/11 15:00	08/31/11 02:50	1	
1,2,3,4,7,8-HxCDF	ND		5.0	0.040	0.1		pg/g		08/29/11 15:00	08/31/11 02:50	1	
1,2,3,6,7,8-HxCDF	ND		5.0	0.032	0.1		pg/g		08/29/11 15:00	08/31/11 02:50	1	
2,3,4,6,7,8-HxCDF	ND		5.0	0.037	0.1		pg/g		08/29/11 15:00	08/31/11 02:50	1	
1,2,3,7,8,9-HxCDF	ND		5.0	0.045	0.1		pg/g		08/29/11 15:00	08/31/11 02:50	1	
Total HxCDF	ND		5.0	0.038			pg/g		08/29/11 15:00	08/31/11 02:50	1	
1,2,3,4,6,7,8-HpCDF	ND		5.0	0.092	0.01		pg/g		08/29/11 15:00	08/31/11 02:50	1	
1,2,3,4,7,8,9-HpCDF	ND		5.0	0.11	0.01		pg/g		08/29/11 15:00	08/31/11 02:50	1	
Total HpCDF	ND		5.0	0.10			pg/g		08/29/11 15:00	08/31/11 02:50	1	
OCDF	ND		10	0.082	0.0003		pg/g		08/29/11 15:00	08/31/11 02:50	1	
Total TEQ							0.00					

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Lab Sample ID: G1H290000179B

Matrix: Solid

Analysis Batch: 1241179

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 1241179_P

Internal Standard	MB MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
13C-2,3,7,8-TCDD	79		40 - 135	08/29/11 15:00	08/31/11 02:50	1
13C-1,2,3,7,8-PeCDD	78		40 - 135	08/29/11 15:00	08/31/11 02:50	1
13C-1,2,3,6,7,8-HxCDD	75		40 - 135	08/29/11 15:00	08/31/11 02:50	1
13C-1,2,3,4,6,7,8-HpCDD	91		40 - 135	08/29/11 15:00	08/31/11 02:50	1
13C-OCDD	88		40 - 135	08/29/11 15:00	08/31/11 02:50	1
13C-2,3,7,8-TCDF	82		40 - 135	08/29/11 15:00	08/31/11 02:50	1
13C-1,2,3,7,8-PeCDF	84		40 - 135	08/29/11 15:00	08/31/11 02:50	1
13C-1,2,3,4,7,8-HxCDF	78		40 - 135	08/29/11 15:00	08/31/11 02:50	1
13C-1,2,3,4,6,7,8-HpCDF	91		40 - 135	08/29/11 15:00	08/31/11 02:50	1

Lab Sample ID: G1H290000179C

Matrix: Solid

Analysis Batch: 1241179

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 1241179_P

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
2,3,7,8-TCDD	20.0	22.7		pg/g		114	60 - 138
1,2,3,7,8-PeCDD	100	114		pg/g		114	70 - 122
1,2,3,4,7,8-HxCDD	100	116		pg/g		116	60 - 138
1,2,3,6,7,8-HxCDD	100	117		pg/g		117	68 - 136
1,2,3,7,8,9-HxCDD	100	131		pg/g		131	68 - 138
1,2,3,4,6,7,8-HpCDD	100	117		pg/g		117	71 - 128
OCDD	200	255		pg/g		127	70 - 128
2,3,7,8-TCDF	20.0	22.8		pg/g		114	56 - 158
1,2,3,7,8-PeCDF	100	111		pg/g		111	69 - 134
2,3,4,7,8-PeCDF	100	114		pg/g		114	70 - 131
1,2,3,4,7,8-HxCDF	100	113		pg/g		113	74 - 128
1,2,3,6,7,8-HxCDF	100	99.8		pg/g		100	67 - 140
2,3,4,6,7,8-HxCDF	100	110		pg/g		110	71 - 137
1,2,3,7,8,9-HxCDF	100	122		pg/g		122	72 - 134
1,2,3,4,6,7,8-HpCDF	100	116		pg/g		116	71 - 134
1,2,3,4,7,8,9-HpCDF	100	120		pg/g		120	68 - 129
OCDF	200	238		pg/g		119	63 - 141

Internal Standard	LCS LCS		Limits
	% Recovery	Qualifier	
13C-2,3,7,8-TCDD	82		40 - 135
13C-1,2,3,7,8-PeCDD	91		40 - 135
13C-1,2,3,6,7,8-HxCDD	73		40 - 135
13C-1,2,3,4,6,7,8-HpCDD	89		40 - 135
13C-OCDD	91		40 - 135
13C-2,3,7,8-TCDF	87		40 - 135
13C-1,2,3,7,8-PeCDF	93		40 - 135
13C-1,2,3,4,7,8-HxCDF	82		40 - 135
13C-1,2,3,4,6,7,8-HpCDF	88		40 - 135

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Lab Sample ID: G1H310000100B
Matrix: Solid
Analysis Batch: 1243100

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 1243100_P

Analyte	MB MB		ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier									
2,3,7,8-TCDD	ND		1.0	0.018	1		pg/g		08/31/11 17:00	09/02/11 22:37	1
Total TCDD	ND		1.0	0.018			pg/g		08/31/11 17:00	09/02/11 22:37	1
1,2,3,7,8-PeCDD	ND		5.0	0.12	1		pg/g		08/31/11 17:00	09/02/11 22:37	1
Total PeCDD	ND		5.0	0.12			pg/g		08/31/11 17:00	09/02/11 22:37	1
1,2,3,4,7,8-HxCDD	ND		5.0	0.050	0.1		pg/g		08/31/11 17:00	09/02/11 22:37	1
1,2,3,6,7,8-HxCDD	ND		5.0	0.043	0.1		pg/g		08/31/11 17:00	09/02/11 22:37	1
1,2,3,7,8,9-HxCDD	ND		5.0	0.043	0.1		pg/g		08/31/11 17:00	09/02/11 22:37	1
Total HxCDD	ND		5.0	0.045			pg/g		08/31/11 17:00	09/02/11 22:37	1
1,2,3,4,6,7,8-HpCDD	ND		5.0	0.18	0.01		pg/g		08/31/11 17:00	09/02/11 22:37	1
Total HpCDD	ND		5.0	0.18			pg/g		08/31/11 17:00	09/02/11 22:37	1
OCDD	ND		10	0.16	0.0003		pg/g		08/31/11 17:00	09/02/11 22:37	1
2,3,7,8-TCDF	ND		1.0	0.019	0.1		pg/g		08/31/11 17:00	09/02/11 22:37	1
Total TCDF	ND		1.0	0.019			pg/g		08/31/11 17:00	09/02/11 22:37	1
1,2,3,7,8-PeCDF	ND		5.0	0.029	0.03		pg/g		08/31/11 17:00	09/02/11 22:37	1
2,3,4,7,8-PeCDF	ND		5.0	0.032	0.3		pg/g		08/31/11 17:00	09/02/11 22:37	1
Total PeCDF	ND		5.0	0.031			pg/g		08/31/11 17:00	09/02/11 22:37	1
1,2,3,4,7,8-HxCDF	ND		5.0	0.045	0.1		pg/g		08/31/11 17:00	09/02/11 22:37	1
1,2,3,6,7,8-HxCDF	ND		5.0	0.042	0.1		pg/g		08/31/11 17:00	09/02/11 22:37	1
2,3,4,6,7,8-HxCDF	ND		5.0	0.044	0.1		pg/g		08/31/11 17:00	09/02/11 22:37	1
1,2,3,7,8,9-HxCDF	ND		5.0	0.050	0.1		pg/g		08/31/11 17:00	09/02/11 22:37	1
Total HxCDF	ND		5.0	0.045			pg/g		08/31/11 17:00	09/02/11 22:37	1
1,2,3,4,6,7,8-HpCDF	ND		5.0	0.11	0.01		pg/g		08/31/11 17:00	09/02/11 22:37	1
1,2,3,4,7,8,9-HpCDF	ND		5.0	0.12	0.01		pg/g		08/31/11 17:00	09/02/11 22:37	1
Total HpCDF	ND		5.0	0.11			pg/g		08/31/11 17:00	09/02/11 22:37	1
OCDF	ND		10	0.11	0.0003		pg/g		08/31/11 17:00	09/02/11 22:37	1

Total TEQ **0.00**

Internal Standard	MB MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
13C-2,3,7,8-TCDD	76		40 - 135	08/31/11 17:00	09/02/11 22:37	1
13C-1,2,3,7,8-PeCDD	75		40 - 135	08/31/11 17:00	09/02/11 22:37	1
13C-1,2,3,6,7,8-HxCDD	82		40 - 135	08/31/11 17:00	09/02/11 22:37	1
13C-1,2,3,4,6,7,8-HpCDD	68		40 - 135	08/31/11 17:00	09/02/11 22:37	1
13C-OCDD	67		40 - 135	08/31/11 17:00	09/02/11 22:37	1
13C-2,3,7,8-TCDF	81		40 - 135	08/31/11 17:00	09/02/11 22:37	1
13C-1,2,3,7,8-PeCDF	72		40 - 135	08/31/11 17:00	09/02/11 22:37	1
13C-1,2,3,4,7,8-HxCDF	76		40 - 135	08/31/11 17:00	09/02/11 22:37	1
13C-1,2,3,4,6,7,8-HpCDF	73		40 - 135	08/31/11 17:00	09/02/11 22:37	1

Lab Sample ID: G1H310000100C
Matrix: Solid
Analysis Batch: 1243100

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 1243100_P

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
2,3,7,8-TCDD	20.0	20.7		pg/g		103	60 - 138
1,2,3,7,8-PeCDD	100	104		pg/g		104	70 - 122
1,2,3,4,7,8-HxCDD	100	95.6		pg/g		96	60 - 138
1,2,3,6,7,8-HxCDD	100	101		pg/g		101	68 - 136
1,2,3,7,8,9-HxCDD	100	100		pg/g		100	68 - 138
1,2,3,4,6,7,8-HpCDD	100	110		pg/g		110	71 - 128

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Lab Sample ID: G1H310000100C

Matrix: Solid

Analysis Batch: 1243100

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 1243100_P

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
OCDD	200	290	a	pg/g		145	70 - 128	
2,3,7,8-TCDF	20.0	21.8		pg/g		109	56 - 158	
1,2,3,7,8-PeCDF	100	109		pg/g		109	69 - 134	
2,3,4,7,8-PeCDF	100	116		pg/g		116	70 - 131	
1,2,3,4,7,8-HxCDF	100	112		pg/g		112	74 - 128	
1,2,3,6,7,8-HxCDF	100	118		pg/g		118	67 - 140	
2,3,4,6,7,8-HxCDF	100	115		pg/g		115	71 - 137	
1,2,3,7,8,9-HxCDF	100	114		pg/g		114	72 - 134	
1,2,3,4,6,7,8-HpCDF	100	117		pg/g		117	71 - 134	
1,2,3,4,7,8,9-HpCDF	100	115		pg/g		115	68 - 129	
OCDF	200	255		pg/g		127	63 - 141	

Internal Standard	LCS		Limits
	% Recovery	Qualifier	
13C-2,3,7,8-TCDD	77		40 - 135
13C-1,2,3,7,8-PeCDD	73		40 - 135
13C-1,2,3,6,7,8-HxCDD	83		40 - 135
13C-1,2,3,4,6,7,8-HpCDD	65		40 - 135
13C-OCDD	67		40 - 135
13C-2,3,7,8-TCDF	80		40 - 135
13C-1,2,3,7,8-PeCDF	74		40 - 135
13C-1,2,3,4,7,8-HxCDF	75		40 - 135
13C-1,2,3,4,6,7,8-HpCDF	70		40 - 135

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 580-93531/19-A

Matrix: Solid

Analysis Batch: 93643

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 93531

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		3.0		mg/Kg		08/23/11 13:00	08/24/11 07:00	1
Lead	ND		1.5		mg/Kg		08/23/11 13:00	08/24/11 07:00	1

Lab Sample ID: LCS 580-93531/20-A

Matrix: Solid

Analysis Batch: 93643

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 93531

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
Arsenic	200	199		mg/Kg		99	80 - 120	
Lead	50.0	48.7		mg/Kg		97	80 - 120	

Lab Sample ID: LCSD 580-93531/21-A

Matrix: Solid

Analysis Batch: 93643

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 93531

Analyte	Spike Added	LCSD		Unit	D	% Rec	% Rec.		RPD	Limit
		Result	Qualifier				Limits			
Arsenic	200	197		mg/Kg		99	80 - 120	1		20
Lead	50.0	48.3		mg/Kg		97	80 - 120	1		20

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 580-93537/19-A
Matrix: Solid
Analysis Batch: 93644

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 93537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.0		mg/Kg		08/23/11 13:58	08/24/11 10:11	1
Lead	ND		1.5		mg/Kg		08/23/11 13:58	08/24/11 10:11	1

Lab Sample ID: LCS 580-93537/20-A
Matrix: Solid
Analysis Batch: 93644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93537

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic	200	199		mg/Kg		100	80 - 120
Lead	50.0	49.2		mg/Kg		98	80 - 120

Lab Sample ID: LCSD 580-93537/21-A
Matrix: Solid
Analysis Batch: 93644

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 93537

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	Limit
Arsenic	200	196		mg/Kg		98	80 - 120	2	20
Lead	50.0	48.3		mg/Kg		97	80 - 120	2	20

Lab Sample ID: 580-27995-21 MS
Matrix: Solid
Analysis Batch: 93644

Client Sample ID: HUH0028-21
Prep Type: Total/NA
Prep Batch: 93537

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic	75		39.0	124	F	mg/Kg		127	80 - 120
Lead	90		9.74	123	4	mg/Kg		339	80 - 120

Lab Sample ID: 580-27995-21 MSD
Matrix: Solid
Analysis Batch: 93644

Client Sample ID: HUH0028-21
Prep Type: Total/NA
Prep Batch: 93537

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	Limit
Arsenic	75		38.6	124	F	mg/Kg		126	80 - 120	1	20
Lead	90		9.65	113	4	mg/Kg		230	80 - 120	9	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-93785/23-A
Matrix: Solid
Analysis Batch: 93837

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 93785

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		08/26/11 06:50	08/26/11 10:57	10

Lab Sample ID: LCS 580-93785/24-A
Matrix: Solid
Analysis Batch: 93837

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93785

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.100	0.115		mg/Kg		115	80 - 120

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 580-93785/25-A
Matrix: Solid
Analysis Batch: 93837

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 93785

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Mercury	0.100	0.111		mg/Kg		111	80 - 120	3	20

Lab Sample ID: 580-27995-1 MS
Matrix: Solid
Analysis Batch: 93837

Client Sample ID: HUH0028-01
Prep Type: Total/NA
Prep Batch: 93785

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.44		0.0939	0.533	4	mg/Kg		98	80 - 120

Lab Sample ID: 580-27995-1 MSD
Matrix: Solid
Analysis Batch: 93837

Client Sample ID: HUH0028-01
Prep Type: Total/NA
Prep Batch: 93785

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Mercury	0.44		0.0975	0.542	4	mg/Kg		103	80 - 120	2	20

Lab Sample ID: MB 580-93794/21-A
Matrix: Solid
Analysis Batch: 93837

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 93794

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		08/26/11 08:32	08/26/11 11:54	10

Lab Sample ID: LCS 580-93794/22-A
Matrix: Solid
Analysis Batch: 93837

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93794

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.100	0.109		mg/Kg		109	80 - 120

Lab Sample ID: LCSD 580-93794/23-A
Matrix: Solid
Analysis Batch: 93837

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 93794

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Mercury	0.100	0.107		mg/Kg		107	80 - 120	2	20

Method: EPA 6010 - Bio-available Metals

Lab Sample ID: 11I0037-BLK1
Matrix: Solid/Soil
Analysis Batch: 11I0037

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 11I0037_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Total	ND		1.00		mg/kg		09/15/11 10:48	09/19/11 14:48	1.00

QC Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Method: EPA 6010 - Bio-available Metals (Continued)

Lab Sample ID: 11I0037-BS1
Matrix: Solid/Soil
Analysis Batch: 11I0037

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 11I0037_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic Total	50.0	48.1		mg/kg		96	80 - 120

Lab Sample ID: 11I0037-MS1
Matrix: Solid/Soil
Analysis Batch: 11I0037

Client Sample ID: Matrix Spike
Prep Type: Total
Prep Batch: 11I0037_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic Total	45.9		49.5	80.1	M1	mg/kg		69	80 - 120

Lab Sample ID: 11I0037-MSD1
Matrix: Solid/Soil
Analysis Batch: 11I0037

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total
Prep Batch: 11I0037_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Arsenic Total	45.9		49.5	75.9	M1	mg/kg		61	80 - 120	5	20

Method: EPA 9045 - General Chemistry Parameters

Lab Sample ID: 11H0041-DUP1
Matrix: Solid/Soil
Analysis Batch: 11H0041

Client Sample ID: PMAK-DU16-A
Prep Type: Total
Prep Batch: 11H0041_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
pH	7.67		7.69		pH Units		0.3	20

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

GCMS Semivolatiles

Analysis Batch: 11H0051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0051-BLK1	Method Blank	Total	Solid/Soil	EPA 8270	11H0051_P
11H0051-BS1	Lab Control Sample	Total	Solid/Soil	EPA 8270	11H0051_P
11H0051-MS1	PMAK-DU3-A	Total	Solid/Soil	EPA 8270	11H0051_P
11H0051-MSD1	PMAK-DU3-A	Total	Solid/Soil	EPA 8270	11H0051_P
HUH0028-01	PMAK-DU3-A	Total	Solid/Soil	EPA 8270	11H0051_P
HUH0028-02	PMAK-DU3-B	Total	Solid/Soil	EPA 8270	11H0051_P
HUH0028-03	PMAK-DU3-C	Total	Solid/Soil	EPA 8270	11H0051_P
HUH0028-06	PMAK-DU8-A	Total	Solid/Soil	EPA 8270	11H0051_P
HUH0028-07	PMAK-DU8-B	Total	Solid/Soil	EPA 8270	11H0051_P
HUH0028-08	PMAK-DU8-C	Total	Solid/Soil	EPA 8270	11H0051_P
HUH0028-11	PMAK-DU9-A	Total	Solid/Soil	EPA 8270	11H0051_P
HUH0028-12	PMAK-DU9-B	Total	Solid/Soil	EPA 8270	11H0051_P
HUH0028-13	PMAK-DU9-C	Total	Solid/Soil	EPA 8270	11H0051_P
HUH0028-16	PMAK-DU16-A	Total	Solid/Soil	EPA 8270	11H0051_P
HUH0028-17	PMAK-DU16-B	Total	Solid/Soil	EPA 8270	11H0051_P
HUH0028-18	PMAK-DU16-C	Total	Solid/Soil	EPA 8270	11H0051_P
HUH0028-19	PMAK-DU16-D	Total	Solid/Soil	EPA 8270	11H0051_P

Analysis Batch: 11H0065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0065-BLK1	Method Blank	Total	Solid/Soil	EPA 8270	11H0065_P
11H0065-BS1	Lab Control Sample	Total	Solid/Soil	EPA 8270	11H0065_P
11H0065-MS1	PMAK-DU13-A	Total	Solid/Soil	EPA 8270	11H0065_P
11H0065-MSD1	PMAK-DU13-A	Total	Solid/Soil	EPA 8270	11H0065_P
HUH0028-21	PMAK-DU13-A	Total	Solid/Soil	EPA 8270	11H0065_P
HUH0028-22	PMAK-DU13-B	Total	Solid/Soil	EPA 8270	11H0065_P
HUH0028-23	PMAK-DU13-C	Total	Solid/Soil	EPA 8270	11H0065_P
HUH0028-24	PMAK-DU13-D	Total	Solid/Soil	EPA 8270	11H0065_P
HUH0028-26	PMAK-DU4-A-P	Total	Solid/Soil	EPA 8270	11H0065_P
HUH0028-27	PMAK-DU4-A-T1	Total	Solid/Soil	EPA 8270	11H0065_P
HUH0028-28	PMAK-DU4-A-T2	Total	Solid/Soil	EPA 8270	11H0065_P
HUH0028-29	PMAK-DU4-B-P	Total	Solid/Soil	EPA 8270	11H0065_P
HUH0028-30	PMAK-DU4-B-T1	Total	Solid/Soil	EPA 8270	11H0065_P
HUH0028-31	PMAK-DU4-B-T2	Total	Solid/Soil	EPA 8270	11H0065_P
HUH0028-32	PMAK-DU4-C-P	Total	Solid/Soil	EPA 8270	11H0065_P
HUH0028-33	PMAK-DU4-C-T1	Total	Solid/Soil	EPA 8270	11H0065_P
HUH0028-34	PMAK-DU4-C-T2	Total	Solid/Soil	EPA 8270	11H0065_P
HUH0028-35	PMAK-DU4-D-P	Total	Solid/Soil	EPA 8270	11H0065_P
HUH0028-36	PMAK-DU4-D-T1	Total	Solid/Soil	EPA 8270	11H0065_P
HUH0028-37	PMAK-DU4-D-T2	Total	Solid/Soil	EPA 8270	11H0065_P

Prep Batch: 11H0051_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0051-BLK1	Method Blank	Total	Solid/Soil	EPA 3550 MS	11H0051_P
11H0051-BS1	Lab Control Sample	Total	Solid/Soil	EPA 3550 MS	11H0051_P
11H0051-MS1	PMAK-DU3-A	Total	Solid/Soil	EPA 3550 MS	11H0051_P
11H0051-MSD1	PMAK-DU3-A	Total	Solid/Soil	EPA 3550 MS	11H0051_P
HUH0028-01	PMAK-DU3-A	Total	Solid/Soil	EPA 3550 MS	11H0051_P
HUH0028-02	PMAK-DU3-B	Total	Solid/Soil	EPA 3550 MS	11H0051_P
HUH0028-03	PMAK-DU3-C	Total	Solid/Soil	EPA 3550 MS	11H0051_P
HUH0028-06	PMAK-DU8-A	Total	Solid/Soil	EPA 3550 MS	11H0051_P
HUH0028-07	PMAK-DU8-B	Total	Solid/Soil	EPA 3550 MS	11H0051_P

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

GCMS Semivolatiles (Continued)

Prep Batch: 11H0051_P (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0028-08	PMAK-DU8-C	Total	Solid/Soil	EPA 3550 MS	
HUH0028-11	PMAK-DU9-A	Total	Solid/Soil	EPA 3550 MS	
HUH0028-12	PMAK-DU9-B	Total	Solid/Soil	EPA 3550 MS	
HUH0028-13	PMAK-DU9-C	Total	Solid/Soil	EPA 3550 MS	
HUH0028-16	PMAK-DU16-A	Total	Solid/Soil	EPA 3550 MS	
HUH0028-17	PMAK-DU16-B	Total	Solid/Soil	EPA 3550 MS	
HUH0028-18	PMAK-DU16-C	Total	Solid/Soil	EPA 3550 MS	
HUH0028-19	PMAK-DU16-D	Total	Solid/Soil	EPA 3550 MS	

Prep Batch: 11H0065_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0065-BLK1	Method Blank	Total	Solid/Soil	EPA 3550 MS	
11H0065-BS1	Lab Control Sample	Total	Solid/Soil	EPA 3550 MS	
11H0065-MS1	PMAK-DU13-A	Total	Solid/Soil	EPA 3550 MS	
11H0065-MSD1	PMAK-DU13-A	Total	Solid/Soil	EPA 3550 MS	
HUH0028-21	PMAK-DU13-A	Total	Solid/Soil	EPA 3550 MS	
HUH0028-22	PMAK-DU13-B	Total	Solid/Soil	EPA 3550 MS	
HUH0028-23	PMAK-DU13-C	Total	Solid/Soil	EPA 3550 MS	
HUH0028-24	PMAK-DU13-D	Total	Solid/Soil	EPA 3550 MS	
HUH0028-26	PMAK-DU4-A-P	Total	Solid/Soil	EPA 3550 MS	
HUH0028-27	PMAK-DU4-A-T1	Total	Solid/Soil	EPA 3550 MS	
HUH0028-28	PMAK-DU4-A-T2	Total	Solid/Soil	EPA 3550 MS	
HUH0028-29	PMAK-DU4-B-P	Total	Solid/Soil	EPA 3550 MS	
HUH0028-30	PMAK-DU4-B-T1	Total	Solid/Soil	EPA 3550 MS	
HUH0028-31	PMAK-DU4-B-T2	Total	Solid/Soil	EPA 3550 MS	
HUH0028-32	PMAK-DU4-C-P	Total	Solid/Soil	EPA 3550 MS	
HUH0028-33	PMAK-DU4-C-T1	Total	Solid/Soil	EPA 3550 MS	
HUH0028-34	PMAK-DU4-C-T2	Total	Solid/Soil	EPA 3550 MS	
HUH0028-35	PMAK-DU4-D-P	Total	Solid/Soil	EPA 3550 MS	
HUH0028-36	PMAK-DU4-D-T1	Total	Solid/Soil	EPA 3550 MS	
HUH0028-37	PMAK-DU4-D-T2	Total	Solid/Soil	EPA 3550 MS	

GC Semivolatiles

Analysis Batch: 11H0054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0054-BLK1	Method Blank	Total	Solid/Soil	EPA 8015	11H0054_P
11H0054-BS1	Lab Control Sample	Total	Solid/Soil	EPA 8015	11H0054_P
11H0054-MS1	PMAK-DU4-A-P	Total	Solid/Soil	EPA 8015	11H0054_P
11H0054-MSD1	PMAK-DU4-A-P	Total	Solid/Soil	EPA 8015	11H0054_P
HUH0028-26	PMAK-DU4-A-P	Total	Solid/Soil	EPA 8015	11H0054_P
HUH0028-27	PMAK-DU4-A-T1	Total	Solid/Soil	EPA 8015	11H0054_P
HUH0028-28	PMAK-DU4-A-T2	Total	Solid/Soil	EPA 8015	11H0054_P
HUH0028-29	PMAK-DU4-B-P	Total	Solid/Soil	EPA 8015	11H0054_P
HUH0028-30	PMAK-DU4-B-T1	Total	Solid/Soil	EPA 8015	11H0054_P
HUH0028-31	PMAK-DU4-B-T2	Total	Solid/Soil	EPA 8015	11H0054_P
HUH0028-32	PMAK-DU4-C-P	Total	Solid/Soil	EPA 8015	11H0054_P
HUH0028-33	PMAK-DU4-C-T1	Total	Solid/Soil	EPA 8015	11H0054_P
HUH0028-34	PMAK-DU4-C-T2	Total	Solid/Soil	EPA 8015	11H0054_P

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

GC Semivolatiles (Continued)

Prep Batch: 11H0054_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0054-BLK1	Method Blank	Total	Solid/Soil	EPA 3550 GC	
11H0054-BS1	Lab Control Sample	Total	Solid/Soil	EPA 3550 GC	
11H0054-MS1	PMAK-DU4-A-P	Total	Solid/Soil	EPA 3550 GC	
11H0054-MSD1	PMAK-DU4-A-P	Total	Solid/Soil	EPA 3550 GC	
HUH0028-26	PMAK-DU4-A-P	Total	Solid/Soil	EPA 3550 GC	
HUH0028-27	PMAK-DU4-A-T1	Total	Solid/Soil	EPA 3550 GC	
HUH0028-28	PMAK-DU4-A-T2	Total	Solid/Soil	EPA 3550 GC	
HUH0028-29	PMAK-DU4-B-P	Total	Solid/Soil	EPA 3550 GC	
HUH0028-30	PMAK-DU4-B-T1	Total	Solid/Soil	EPA 3550 GC	
HUH0028-31	PMAK-DU4-B-T2	Total	Solid/Soil	EPA 3550 GC	
HUH0028-32	PMAK-DU4-C-P	Total	Solid/Soil	EPA 3550 GC	
HUH0028-33	PMAK-DU4-C-T1	Total	Solid/Soil	EPA 3550 GC	
HUH0028-34	PMAK-DU4-C-T2	Total	Solid/Soil	EPA 3550 GC	

DIOXIN

Analysis Batch: 1241179

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
G1H290000179B	Method Blank	Total	Solid	8290	
G1H290000179C	Lab Control Sample	Total	Solid	8290	
HUH0028-01	PMAK-DU3-A	Total	Solid/Soil	8290	
HUH0028-02	PMAK-DU3-B	Total	Solid/Soil	8290	
HUH0028-06	PMAK-DU8-A	Total	Solid/Soil	8290	
HUH0028-07	PMAK-DU8-B	Total	Solid/Soil	8290	
HUH0028-12	PMAK-DU9-B	Total	Solid/Soil	8290	
HUH0028-16	PMAK-DU16-A	Total	Solid/Soil	8290	
HUH0028-17	PMAK-DU16-B	Total	Solid/Soil	8290	
HUH0028-21	PMAK-DU13-A	Total	Solid/Soil	8290	
HUH0028-26	PMAK-DU4-A-P	Total	Solid/Soil	8290	
HUH0028-27	PMAK-DU4-A-T1	Total	Solid/Soil	8290	
HUH0028-28	PMAK-DU4-A-T2	Total	Solid/Soil	8290	
HUH0028-29	PMAK-DU4-B-P	Total	Solid/Soil	8290	
HUH0028-30	PMAK-DU4-B-T1	Total	Solid/Soil	8290	
HUH0028-31	PMAK-DU4-B-T2	Total	Solid/Soil	8290	

Analysis Batch: 1243100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
G1H310000100B	Method Blank	Total	Solid	8290	
G1H310000100C	Lab Control Sample	Total	Solid	8290	
HUH0028-11	PMAK-DU9-A	Total	Solid/Soil	8290	
HUH0028-22	PMAK-DU13-B	Total	Solid/Soil	8290	

Prep Batch: 1241179_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
G1H290000179B	Method Blank	Total	Solid	8290	
G1H290000179C	Lab Control Sample	Total	Solid	8290	
HUH0028-01	PMAK-DU3-A	Total	Solid/Soil	8290	
HUH0028-02	PMAK-DU3-B	Total	Solid/Soil	8290	
HUH0028-06	PMAK-DU8-A	Total	Solid/Soil	8290	
HUH0028-07	PMAK-DU8-B	Total	Solid/Soil	8290	
HUH0028-12	PMAK-DU9-B	Total	Solid/Soil	8290	
HUH0028-16	PMAK-DU16-A	Total	Solid/Soil	8290	

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

DIOXIN (Continued)

Prep Batch: 1241179_P (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0028-17	PMAK-DU16-B	Total	Solid/Soil	8290	
HUH0028-21	PMAK-DU13-A	Total	Solid/Soil	8290	
HUH0028-26	PMAK-DU4-A-P	Total	Solid/Soil	8290	
HUH0028-27	PMAK-DU4-A-T1	Total	Solid/Soil	8290	
HUH0028-28	PMAK-DU4-A-T2	Total	Solid/Soil	8290	
HUH0028-29	PMAK-DU4-B-P	Total	Solid/Soil	8290	
HUH0028-30	PMAK-DU4-B-T1	Total	Solid/Soil	8290	
HUH0028-31	PMAK-DU4-B-T2	Total	Solid/Soil	8290	

Prep Batch: 1243100_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
G1H310000100B	Method Blank	Total	Solid	8290	
G1H310000100C	Lab Control Sample	Total	Solid	8290	
HUH0028-11	PMAK-DU9-A	Total	Solid/Soil	8290	
HUH0028-22	PMAK-DU13-B	Total	Solid/Soil	8290	

Metals

Prep Batch: 93531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0028-01	PMAK-DU3-A	Total/NA	Solid/Soil	3050B	
HUH0028-02	PMAK-DU3-B	Total/NA	Solid/Soil	3050B	
HUH0028-03	PMAK-DU3-C	Total/NA	Solid/Soil	3050B	
HUH0028-06	PMAK-DU8-A	Total/NA	Solid/Soil	3050B	
HUH0028-07	PMAK-DU8-B	Total/NA	Solid/Soil	3050B	
HUH0028-08	PMAK-DU8-C	Total/NA	Solid/Soil	3050B	
HUH0028-11	PMAK-DU9-A	Total/NA	Solid/Soil	3050B	
HUH0028-12	PMAK-DU9-B	Total/NA	Solid/Soil	3050B	
LCS 580-93531/20-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 580-93531/21-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
MB 580-93531/19-A	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 93537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-27995-21 MS	HUH0028-21	Total/NA	Solid	3050B	
580-27995-21 MSD	HUH0028-21	Total/NA	Solid	3050B	
HUH0028-13	PMAK-DU9-C	Total/NA	Solid/Soil	3050B	
HUH0028-16	PMAK-DU16-A	Total/NA	Solid/Soil	3050B	
HUH0028-17	PMAK-DU16-B	Total/NA	Solid/Soil	3050B	
HUH0028-18	PMAK-DU16-C	Total/NA	Solid/Soil	3050B	
HUH0028-21	PMAK-DU13-A	Total/NA	Solid/Soil	3050B	
HUH0028-22	PMAK-DU13-B	Total/NA	Solid/Soil	3050B	
HUH0028-23	PMAK-DU13-C	Total/NA	Solid/Soil	3050B	
HUH0028-26	PMAK-DU4-A-P	Total/NA	Solid/Soil	3050B	
HUH0028-27	PMAK-DU4-A-T1	Total/NA	Solid/Soil	3050B	
HUH0028-28	PMAK-DU4-A-T2	Total/NA	Solid/Soil	3050B	
HUH0028-29	PMAK-DU4-B-P	Total/NA	Solid/Soil	3050B	
HUH0028-30	PMAK-DU4-B-T1	Total/NA	Solid/Soil	3050B	
HUH0028-31	PMAK-DU4-B-T2	Total/NA	Solid/Soil	3050B	
HUH0028-32	PMAK-DU4-C-P	Total/NA	Solid/Soil	3050B	
HUH0028-33	PMAK-DU4-C-T1	Total/NA	Solid/Soil	3050B	
HUH0028-34	PMAK-DU4-C-T2	Total/NA	Solid/Soil	3050B	

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Metals (Continued)

Prep Batch: 93537 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 580-93537/20-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 580-93537/21-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
MB 580-93537/19-A	Method Blank	Total/NA	Solid	3050B	

Analysis Batch: 93643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0028-01	PMAK-DU3-A	Total/NA	Solid/Soil	6010B	93531
HUH0028-02	PMAK-DU3-B	Total/NA	Solid/Soil	6010B	93531
HUH0028-03	PMAK-DU3-C	Total/NA	Solid/Soil	6010B	93531
HUH0028-06	PMAK-DU8-A	Total/NA	Solid/Soil	6010B	93531
HUH0028-07	PMAK-DU8-B	Total/NA	Solid/Soil	6010B	93531
HUH0028-08	PMAK-DU8-C	Total/NA	Solid/Soil	6010B	93531
HUH0028-11	PMAK-DU9-A	Total/NA	Solid/Soil	6010B	93531
HUH0028-12	PMAK-DU9-B	Total/NA	Solid/Soil	6010B	93531
LCS 580-93531/20-A	Lab Control Sample	Total/NA	Solid	6010B	93531
LCSD 580-93531/21-A	Lab Control Sample Dup	Total/NA	Solid	6010B	93531
MB 580-93531/19-A	Method Blank	Total/NA	Solid	6010B	93531

Analysis Batch: 93644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-27995-21 MS	HUH0028-21	Total/NA	Solid	6010B	93537
580-27995-21 MSD	HUH0028-21	Total/NA	Solid	6010B	93537
HUH0028-13	PMAK-DU9-C	Total/NA	Solid/Soil	6010B	93537
HUH0028-16	PMAK-DU16-A	Total/NA	Solid/Soil	6010B	93537
HUH0028-17	PMAK-DU16-B	Total/NA	Solid/Soil	6010B	93537
HUH0028-18	PMAK-DU16-C	Total/NA	Solid/Soil	6010B	93537
HUH0028-21	PMAK-DU13-A	Total/NA	Solid/Soil	6010B	93537
HUH0028-22	PMAK-DU13-B	Total/NA	Solid/Soil	6010B	93537
HUH0028-23	PMAK-DU13-C	Total/NA	Solid/Soil	6010B	93537
HUH0028-26	PMAK-DU4-A-P	Total/NA	Solid/Soil	6010B	93537
HUH0028-27	PMAK-DU4-A-T1	Total/NA	Solid/Soil	6010B	93537
HUH0028-28	PMAK-DU4-A-T2	Total/NA	Solid/Soil	6010B	93537
HUH0028-29	PMAK-DU4-B-P	Total/NA	Solid/Soil	6010B	93537
HUH0028-30	PMAK-DU4-B-T1	Total/NA	Solid/Soil	6010B	93537
HUH0028-31	PMAK-DU4-B-T2	Total/NA	Solid/Soil	6010B	93537
HUH0028-32	PMAK-DU4-C-P	Total/NA	Solid/Soil	6010B	93537
HUH0028-33	PMAK-DU4-C-T1	Total/NA	Solid/Soil	6010B	93537
HUH0028-34	PMAK-DU4-C-T2	Total/NA	Solid/Soil	6010B	93537
LCS 580-93537/20-A	Lab Control Sample	Total/NA	Solid	6010B	93537
LCSD 580-93537/21-A	Lab Control Sample Dup	Total/NA	Solid	6010B	93537
MB 580-93537/19-A	Method Blank	Total/NA	Solid	6010B	93537

Prep Batch: 93785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-27995-1 MS	HUH0028-01	Total/NA	Solid	7471A	
580-27995-1 MSD	HUH0028-01	Total/NA	Solid	7471A	
HUH0028-01	PMAK-DU3-A	Total/NA	Solid/Soil	7471A	
HUH0028-02	PMAK-DU3-B	Total/NA	Solid/Soil	7471A	
HUH0028-03	PMAK-DU3-C	Total/NA	Solid/Soil	7471A	
HUH0028-06	PMAK-DU8-A	Total/NA	Solid/Soil	7471A	
HUH0028-07	PMAK-DU8-B	Total/NA	Solid/Soil	7471A	
HUH0028-08	PMAK-DU8-C	Total/NA	Solid/Soil	7471A	

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Metals (Continued)

Prep Batch: 93785 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0028-11	PMAK-DU9-A	Total/NA	Solid/Soil	7471A	
HUH0028-12	PMAK-DU9-B	Total/NA	Solid/Soil	7471A	
HUH0028-13	PMAK-DU9-C	Total/NA	Solid/Soil	7471A	
HUH0028-16	PMAK-DU16-A	Total/NA	Solid/Soil	7471A	
HUH0028-17	PMAK-DU16-B	Total/NA	Solid/Soil	7471A	
HUH0028-18	PMAK-DU16-C	Total/NA	Solid/Soil	7471A	
HUH0028-21	PMAK-DU13-A	Total/NA	Solid/Soil	7471A	
HUH0028-22	PMAK-DU13-B	Total/NA	Solid/Soil	7471A	
HUH0028-23	PMAK-DU13-C	Total/NA	Solid/Soil	7471A	
LCS 580-93785/24-A	Lab Control Sample	Total/NA	Solid	7471A	
LCSD 580-93785/25-A	Lab Control Sample Dup	Total/NA	Solid	7471A	
MB 580-93785/23-A	Method Blank	Total/NA	Solid	7471A	

Prep Batch: 93794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0028-26	PMAK-DU4-A-P	Total/NA	Solid/Soil	7471A	
HUH0028-27	PMAK-DU4-A-T1	Total/NA	Solid/Soil	7471A	
HUH0028-28	PMAK-DU4-A-T2	Total/NA	Solid/Soil	7471A	
HUH0028-29	PMAK-DU4-B-P	Total/NA	Solid/Soil	7471A	
HUH0028-30	PMAK-DU4-B-T1	Total/NA	Solid/Soil	7471A	
HUH0028-31	PMAK-DU4-B-T2	Total/NA	Solid/Soil	7471A	
HUH0028-32	PMAK-DU4-C-P	Total/NA	Solid/Soil	7471A	
HUH0028-33	PMAK-DU4-C-T1	Total/NA	Solid/Soil	7471A	
HUH0028-34	PMAK-DU4-C-T2	Total/NA	Solid/Soil	7471A	
LCS 580-93794/22-A	Lab Control Sample	Total/NA	Solid	7471A	
LCSD 580-93794/23-A	Lab Control Sample Dup	Total/NA	Solid	7471A	
MB 580-93794/21-A	Method Blank	Total/NA	Solid	7471A	

Analysis Batch: 93837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-27995-1 MS	HUH0028-01	Total/NA	Solid	7471A	93785
580-27995-1 MSD	HUH0028-01	Total/NA	Solid	7471A	93785
HUH0028-01	PMAK-DU3-A	Total/NA	Solid/Soil	7471A	93785
HUH0028-02	PMAK-DU3-B	Total/NA	Solid/Soil	7471A	93785
HUH0028-03	PMAK-DU3-C	Total/NA	Solid/Soil	7471A	93785
HUH0028-06	PMAK-DU8-A	Total/NA	Solid/Soil	7471A	93785
HUH0028-07	PMAK-DU8-B	Total/NA	Solid/Soil	7471A	93785
HUH0028-08	PMAK-DU8-C	Total/NA	Solid/Soil	7471A	93785
HUH0028-11	PMAK-DU9-A	Total/NA	Solid/Soil	7471A	93785
HUH0028-12	PMAK-DU9-B	Total/NA	Solid/Soil	7471A	93785
HUH0028-13	PMAK-DU9-C	Total/NA	Solid/Soil	7471A	93785
HUH0028-16	PMAK-DU16-A	Total/NA	Solid/Soil	7471A	93785
HUH0028-17	PMAK-DU16-B	Total/NA	Solid/Soil	7471A	93785
HUH0028-18	PMAK-DU16-C	Total/NA	Solid/Soil	7471A	93785
HUH0028-21	PMAK-DU13-A	Total/NA	Solid/Soil	7471A	93785
HUH0028-22	PMAK-DU13-B	Total/NA	Solid/Soil	7471A	93785
HUH0028-23	PMAK-DU13-C	Total/NA	Solid/Soil	7471A	93785
HUH0028-26	PMAK-DU4-A-P	Total/NA	Solid/Soil	7471A	93794
HUH0028-27	PMAK-DU4-A-T1	Total/NA	Solid/Soil	7471A	93794
HUH0028-28	PMAK-DU4-A-T2	Total/NA	Solid/Soil	7471A	93794
HUH0028-29	PMAK-DU4-B-P	Total/NA	Solid/Soil	7471A	93794
HUH0028-30	PMAK-DU4-B-T1	Total/NA	Solid/Soil	7471A	93794



QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Metals (Continued)

Analysis Batch: 93837 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0028-31	PMAK-DU4-B-T2	Total/NA	Solid/Soil	7471A	93794
HUH0028-32	PMAK-DU4-C-P	Total/NA	Solid/Soil	7471A	93794
HUH0028-33	PMAK-DU4-C-T1	Total/NA	Solid/Soil	7471A	93794
HUH0028-34	PMAK-DU4-C-T2	Total/NA	Solid/Soil	7471A	93794
LCS 580-93785/24-A	Lab Control Sample	Total/NA	Solid	7471A	93785
LCS 580-93794/22-A	Lab Control Sample	Total/NA	Solid	7471A	93794
LCS 580-93785/25-A	Lab Control Sample Dup	Total/NA	Solid	7471A	93785
LCS 580-93794/23-A	Lab Control Sample Dup	Total/NA	Solid	7471A	93794
MB 580-93785/23-A	Method Blank	Total/NA	Solid	7471A	93785
MB 580-93794/21-A	Method Blank	Total/NA	Solid	7471A	93794

Pre prep Batch: 11I0030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0028-06	PMAK-DU8-A	Total	Solid/Soil	SBRC Appendix C Rev. #8	

Analysis Batch: 11I0037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11I0037-BLK1	Method Blank	Total	Solid/Soil	EPA 6010	11I0037_P
11I0037-BS1	Lab Control Sample	Total	Solid/Soil	EPA 6010	11I0037_P
11I0037-MS1	Matrix Spike	Total	Solid/Soil	EPA 6010	11I0037_P
11I0037-MSD1	Matrix Spike Duplicate	Total	Solid/Soil	EPA 6010	11I0037_P
HUH0028-06	PMAK-DU8-A	Total	Solid/Soil	EPA 6010	11I0037_P

Analysis Batch: 11I0082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0028-06	PMAK-DU8-A	Total	Solid/Soil	SBRC Appendix C Rev. #8	11I0082_P
HUH0028-06	PMAK-DU8-A	Total	Solid/Soil	EPA 6010	11I0082_P

Prep Batch: 11I0037_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11I0037-BLK1	Method Blank	Total	Solid/Soil	EPA 3050	
11I0037-BS1	Lab Control Sample	Total	Solid/Soil	EPA 3050	
11I0037-MS1	Matrix Spike	Total	Solid/Soil	EPA 3050	
11I0037-MSD1	Matrix Spike Duplicate	Total	Solid/Soil	EPA 3050	
HUH0028-06	PMAK-DU8-A	Total	Solid/Soil	EPA 3050	

Prep Batch: 11I0082_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0028-06	PMAK-DU8-A	Total	Solid/Soil	SBRC Appendix C Rev. #8	11I0030

WetChem

Analysis Batch: 11H0041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0041-DUP1	PMAK-DU16-A	Total	Solid/Soil	EPA 9045	11H0041_P
HUH0028-16	PMAK-DU16-A	Total	Solid/Soil	EPA 9045	11H0041_P
HUH0028-17	PMAK-DU16-B	Total	Solid/Soil	EPA 9045	11H0041_P
HUH0028-18	PMAK-DU16-C	Total	Solid/Soil	EPA 9045	11H0041_P
HUH0028-19	PMAK-DU16-D	Total	Solid/Soil	EPA 9045	11H0041_P
HUH0028-20	PMAK-DU16-E	Total	Solid/Soil	EPA 9045	11H0041_P

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

WetChem (Continued)

Analysis Batch: 11H0041 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0028-21	PMAK-DU13-A	Total	Solid/Soil	EPA 9045	11H0041_P
HUH0028-22	PMAK-DU13-B	Total	Solid/Soil	EPA 9045	11H0041_P
HUH0028-23	PMAK-DU13-C	Total	Solid/Soil	EPA 9045	11H0041_P
HUH0028-24	PMAK-DU13-D	Total	Solid/Soil	EPA 9045	11H0041_P
HUH0028-25	PMAK-DU13-E	Total	Solid/Soil	EPA 9045	11H0041_P

Prep Batch: 11H0041_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0041-DUP1	PMAK-DU16-A	Total	Solid/Soil	Default Prep GenChem	
HUH0028-16	PMAK-DU16-A	Total	Solid/Soil	Default Prep GenChem	
HUH0028-17	PMAK-DU16-B	Total	Solid/Soil	Default Prep GenChem	
HUH0028-18	PMAK-DU16-C	Total	Solid/Soil	Default Prep GenChem	
HUH0028-19	PMAK-DU16-D	Total	Solid/Soil	Default Prep GenChem	
HUH0028-20	PMAK-DU16-E	Total	Solid/Soil	Default Prep GenChem	
HUH0028-21	PMAK-DU13-A	Total	Solid/Soil	Default Prep GenChem	
HUH0028-22	PMAK-DU13-B	Total	Solid/Soil	Default Prep GenChem	
HUH0028-23	PMAK-DU13-C	Total	Solid/Soil	Default Prep GenChem	
HUH0028-24	PMAK-DU13-D	Total	Solid/Soil	Default Prep GenChem	
HUH0028-25	PMAK-DU13-E	Total	Solid/Soil	Default Prep GenChem	



Lab Chronicle

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU3-A

Lab Sample ID: HUH0028-01

Date Collected: 08/02/11 10:45

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		4.90	11H0051_P	08/11/11 07:38	SUI	TAL HON
Total	Analysis	EPA 8270		1.00	11H0051	08/18/11 21:24	VH	TAL HON
Total	Prep	8290			1241179_P	08/29/11 15:00	TL	TAL WSC
Total	Analysis	8290		0.93	1241179	08/31/11 03:41	GSV	TAL WSC
Total/NA	Prep	3050B			93531	08/23/11 13:00	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93643	08/24/11 08:51	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 06:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 11:02	FCW	TAL SEA

Client Sample ID: PMAK-DU3-B

Lab Sample ID: HUH0028-02

Date Collected: 08/02/11 10:50

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.965	11H0051_P	08/11/11 07:38	SUI	TAL HON
Total	Analysis	EPA 8270		1.00	11H0051	08/12/11 11:52	VH	TAL HON
Total	Prep	8290			1241179_P	08/29/11 15:00	TL	TAL WSC
Total	Analysis	8290		0.97	1241179	08/31/11 04:33	GSV	TAL WSC
Total/NA	Prep	3050B			93531	08/23/11 13:00	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93643	08/24/11 08:58	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 06:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 11:08	FCW	TAL SEA

Client Sample ID: PMAK-DU3-C

Lab Sample ID: HUH0028-03

Date Collected: 08/02/11 10:55

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.984	11H0051_P	08/11/11 07:38	SUI	TAL HON
Total	Analysis	EPA 8270		1.00	11H0051	08/12/11 12:31	VH	TAL HON
Total/NA	Prep	3050B			93531	08/23/11 13:00	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93643	08/24/11 09:04	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 06:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 11:09	FCW	TAL SEA

Client Sample ID: PMAK-DU8-A

Lab Sample ID: HUH0028-06

Date Collected: 08/02/11 12:10

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.987	11H0051_P	08/11/11 07:38	SUI	TAL HON
Total	Analysis	EPA 8270		1.00	11H0051	08/18/11 22:03	VH	TAL HON
Total	Prep	8290			1241179_P	08/29/11 15:00	TL	TAL WSC
Total	Analysis	8290		0.97	1241179	08/31/11 05:24	GSV	TAL WSC

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU8-A

Lab Sample ID: HUH0028-06

Date Collected: 08/02/11 12:10

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93531	08/23/11 13:00	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93643	08/24/11 09:26	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 06:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 11:11	FCW	TAL SEA
Total	Prep	EPA 3050		1.00	11I0037_P	09/15/11 10:48	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11I0037	09/19/11 15:20	HM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11I0030	09/14/11 10:03	HJM	TAL HON
Total	Prep	SBRC Appendix C Rev. #8		1.00	11I0082_P	09/28/11 11:03	BWN	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11I0082	09/28/11 11:05	BWN	TAL HON
Total	Analysis	EPA 6010		1.00	11I0082	09/28/11 11:05	BWN	TAL HON

Client Sample ID: PMAK-DU8-B

Lab Sample ID: HUH0028-07

Date Collected: 08/02/11 12:15

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.965	11H0051_P	08/11/11 07:38	SUI	TAL HON
Total	Analysis	EPA 8270		1.00	11H0051	08/18/11 22:42	VH	TAL HON
Total	Prep	8290			1241179_P	08/29/11 15:00	TL	TAL WSC
Total	Analysis	8290		0.92	1241179	08/31/11 06:15	GSV	TAL WSC
Total/NA	Prep	3050B			93531	08/23/11 13:00	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93643	08/24/11 09:32	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 06:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 11:13	FCW	TAL SEA

Client Sample ID: PMAK-DU8-C

Lab Sample ID: HUH0028-08

Date Collected: 08/02/11 12:20

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.971	11H0051_P	08/11/11 07:38	SUI	TAL HON
Total	Analysis	EPA 8270		1.00	11H0051	08/18/11 23:21	VH	TAL HON
Total/NA	Prep	3050B			93531	08/23/11 13:00	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93643	08/24/11 09:38	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 06:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 11:19	FCW	TAL SEA

Lab Chronicle

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU9-A

Lab Sample ID: HUH0028-11

Date Collected: 08/02/11 15:50

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.984	11H0051_P	08/11/11 08:46	SUI	TAL HON
Total	Analysis	EPA 8270		1.00	11H0051	08/19/11 00:01	VH	TAL HON
Total	Prep	8290			1243100_P	08/31/11 17:00	CR	TAL WSC
Total	Analysis	8290		0.96	1243100	09/03/11 02:20	GSV	TAL WSC
Total/NA	Prep	3050B			93531	08/23/11 13:00	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93643	08/24/11 09:45	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 06:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 11:21	FCW	TAL SEA

Client Sample ID: PMAK-DU9-B

Lab Sample ID: HUH0028-12

Date Collected: 08/02/11 15:55

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.984	11H0051_P	08/11/11 08:46	SUI	TAL HON
Total	Analysis	EPA 8270		1.00	11H0051	08/19/11 00:39	VH	TAL HON
Total	Prep	8290			1241179_P	08/29/11 15:00	TL	TAL WSC
Total	Analysis	8290		1.71	1241179	08/31/11 07:07	GSV	TAL WSC
Total/NA	Prep	3050B			93531	08/23/11 13:00	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93643	08/24/11 09:51	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 06:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 11:23	FCW	TAL SEA

Client Sample ID: PMAK-DU9-C

Lab Sample ID: HUH0028-13

Date Collected: 08/02/11 16:00

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.987	11H0051_P	08/11/11 08:46	SUI	TAL HON
Total	Analysis	EPA 8270		1.00	11H0051	08/12/11 13:10	VH	TAL HON
Total/NA	Prep	3050B			93537	08/23/11 13:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 11:02	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 06:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 11:24	FCW	TAL SEA

Client Sample ID: PMAK-DU16-A

Lab Sample ID: HUH0028-16

Date Collected: 08/03/11 09:50

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.977	11H0051_P	08/11/11 08:46	SUI	TAL HON
Total	Analysis	EPA 8270		1.00	11H0051	08/12/11 13:49	VH	TAL HON
Total	Prep	8290			1241179_P	08/29/11 15:00	TL	TAL WSC
Total	Analysis	8290		0.95	1241179	08/31/11 07:58	GSV	TAL WSC

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU16-A

Lab Sample ID: HUH0028-16

Date Collected: 08/03/11 09:50

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93537	08/23/11 13:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 11:08	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 06:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 11:26	FCW	TAL SEA
Total	Prep	Default Prep GenChem		1.00	11H0041_P	08/08/11 16:41	JMC	TAL HON
Total	Analysis	EPA 9045		1.00	11H0041	08/08/11 16:43	JMC	TAL HON

Client Sample ID: PMAK-DU16-B

Lab Sample ID: HUH0028-17

Date Collected: 08/03/11 09:55

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.965	11H0051_P	08/11/11 08:46	SUI	TAL HON
Total	Analysis	EPA 8270		1.00	11H0051	08/12/11 14:28	VH	TAL HON
Total	Prep	8290			1241179_P	08/29/11 15:00	TL	TAL WSC
Total	Analysis	8290		0.97	1241179	08/31/11 08:49	GSV	TAL WSC
Total/NA	Prep	3050B			93537	08/23/11 13:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 11:30	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 06:37	PAB	TAL SEA
Total/NA	Analysis	7471A		100	93837	08/26/11 12:43	FCW	TAL SEA
Total	Prep	Default Prep GenChem		1.00	11H0041_P	08/08/11 16:41	JMC	TAL HON
Total	Analysis	EPA 9045		1.00	11H0041	08/08/11 16:43	JMC	TAL HON

Client Sample ID: PMAK-DU16-C

Lab Sample ID: HUH0028-18

Date Collected: 08/03/11 10:00

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.987	11H0051_P	08/11/11 08:46	SUI	TAL HON
Total	Analysis	EPA 8270		1.00	11H0051	08/31/11 05:04	VH	TAL HON
Total/NA	Prep	3050B			93537	08/23/11 13:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 11:36	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 06:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 11:30	FCW	TAL SEA
Total	Prep	Default Prep GenChem		1.00	11H0041_P	08/08/11 16:41	JMC	TAL HON
Total	Analysis	EPA 9045		1.00	11H0041	08/08/11 16:43	JMC	TAL HON

Lab Chronicle

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU16-D

Lab Sample ID: HUH0028-19

Date Collected: 08/03/11 10:05

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.974	11H0051_P	08/11/11 08:46	SUI	TAL HON
Total	Analysis	EPA 8270		1.00	11H0051	09/13/11 13:04	VH	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0041_P	08/08/11 16:41	JMC	TAL HON
Total	Analysis	EPA 9045		1.00	11H0041	08/08/11 16:43	JMC	TAL HON

Client Sample ID: PMAK-DU16-E

Lab Sample ID: HUH0028-20

Date Collected: 08/03/11 10:10

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	Default Prep GenChem		1.00	11H0041_P	08/08/11 16:41	JMC	TAL HON
Total	Analysis	EPA 9045		1.00	11H0041	08/08/11 16:43	JMC	TAL HON

Client Sample ID: PMAK-DU13-A

Lab Sample ID: HUH0028-21

Date Collected: 08/03/11 10:45

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.974	11H0065_P	08/15/11 08:51	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0065	08/29/11 18:41	BWN	TAL HON
Total	Prep	8290			1241179_P	08/29/11 15:00	TL	TAL WSC
Total	Analysis	8290		4.7	1241179	08/31/11 15:25	GSV	TAL WSC
Total/NA	Prep	3050B			93537	08/23/11 13:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 10:36	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 06:37	PAB	TAL SEA
Total/NA	Analysis	7471A		200	93837	08/26/11 12:45	FCW	TAL SEA
Total	Prep	Default Prep GenChem		1.00	11H0041_P	08/08/11 16:41	JMC	TAL HON
Total	Analysis	EPA 9045		1.00	11H0041	08/08/11 16:43	JMC	TAL HON

Client Sample ID: PMAK-DU13-B

Lab Sample ID: HUH0028-22

Date Collected: 08/03/11 10:50

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.980	11H0065_P	08/15/11 08:51	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0065	08/29/11 19:20	BWN	TAL HON
Total	Prep	8290			1243100_P	08/31/11 17:00	CR	TAL WSC
Total	Analysis	8290		4.48	1243100	09/03/11 03:05	GSV	TAL WSC
Total/NA	Prep	3050B			93537	08/23/11 13:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 11:43	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 06:37	PAB	TAL SEA
Total/NA	Analysis	7471A		200	93837	08/26/11 12:47	FCW	TAL SEA

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU13-B

Lab Sample ID: HUH0028-22

Date Collected: 08/03/11 10:50

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	Default Prep GenChem		1.00	11H0041_P	08/08/11 16:41	JMC	TAL HON
Total	Analysis	EPA 9045		1.00	11H0041	08/08/11 16:43	JMC	TAL HON

Client Sample ID: PMAK-DU13-C

Lab Sample ID: HUH0028-23

Date Collected: 08/03/11 10:55

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.971	11H0065_P	08/15/11 08:51	KR	TAL HON
Total	Analysis	EPA 8270		5.00	11H0065	08/29/11 19:59	BWN	TAL HON
Total/NA	Prep	3050B			93537	08/23/11 13:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 11:49	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 06:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 11:36	FCW	TAL SEA
Total	Prep	Default Prep GenChem		1.00	11H0041_P	08/08/11 16:41	JMC	TAL HON
Total	Analysis	EPA 9045		1.00	11H0041	08/08/11 16:43	JMC	TAL HON

Client Sample ID: PMAK-DU13-D

Lab Sample ID: HUH0028-24

Date Collected: 08/03/11 11:00

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.990	11H0065_P	08/15/11 08:51	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0065	09/13/11 10:29	VH	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0041_P	08/08/11 16:41	JMC	TAL HON
Total	Analysis	EPA 9045		1.00	11H0041	08/08/11 16:43	JMC	TAL HON

Client Sample ID: PMAK-DU13-E

Lab Sample ID: HUH0028-25

Date Collected: 08/03/11 11:05

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	Default Prep GenChem		1.00	11H0041_P	08/08/11 16:41	JMC	TAL HON
Total	Analysis	EPA 9045		1.00	11H0041	08/08/11 16:43	JMC	TAL HON

Client Sample ID: PMAK-DU4-A-P

Lab Sample ID: HUH0028-26

Date Collected: 08/03/11 15:00

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.984	11H0065_P	08/15/11 08:51	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0065	08/29/11 20:39	BWN	TAL HON

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU4-A-P

Lab Sample ID: HUH0028-26

Date Collected: 08/03/11 15:00

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 GC		0.984	11H0054_P	08/12/11 10:03	KR	TAL HON
Total	Analysis	EPA 8015		1.00	11H0054	08/16/11 10:46	VH	TAL HON
Total	Prep	8290			1241179_P	08/29/11 15:00	TL	TAL WSC
Total	Analysis	8290		0.89	1241179	08/31/11 16:16	GSV	TAL WSC
Total/NA	Prep	3050B			93537	08/23/11 13:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 11:55	SP	TAL SEA
Total/NA	Prep	7471A			93794	08/26/11 08:32	PAB	TAL SEA
Total/NA	Analysis	7471A		100	93837	08/26/11 12:49	FCW	TAL SEA

Client Sample ID: PMAK-DU4-A-T1

Lab Sample ID: HUH0028-27

Date Collected: 08/03/11 15:00

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.901	11H0065_P	08/15/11 14:48	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0065	08/29/11 21:18	BWN	TAL HON
Total	Prep	EPA 3550 GC		0.971	11H0054_P	08/12/11 10:03	KR	TAL HON
Total	Analysis	EPA 8015		1.00	11H0054	08/16/11 11:34	VH	TAL HON
Total	Prep	8290			1241179_P	08/29/11 15:00	TL	TAL WSC
Total	Analysis	8290		0.98	1241179	08/31/11 17:08	GSV	TAL WSC
Total/NA	Prep	3050B			93537	08/23/11 13:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 12:02	SP	TAL SEA
Total/NA	Prep	7471A			93794	08/26/11 08:32	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 12:24	FCW	TAL SEA

Client Sample ID: PMAK-DU4-A-T2

Lab Sample ID: HUH0028-28

Date Collected: 08/03/11 15:00

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.971	11H0065_P	08/15/11 08:51	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0065	08/29/11 21:57	BWN	TAL HON
Total	Prep	EPA 3550 GC		0.974	11H0054_P	08/12/11 10:03	KR	TAL HON
Total	Analysis	EPA 8015		1.00	11H0054	08/16/11 11:50	VH	TAL HON
Total	Prep	8290			1241179_P	08/29/11 15:00	TL	TAL WSC
Total	Analysis	8290		0.95	1241179	08/31/11 17:59	GSV	TAL WSC
Total/NA	Prep	3050B			93537	08/23/11 13:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 12:08	SP	TAL SEA
Total/NA	Prep	7471A			93794	08/26/11 08:32	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 12:26	FCW	TAL SEA

Lab Chronicle

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU4-B-P

Lab Sample ID: HUH0028-29

Date Collected: 08/03/11 15:05

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.987	11H0065_P	08/15/11 08:51	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0065	08/29/11 22:37	BWN	TAL HON
Total	Prep	EPA 3550 GC		0.987	11H0054_P	08/12/11 10:03	KR	TAL HON
Total	Analysis	EPA 8015		1.00	11H0054	08/16/11 12:06	VH	TAL HON
Total	Prep	8290			1241179_P	08/29/11 15:00	TL	TAL WSC
Total	Analysis	8290		0.88	1241179	08/31/11 18:50	GSV	TAL WSC
Total/NA	Prep	3050B			93537	08/23/11 13:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 12:33	SP	TAL SEA
Total/NA	Prep	7471A			93794	08/26/11 08:32	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 12:28	FCW	TAL SEA

Client Sample ID: PMAK-DU4-B-T1

Lab Sample ID: HUH0028-30

Date Collected: 08/03/11 15:05

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.977	11H0065_P	08/15/11 14:48	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0065	08/29/11 23:16	BWN	TAL HON
Total	Prep	EPA 3550 GC		0.965	11H0054_P	08/12/11 10:03	KR	TAL HON
Total	Analysis	EPA 8015		5.00	11H0054	08/16/11 16:37	VH	TAL HON
Total	Prep	8290			1241179_P	08/29/11 15:00	TL	TAL WSC
Total	Analysis	8290		0.98	1241179	08/31/11 19:41	GSV	TAL WSC
Total/NA	Prep	3050B			93537	08/23/11 13:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 12:39	SP	TAL SEA
Total/NA	Prep	7471A			93794	08/26/11 08:32	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 12:30	FCW	TAL SEA

Client Sample ID: PMAK-DU4-B-T2

Lab Sample ID: HUH0028-31

Date Collected: 08/03/11 15:05

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.974	11H0065_P	08/15/11 08:51	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0065	08/29/11 23:54	BWN	TAL HON
Total	Prep	EPA 3550 GC		0.949	11H0054_P	08/12/11 10:03	KR	TAL HON
Total	Analysis	EPA 8015		5.00	11H0054	08/16/11 16:53	VH	TAL HON
Total	Prep	8290			1241179_P	08/29/11 15:00	TL	TAL WSC
Total	Analysis	8290		0.95	1241179	08/31/11 20:33	GSV	TAL WSC
Total/NA	Prep	3050B			93537	08/23/11 13:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 12:46	SP	TAL SEA
Total/NA	Prep	7471A			93794	08/26/11 08:32	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 12:32	FCW	TAL SEA

Lab Chronicle

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU4-C-P

Lab Sample ID: HUH0028-32

Date Collected: 08/03/11 15:10

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.984	11H0065_P	08/15/11 08:51	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0065	08/30/11 00:34	BWN	TAL HON
Total	Prep	EPA 3550 GC		0.997	11H0054_P	08/12/11 10:03	KR	TAL HON
Total	Analysis	EPA 8015		5.00	11H0054	08/16/11 17:09	VH	TAL HON
Total/NA	Prep	3050B			93537	08/23/11 13:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 12:52	SP	TAL SEA
Total/NA	Prep	7471A			93794	08/26/11 08:32	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 12:38	FCW	TAL SEA

Client Sample ID: PMAK-DU4-C-T1

Lab Sample ID: HUH0028-33

Date Collected: 08/03/11 15:10

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.949	11H0065_P	08/15/11 14:48	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0065	08/30/11 01:13	BWN	TAL HON
Total	Prep	EPA 3550 GC		0.993	11H0054_P	08/12/11 10:03	KR	TAL HON
Total	Analysis	EPA 8015		1.00	11H0054	08/16/11 17:40	VH	TAL HON
Total/NA	Prep	3050B			93537	08/23/11 13:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 12:59	SP	TAL SEA
Total/NA	Prep	7471A			93794	08/26/11 08:32	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 12:40	FCW	TAL SEA

Client Sample ID: PMAK-DU4-C-T2

Lab Sample ID: HUH0028-34

Date Collected: 08/03/11 15:10

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.977	11H0065_P	08/15/11 08:51	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0065	08/30/11 01:52	BWN	TAL HON
Total	Prep	EPA 3550 GC		0.984	11H0054_P	08/12/11 10:03	KR	TAL HON
Total	Analysis	EPA 8015		5.00	11H0054	08/16/11 17:25	VH	TAL HON
Total/NA	Prep	3050B			93537	08/23/11 13:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 13:05	SP	TAL SEA
Total/NA	Prep	7471A			93794	08/26/11 08:32	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 12:41	FCW	TAL SEA

Client Sample ID: PMAK-DU4-D-P

Lab Sample ID: HUH0028-35

Date Collected: 08/03/11 15:15

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.958	11H0065_P	08/15/11 08:51	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0065	09/13/11 11:08	VH	TAL HON

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Client Sample ID: PMAK-DU4-D-T1

Lab Sample ID: HUH0028-36

Date Collected: 08/03/11 15:15

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.965	11H0065_P	08/15/11 08:51	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0065	09/13/11 11:46	VH	TAL HON

Client Sample ID: PMAK-DU4-D-T2

Lab Sample ID: HUH0028-37

Date Collected: 08/03/11 15:15

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.990	11H0065_P	08/15/11 08:51	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0065	09/13/11 12:25	VH	TAL HON

Laboratory References:

TAL HON = TestAmerica Honolulu, 99-193 Aiea Heights Drive, Suite 121, Aiea, HI 96701, TEL 808-486-5227

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

TAL WSC = TestAmerica West Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916) 373-5600

Certification Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Honolulu	Florida	NELAC	4	E87907
TestAmerica Honolulu	Hawaii	State Program	9	
TestAmerica Honolulu	L-A-B	DoD ELAP		L2250
TestAmerica Honolulu	USDA	USDA		HON-S-206
TestAmerica Seattle	Alaska	Alaska UST	10	UST-022
TestAmerica Seattle	Alaska	TA-Port Heiden Mobile Lab	10	UST-093
TestAmerica Seattle	California	NELAC	9	1115CA
TestAmerica Seattle	Florida	NELAC	4	E871074
TestAmerica Seattle	L-A-B	DoD ELAP		L2236
TestAmerica Seattle	L-A-B	ISO/IEC 17025		L2236
TestAmerica Seattle	Louisiana	NELAC	6	05016
TestAmerica Seattle	Montana	MT DEQ UST	8	N/A
TestAmerica Seattle	Oregon	NELAC	10	WA100007
TestAmerica Seattle	USDA	USDA		P330-11-00222
TestAmerica Seattle	Washington	State Program	10	C553
TestAmerica West Sacramento		USEPA UCMR		CA00044
TestAmerica West Sacramento	A2LA	DoD ELAP		2928-01
TestAmerica West Sacramento	Alaska	Alaska UST	10	UST-055
TestAmerica West Sacramento	Arizona	State Program	9	AZ0708
TestAmerica West Sacramento	Arkansas	State Program	6	88-0691
TestAmerica West Sacramento	California	NELAC	9	1119CA
TestAmerica West Sacramento	Colorado	State Program	8	N/A
TestAmerica West Sacramento	Connecticut	State Program	1	PH-0691
TestAmerica West Sacramento	Florida	NELAC	4	E87570
TestAmerica West Sacramento	Georgia	State Program	4	960
TestAmerica West Sacramento	Guam	State Program	9	N/A
TestAmerica West Sacramento	Hawaii	State Program	9	N/A
TestAmerica West Sacramento	Illinois	NELAC	5	200060
TestAmerica West Sacramento	Kansas	NELAC	7	E-10375
TestAmerica West Sacramento	Louisiana	NELAC	6	30612
TestAmerica West Sacramento	Michigan	State Program	5	9947
TestAmerica West Sacramento	Nevada	State Program	9	CA44
TestAmerica West Sacramento	New Jersey	NELAC	2	CA005
TestAmerica West Sacramento	New Mexico	State Program	6	N/A
TestAmerica West Sacramento	New York	NELAC	2	11666
TestAmerica West Sacramento	Oregon	NELAC	10	CA200005
TestAmerica West Sacramento	Pennsylvania	NELAC	3	68-01272
TestAmerica West Sacramento	South Carolina	State Program	4	87014
TestAmerica West Sacramento	Texas	NELAC	6	T104704399-08-TX
TestAmerica West Sacramento	US Fish & Wildlife	US Fish & Wildlife		LE148388-0
TestAmerica West Sacramento	USDA	USDA		P330-09-00055
TestAmerica West Sacramento	Utah	NELAC	8	QUAN1
TestAmerica West Sacramento	Virginia	State Program	3	178
TestAmerica West Sacramento	Washington	State Program	10	C581
TestAmerica West Sacramento	West Virginia	West Virginia DEP	3	334
TestAmerica West Sacramento	West Virginia	West Virginia DHHR (DW)	3	9930C
TestAmerica West Sacramento	Wisconsin	State Program	5	998204680
TestAmerica West Sacramento	Wyoming	State Program	8	8TMS-Q

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: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUH0028

Method	Method Description	Protocol	Laboratory
EPA 8270	Semivolatile Organics Compounds by EPA 8270		TAL HON
EPA 8015	Extractable Petroleum Hydrocarbons by 8015M		TAL HON
8290	Dioxins/Furans, HRGC/HRMS (8290)	SW846	TAL WSC
6010B	Metals (ICP)	SW846	TAL SEA
7471A	Mercury (CVAA)	SW846	TAL SEA
EPA 6010	Bio-available Metals		TAL HON
SBRC Appendix C Rev. #8	Bio-available Metals		TAL HON
EPA 9045	General Chemistry Parameters		TAL HON
EPA 6010	Total Metals by EPA Method 6010/7471		TAL SEA
EPA 7471	Total Metals by EPA Method 6010/7471		TAL SEA
EPA 8290	Subcontracted Analyses		TAL WSC

Protocol References:

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

Laboratory References:

TAL HON = TestAmerica Honolulu, 99-193 Aiea Heights Drive, Suite 121, Aiea, HI 96701, TEL 808-486-5227

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

TAL WSC = TestAmerica West Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916) 373-5600

September 27, 2011

TestAmerica Project Number: G1H120486
PO/Contract: SUB HON HUH0028

Margie Pascua Thach
TestAmerica - Honolulu
RL Cushing Building
99-193 Aiea Heights Dr
Aiea, HI 96701


Dear Ms. Pascua Thach,

This report contains the analytical results for the samples received under chain of custody by TestAmerica on August 12, 2011. These samples are associated with your HUH0028 project.

The test results in this report meet all NELAC requirements for parameters that accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The case narrative is an integral part of this report.

If you have any questions, please feel free to call me at (916) 374-4383.

Sincerely,



DAVID R. ALLTUCKER
Project Manager



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Case Narrative

TestAmerica West Sacramento Project Number G1H120486

SOLID, 8290, Dioxins/Furans

Sample(s): 1, 2, 3, 4, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16

The result for 2, 3, 7, 8-TCDF is reported from the confirmation analysis that occurred on September 1, 2011.

Sample(s): 1, 2, 7, 8, 14, 15, 16

Several analytes are reported from Dilutions performed on September 1. Any analytes reported from the dilutions will be flagged with a "D" qualifier.

Sample(s): 3, 4, 6, 8, 9, 11, 12, 13, 14, 15, 16

The concentrations of several analytes below in exceeded the upper quantitation level of the initial calibration curve, but the peaks did not saturate the instrument detector. Historical data indicates that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported with the 'E' qualifier.

Sample(s): 5, 10

The result for 2, 3, 7, 8-TCDF is reported from the confirmation analysis that occurred on September 7, 2011.

The concentrations of OCDD in the samples exceeded the upper quantitation level of the initial calibration curve, but the peaks did not saturate the instrument detector. Historical data indicates that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported with the 'E' qualifier.

The laboratory control sample (LCS) associated with this extraction batch has a recovery for OCDD above the established control limits at 144.88% (upper limit is 128%) indicating a high bias. As this is the only compound outside the method limits, the LCS has likely been contaminated with OCDD. These samples have such high levels of OCDD present that any contribution from contamination is going to be negligible. After consultation with the client, no further corrective action has been taken.

Sample(s): 9, 11, 12, 13

Several analytes are reported from Dilutions performed on September 4. Any analytes reported from the dilutions will be flagged with a "D" qualifier.

Case Narrative

TestAmerica West Sacramento Project Number G1H120486

Sample(s): 9

The internal standard 13C-OCDD has its ion abundance ratio outside of acceptance criteria in the sample. The theoretical area for the internal standard was used to quantitate the recovery and to quantitate related target analytes. There is no impact on the data quality as a result of this anomaly.

Sample(s): 10

The internal standard 13C-OCDD has its ion abundance ratio outside of acceptance criteria in the sample. The theoretical area for the internal standard was used to quantitate the recovery and to quantitate related target analytes. There is no impact on the data quality as a result of this anomaly. This high recovery can be attributed to contribution from the high concentration of native OCDD present in the sample.

Sample(s): 13

The analyte, 2,3,7,8-TCDF, in the sample has been qualified with a "Q" flag due to the ion abundance ratio being outside of criteria. This analyte has been reported as an "estimated maximum possible concentration" (EMPC) because the quantitation is based on the theoretical ion abundance ratio.

There were no other anomalies associated with this project.

TestAmerica Laboratories West Sacramento Certifications/Accreditations

Certifying State	Certificate #	Certifying State	Certificate #
A2LA (DoD-ELAP)	2928-01	New Mexico	NA
Alaska	UST-055	New York*	11666
Arizona	AZ0708	Oregon*	CA 200005
Arkansas	88-0691	Pennsylvania*	68-1272
California*	01119CA	South Carolina	87014
Colorado	NA	Texas*	T104704399-08-TX
Connecticut	PH-0691	UCMR	CA00044
Florida*	E87570	US Fish & Wildlife	LE148388-0
Georgia	960	USDA Foreign Plant	37-82605
Guam	10-009r	USDA Foreign Soil	P330-09-00055
Hawaii	NA	Utah*	QUAN1
Illinois*	002701	Virginia	178
Kansas*	E-10375	Washington	C581
Louisiana*	01944	West Virginia	9930C, 334
Michigan	9947	Wisconsin	998204680
Nevada	CA44	Wyoming	8TMS-Q
New Jersey*	CA005		

*NELAP accredited. A more detailed parameter list is available upon request. Updated 5/25/2011

QC Parameter Definitions

QC Batch: The QC batch consists of a set of up to 20 field samples that behave similarly (i.e., same matrix) and are processed using the same procedures, reagents, and standards at the same time.

Method Blank: An analytical control consisting of all reagents, which may include internal standards and surrogates, and is carried through the entire analytical procedure. The method blank is used to define the level of laboratory background contamination.

Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD): An aliquot of blank matrix spiked with known amounts of representative target analytes. The LCS (and LCSD as required) is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects. If an LCSD is performed, it may also be used to evaluate the precision of the process.

Duplicate Sample (DU): Different aliquots of the same sample are analyzed to evaluate the precision of an analysis.

Surrogates: Organic compounds not expected to be detected in field samples, which behave similarly to target analytes. These are added to every sample within a batch at a known concentration to determine the efficiency of the sample preparation and analytical process.

Matrix Spike and Matrix Spike Duplicate (MS/MSD): An MS is an aliquot of a matrix fortified with known quantities of specific compounds and subjected to an entire analytical procedure in order to indicate the appropriateness of the method for a particular matrix. The percent recovery for the respective compound(s) is then calculated. The MSD is a second aliquot of the same matrix as the matrix spike, also spiked, in order to determine the precision of the method.

Isotope Dilution: For isotope dilution methods, isotopically labeled analogs (internal standards) of the native target analytes are spiked into the sample at time of extraction. These internal standards are used for quantitation, and monitor and correct for matrix effects. Since matrix effects on method performance can be judged by the recovery of these analogs, there is little added benefit of performing MS/MSD for these methods. MS/MSD are only performed for client or QAPP requirements.

Control Limits: The reported control limits are either based on laboratory historical data, method requirements, or project data quality objectives. The control limits represent the estimated uncertainty of the test results.

Sample Summary

TestAmerica West Sacramento Project Number G1H120486

<u>WO#</u>	<u>Sample #</u>	<u>Client Sample ID</u>	<u>Sampling Date</u>	<u>Received Date</u>
MLLX8	1	HUH0028-01	8/2/2011 10:45 AM	8/12/2011 09:00 AM
MLL0C	2	HUH0028-02	8/2/2011 10:50 AM	8/12/2011 09:00 AM
MLL0E	3	HUH0028-06	8/2/2011 12:10 PM	8/12/2011 09:00 AM
MLL0K	4	HUH0028-07	8/2/2011 12:15 PM	8/12/2011 09:00 AM
MLL0L	5	HUH0028-11	8/2/2011 03:50 PM	8/12/2011 09:00 AM
MLL0N	6	HUH0028-12	8/2/2011 03:55 PM	8/12/2011 09:00 AM
MLL0P	7	HUH0028-16	8/3/2011 09:50 AM	8/12/2011 09:00 AM
MLL0Q	8	HUH0028-17	8/3/2011 09:55 AM	8/12/2011 09:00 AM
MLL0R	9	HUH0028-21	8/3/2011 10:45 AM	8/12/2011 09:00 AM
MLL0T	10	HUH0028-22	8/3/2011 10:50 AM	8/12/2011 09:00 AM
MLL0V	11	HUH0028-26	8/3/2011 03:00 PM	8/12/2011 09:00 AM
MLL0W	12	HUH0028-27	8/3/2011 03:00 PM	8/12/2011 09:00 AM
MLL0X	13	HUH0028-28	8/3/2011 03:00 PM	8/12/2011 09:00 AM
MLL00	14	HUH0028-29	8/3/2011 03:05 PM	8/12/2011 09:00 AM
MLL01	15	HUH0028-30	8/3/2011 03:05 PM	8/12/2011 09:00 AM
MLL02	16	HUH0028-31	8/3/2011 03:05 PM	8/12/2011 09:00 AM

Notes(s):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity, pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

EXECUTIVE SUMMARY - Detection Highlights

G1H120486

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
HUH0028-01 08/02/11 10:45 001				
Total TCDD	5.6	0.94	pg/g	SW846 8290
Total PeCDD	12	4.7	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	9.9	4.7	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	74	4.7	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	26	4.7	pg/g	SW846 8290
Total HxCDD	450	4.7	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	2900 D	94	pg/g	SW846 8290
Total HpCDD	6000	94	pg/g	SW846 8290
OCDD	35000 D	190	pg/g	SW846 8290
Total TCDF	6.2	0.94	pg/g	SW846 8290
Total PeCDF	31	4.7	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	26	4.7	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	12	4.7	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	8.0	4.7	pg/g	SW846 8290
Total HxCDF	840	4.7	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	780	4.7	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	56	4.7	pg/g	SW846 8290
Total HpCDF	3500	4.7	pg/g	SW846 8290
OCDF	2900 D	190	pg/g	SW846 8290
HUH0028-02 08/02/11 10:50 002				
Total TCDD	9.8	0.98	pg/g	SW846 8290
Total PeCDD	32	4.9	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	13	4.9	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	240	4.9	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	39	4.9	pg/g	SW846 8290
Total HxCDD	1200	4.9	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	5500 D	98	pg/g	SW846 8290
Total HpCDD	10000	98	pg/g	SW846 8290
OCDD	45000 D	200	pg/g	SW846 8290
Total TCDF	9.9	0.98	pg/g	SW846 8290
Total PeCDF	41	4.9	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	48	4.9	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	22	4.9	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	10	4.9	pg/g	SW846 8290
Total HxCDF	2500	4.9	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	2500 D	98	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	180 D	98	pg/g	SW846 8290
Total HpCDF	14000	98	pg/g	SW846 8290
OCDF	7800 D	200	pg/g	SW846 8290

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EXECUTIVE SUMMARY - Detection Highlights

G1H120486

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
HUH0028-06 08/02/11 12:10 003				
Total TCDD	8.2	0.98	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	8.4	4.9	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	39	4.9	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	22	4.9	pg/g	SW846 8290
Total HxCDD	220	4.9	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	1100	4.9	pg/g	SW846 8290
Total HpCDD	1800	4.9	pg/g	SW846 8290
OCDD	12000 E	9.8	pg/g	SW846 8290
Total TCDF	4.6	0.98	pg/g	SW846 8290
Total PeCDF	20	4.9	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	17	4.9	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	9.0	4.9	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	4.9	4.9	pg/g	SW846 8290
Total HxCDF	460	4.9	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	400	4.9	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	30	4.9	pg/g	SW846 8290
Total HpCDF	1600	4.9	pg/g	SW846 8290
OCDF	1000	9.8	pg/g	SW846 8290
HUH0028-07 08/02/11 12:15 004				
2,3,7,8-TCDD	1.2	0.93	pg/g	SW846 8290
Total TCDD	20	0.93	pg/g	SW846 8290
1,2,3,7,8-PeCDD	7.0	4.6	pg/g	SW846 8290
Total PeCDD	45	4.6	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	18	4.6	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	69	4.6	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	31	4.6	pg/g	SW846 8290
Total HxCDD	470	4.6	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	2000 E	4.6	pg/g	SW846 8290
Total HpCDD	3500	4.6	pg/g	SW846 8290
OCDD	28000 E	9.3	pg/g	SW846 8290
2,3,7,8-TCDF	1.6 CON	0.93	pg/g	SW846 8290
Total TCDF	19	0.93	pg/g	SW846 8290
Total PeCDF	63	4.6	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	36	4.6	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	19	4.6	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	9.5	4.6	pg/g	SW846 8290
Total HxCDF	840	4.6	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	690	4.6	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	60	4.6	pg/g	SW846 8290
Total HpCDF	2500	4.6	pg/g	SW846 8290
OCDF	2000	9.3	pg/g	SW846 8290

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EXECUTIVE SUMMARY - Detection Highlights

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<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
HUH0028-11 08/02/11 15:50 005				
Total TCDD	14	0.97	pg/g	SW846 8290
Total PeCDD	12	4.8	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	8.4	4.8	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	33	4.8	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	22	4.8	pg/g	SW846 8290
Total HxCDD	200	4.8	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	1100	4.8	pg/g	SW846 8290
Total HpCDD	1900	4.8	pg/g	SW846 8290
OCDD	12000 E	9.7	pg/g	SW846 8290
Total TCDF	9.4	0.97	pg/g	SW846 8290
Total PeCDF	49	4.8	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	26	4.8	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	15	4.8	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	9.0	4.8	pg/g	SW846 8290
Total HxCDF	530	4.8	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	440	4.8	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	30	4.8	pg/g	SW846 8290
Total HpCDF	1500	4.8	pg/g	SW846 8290
OCDF	1200	9.7	pg/g	SW846 8290
HUH0028-12 08/02/11 15:55 006				
Total TCDD	22	1.7	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	13	8.6	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	47	8.6	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	36	8.6	pg/g	SW846 8290
Total HxCDD	330	8.6	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	1500	8.6	pg/g	SW846 8290
Total HpCDD	2600	8.6	pg/g	SW846 8290
OCDD	17000 E	17	pg/g	SW846 8290
2,3,7,8-TCDF	2.0 CON	1.7	pg/g	SW846 8290
Total TCDF	14	1.7	pg/g	SW846 8290
Total PeCDF	28	8.6	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	25	8.6	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	14	8.6	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	9.5	8.6	pg/g	SW846 8290
Total HxCDF	500	8.6	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	510	8.6	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	46	8.6	pg/g	SW846 8290
Total HpCDF	1700	8.6	pg/g	SW846 8290
OCDF	1500	17	pg/g	SW846 8290

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EXECUTIVE SUMMARY - Detection Highlights

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PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
HUH0028-16 08/03/11 09:50 007				
Total TCDD	9.2	0.95	pg/g	SW846 8290
1,2,3,7,8-PeCDD	5.6	4.8	pg/g	SW846 8290
Total PeCDD	22	4.8	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	16	4.8	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	130	4.8	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	45	4.8	pg/g	SW846 8290
Total HxCDD	620	4.8	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	4900 D	95	pg/g	SW846 8290
Total HpCDD	9600	95	pg/g	SW846 8290
OCDD	61000 D	190	pg/g	SW846 8290
Total TCDF	15	0.95	pg/g	SW846 8290
Total PeCDF	49	4.8	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	50	4.8	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	18	4.8	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	8.9	4.8	pg/g	SW846 8290
Total HxCDF	1400	4.8	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	1600 D	95	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	130 D	95	pg/g	SW846 8290
Total HpCDF	7900	95	pg/g	SW846 8290
OCDF	6000 D	190	pg/g	SW846 8290
HUH0028-17 08/03/11 09:55 008				
2,3,7,8-TCDD	1.4	0.97	pg/g	SW846 8290
Total TCDD	22	0.97	pg/g	SW846 8290
1,2,3,7,8-PeCDD	14	4.9	pg/g	SW846 8290
Total PeCDD	86	4.9	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	40	4.9	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	280	4.9	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	110	4.9	pg/g	SW846 8290
Total HxCDD	1400	4.9	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	10000 D	97	pg/g	SW846 8290
Total HpCDD	20000	97	pg/g	SW846 8290
OCDD	130000	190	pg/g	SW846 8290
Qualifiers: E,D				
Total TCDF	31	0.97	pg/g	SW846 8290
Total PeCDF	110	4.9	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	130	4.9	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	46	4.9	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	28	4.9	pg/g	SW846 8290
Total HxCDF	3500	4.9	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	3400 D	97	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	290 D	97	pg/g	SW846 8290

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EXECUTIVE SUMMARY - Detection Highlights

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PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
HUH0028-17 08/03/11 09:55 008				
Total HpCDF	17000	97	pg/g	SW846 8290
OCDF	10000 D	190	pg/g	SW846 8290
HUH0028-21 08/03/11 10:45 009				
2,3,7,8-TCDD	6.3	4.7	pg/g	SW846 8290
Total TCDD	96	4.7	pg/g	SW846 8290
1,2,3,7,8-PeCDD	49	24	pg/g	SW846 8290
Total PeCDD	300	24	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	120	24	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	640	24	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	260	24	pg/g	SW846 8290
Total HxCDD	3400	24	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	30000 D	470	pg/g	SW846 8290
Total HpCDD	61000	470	pg/g	SW846 8290
OCDD	500000	940	pg/g	SW846 8290
Qualifiers: E,D				
Total TCDF	240	4.7	pg/g	SW846 8290
Total PeCDF	330	24	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	410	24	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	140	24	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	73	24	pg/g	SW846 8290
Total HxCDF	9900	24	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	7100 D	470	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	680 D	470	pg/g	SW846 8290
Total HpCDF	36000	470	pg/g	SW846 8290
OCDF	27000 D	940	pg/g	SW846 8290
HUH0028-22 08/03/11 10:50 010				
2,3,7,8-TCDD	7.6	4.5	pg/g	SW846 8290
Total TCDD	280	4.5	pg/g	SW846 8290
1,2,3,7,8-PeCDD	93	22	pg/g	SW846 8290
Total PeCDD	760	22	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	270	22	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	1900	22	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	570	22	pg/g	SW846 8290
Total HxCDD	8600	22	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	54000 D	450	pg/g	SW846 8290
Total HpCDD	100000	450	pg/g	SW846 8290
OCDD	460000	900	pg/g	SW846 8290
Qualifiers: E,D				
2,3,7,8-TCDF	6.3 CON	4.5	pg/g	SW846 8290

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EXECUTIVE SUMMARY - Detection Highlights

G1H120486

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
HUH0028-22 08/03/11 10:50 010				
Total TCDF	760	4.5	pg/g	SW846 8290
1,2,3,7,8-PeCDF	43	22	pg/g	SW846 8290
2,3,4,7,8-PeCDF	33	22	pg/g	SW846 8290
Total PeCDF	1900	22	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	820	22	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	270	22	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	190	22	pg/g	SW846 8290
Total HxCDF	29000	22	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	20000 D	450	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	1800 D	450	pg/g	SW846 8290
Total HpCDF	110000	450	pg/g	SW846 8290
OCDF	35000 D	900	pg/g	SW846 8290
HUH0028-26 08/03/11 15:00 011				
2,3,7,8-TCDD	1.0	0.90	pg/g	SW846 8290
Total TCDD	26	0.90	pg/g	SW846 8290
1,2,3,7,8-PeCDD	11	4.5	pg/g	SW846 8290
Total PeCDD	71	4.5	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	25	4.5	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	170	4.5	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	67	4.5	pg/g	SW846 8290
Total HxCDD	870	4.5	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	6500 D	90	pg/g	SW846 8290
Total HpCDD	13000	90	pg/g	SW846 8290
OCDD	94000 E,D	180	pg/g	SW846 8290
2,3,7,8-TCDF	1.6 CON	0.90	pg/g	SW846 8290
Total TCDF	23	0.90	pg/g	SW846 8290
Total PeCDF	87	4.5	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	85	4.5	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	34	4.5	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	22	4.5	pg/g	SW846 8290
Total HxCDF	2200	4.5	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	1800 D	90	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	160 D	90	pg/g	SW846 8290
Total HpCDF	9500	90	pg/g	SW846 8290
OCDF	6300 D	180	pg/g	SW846 8290
HUH0028-27 08/03/11 15:00 012				
2,3,7,8-TCDD	1.1	0.98	pg/g	SW846 8290
Total TCDD	24	0.98	pg/g	SW846 8290
1,2,3,7,8-PeCDD	12	4.9	pg/g	SW846 8290

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EXECUTIVE SUMMARY - Detection Highlights

G1H120486

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
HUH0028-27 08/03/11 15:00 012				
Total PeCDD	77	4.9	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	26	4.9	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	210	4.9	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	75	4.9	pg/g	SW846 8290
Total HxCDD	1000	4.9	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	7100 D	98	pg/g	SW846 8290
Total HpCDD	14000	98	pg/g	SW846 8290
OCDD	99000 E,D	200	pg/g	SW846 8290
2,3,7,8-TCDF	1.2 CON	0.98	pg/g	SW846 8290
Total TCDF	29	0.98	pg/g	SW846 8290
Total PeCDF	96	4.9	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	97	4.9	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	38	4.9	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	20	4.9	pg/g	SW846 8290
Total HxCDF	2600	4.9	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	2500 D	98	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	210 D	98	pg/g	SW846 8290
Total HpCDF	13000	98	pg/g	SW846 8290
OCDF	7200 D	200	pg/g	SW846 8290
HUH0028-28 08/03/11 15:00 013				
2,3,7,8-TCDD	1.1	0.96	pg/g	SW846 8290
Total TCDD	23	0.96	pg/g	SW846 8290
1,2,3,7,8-PeCDD	11	4.8	pg/g	SW846 8290
Total PeCDD	59	4.8	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	24	4.8	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	200	4.8	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	74	4.8	pg/g	SW846 8290
Total HxCDD	980	4.8	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	6600 D	96	pg/g	SW846 8290
Total HpCDD	14000	96	pg/g	SW846 8290
OCDD	100000	190	pg/g	SW846 8290
	Qualifiers: E,D			
2,3,7,8-TCDF	1.1 Q,CON	0.96	pg/g	SW846 8290
Total TCDF	25	0.96	pg/g	SW846 8290
Total PeCDF	93	4.8	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	94	4.8	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	38	4.8	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	22	4.8	pg/g	SW846 8290
Total HxCDF	2300	4.8	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	2000 D	96	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	160 D	96	pg/g	SW846 8290

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EXECUTIVE SUMMARY - Detection Highlights

G1H120486

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
HUH0028-28 08/03/11 15:00 013				
Total HpCDF	10000	96	pg/g	SW846 8290
OCDF	7200 D	190	pg/g	SW846 8290
HUH0028-29 08/03/11 15:05 014				
Total TCDD	15	0.89	pg/g	SW846 8290
1,2,3,7,8-PeCDD	7.0	4.4	pg/g	SW846 8290
Total PeCDD	32	4.4	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	15	4.4	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	110	4.4	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	43	4.4	pg/g	SW846 8290
Total HxCDD	590	4.4	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	4300 D	44	pg/g	SW846 8290
Total HpCDD	7900	44	pg/g	SW846 8290
OCDD	69000 E,D	89	pg/g	SW846 8290
Total TCDF	21	0.89	pg/g	SW846 8290
Total PeCDF	72	4.4	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	62	4.4	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	26	4.4	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	11	4.4	pg/g	SW846 8290
Total HxCDF	1800	4.4	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	1500 D	44	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	130 D	44	pg/g	SW846 8290
Total HpCDF	7500	44	pg/g	SW846 8290
OCDF	5200 D	89	pg/g	SW846 8290
HUH0028-30 08/03/11 15:05 015				
Total TCDD	17	0.99	pg/g	SW846 8290
1,2,3,7,8-PeCDD	9.9	4.9	pg/g	SW846 8290
Total PeCDD	53	4.9	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	26	4.9	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	180	4.9	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	66	4.9	pg/g	SW846 8290
Total HxCDD	920	4.9	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	6300 D	49	pg/g	SW846 8290
Total HpCDD	11000	49	pg/g	SW846 8290
OCDD	95000 E,D	99	pg/g	SW846 8290
Total TCDF	27	0.99	pg/g	SW846 8290
Total PeCDF	95	4.9	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	88	4.9	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	34	4.9	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	19	4.9	pg/g	SW846 8290

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EXECUTIVE SUMMARY - Detection Highlights

G1H120486

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
HUH0028-30 08/03/11 15:05 015				
Total HxCDF	2600	4.9	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	2300 D	49	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	190 D	49	pg/g	SW846 8290
Total HpCDF	11000	49	pg/g	SW846 8290
OCDF	7000 D	99	pg/g	SW846 8290
HUH0028-31 08/03/11 15:05 016				
Total TCDD	12	0.96	pg/g	SW846 8290
1,2,3,7,8-PeCDD	6.9	4.8	pg/g	SW846 8290
Total PeCDD	31	4.8	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	15	4.8	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	100	4.8	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	45	4.8	pg/g	SW846 8290
Total HxCDD	600	4.8	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	4100 D	48	pg/g	SW846 8290
Total HpCDD	7400	48	pg/g	SW846 8290
OCDD	62000 E,D	96	pg/g	SW846 8290
Total TCDF	14	0.96	pg/g	SW846 8290
Total PeCDF	64	4.8	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	53	4.8	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	24	4.8	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	12	4.8	pg/g	SW846 8290
Total HxCDF	1500	4.8	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	1200 D	48	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	110 D	48	pg/g	SW846 8290
Total HpCDF	5700	48	pg/g	SW846 8290
OCDF	4200 D	96	pg/g	SW846 8290

ANALYTICAL METHODS SUMMARY

G1H120486

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Dibenzodioxins and Dibenzofurans, HRGC/HRMS	SW846 8290

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.



METHOD / ANALYST SUMMARY

G1H120486

<u>ANALYTICAL METHOD</u>	<u>ANALYST</u>	<u>ANALYST ID</u>
SW846 8290	Grandfield S. Virginia	005753

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

TestAmerica Honolulu
Sample ID: HUH0028-01
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 001	Work Order #....:	MLLX82AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Dilution Factor:	0.93
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.65 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		0.94	0.077	pp/g
Total TCDD	5.6		0.94	0.077	pp/g
1,2,3,7,8-PeCDD	ND		4.7	0.16	pp/g
Total PeCDD	12		4.7	0.16	pp/g
1,2,3,4,7,8-HxCDD	9.9		4.7	0.13	pp/g
1,2,3,6,7,8-HxCDD	74		4.7	0.10	pp/g
1,2,3,7,8,9-HxCDD	26		4.7	0.11	pp/g
Total HxCDD	450		4.7	0.12	pp/g
1,2,3,4,6,7,8-HpCDD	2900	D	94	12	pp/g
Total HpCDD	6000		94	12	pp/g
OCDD	35000	D	190	15	pp/g
2,3,7,8-TCDF	ND	CON	0.94	0.40	pp/g
Total TCDF	6.2		0.94	0.037	pp/g
1,2,3,7,8-PeCDF	ND		4.7	0.074	pp/g
2,3,4,7,8-PeCDF	ND		4.7	0.076	pp/g
Total PeCDF	31		4.7	0.075	pp/g
1,2,3,4,7,8-HxCDF	26		4.7	0.059	pp/g
1,2,3,6,7,8-HxCDF	12		4.7	0.048	pp/g
2,3,4,6,7,8-HxCDF	8.0		4.7	0.054	pp/g
1,2,3,7,8,9-HxCDF	ND		4.7	0.066	pp/g
Total HxCDF	840		4.7	0.056	pp/g
1,2,3,4,6,7,8-HpCDF	780		4.7	0.94	pp/g
1,2,3,4,7,8,9-HpCDF	56		4.7	1.1	pp/g
Total HpCDF	3500		4.7	1.0	pp/g
OCDF	2900	D	190	6.5	pp/g

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TestAmerica Honolulu
Sample ID: HUH0028-01
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 001	Work Order #....:	MLLX82AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Dilution Factor:	0.93
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.65 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	93	40 - 135
13C-1,2,3,7,8-PeCDD	100	40 - 135
13C-1,2,3,6,7,8-HxCDD	91	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	88	40 - 135
13C-OCDD	97	40 - 135
13C-2,3,7,8-TCDF	100	40 - 135
13C-1,2,3,7,8-PeCDF	108	40 - 135
13C-1,2,3,4,7,8-HxCDF	100	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	98	40 - 135

QUALIFIERS

- CON Confirmation analysis.
- D Result was obtained from the analysis of a dilution.

TestAmerica Honolulu
Sample ID: HUH0028-02
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 002	Work Order #....:	MLL0C2AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Dilution Factor:	0.97
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.25 g	Analyst ID....:	Grandfield S. Virginia		

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>ESTIMATED DETECTION LIMIT</u>	<u>UNITS</u>
2,3,7,8-TCDD	ND	0.98	0.056	pg/g
Total TCDD	9.8	0.98	0.056	pg/g
1,2,3,7,8-PeCDD	ND	4.9	0.14	pg/g
Total PeCDD	32	4.9	0.14	pg/g
1,2,3,4,7,8-HxCDD	13	4.9	0.18	pg/g
1,2,3,6,7,8-HxCDD	240	4.9	0.13	pg/g
1,2,3,7,8,9-HxCDD	39	4.9	0.15	pg/g
Total HxCDD	1200	4.9	0.15	pg/g
1,2,3,4,6,7,8-HpCDD	5500 D	98	9.4	pg/g
Total HpCDD	10000	98	9.4	pg/g
OCDD	45000 D	200	18	pg/g
2,3,7,8-TCDF	ND CON	0.98	0.42	pg/g
Total TCDF	9.9	0.98	0.046	pg/g
1,2,3,7,8-PeCDF	ND	4.9	0.089	pg/g
2,3,4,7,8-PeCDF	ND	4.9	0.092	pg/g
Total PeCDF	41	4.9	0.090	pg/g
1,2,3,4,7,8-HxCDF	48	4.9	0.12	pg/g
1,2,3,6,7,8-HxCDF	22	4.9	0.099	pg/g
2,3,4,6,7,8-HxCDF	10	4.9	0.11	pg/g
1,2,3,7,8,9-HxCDF	ND	4.9	0.14	pg/g
Total HxCDF	2500	4.9	0.12	pg/g
1,2,3,4,6,7,8-HpCDF	2500 D	98	5.5	pg/g
1,2,3,4,7,8,9-HpCDF	180 D	98	6.6	pg/g
Total HpCDF	14000	98	6.0	pg/g
OCDF	7800 D	200	6.6	pg/g

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TestAmerica Honolulu
Sample ID: HUH0028-02
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 002	Work Order #....:	MLL0C2AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Dilution Factor:	0.97
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.25 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	89	40 - 135
13C-1,2,3,7,8-PeCDD	94	40 - 135
13C-1,2,3,6,7,8-HxCDD	78	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	96	40 - 135
13C-OCDD	96	40 - 135
13C-2,3,7,8-TCDF	94	40 - 135
13C-1,2,3,7,8-PeCDF	96	40 - 135
13C-1,2,3,4,7,8-HxCDF	90	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	104	40 - 135

QUALIFIERS

- CON Confirmation analysis.
- D Result was obtained from the analysis of a dilution.

TestAmerica Honolulu
Sample ID: HUH0028-06
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 003	Work Order #....:	MLL0E2AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Dilution Factor:	0.97
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.22 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		0.98	0.061	pg/g
Total TCDD	8.2		0.98	0.061	pg/g
1,2,3,7,8-PeCDD	ND		4.9	0.15	pg/g
Total PeCDD	ND		4.9	0.15	pg/g
1,2,3,4,7,8-HxCDD	8.4		4.9	0.15	pg/g
1,2,3,6,7,8-HxCDD	39		4.9	0.11	pg/g
1,2,3,7,8,9-HxCDD	22		4.9	0.12	pg/g
Total HxCDD	220		4.9	0.13	pg/g
1,2,3,4,6,7,8-HpCDD	1100		4.9	0.52	pg/g
Total HpCDD	1800		4.9	0.52	pg/g
OCDD	12000	E	9.8	1.6	pg/g
2,3,7,8-TCDF	ND	CON	0.98	0.47	pg/g
Total TCDF	4.6		0.98	0.044	pg/g
1,2,3,7,8-PeCDF	ND		4.9	0.088	pg/g
2,3,4,7,8-PeCDF	ND		4.9	0.090	pg/g
Total PeCDF	20		4.9	0.089	pg/g
1,2,3,4,7,8-HxCDF	17		4.9	0.11	pg/g
1,2,3,6,7,8-HxCDF	9.0		4.9	0.091	pg/g
2,3,4,6,7,8-HxCDF	4.9		4.9	0.10	pg/g
1,2,3,7,8,9-HxCDF	ND		4.9	0.13	pg/g
Total HxCDF	460		4.9	0.11	pg/g
1,2,3,4,6,7,8-HpCDF	400		4.9	0.33	pg/g
1,2,3,4,7,8,9-HpCDF	30		4.9	0.40	pg/g
Total HpCDF	1600		4.9	0.36	pg/g
OCDF	1000		9.8	0.36	pg/g

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TestAmerica Honolulu
Sample ID: HUH0028-06
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 003	Work Order #....:	MLL0E2AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Dilution Factor:	0.97
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.22 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	92	40 - 135
13C-1,2,3,7,8-PeCDD	94	40 - 135
13C-1,2,3,6,7,8-HxCDD	80	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	89	40 - 135
13C-OCDD	97	40 - 135
13C-2,3,7,8-TCDF	99	40 - 135
13C-1,2,3,7,8-PeCDF	101	40 - 135
13C-1,2,3,4,7,8-HxCDF	106	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	92	40 - 135

QUALIFIERS

- CON Confirmation analysis.
- E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu
Sample ID: HUH0028-07
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 004	Work Order #....:	MLL0K2AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Dilution Factor:	0.92
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.8 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	1.2		0.93	0.048	pg/g
Total TCDD	20		0.93	0.048	pg/g
1,2,3,7,8-PeCDD	7.0		4.6	0.13	pg/g
Total PeCDD	45		4.6	0.13	pg/g
1,2,3,4,7,8-HxCDD	18		4.6	0.15	pg/g
1,2,3,6,7,8-HxCDD	69		4.6	0.11	pg/g
1,2,3,7,8,9-HxCDD	31		4.6	0.12	pg/g
Total HxCDD	470		4.6	0.12	pg/g
1,2,3,4,6,7,8-HpCDD	2000	E	4.6	0.58	pg/g
Total HpCDD	3500		4.6	0.58	pg/g
OCDD	28000	E	9.3	2.0	pg/g
2,3,7,8-TCDF	1.6	CON	0.93	0.35	pg/g
Total TCDF	19		0.93	0.045	pg/g
1,2,3,7,8-PeCDF	ND		4.6	0.069	pg/g
2,3,4,7,8-PeCDF	ND		4.6	0.071	pg/g
Total PeCDF	63		4.6	0.070	pg/g
1,2,3,4,7,8-HxCDF	36		4.6	0.074	pg/g
1,2,3,6,7,8-HxCDF	19		4.6	0.060	pg/g
2,3,4,6,7,8-HxCDF	9.5		4.6	0.068	pg/g
1,2,3,7,8,9-HxCDF	ND		4.6	0.084	pg/g
Total HxCDF	840		4.6	0.071	pg/g
1,2,3,4,6,7,8-HpCDF	690		4.6	0.47	pg/g
1,2,3,4,7,8,9-HpCDF	60		4.6	0.57	pg/g
Total HpCDF	2500		4.6	0.52	pg/g
OCDF	2000		9.3	0.47	pg/g

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TestAmerica Honolulu
Sample ID: HUH0028-07
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 004	Work Order #....:	MLL0K2AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Dilution Factor:	0.92
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.8 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	91	40 - 135
13C-1,2,3,7,8-PeCDD	94	40 - 135
13C-1,2,3,6,7,8-HxCDD	78	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	99	40 - 135
13C-OCDD	100	40 - 135
13C-2,3,7,8-TCDF	96	40 - 135
13C-1,2,3,7,8-PeCDF	98	40 - 135
13C-1,2,3,4,7,8-HxCDF	110	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	99	40 - 135

QUALIFIERS

- CON Confirmation analysis.
- E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu
Sample ID: HUH0028-11

Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 005	Work Order #....:	MLL0L2AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Dilution Factor:	0.96
Prep Date....:	08/31/11	Analysis Date....:	09/03/11	Percent Moisture:	
Prep Batch #:	1243100	Instrument ID....:	4D5		
Initial Wgt/Vol :	10.32 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		0.97	0.087	pg/g
Total TCDD	14		0.97	0.087	pg/g
1,2,3,7,8-PeCDD	ND		4.8	0.28	pg/g
Total PeCDD	12		4.8	0.28	pg/g
1,2,3,4,7,8-HxCDD	8.4		4.8	0.31	pg/g
1,2,3,6,7,8-HxCDD	33		4.8	0.27	pg/g
1,2,3,7,8,9-HxCDD	22		4.8	0.26	pg/g
Total HxCDD	200		4.8	0.28	pg/g
1,2,3,4,6,7,8-HpCDD	1100		4.8	2.1	pg/g
Total HpCDD	1900		4.8	2.1	pg/g
OCDD	12000	E	9.7	6.8	pg/g
2,3,7,8-TCDF	ND	CON	0.97	0.26	pg/g
Total TCDF	9.4		0.97	0.13	pg/g
1,2,3,7,8-PeCDF	ND		4.8	0.25	pg/g
2,3,4,7,8-PeCDF	ND		4.8	0.28	pg/g
Total PeCDF	49		4.8	0.26	pg/g
1,2,3,4,7,8-HxCDF	26		4.8	0.56	pg/g
1,2,3,6,7,8-HxCDF	15		4.8	0.52	pg/g
2,3,4,6,7,8-HxCDF	9.0		4.8	0.55	pg/g
1,2,3,7,8,9-HxCDF	ND		4.8	0.63	pg/g
Total HxCDF	530		4.8	0.57	pg/g
1,2,3,4,6,7,8-HpCDF	440		4.8	1.3	pg/g
1,2,3,4,7,8,9-HpCDF	30		4.8	1.5	pg/g
Total HpCDF	1500		4.8	1.4	pg/g
OCDF	1200		9.7	0.84	pg/g

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TestAmerica Honolulu
Sample ID: HUH0028-11
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 005	Work Order #....:	MLL0L2AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Dilution Factor:	0.96
Prep Date....:	08/31/11	Analysis Date....:	09/03/11	Percent Moisture:	
Prep Batch #:	1243100	Instrument ID....:	4D5		
Initial Wgt/Vol :	10.32 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	82	40 - 135
13C-1,2,3,7,8-PeCDD	80	40 - 135
13C-1,2,3,6,7,8-HxCDD	91	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	75	40 - 135
13C-OCDD	84	40 - 135
13C-2,3,7,8-TCDF	88	40 - 135
13C-1,2,3,7,8-PeCDF	79	40 - 135
13C-1,2,3,4,7,8-HxCDF	80	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	80	40 - 135

QUALIFIERS

- CON Confirmation analysis.
- E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu
Sample ID: HUH0028-12
Trace Level Organic Compounds
SW846 8290

Lot - Sample #.....:	G1H120486 - 006	Work Order #.....:	MLL0N2AA	Matrix.....:	SOLID
Date Sampled.....:	08/02/11	Date Received.....:	08/12/11	Dilution Factor:	1.71
Prep Date.....:	08/29/11	Analysis Date.....:	08/31/11	Percent Moisture:	
Prep Batch #	1241179	Instrument ID.....:	3D5		
Initial Wgt/Vol :	5.84 g	Analyst ID.....:	Grandfield S. Virginia		

<u>PARAMETER</u>	<u>RESULT</u>		<u>REPORTING LIMIT</u>	<u>ESTIMATED DETECTION LIMIT</u>	<u>UNITS</u>
2,3,7,8-TCDD	ND		1.7	0.11	pg/g
Total TCDD	22		1.7	0.11	pg/g
1,2,3,7,8-PeCDD	ND		8.6	0.22	pg/g
Total PeCDD	ND		8.6	0.22	pg/g
1,2,3,4,7,8-HxCDD	13		8.6	0.26	pg/g
1,2,3,6,7,8-HxCDD	47		8.6	0.19	pg/g
1,2,3,7,8,9-HxCDD	36		8.6	0.22	pg/g
Total HxCDD	330		8.6	0.22	pg/g
1,2,3,4,6,7,8-HpCDD	1500		8.6	0.77	pg/g
Total HpCDD	2600		8.6	0.77	pg/g
OCDD	17000	E	17	1.4	pg/g
2,3,7,8-TCDF	2.0	CON	1.7	0.72	pg/g
Total TCDF	14		1.7	0.070	pg/g
1,2,3,7,8-PeCDF	ND		8.6	0.10	pg/g
2,3,4,7,8-PeCDF	ND		8.6	0.10	pg/g
Total PeCDF	28		8.6	0.10	pg/g
1,2,3,4,7,8-HxCDF	25		8.6	0.19	pg/g
1,2,3,6,7,8-HxCDF	14		8.6	0.15	pg/g
2,3,4,6,7,8-HxCDF	9.5		8.6	0.17	pg/g
1,2,3,7,8,9-HxCDF	ND		8.6	0.21	pg/g
Total HxCDF	500		8.6	0.18	pg/g
1,2,3,4,6,7,8-HpCDF	510		8.6	0.54	pg/g
1,2,3,4,7,8,9-HpCDF	46		8.6	0.64	pg/g
Total HpCDF	1700		8.6	0.58	pg/g
OCDF	1500		17	0.49	pg/g

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TestAmerica Honolulu
 Sample ID: HUH0028-12

Trace Level Organic Compounds
 SW846 8290

Lot - Sample #....:	G1H120486 - 006	Work Order #....:	MLL0N2AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Dilution Factor:	1.71
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	5.84 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	89	40 - 135
13C-1,2,3,7,8-PeCDD	98	40 - 135
13C-1,2,3,6,7,8-HxCDD	79	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	91	40 - 135
13C-OCDD	96	40 - 135
13C-2,3,7,8-TCDF	94	40 - 135
13C-1,2,3,7,8-PeCDF	102	40 - 135
13C-1,2,3,4,7,8-HxCDF	98	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	92	40 - 135

QUALIFIERS

- CON Confirmation analysis.
- E Estimated result. Result concentration exceeds the calibration range

TestAmerica Honolulu
Sample ID: HUH0028-16

Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 007	Work Order #....:	MLL0P2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Dilution Factor:	0.95
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.48 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		0.95	0.052	pg/g
Total TCDD	9.2		0.95	0.052	pg/g
1,2,3,7,8-PeCDD	5.6		4.8	0.14	pg/g
Total PeCDD	22		4.8	0.14	pg/g
1,2,3,4,7,8-HxCDD	16		4.8	0.12	pg/g
1,2,3,6,7,8-HxCDD	130		4.8	0.090	pg/g
1,2,3,7,8,9-HxCDD	45		4.8	0.10	pg/g
Total HxCDD	620		4.8	0.10	pg/g
1,2,3,4,6,7,8-HpCDD	4900	D	95	9.1	pg/g
Total HpCDD	9600		95	9.1	pg/g
OCDD	61000	D	190	15	pg/g
2,3,7,8-TCDF	ND	CON	0.95	0.34	pg/g
Total TCDF	15		0.95	0.037	pg/g
1,2,3,7,8-PeCDF	ND		4.8	0.061	pg/g
2,3,4,7,8-PeCDF	ND		4.8	0.062	pg/g
Total PeCDF	49		4.8	0.062	pg/g
1,2,3,4,7,8-HxCDF	50		4.8	0.074	pg/g
1,2,3,6,7,8-HxCDF	18		4.8	0.060	pg/g
2,3,4,6,7,8-HxCDF	8.9		4.8	0.068	pg/g
1,2,3,7,8,9-HxCDF	ND		4.8	0.083	pg/g
Total HxCDF	1400		4.8	0.070	pg/g
1,2,3,4,6,7,8-HpCDF	1600	D	95	4.9	pg/g
1,2,3,4,7,8,9-HpCDF	130	D	95	5.9	pg/g
Total HpCDF	7900		95	5.3	pg/g
OCDF	6000	D	190	5.5	pg/g

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TestAmerica Honolulu
 Sample ID: HUH0028-16

Trace Level Organic Compounds
 SW846 8290

Lot - Sample #....:	G1H120486 - 007	Work Order #....:	MLL0P2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Dilution Factor:	0.95
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.48 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	87	40 - 135
13C-1,2,3,7,8-PeCDD	89	40 - 135
13C-1,2,3,6,7,8-HxCDD	82	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	87	40 - 135
13C-OCDD	91	40 - 135
13C-2,3,7,8-TCDF	92	40 - 135
13C-1,2,3,7,8-PeCDF	95	40 - 135
13C-1,2,3,4,7,8-HxCDF	97	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	96	40 - 135

QUALIFIERS

- CON Confirmation analysis
- D Result was obtained from the analysis of a dilution.

TestAmerica Honolulu
Sample ID: HUH0028-17
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 008	Work Order #....:	MLL0Q2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Dilution Factor:	0.97
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.29 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	1.4		0.97	0.060	ppg
Total TCDD	22		0.97	0.060	ppg
1,2,3,7,8-PeCDD	14		4.9	0.13	ppg
Total PeCDD	86		4.9	0.13	ppg
1,2,3,4,7,8-HxCDD	40		4.9	0.14	ppg
1,2,3,6,7,8-HxCDD	280		4.9	0.10	ppg
1,2,3,7,8,9-HxCDD	110		4.9	0.12	ppg
Total HxCDD	1400		4.9	0.12	ppg
1,2,3,4,6,7,8-HpCDD	10000	D	97	10	ppg
Total HpCDD	20000		97	10	ppg
OCDD	130000	E D	190	9.5	ppg
2,3,7,8-TCDF	ND	CON	0.97	0.40	ppg
Total TCDF	31		0.97	0.039	ppg
1,2,3,7,8-PeCDF	ND		4.9	0.10	ppg
2,3,4,7,8-PeCDF	ND		4.9	0.11	ppg
Total PeCDF	110		4.9	0.10	ppg
1,2,3,4,7,8-HxCDF	130		4.9	0.20	ppg
1,2,3,6,7,8-HxCDF	46		4.9	0.16	ppg
2,3,4,6,7,8-HxCDF	28		4.9	0.18	ppg
1,2,3,7,8,9-HxCDF	ND		4.9	0.23	ppg
Total HxCDF	3500		4.9	0.19	ppg
1,2,3,4,6,7,8-HpCDF	3400	D	97	6.5	ppg
1,2,3,4,7,8,9-HpCDF	290	D	97	7.8	ppg
Total HpCDF	17000		97	7.0	ppg
OCDF	10000	D	190	3.8	ppg

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TestAmerica Honolulu
Sample ID: HUH0028-17
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 008	Work Order #....:	MLL0Q2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Dilution Factor:	0.97
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.29 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	95	40 - 135
13C-1,2,3,7,8-PeCDD	100	40 - 135
13C-1,2,3,6,7,8-HxCDD	87	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	100	40 - 135
13C-OCDD	131	40 - 135
13C-2,3,7,8-TCDF	102	40 - 135
13C-1,2,3,7,8-PeCDF	106	40 - 135
13C-1,2,3,4,7,8-HxCDF	95	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	93	40 - 135

QUALIFIERS

- CON Confirmation analysis.
- D Result was obtained from the analysis of a dilution.
- E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu
Sample ID: HUH0028-21
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 009	Work Order #....:	MLL0R2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Dilution Factor:	4.7
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.63 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	6.3		4.7	0.24	ppb/g
Total TCDD	96		4.7	0.24	ppb/g
1,2,3,7,8-PeCDD	49		24	0.61	ppb/g
Total PeCDD	300		24	0.61	ppb/g
1,2,3,4,7,8-HxCDD	120		24	0.62	ppb/g
1,2,3,6,7,8-HxCDD	640		24	0.47	ppb/g
1,2,3,7,8,9-HxCDD	260		24	0.53	ppb/g
Total HxCDD	3400		24	0.53	ppb/g
1,2,3,4,6,7,8-HpCDD	30000	D	470	59	ppb/g
Total HpCDD	61000		470	59	ppb/g
OCDD	500000	E D	940	180	ppb/g
2,3,7,8-TCDF	ND	CON	4.7	1.8	ppb/g
Total TCDF	240		4.7	0.19	ppb/g
1,2,3,7,8-PeCDF	ND		24	0.43	ppb/g
2,3,4,7,8-PeCDF	ND		24	0.44	ppb/g
Total PeCDF	330		24	0.44	ppb/g
1,2,3,4,7,8-HxCDF	410		24	0.56	ppb/g
1,2,3,6,7,8-HxCDF	140		24	0.45	ppb/g
2,3,4,6,7,8-HxCDF	73		24	0.51	ppb/g
1,2,3,7,8,9-HxCDF	ND		24	0.63	ppb/g
Total HxCDF	9900		24	0.53	ppb/g
1,2,3,4,6,7,8-HpCDF	7100	D	470	24	ppb/g
1,2,3,4,7,8,9-HpCDF	680	D	470	28	ppb/g
Total HpCDF	36000		470	26	ppb/g
OCDF	27000	D	940	34	ppb/g

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TestAmerica Honolulu
Sample ID: HUH0028-21
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 009	Work Order #....:	MLL0R2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Dilution Factor:	4.7
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.63 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	86	40 - 135
13C-1,2,3,7,8-PeCDD	83	40 - 135
13C-1,2,3,6,7,8-HxCDD	78	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	97	40 - 135
13C-OCDD	94	40 - 135
13C-2,3,7,8-TCDF	97	40 - 135
13C-1,2,3,7,8-PeCDF	102	40 - 135
13C-1,2,3,4,7,8-HxCDF	89	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	106	40 - 135

QUALIFIERS

- CON Confirmation analysis.
- D Result was obtained from the analysis of a dilution.
- E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu
Sample ID: HUH0028-22
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 010	Work Order #....:	MLL0T2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Dilution Factor:	4.48
Prep Date....:	08/31/11	Analysis Date....:	09/03/11	Percent Moisture:	
Prep Batch #:	1243100	Instrument ID....:	4D5		
Initial Wgt/Vol :	11.17 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	7.6		4.5	0.66	pp/g
Total TCDD	280		4.5	0.66	pp/g
1,2,3,7,8-PeCDD	93		22	1.9	pp/g
Total PeCDD	760		22	1.9	pp/g
1,2,3,4,7,8-HxCDD	270		22	4.3	pp/g
1,2,3,6,7,8-HxCDD	1900		22	3.7	pp/g
1,2,3,7,8,9-HxCDD	570		22	3.7	pp/g
Total HxCDD	8600		22	3.8	pp/g
1,2,3,4,6,7,8-HpCDD	54000	D	450	130	pp/g
Total HpCDD	100000		450	130	pp/g
OCDD	460000	E D	900	81	pp/g
2,3,7,8-TCDF	6.3	CON	4.5	1.2	pp/g
Total TCDF	760		4.5	1.2	pp/g
1,2,3,7,8-PeCDF	43		22	4.4	pp/g
2,3,4,7,8-PeCDF	33		22	4.8	pp/g
Total PeCDF	1900		22	4.6	pp/g
1,2,3,4,7,8-HxCDF	820		22	16	pp/g
1,2,3,6,7,8-HxCDF	270		22	15	pp/g
2,3,4,6,7,8-HxCDF	190		22	16	pp/g
1,2,3,7,8,9-HxCDF	ND		22	18	pp/g
Total HxCDF	29000		22	16	pp/g
1,2,3,4,6,7,8-HpCDF	20000	D	450	62	pp/g
1,2,3,4,7,8,9-HpCDF	1800	D	450	77	pp/g
Total HpCDF	110000		450	68	pp/g
OCDF	35000	D	900	29	pp/g

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TestAmerica Honolulu
Sample ID: HUH0028-22
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 010	Work Order #....:	MLL0T2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Dilution Factor:	4.48
Prep Date....:	08/31/11	Analysis Date....:	09/03/11	Percent Moisture:	
Prep Batch #:	1243100	Instrument ID....:	4D5		
Initial Wgt/Vol :	11.17 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	80	40 - 135
13C-1,2,3,7,8-PeCDD	75	40 - 135
13C-1,2,3,6,7,8-HxCDD	74	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	102	40 - 135
13C-OCDD	197 *	40 - 135
13C-2,3,7,8-TCDF	84	40 - 135
13C-1,2,3,7,8-PeCDF	75	40 - 135
13C-1,2,3,4,7,8-HxCDF	72	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	78	40 - 135

QUALIFIERS

- * Surrogate recovery is outside stated control limits
- CON Confirmation analysis
- D Result was obtained from the analysis of a dilution.
- E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu
Sample ID: HUH0028-26
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 011	Work Order #....:	MLL0V2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Dilution Factor:	0.89
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	11.16 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	1.0		0.90	0.053	pp/g
Total TCDD	26		0.90	0.053	pp/g
1,2,3,7,8-PeCDD	11		4.5	0.16	pp/g
Total PeCDD	71		4.5	0.16	pp/g
1,2,3,4,7,8-HxCDD	25		4.5	0.21	pp/g
1,2,3,6,7,8-HxCDD	170		4.5	0.16	pp/g
1,2,3,7,8,9-HxCDD	67		4.5	0.18	pp/g
Total HxCDD	870		4.5	0.18	pp/g
1,2,3,4,6,7,8-HpCDD	6500	D	90	21	pp/g
Total HpCDD	13000		90	21	pp/g
OCDD	94000	E D	180	28	pp/g
2,3,7,8-TCDF	1.6	CON	0.90	0.38	pp/g
Total TCDF	23		0.90	0.045	pp/g
1,2,3,7,8-PeCDF	ND		4.5	0.10	pp/g
2,3,4,7,8-PeCDF	ND		4.5	0.10	pp/g
Total PeCDF	87		4.5	0.10	pp/g
1,2,3,4,7,8-HxCDF	85		4.5	0.14	pp/g
1,2,3,6,7,8-HxCDF	34		4.5	0.11	pp/g
2,3,4,6,7,8-HxCDF	22		4.5	0.13	pp/g
1,2,3,7,8,9-HxCDF	ND		4.5	0.16	pp/g
Total HxCDF	2200		4.5	0.13	pp/g
1,2,3,4,6,7,8-HpCDF	1800	D	90	8.3	pp/g
1,2,3,4,7,8,9-HpCDF	160	D	90	10	pp/g
Total HpCDF	9500		90	9.1	pp/g
OCDF	6300	D	180	7.7	pp/g

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TestAmerica Honolulu
Sample ID: HUH0028-26
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 011	Work Order #....:	MLL0V2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Dilution Factor:	0.89
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	11.16 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	82	40 - 135
13C-1,2,3,7,8-PeCDD	84	40 - 135
13C-1,2,3,6,7,8-HxCDD	78	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	90	40 - 135
13C-OCDD	108	40 - 135
13C-2,3,7,8-TCDF	91	40 - 135
13C-1,2,3,7,8-PeCDF	89	40 - 135
13C-1,2,3,4,7,8-HxCDF	91	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	97	40 - 135

QUALIFIERS

- CON Confirmation analysis.
- D Result was obtained from the analysis of a dilution.
- E Estimated result Result concentration exceeds the calibration range.

TestAmerica Honolulu
Sample ID: HUH0028-27
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 012	Work Order #....:	MLL0W2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Dilution Factor:	0.98
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.18 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	1.1		0.98	0.081	pp/g
Total TCDD	24		0.98	0.081	pp/g
1,2,3,7,8-PeCDD	12		4.9	0.18	pp/g
Total PeCDD	77		4.9	0.18	pp/g
1,2,3,4,7,8-HxCDD	26		4.9	0.20	pp/g
1,2,3,6,7,8-HxCDD	210		4.9	0.15	pp/g
1,2,3,7,8,9-HxCDD	75		4.9	0.17	pp/g
Total HxCDD	1000		4.9	0.17	pp/g
1,2,3,4,6,7,8-HpCDD	7100	D	98	17	pp/g
Total HpCDD	14000		98	17	pp/g
OCDD	99000	E D	200	35	pp/g
2,3,7,8-TCDF	1.2	CON	0.98	0.53	pp/g
Total TCDF	29		0.98	0.056	pp/g
1,2,3,7,8-PeCDF	ND		4.9	0.091	pp/g
2,3,4,7,8-PeCDF	ND		4.9	0.093	pp/g
Total PeCDF	96		4.9	0.092	pp/g
1,2,3,4,7,8-HxCDF	97		4.9	0.28	pp/g
1,2,3,6,7,8-HxCDF	38		4.9	0.23	pp/g
2,3,4,6,7,8-HxCDF	20		4.9	0.26	pp/g
1,2,3,7,8,9-HxCDF	ND		4.9	0.32	pp/g
Total HxCDF	2600		4.9	0.27	pp/g
1,2,3,4,6,7,8-HpCDF	2500	D	98	9.2	pp/g
1,2,3,4,7,8,9-HpCDF	210	D	98	11	pp/g
Total HpCDF	13000		98	10	pp/g
OCDF	7200	D	200	8.4	pp/g

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TestAmerica Honolulu
Sample ID: HUH0028-27
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 012	Work Order #....:	MLL0W2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Dilution Factor:	0.98
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.18 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	75	40 - 135
13C-1,2,3,7,8-PeCDD	83	40 - 135
13C-1,2,3,6,7,8-HxCDD	68	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	82	40 - 135
13C-OCDD	100	40 - 135
13C-2,3,7,8-TCDF	89	40 - 135
13C-1,2,3,7,8-PeCDF	95	40 - 135
13C-1,2,3,4,7,8-HxCDF	83	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	70	40 - 135

QUALIFIERS

- CON Confirmation analysis.
- D Result was obtained from the analysis of a dilution
- E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu
 Sample ID: HUH0028-28
 Trace Level Organic Compounds
 SW846 8290

Lot - Sample #....:	G1H120486 - 013	Work Order #....:	MLL0X2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Dilution Factor:	0.95
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.45 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	1.1		0.96	0.070	pp/g
Total TCDD	23		0.96	0.070	pp/g
1,2,3,7,8-PeCDD	11		4.8	0.18	pp/g
Total PeCDD	59		4.8	0.18	pp/g
1,2,3,4,7,8-HxCDD	24		4.8	0.21	pp/g
1,2,3,6,7,8-HxCDD	200		4.8	0.15	pp/g
1,2,3,7,8,9-HxCDD	74		4.8	0.17	pp/g
Total HxCDD	980		4.8	0.18	pp/g
1,2,3,4,6,7,8-HpCDD	6600	D	96	21	pp/g
Total HpCDD	14000		96	21	pp/g
OCDD	100000	E D	190	31	pp/g
2,3,7,8-TCDF	1.1	Q CON	0.96	0.49	pp/g
Total TCDF	25		0.96	0.054	pp/g
1,2,3,7,8-PeCDF	ND		4.8	0.12	pp/g
2,3,4,7,8-PeCDF	ND		4.8	0.12	pp/g
Total PeCDF	93		4.8	0.12	pp/g
1,2,3,4,7,8-HxCDF	94		4.8	0.10	pp/g
1,2,3,6,7,8-HxCDF	38		4.8	0.083	pp/g
2,3,4,6,7,8-HxCDF	22		4.8	0.094	pp/g
1,2,3,7,8,9-HxCDF	ND		4.8	0.11	pp/g
Total HxCDF	2300		4.8	0.097	pp/g
1,2,3,4,6,7,8-HpCDF	2000	D	96	8.9	pp/g
1,2,3,4,7,8,9-HpCDF	160	D	96	11	pp/g
Total HpCDF	10000		96	9.7	pp/g
OCDF	7200	D	190	12	pp/g

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TestAmerica Honolulu
Sample ID: HUH0028-28
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 013	Work Order #....:	MLL0X2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Dilution Factor:	0.95
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.45 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	76	40 - 135
13C-1,2,3,7,8-PeCDD	83	40 - 135
13C-1,2,3,6,7,8-HxCDD	66	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	94	40 - 135
13C-OCDD	98	40 - 135
13C-2,3,7,8-TCDF	89	40 - 135
13C-1,2,3,7,8-PeCDF	93	40 - 135
13C-1,2,3,4,7,8-HxCDF	79	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	96	40 - 135

QUALIFIERS

- CON Confirmation analysis.
- D Result was obtained from the analysis of a dilution.
- E Estimated result. Result concentration exceeds the calibration range.
- Q Estimated maximum possible concentration (EMPC).

TestAmerica Honolulu
Sample ID: HUH0028-29
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 014	Work Order #....:	MLL002AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Dilution Factor:	0.88
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	11.27 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		0.89	0.073	pp/g
Total TCDD	15		0.89	0.073	pp/g
1,2,3,7,8-PeCDD	7.0		4.4	0.17	pp/g
Total PeCDD	32		4.4	0.17	pp/g
1,2,3,4,7,8-HxCDD	15		4.4	0.21	pp/g
1,2,3,6,7,8-HxCDD	110		4.4	0.15	pp/g
1,2,3,7,8,9-HxCDD	43		4.4	0.17	pp/g
Total HxCDD	590		4.4	0.18	pp/g
1,2,3,4,6,7,8-HpCDD	4300	D	44	6.0	pp/g
Total HpCDD	7900		44	6.0	pp/g
OCDD	69000	E D	89	12	pp/g
2,3,7,8-TCDF	ND	CON	0.89	0.58	pp/g
Total TCDF	21		0.89	0.041	pp/g
1,2,3,7,8-PeCDF	ND		4.4	0.087	pp/g
2,3,4,7,8-PeCDF	ND		4.4	0.089	pp/g
Total PeCDF	72		4.4	0.088	pp/g
1,2,3,4,7,8-HxCDF	62		4.4	0.18	pp/g
1,2,3,6,7,8-HxCDF	26		4.4	0.15	pp/g
2,3,4,6,7,8-HxCDF	11		4.4	0.17	pp/g
1,2,3,7,8,9-HxCDF	ND		4.4	0.21	pp/g
Total HxCDF	1800		4.4	0.17	pp/g
1,2,3,4,6,7,8-HpCDF	1500	D	44	3.1	pp/g
1,2,3,4,7,8,9-HpCDF	130	D	44	3.8	pp/g
Total HpCDF	7500		44	3.4	pp/g
OCDF	5200	D	89	2.8	pp/g

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TestAmerica Honolulu
 Sample ID: HUH0028-29

Trace Level Organic Compounds
 SW846 8290

Lot - Sample #....:	G1H120486 - 014	Work Order #....:	MLL002AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Dilution Factor:	0.88
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	11.27 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	75	40 - 135
13C-1,2,3,7,8-PeCDD	80	40 - 135
13C-1,2,3,6,7,8-HxCDD	71	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	81	40 - 135
13C-OCDD	98	40 - 135
13C-2,3,7,8-TCDF	88	40 - 135
13C-1,2,3,7,8-PeCDF	91	40 - 135
13C-1,2,3,4,7,8-HxCDF	83	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	83	40 - 135

QUALIFIERS

- CON Confirmation analysis.
- D Result was obtained from the analysis of a dilution.
- E Estimated result. Result concentration exceeds the calibration range

TestAmerica Honolulu
 Sample ID: HUH0028-30
 Trace Level Organic Compounds
 SW846 8290

Lot - Sample #....:	G1H120486 - 015	Work Order #....:	MLL012AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Dilution Factor:	0.98
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.14 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		0.99	0.13	pp/g
Total TCDD	17		0.99	0.13	pp/g
1,2,3,7,8-PeCDD	9.9		4.9	0.22	pp/g
Total PeCDD	53		4.9	0.22	pp/g
1,2,3,4,7,8-HxCDD	26		4.9	0.26	pp/g
1,2,3,6,7,8-HxCDD	180		4.9	0.20	pp/g
1,2,3,7,8,9-HxCDD	66		4.9	0.22	pp/g
Total HxCDD	920		4.9	0.22	pp/g
1,2,3,4,6,7,8-HpCDD	6300	D	49	15	pp/g
Total HpCDD	11000		49	15	pp/g
OCDD	95000	E D	99	10	pp/g
2,3,7,8-TCDF	ND	CON	0.99	0.73	pp/g
Total TCDF	27		0.99	0.079	pp/g
1,2,3,7,8-PeCDF	ND		4.9	0.12	pp/g
2,3,4,7,8-PeCDF	ND		4.9	0.12	pp/g
Total PeCDF	95		4.9	0.12	pp/g
1,2,3,4,7,8-HxCDF	88		4.9	0.12	pp/g
1,2,3,6,7,8-HxCDF	34		4.9	0.094	pp/g
2,3,4,6,7,8-HxCDF	19		4.9	0.11	pp/g
1,2,3,7,8,9-HxCDF	ND		4.9	0.13	pp/g
Total HxCDF	2600		4.9	0.11	pp/g
1,2,3,4,6,7,8-HpCDF	2300	D	49	4.1	pp/g
1,2,3,4,7,8,9-HpCDF	190	D	49	5.0	pp/g
Total HpCDF	11000		49	4.5	pp/g
OCDF	7000	D	99	4.2	pp/g

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TestAmerica Honolulu
Sample ID: HUH0028-30

Trace Level Organic Compounds
SW846 8290

Lot - Sample #....: G1H120486 - 015 Work Order #....: MLL012AA Matrix....: SOLID
Date Sampled....: 08/03/11 Date Received....: 08/12/11 Dilution Factor: 0.98
Prep Date....: 08/29/11 Analysis Date....: 08/31/11 Percent Moisture:
Prep Batch #: 1241179 Instrument ID....: 3D5
Initial Wgt/Vol : 10.14 g Analyst ID....: Grandfield S. Virginia

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	58	40 - 135
13C-1,2,3,7,8-PeCDD	62	40 - 135
13C-1,2,3,6,7,8-HxCDD	52	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	61	40 - 135
13C-OCDD	78	40 - 135
13C-2,3,7,8-TCDF	65	40 - 135
13C-1,2,3,7,8-PeCDF	69	40 - 135
13C-1,2,3,4,7,8-HxCDF	64	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	59	40 - 135

QUALIFIERS

- CON Confirmation analysis.
- D Result was obtained from the analysis of a dilution.
- E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu
 Sample ID: HUH0028-31
 Trace Level Organic Compounds
 SW846 8290

Lot - Sample #....:	G1H120486 - 016	Work Order #....:	MLL022AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Dilution Factor:	0.95
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.46 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		0.96	0.096	pg/g
Total TCDD	12		0.96	0.096	pg/g
1,2,3,7,8-PeCDD	6.9		4.8	0.21	pg/g
Total PeCDD	31		4.8	0.21	pg/g
1,2,3,4,7,8-HxCDD	15		4.8	0.22	pg/g
1,2,3,6,7,8-HxCDD	100		4.8	0.16	pg/g
1,2,3,7,8,9-HxCDD	45		4.8	0.18	pg/g
Total HxCDD	600		4.8	0.18	pg/g
1,2,3,4,6,7,8-HpCDD	4100	D	48	7.7	pg/g
Total HpCDD	7400		48	7.7	pg/g
OCDD	62000	E D	96	16	pg/g
2,3,7,8-TCDF	ND	CON	0.96	0.77	pg/g
Total TCDF	14		0.96	0.069	pg/g
1,2,3,7,8-PeCDF	ND		4.8	0.11	pg/g
2,3,4,7,8-PeCDF	ND		4.8	0.11	pg/g
Total PeCDF	64		4.8	0.11	pg/g
1,2,3,4,7,8-HxCDF	53		4.8	0.15	pg/g
1,2,3,6,7,8-HxCDF	24		4.8	0.12	pg/g
2,3,4,6,7,8-HxCDF	12		4.8	0.14	pg/g
1,2,3,7,8,9-HxCDF	ND		4.8	0.17	pg/g
Total HxCDF	1500		4.8	0.14	pg/g
1,2,3,4,6,7,8-HpCDF	1200	D	48	3.1	pg/g
1,2,3,4,7,8,9-HpCDF	110	D	48	3.7	pg/g
Total HpCDF	5700		48	3.4	pg/g
OCDF	4200	D	96	3.2	pg/g

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TestAmerica Honolulu
Sample ID: HUH0028-31
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 016	Work Order #....:	MLL022AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Dilution Factor:	0.95
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10.46 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	60	40 - 135
13C-1,2,3,7,8-PeCDD	61	40 - 135
13C-1,2,3,6,7,8-HxCDD	54	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	61	40 - 135
13C-OCDD	69	40 - 135
13C-2,3,7,8-TCDF	68	40 - 135
13C-1,2,3,7,8-PeCDF	69	40 - 135
13C-1,2,3,4,7,8-HxCDF	66	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	66	40 - 135

QUALIFIERS

- CON Confirmation analysis.
- D Result was obtained from the analysis of a dilution.
- E Estimated result Result concentration exceeds the calibration range.

QC DATA ASSOCIATION SUMMARY

G1H120486

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	SOLID	SW846 8290		1241179	
002	SOLID	SW846 8290		1241179	
003	SOLID	SW846 8290		1241179	
004	SOLID	SW846 8290		1241179	
005	SOLID	SW846 8290		1243100	
006	SOLID	SW846 8290		1241179	
007	SOLID	SW846 8290		1241179	
008	SOLID	SW846 8290		1241179	
009	SOLID	SW846 8290		1241179	
010	SOLID	SW846 8290		1243100	
011	SOLID	SW846 8290		1241179	
012	SOLID	SW846 8290		1241179	
013	SOLID	SW846 8290		1241179	
014	SOLID	SW846 8290		1241179	
015	SOLID	SW846 8290		1241179	
016	SOLID	SW846 8290		1241179	

Method Blank Report
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H290000 - 179B	Work Order #....:	ML4LV1AA	Matrix....:	SOLID
Date Sampled....:	08/01/11	Date Received....:	08/12/11	Dilution Factor:	1
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	100
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10 g	Analyst ID....:	Grandfield S. Virginia		

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>ESTIMATED DETECTION LIMIT</u>	<u>UNITS</u>
2,3,7,8-TCDD	ND	1.0	0.053	pg/g
Total TCDD	ND	1.0	0.053	pg/g
1,2,3,7,8-PeCDD	ND	5.0	0.10	pg/g
Total PeCDD	ND	5.0	0.10	pg/g
1,2,3,4,7,8-HxCDD	ND	5.0	0.079	pg/g
1,2,3,6,7,8-HxCDD	ND	5.0	0.059	pg/g
1,2,3,7,8,9-HxCDD	ND	5.0	0.067	pg/g
Total HxCDD	ND	5.0	0.068	pg/g
1,2,3,4,6,7,8-HpCDD	ND	5.0	0.15	pg/g
Total HpCDD	ND	5.0	0.070	pg/g
OCDD	ND	10	0.12	pg/g
2,3,7,8-TCDF	ND	1.0	0.041	pg/g
Total TCDF	ND	1.0	0.041	pg/g
1,2,3,7,8-PeCDF	ND	5.0	0.050	pg/g
2,3,4,7,8-PeCDF	ND	5.0	0.051	pg/g
Total PeCDF	ND	5.0	0.050	pg/g
1,2,3,4,7,8-HxCDF	ND	5.0	0.040	pg/g
1,2,3,6,7,8-HxCDF	ND	5.0	0.032	pg/g
2,3,4,6,7,8-HxCDF	ND	5.0	0.037	pg/g
1,2,3,7,8,9-HxCDF	ND	5.0	0.045	pg/g
Total HxCDF	ND	5.0	0.038	pg/g
1,2,3,4,6,7,8-HpCDF	ND	5.0	0.092	pg/g
1,2,3,4,7,8,9-HpCDF	ND	5.0	0.11	pg/g
Total HpCDF	ND	5.0	0.10	pg/g
OCDF	ND	10	0.082	pg/g

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Method Blank Report
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H290000 - 179B	Work Order #....:	ML4LV1AA	Matrix....:	SOLID
Date Sampled....:	08/01/11	Date Received....:	08/12/11	Dilution Factor:	1
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	Percent Moisture:	100
Prep Batch #:	1241179	Instrument ID....:	3D5		
Initial Wgt/Vol :	10 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	79	40 - 135
13C-1,2,3,7,8-PeCDD	78	40 - 135
13C-1,2,3,6,7,8-HxCDD	75	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	91	40 - 135
13C-OCDD	88	40 - 135
13C-2,3,7,8-TCDF	82	40 - 135
13C-1,2,3,7,8-PeCDF	84	40 - 135
13C-1,2,3,4,7,8-HxCDF	78	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	91	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight

Method Blank Report
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H310000 - 100B	Work Order #....:	ML5851AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Dilution Factor:	1
Prep Date....:	08/31/11	Analysis Date....:	09/02/11	Percent Moisture:	100
Prep Batch #:	1243100	Instrument ID....:	4D5		
Initial Wgt/Vol :	10 g	Analyst ID....:	Grandfield S. Virginia		

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>ESTIMATED DETECTION LIMIT</u>	<u>UNITS</u>
2,3,7,8-TCDD	ND	1.0	0.018	pg/g
Total TCDD	ND	1.0	0.018	pg/g
1,2,3,7,8-PeCDD	ND	5.0	0.12	pg/g
Total PeCDD	ND	5.0	0.12	pg/g
1,2,3,4,7,8-HxCDD	ND	5.0	0.050	pg/g
1,2,3,6,7,8-HxCDD	ND	5.0	0.043	pg/g
1,2,3,7,8,9-HxCDD	ND	5.0	0.043	pg/g
Total HxCDD	ND	5.0	0.045	pg/g
1,2,3,4,6,7,8-HpCDD	ND	5.0	0.18	pg/g
Total HpCDD	ND	5.0	0.18	pg/g
OCDD	ND	10	0.16	pg/g
2,3,7,8-TCDF	ND	1.0	0.019	pg/g
Total TCDF	ND	1.0	0.019	pg/g
1,2,3,7,8-PeCDF	ND	5.0	0.029	pg/g
2,3,4,7,8-PeCDF	ND	5.0	0.032	pg/g
Total PeCDF	ND	5.0	0.031	pg/g
1,2,3,4,7,8-HxCDF	ND	5.0	0.045	pg/g
1,2,3,6,7,8-HxCDF	ND	5.0	0.042	pg/g
2,3,4,6,7,8-HxCDF	ND	5.0	0.044	pg/g
1,2,3,7,8,9-HxCDF	ND	5.0	0.050	pg/g
Total HxCDF	ND	5.0	0.045	pg/g
1,2,3,4,6,7,8-HpCDF	ND	5.0	0.11	pg/g
1,2,3,4,7,8,9-HpCDF	ND	5.0	0.12	pg/g
Total HpCDF	ND	5.0	0.11	pg/g
OCDF	ND	10	0.11	pg/g

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Method Blank Report
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H310000 - 100B	Work Order #....:	ML5851AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Dilution Factor:	1
Prep Date....:	08/31/11	Analysis Date....:	09/02/11	Percent Moisture:	100
Prep Batch #:	1243100	Instrument ID....:	4D5		
Initial Wgt/Vol :	10 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	76	40 - 135
13C-1,2,3,7,8-PeCDD	75	40 - 135
13C-1,2,3,6,7,8-HxCDD	82	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	68	40 - 135
13C-OCDD	67	40 - 135
13C-2,3,7,8-TCDF	81	40 - 135
13C-1,2,3,7,8-PeCDF	72	40 - 135
13C-1,2,3,4,7,8-HxCDF	76	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	73	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	G1H120486	Work Order # ...:	ML4LV1AC-LCS	Matrix	SOLID
LCS Lot-Sample# :	G1H290000 - 179				
Prep Date	08/29/11	Analysis Date ...:	08/31/11		
Prep Batch # ...:	1241179				
Dilution Factor :	1				
Analyst ID.....:	Lisa L. Hernandez	Instrument ID.:	3D5	Method.....:	SW846 8290
Initial Wgt/Vol:	10 g				

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2,3,7,8-TCDD	20.0	22.7	pg/g	114	(60 - 138)
1,2,3,7,8-PeCDD	100	114	pg/g	114	(70 - 122)
1,2,3,4,7,8-HxCDD	100	116	pg/g	116	(60 - 138)
1,2,3,6,7,8-HxCDD	100	117	pg/g	117	(68 - 136)
1,2,3,7,8,9-HxCDD	100	131	pg/g	131	(68 - 138)
1,2,3,4,6,7,8-HpCDD	100	117	pg/g	117	(71 - 128)
OCDD	200	255	pg/g	127	(70 - 128)
2,3,7,8-TCDF	20.0	22.8	pg/g	114	(56 - 158)
1,2,3,7,8-PeCDF	100	111	pg/g	111	(69 - 134)
2,3,4,7,8-PeCDF	100	114	pg/g	114	(70 - 131)
1,2,3,4,7,8-HxCDF	100	113	pg/g	113	(74 - 128)
1,2,3,6,7,8-HxCDF	100	99.8	pg/g	100	(67 - 140)
2,3,4,6,7,8-HxCDF	100	110	pg/g	110	(71 - 137)
1,2,3,7,8,9-HxCDF	100	122	pg/g	122	(72 - 134)
1,2,3,4,6,7,8-HpCDF	100	116	pg/g	116	(71 - 134)
1,2,3,4,7,8,9-HpCDF	100	120	pg/g	120	(68 - 129)
OCDF	200	238	pg/g	119	(63 - 141)

<u>INTERNAL STANDARD</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	82	(40 - 135)
13C-1,2,3,7,8-PeCDD	91	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	73	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	89	(40 - 135)
13C-OCDD	91	(40 - 135)
13C-2,3,7,8-TCDF	87	(40 - 135)
13C-1,2,3,7,8-PeCDF	93	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	82	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	88	(40 - 135)

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	G1H120486	Work Order # ...:	ML5851AC-LCS	Matrix	SOLID
LCS Lot-Sample# :	G1H310000 - 100				
Prep Date	08/31/11	Analysis Date ...:	09/02/11		
Prep Batch # ...:	1243100				
Dilution Factor :	1				
Analyst ID.....:	Grandfield S. Virginia	Instrument ID...:	4D5	Method.....:	SW846 8290
Initial Wgt/Vol:	10 g				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS
2,3,7,8-TCDD	20.0	20.7	pg/g	103	(60 - 138)
1,2,3,7,8-PeCDD	100	104	pg/g	104	(70 - 122)
1,2,3,4,7,8-HxCDD	100	95.6	pg/g	96	(60 - 138)
1,2,3,6,7,8-HxCDD	100	101	pg/g	101	(68 - 136)
1,2,3,7,8,9-HxCDD	100	100	pg/g	100	(68 - 138)
1,2,3,4,6,7,8-HpCDD	100	110	pg/g	110	(71 - 128)
OCDD	200	290	pg/g	145 a	(70 - 128)
2,3,7,8-TCDF	20.0	21.8	pg/g	109	(56 - 158)
1,2,3,7,8-PeCDF	100	109	pg/g	109	(69 - 134)
2,3,4,7,8-PeCDF	100	116	pg/g	116	(70 - 131)
1,2,3,4,7,8-HxCDF	100	112	pg/g	112	(74 - 128)
1,2,3,6,7,8-HxCDF	100	118	pg/g	118	(67 - 140)
2,3,4,6,7,8-HxCDF	100	115	pg/g	115	(71 - 137)
1,2,3,7,8,9-HxCDF	100	114	pg/g	114	(72 - 134)
1,2,3,4,6,7,8-HpCDF	100	117	pg/g	117	(71 - 134)
1,2,3,4,7,8,9-HpCDF	100	115	pg/g	115	(68 - 129)
OCDF	200	255	pg/g	127	(63 - 141)

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	77	(40 - 135)
13C-1,2,3,7,8-PeCDD	73	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	83	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	65	(40 - 135)
13C-OCDD	67	(40 - 135)
13C-2,3,7,8-TCDF	80	(40 - 135)
13C-1,2,3,7,8-PeCDF	74	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	75	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	70	(40 - 135)

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

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TEQ Calculations

TestAmerica Honolulu

Sample ID: HUH0028-01

Trace Level Organic Compounds

SW846 8290

Lot - Sample #....:	GIH120486 - 001	Work Order #....:	MLLX82AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.93	Units....:	pg/g
Initial Wgt/Vol :	10.65 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	TEF FACTOR	TEQ CONCENTRATION
2,3,7,8-TCDD	ND		0.94	1.0	0
Total TCDD	5.6		0.94		
1,2,3,7,8-PeCDD	ND		4.7	1.0	0
Total PeCDD	12		4.7		
1,2,3,4,7,8-HxCDD	9.9		4.7	0.1	0.99
1,2,3,6,7,8-HxCDD	74		4.7	0.1	7.4
1,2,3,7,8,9-HxCDD	26		4.7	0.1	2.6
Total HxCDD	450		4.7		
1,2,3,4,6,7,8-HpCDD	2900	D	94	0.01	29
Total HpCDD	6000		94		
OCDD	35000	D	190	0.0003	10
2,3,7,8-TCDF	ND	CON	0.94	0.1	0
Total TCDF	6.2		0.94		
1,2,3,7,8-PeCDF	ND		4.7	0.03	0
2,3,4,7,8-PeCDF	ND		4.7	0.3	0
Total PeCDF	31		4.7		
1,2,3,4,7,8-HxCDF	26		4.7	0.1	2.6
1,2,3,6,7,8-HxCDF	12		4.7	0.1	1.2
2,3,4,6,7,8-HxCDF	8.0		4.7	0.1	0.80
1,2,3,7,8,9-HxCDF	ND		4.7	0.1	0
Total HxCDF	840		4.7		
1,2,3,4,6,7,8-HpCDF	780		4.7	0.01	7.8
1,2,3,4,7,8,9-HpCDF	56		4.7	0.01	0.56
Total HpCDF	3500		4.7		
OCDF	2900	D	190	0.0003	0.87
Total TEQ Concentration					64

TestAmerica Honolulu
 Sample ID: HUH0028-01
 Trace Level Organic Compounds
 SW846 8290

Lot - Sample #....:	G1H120486 - 001	Work Order #....:	MLLX82AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.93	Units....:	pg/g
Initial Wgt/Vol :	10.65 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	93	40 - 135
13C-1,2,3,7,8-PeCDD	100	40 - 135
13C-1,2,3,6,7,8-HxCDD	91	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	88	40 - 135
13C-OCDD	97	40 - 135
13C-2,3,7,8-TCDF	100	40 - 135
13C-1,2,3,7,8-PeCDF	108	40 - 135
13C-1,2,3,4,7,8-HxCDF	100	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	98	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

Notes:

WHO TEFs for human risk assessment based on the conclusions of the World Health Organization meeting in Geneva, Switzerland, June 2005.

CON Confirmation analysis.
 D Result was obtained from the analysis of a dilution.

TestAmerica Honolulu
Sample ID: HUH0028-02

Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	GIH120486 - 002	Work Order #....:	MLL0C2AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.97	Units.....:	pg/g
Initial Wgt/Vol :	10.25 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT	REPORTING LIMIT	TEF FACTOR	TEQ CONCENTRATION
2,3,7,8-TCDD	ND	0.98	1.0	0
Total TCDD	9.8	0.98		
1,2,3,7,8-PeCDD	ND	4.9	1.0	0
Total PeCDD	32	4.9		
1,2,3,4,7,8-HxCDD	13	4.9	0.1	1.3
1,2,3,6,7,8-HxCDD	240	4.9	0.1	24
1,2,3,7,8,9-HxCDD	39	4.9	0.1	3.9
Total HxCDD	1200	4.9		
1,2,3,4,6,7,8-HpCDD	5500 D	98	0.01	55
Total HpCDD	10000	98		
OCDD	45000 D	200	0.0003	14
2,3,7,8-TCDF	ND CON	0.98	0.1	0
Total TCDF	9.9	0.98		
1,2,3,7,8-PeCDF	ND	4.9	0.03	0
2,3,4,7,8-PeCDF	ND	4.9	0.3	0
Total PeCDF	41	4.9		
1,2,3,4,7,8-HxCDF	48	4.9	0.1	4.8
1,2,3,6,7,8-HxCDF	22	4.9	0.1	2.2
2,3,4,6,7,8-HxCDF	10	4.9	0.1	1.0
1,2,3,7,8,9-HxCDF	ND	4.9	0.1	0
Total HxCDF	2500	4.9		
1,2,3,4,6,7,8-HpCDF	2500 D	98	0.01	25
1,2,3,4,7,8,9-HpCDF	180 D	98	0.01	1.8
Total HpCDF	14000	98		
OCDF	7800 D	200	0.0003	2.3
Total TEQ Concentration				140

TestAmerica Honolulu
 Sample ID: HUH0028-02

Trace Level Organic Compounds
 SW846 8290

Lot - Sample #....:	G1H120486 - 002	Work Order #....:	MLL0C2AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.97	Units....:	pg/g
Initial Wgt/Vol :	10.25 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	89	40 - 135
13C-1,2,3,7,8-PeCDD	94	40 - 135
13C-1,2,3,6,7,8-HxCDD	78	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	96	40 - 135
13C-OCDD	96	40 - 135
13C-2,3,7,8-TCDF	94	40 - 135
13C-1,2,3,7,8-PeCDF	96	40 - 135
13C-1,2,3,4,7,8-HxCDF	90	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	104	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

Notes:

WIIO TEFs for human risk assessment based on the conclusions of the World Health Organization meeting in Geneva, Switzerland, June 2005.

CON Confirmation analysis.
 D Result was obtained from the analysis of a dilution

TestAmerica Honolulu
Sample ID: HUH0028-06

Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 003	Work Order #....:	MLL0E2AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.97	Units....:	pg/g
Initial Wgt/Vol :	10.22 g	Analyst ID....:	Grandfield S. Virginia		

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>TEF FACTOR</u>	<u>TEQ CONCENTRATION</u>
2,3,7,8-TCDD	ND	0.98	1.0	0
Total TCDD	8.2	0.98		
1,2,3,7,8-PeCDD	ND	4.9	1.0	0
Total PeCDD	ND	4.9		0
1,2,3,4,7,8-HxCDD	8.4	4.9	0.1	0.84
1,2,3,6,7,8-HxCDD	39	4.9	0.1	3.9
1,2,3,7,8,9-HxCDD	22	4.9	0.1	2.2
Total HxCDD	220	4.9		
1,2,3,4,6,7,8-HpCDD	1100	4.9	0.01	11
Total HpCDD	1800	4.9		
OCDD	12000	E	0.0003	3.6
2,3,7,8-TCDF	ND	0.98	0.1	0
Total TCDF	4.6	0.98		
1,2,3,7,8-PeCDF	ND	4.9	0.03	0
2,3,4,7,8-PeCDF	ND	4.9	0.3	0
Total PeCDF	20	4.9		
1,2,3,4,7,8-HxCDF	17	4.9	0.1	1.7
1,2,3,6,7,8-HxCDF	9.0	4.9	0.1	0.90
2,3,4,6,7,8-HxCDF	4.9	4.9	0.1	0.49
1,2,3,7,8,9-HxCDF	ND	4.9	0.1	0
Total HxCDF	460	4.9		
1,2,3,4,6,7,8-HpCDF	400	4.9	0.01	4.0
1,2,3,4,7,8,9-HpCDF	30	4.9	0.01	0.30
Total HpCDF	1600	4.9		
OCDF	1000	9.8	0.0003	0.30
Total TEQ Concentration				29

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TestAmerica Honolulu
Sample ID: HUH0028-06

Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 003	Work Order #....:	MLL0E2AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.97	Units....:	pg/g
Initial Wgt/Vol :	10.22 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	92	40 - 135
13C-1,2,3,7,8-PeCDD	94	40 - 135
13C-1,2,3,6,7,8-HxCDD	80	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	89	40 - 135
13C-OCDD	97	40 - 135
13C-2,3,7,8-TCDF	99	40 - 135
13C-1,2,3,7,8-PeCDF	101	40 - 135
13C-1,2,3,4,7,8-HxCDF	106	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	92	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

Notes:

WHO TEFs for human risk assessment based on the conclusions of the World Health Organization meeting in Geneva, Switzerland, June 2005

- CON Confirmation analysis
- E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu
Sample ID: HUH0028-07

Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 004	Work Order #....:	MLL0K2AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.92	Units....:	pg/g
Initial Wgt/Vol :	10.8 g	Analyst ID....:	Grandfield S. Virginia		

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>TEF FACTOR</u>	<u>TEQ CONCENTRATION</u>
2,3,7,8-TCDD	1.2	0.93	1.0	1.2
Total TCDD	20	0.93		
1,2,3,7,8-PeCDD	7.0	4.6	1.0	7.0
Total PeCDD	45	4.6		
1,2,3,4,7,8-HxCDD	18	4.6	0.1	1.8
1,2,3,6,7,8-HxCDD	69	4.6	0.1	6.9
1,2,3,7,8,9-HxCDD	31	4.6	0.1	3.1
Total HxCDD	470	4.6		
1,2,3,4,6,7,8-HpCDD	2000	E	0.01	20
Total HpCDD	3500			
OCDD	28000	E	0.0003	8.4
2,3,7,8-TCDF	1.6	CON	0.1	0.16
Total TCDF	19			
1,2,3,7,8-PeCDF	ND		0.03	0
2,3,4,7,8-PeCDF	ND		0.3	0
Total PeCDF	63			
1,2,3,4,7,8-HxCDF	36		0.1	3.6
1,2,3,6,7,8-HxCDF	19		0.1	1.9
2,3,4,6,7,8-HxCDF	9.5		0.1	0.95
1,2,3,7,8,9-HxCDF	ND		0.1	0
Total HxCDF	840			
1,2,3,4,6,7,8-HpCDF	690		0.01	6.9
1,2,3,4,7,8,9-HpCDF	60		0.01	0.60
Total HpCDF	2500			
OCDF	2000		0.0003	0.60
Total TEQ Concentration				63

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TestAmerica Honolulu
Sample ID: HUH0028-07

Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 004	Work Order #....:	MLL0K2AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.92	Units....:	pg/g
Initial Wgt/Vol :	10.8 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	91	40 - 135
13C-1,2,3,7,8-PeCDD	94	40 - 135
13C-1,2,3,6,7,8-HxCDD	78	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	99	40 - 135
13C-OCDD	100	40 - 135
13C-2,3,7,8-TCDF	96	40 - 135
13C-1,2,3,7,8-PeCDF	98	40 - 135
13C-1,2,3,4,7,8-HxCDF	110	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	99	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

Notes:

WHO TEFs for human risk assessment based on the conclusions of the World Health Organization meeting in Geneva, Switzerland, June 2005.

- CON Confirmation analysis.
- E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu
Sample ID: HUH0028-11

Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 005	Work Order #....:	MLL0L2AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Instrument ID....:	4D5
Prep Date....:	08/31/11	Analysis Date....:	09/03/11	% Moisture....:	
Prep Batch #:	1243100	Dilution Factor....:	0.96	Units....:	pg/g
Initial Wgt/Vol :	10.32 g	Analyst ID....:	Grandfield S. Virginia		

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>TEF FACTOR</u>	<u>TEQ CONCENTRATION</u>
2,3,7,8-TCDD	ND	0.97	1.0	0
Total TCDD	14	0.97		
1,2,3,7,8-PeCDD	ND	4.8	1.0	0
Total PeCDD	12	4.8		
1,2,3,4,7,8-HxCDD	8.4	4.8	0.1	0.84
1,2,3,6,7,8-HxCDD	33	4.8	0.1	3.3
1,2,3,7,8,9-HxCDD	22	4.8	0.1	2.2
Total HxCDD	200	4.8		
1,2,3,4,6,7,8-HpCDD	1100	4.8	0.01	11
Total HpCDD	1900	4.8		
OCDD	12000	E 9.7	0.0003	3.6
2,3,7,8-TCDF	ND	CON 0.97	0.1	0
Total TCDF	9.4	0.97		
1,2,3,7,8-PeCDF	ND	4.8	0.03	0
2,3,4,7,8-PeCDF	ND	4.8	0.3	0
Total PeCDF	49	4.8		
1,2,3,4,7,8-HxCDF	26	4.8	0.1	2.6
1,2,3,6,7,8-HxCDF	15	4.8	0.1	1.5
2,3,4,6,7,8-HxCDF	9.0	4.8	0.1	0.90
1,2,3,7,8,9-HxCDF	ND	4.8	0.1	0
Total HxCDF	530	4.8		
1,2,3,4,6,7,8-HpCDF	440	4.8	0.01	4.4
1,2,3,4,7,8,9-HpCDF	30	4.8	0.01	0.30
Total HpCDF	1500	4.8		
OCDF	1200	9.7	0.0003	0.36
Total TEQ Concentration				31

TestAmerica Honolulu
Sample ID: HUH0028-11

Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 005	Work Order #....:	MLL0L2AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Instrument ID....:	4D5
Prep Date....:	08/31/11	Analysis Date....:	09/03/11	% Moisture....:	
Prep Batch #:	1243100	Dilution Factor....:	0.96	Units....:	pg/g
Initial Wgt/Vol :	10.32 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	82	40 - 135
13C-1,2,3,7,8-PeCDD	80	40 - 135
13C-1,2,3,6,7,8-HxCDD	91	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	75	40 - 135
13C-OCDD	84	40 - 135
13C-2,3,7,8-TCDF	88	40 - 135
13C-1,2,3,7,8-PeCDF	79	40 - 135
13C-1,2,3,4,7,8-HxCDF	80	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	80	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

Notes:

WHO TEFs for human risk assessment based on the conclusions of the World Health Organization meeting in Geneva, Switzerland, June 2005.

- CON Confirmation analysis.
- E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu

Sample ID: HUH0028-12

Trace Level Organic Compounds

SW846 8290

Lot - Sample #....:	G1H120486 - 006	Work Order #....:	MLL0N2AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	1.71	Units....:	pg/g
Initial Wgt/Vol :	5.84 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	TEF FACTOR	TEQ CONCENTRATION
2,3,7,8-TCDD	ND		1.7	1.0	0
Total TCDD	22		1.7		
1,2,3,7,8-PeCDD	ND		8.6	1.0	0
Total PeCDD	ND		8.6		0
1,2,3,4,7,8-HxCDD	13		8.6	0.1	1.3
1,2,3,6,7,8-HxCDD	47		8.6	0.1	4.7
1,2,3,7,8,9-HxCDD	36		8.6	0.1	3.6
Total HxCDD	330		8.6		
1,2,3,4,6,7,8-HpCDD	1500		8.6	0.01	15
Total HpCDD	2600		8.6		
OCDD	17000	E	17	0.0003	5.1
2,3,7,8-TCDF	2.0	CON	1.7	0.1	0.20
Total TCDF	14		1.7		
1,2,3,7,8-PeCDF	ND		8.6	0.03	0
2,3,4,7,8-PeCDF	ND		8.6	0.3	0
Total PeCDF	28		8.6		
1,2,3,4,7,8-HxCDF	25		8.6	0.1	2.5
1,2,3,6,7,8-HxCDF	14		8.6	0.1	1.4
2,3,4,6,7,8-HxCDF	9.5		8.6	0.1	0.95
1,2,3,7,8,9-HxCDF	ND		8.6	0.1	0
Total HxCDF	500		8.6		
1,2,3,4,6,7,8-HpCDF	510		8.6	0.01	5.1
1,2,3,4,7,8,9-HpCDF	46		8.6	0.01	0.46
Total HpCDF	1700		8.6		
OCDF	1500		17	0.0003	0.45
Total TEQ Concentration					41

TestAmerica Honolulu
Sample ID: HUH0028-12

Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 006	Work Order #....:	MLL0N2AA	Matrix....:	SOLID
Date Sampled....:	08/02/11	Date Received....:	08/12/11	Instrument ID....:	3DS
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	1.71	Units....:	pg/g
Initial Wgt/Vol :	5.84 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	89	40 - 135
13C-1,2,3,7,8-PeCDD	98	40 - 135
13C-1,2,3,6,7,8-HxCDD	79	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	91	40 - 135
13C-OCDD	96	40 - 135
13C-2,3,7,8-TCDF	94	40 - 135
13C-1,2,3,7,8-PeCDF	102	40 - 135
13C-1,2,3,4,7,8-HxCDF	98	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	92	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

Notes:

WHO TEFs for human risk assessment based on the conclusions of the World Health Organization meeting in Geneva, Switzerland, June 2005.

- CON Confirmation analysis.
- E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu
 Sample ID: HUH0028-16
 Trace Level Organic Compounds
 SW846 8290

Lot - Sample #....:	G1H120486 - 007	Work Order #....:	MLL0P2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.95	Units....:	pg/g
Initial Wgt/Vol :	10.48 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	TEF FACTOR	TEQ CONCENTRATION
2,3,7,8-TCDD	ND		0.95	1.0	0
Total TCDD	9.2		0.95		
1,2,3,7,8-PeCDD	5.6		4.8	1.0	5.6
Total PeCDD	22		4.8		
1,2,3,4,7,8-HxCDD	16		4.8	0.1	1.6
1,2,3,6,7,8-HxCDD	130		4.8	0.1	13
1,2,3,7,8,9-HxCDD	45		4.8	0.1	4.5
Total HxCDD	620		4.8		
1,2,3,4,6,7,8-HpCDD	4900	D	95	0.01	49
Total HpCDD	9600		95		
OCDD	61000	D	190	0.0003	19
2,3,7,8-TCDF	ND	CON	0.95	0.1	0
Total TCDF	15		0.95		
1,2,3,7,8-PeCDF	ND		4.8	0.03	0
2,3,4,7,8-PeCDF	ND		4.8	0.3	0
Total PeCDF	49		4.8		
1,2,3,4,7,8-HxCDF	50		4.8	0.1	5.0
1,2,3,6,7,8-HxCDF	18		4.8	0.1	1.8
2,3,4,6,7,8-HxCDF	8.9		4.8	0.1	0.89
1,2,3,7,8,9-HxCDF	ND		4.8	0.1	0
Total HxCDF	1400		4.8		
1,2,3,4,6,7,8-HpCDF	1600	D	95	0.01	16
1,2,3,4,7,8,9-HpCDF	130	D	95	0.01	1.3
Total HpCDF	7900		95		
OCDF	6000	D	190	0.0003	1.8
Total TEQ Concentration					120

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TestAmerica Honolulu
 Sample ID: HUH0028-16

Trace Level Organic Compounds
 SW846 8290

Lot - Sample #....:	G1H120486 - 007	Work Order #....:	MLL0P2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.95	Units....:	pg/g
Initial Wgt/Vol :	10.48 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	87	40 - 135
13C-1,2,3,7,8-PeCDD	89	40 - 135
13C-1,2,3,6,7,8-HxCDD	82	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	87	40 - 135
13C-OCDD	91	40 - 135
13C-2,3,7,8-TCDF	92	40 - 135
13C-1,2,3,7,8-PeCDF	95	40 - 135
13C-1,2,3,4,7,8-HxCDF	97	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	96	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

Notes:

WHO TEFs for human risk assessment based on the conclusions of the World Health Organization meeting in Geneva, Switzerland, June 2005.

CON Confirmation analysis
 D Result was obtained from the analysis of a dilution.

TestAmerica Honolulu
Sample ID: HUH0028-17

Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 008	Work Order #....:	MLL0Q2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.97	Units....:	pg/g
Initial Wgt/Vol :	10.29 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	TEF FACTOR	TEQ CONCENTRATION
2,3,7,8-TCDD	1.4		0.97	1.0	1.4
Total TCDD	22		0.97		
1,2,3,7,8-PeCDD	14		4.9	1.0	14
Total PeCDD	86		4.9		
1,2,3,4,7,8-HxCDD	40		4.9	0.1	4.0
1,2,3,6,7,8-HxCDD	280		4.9	0.1	28
1,2,3,7,8,9-HxCDD	110		4.9	0.1	11
Total HxCDD	1400		4.9		
1,2,3,4,6,7,8-HpCDD	10000	D	97	0.01	100
Total HpCDD	20000		97		
OCDD	130000	E D	190	0.0003	39
2,3,7,8-TCDF	ND	CON	0.97	0.1	0
Total TCDF	31		0.97		
1,2,3,7,8-PeCDF	ND		4.9	0.03	0
2,3,4,7,8-PeCDF	ND		4.9	0.3	0
Total PeCDF	110		4.9		
1,2,3,4,7,8-HxCDF	130		4.9	0.1	13
1,2,3,6,7,8-HxCDF	46		4.9	0.1	4.6
2,3,4,6,7,8-HxCDF	28		4.9	0.1	2.8
1,2,3,7,8,9-HxCDF	ND		4.9	0.1	0
Total HxCDF	3500		4.9		
1,2,3,4,6,7,8-HpCDF	3400	D	97	0.01	34
1,2,3,4,7,8,9-HpCDF	290	D	97	0.01	2.9
Total HpCDF	17000		97		
OCDF	10000	D	190	0.0003	3.0
Total TEQ Concentration					260

TestAmerica Honolulu
Sample ID: HUH0028-17

Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 008	Work Order #....:	MLL0Q2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.97	Units....:	pg/g
Initial Wgt/Vol :	10.29 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	95	40 - 135
13C-1,2,3,7,8-PeCDD	100	40 - 135
13C-1,2,3,6,7,8-HxCDD	87	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	100	40 - 135
13C-OCDD	131	40 - 135
13C-2,3,7,8-TCDF	102	40 - 135
13C-1,2,3,7,8-PeCDF	106	40 - 135
13C-1,2,3,4,7,8-HxCDF	95	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	93	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight

Notes:

WHO TEFs for human risk assessment based on the conclusions of the World Health Organization meeting in Geneva, Switzerland, June 2005.

- CON Confirmation analysis.
- D Result was obtained from the analysis of a dilution
- E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu
Sample ID: HUH0028-21

Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 009	Work Order #....:	MLL0R2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	4.7	Units....:	pg/g
Initial Wgt/Vol :	10.63 g	Analyst ID....:	Grandfield S. Virginia		

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>TEF FACTOR</u>	<u>TEQ CONCENTRATION</u>
2,3,7,8-TCDD	6.3	4.7	1.0	6.3
Total TCDD	96	4.7		
1,2,3,7,8-PeCDD	49	24	1.0	49
Total PeCDD	300	24		
1,2,3,4,7,8-HxCDD	120	24	0.1	12
1,2,3,6,7,8-HxCDD	640	24	0.1	64
1,2,3,7,8,9-HxCDD	260	24	0.1	26
Total HxCDD	3400	24		
1,2,3,4,6,7,8-HpCDD	30000	D	0.01	300
Total HpCDD	61000			
OCDD	500000	E D	0.0003	150
2,3,7,8-TCDF	ND	CON	0.1	0
Total TCDF	240			
1,2,3,7,8-PeCDF	ND		0.03	0
2,3,4,7,8-PeCDF	ND		0.3	0
Total PeCDF	330			
1,2,3,4,7,8-HxCDF	410		0.1	41
1,2,3,6,7,8-HxCDF	140		0.1	14
2,3,4,6,7,8-HxCDF	73		0.1	7.3
1,2,3,7,8,9-HxCDF	ND		0.1	0
Total HxCDF	9900			
1,2,3,4,6,7,8-HpCDF	7100	D	0.01	71
1,2,3,4,7,8,9-HpCDF	680	D	0.01	6.8
Total HpCDF	36000			
OCDF	27000	D	0.0003	8.1
Total TEQ Concentration				760

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TestAmerica Honolulu
 Sample ID: HUH0028-21

Trace Level Organic Compounds
 SW846 8290

Lot - Sample #....:	GIH120486 - 009	Work Order #....:	MLL0R2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	4.7	Units....:	pg/g
Initial Wgt/Vol :	10.63 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	86	40 - 135
13C-1,2,3,7,8-PeCDD	83	40 - 135
13C-1,2,3,6,7,8-HxCDD	78	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	97	40 - 135
13C-OCDD	94	40 - 135
13C-2,3,7,8-TCDF	97	40 - 135
13C-1,2,3,7,8-PeCDF	102	40 - 135
13C-1,2,3,4,7,8-HxCDF	89	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	106	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight

Notes:

WHO TEFs for human risk assessment based on the conclusions of the World Health Organization meeting in Geneva, Switzerland, June 2005

- CON Confirmation analysis.
- D Result was obtained from the analysis of a dilution.
- E Estimated result Result concentration exceeds the calibration range.

TestAmerica Honolulu

Sample ID: HUH0028-22

Trace Level Organic Compounds

SW846 8290

Lot - Sample #....:	G1H120486 - 010	Work Order #....:	MLLOT2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Instrument ID....:	4D5
Prep Date....:	08/31/11	Analysis Date....:	09/03/11	% Moisture....:	
Prep Batch #:	1243100	Dilution Factor....:	4.48	Units....:	pg/g
Initial Wgt/Vol :	11.17 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT	REPORTING LIMIT	TEF FACTOR	TEQ CONCENTRATION
2,3,7,8-TCDD	7.6	4.5	1.0	7.6
Total TCDD	280	4.5		
1,2,3,7,8-PeCDD	93	22	1.0	93
Total PeCDD	760	22		
1,2,3,4,7,8-HxCDD	270	22	0.1	27
1,2,3,6,7,8-HxCDD	1900	22	0.1	190
1,2,3,7,8,9-HxCDD	570	22	0.1	57
Total HxCDD	8600	22		
1,2,3,4,6,7,8-HpCDD	54000 D	450	0.01	540
Total HpCDD	100000	450		
OCDD	460000 E D	900	0.0003	140
2,3,7,8-TCDF	6.3 CON	4.5	0.1	0.63
Total TCDF	760	4.5		
1,2,3,7,8-PeCDF	43	22	0.03	1.3
2,3,4,7,8-PeCDF	33	22	0.3	9.9
Total PeCDF	1900	22		
1,2,3,4,7,8-HxCDF	820	22	0.1	82
1,2,3,6,7,8-HxCDF	270	22	0.1	27
2,3,4,6,7,8-HxCDF	190	22	0.1	19
1,2,3,7,8,9-HxCDF	ND	22	0.1	0
Total HxCDF	29000	22		
1,2,3,4,6,7,8-HpCDF	20000 D	450	0.01	200
1,2,3,4,7,8,9-HpCDF	1800 D	450	0.01	18
Total HpCDF	110000	450		
OCDF	35000 D	900	0.0003	10
Total TEQ Concentration				1400

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TestAmerica Honolulu
Sample ID: HUH0028-22

Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 010	Work Order #....:	MLL0T2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Instrument ID....:	4D5
Prep Date....:	08/31/11	Analysis Date....:	09/03/11	% Moisture....:	
Prep Batch #:	1243100	Dilution Factor....:	4.48	Units....:	pg/g
Initial Wgt/Vol :	11.17 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	80	40 - 135
13C-1,2,3,7,8-PeCDD	75	40 - 135
13C-1,2,3,6,7,8-HxCDD	74	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	102	40 - 135
13C-OCDD	197 *	40 - 135
13C-2,3,7,8-TCDF	84	40 - 135
13C-1,2,3,7,8-PeCDF	75	40 - 135
13C-1,2,3,4,7,8-HxCDF	72	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	78	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

Notes:

WHO TEFs for human risk assessment based on the conclusions of the World Health Organization meeting in Geneva, Switzerland, June 2005.

- * Surrogate recovery is outside stated control limits.
- CON Confirmation analysis.
- D Result was obtained from the analysis of a dilution.
- E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu
Sample ID: HUH0028-26
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 011	Work Order #....:	MLL0V2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.89	Units....:	pg/g
Initial Wgt/Vol :	11.16 g	Analyst ID....:	Grandfield S. Virginia		

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>TEF FACTOR</u>	<u>TEQ CONCENTRATION</u>
2,3,7,8-TCDD	1.0	0.90	1.0	1.0
Total TCDD	26	0.90		
1,2,3,7,8-PeCDD	11	4.5	1.0	11
Total PeCDD	71	4.5		
1,2,3,4,7,8-HxCDD	25	4.5	0.1	2.5
1,2,3,6,7,8-HxCDD	170	4.5	0.1	17
1,2,3,7,8,9-HxCDD	67	4.5	0.1	6.7
Total HxCDD	870	4.5		
1,2,3,4,6,7,8-HpCDD	6500	D	0.01	65
Total HpCDD	13000			
OCDD	94000	E D	0.0003	28
2,3,7,8-TCDF	1.6	CON	0.1	0.16
Total TCDF	23			
1,2,3,7,8-PeCDF	ND		0.03	0
2,3,4,7,8-PeCDF	ND		0.3	0
Total PeCDF	87			
1,2,3,4,7,8-HxCDF	85		0.1	8.5
1,2,3,6,7,8-HxCDF	34		0.1	3.4
2,3,4,6,7,8-HxCDF	22		0.1	2.2
1,2,3,7,8,9-HxCDF	ND		0.1	0
Total HxCDF	2200			
1,2,3,4,6,7,8-HpCDF	1800	D	0.01	18
1,2,3,4,7,8,9-HpCDF	160	D	0.01	1.6
Total HpCDF	9500			
OCDF	6300	D	0.0003	1.9
Total TEQ Concentration				170

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TestAmerica Honolulu
Sample ID: HUH0028-26
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 011	Work Order #....:	MLL0V2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.89	Units.....:	pg/g
Initial Wgt/Vol :	11.16 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	82	40 - 135
13C-1,2,3,7,8-PcCDD	84	40 - 135
13C-1,2,3,6,7,8-HxCDD	78	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	90	40 - 135
13C-OCDD	108	40 - 135
13C-2,3,7,8-TCDF	91	40 - 135
13C-1,2,3,7,8-PcCDF	89	40 - 135
13C-1,2,3,4,7,8-HxCDF	91	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	97	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight

Notes: _____

WHO TEFs for human risk assessment based on the conclusions of the World Health Organization meeting in Geneva, Switzerland, June 2005.

- CON Confirmation analysis.
- D Result was obtained from the analysis of a dilution
- E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu

Sample ID: HUH0028-27

Trace Level Organic Compounds

SW846 8290

Lot - Sample #....:	G1H120486 - 012	Work Order #....:	MLLOW2AA	Matrix.....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.98	Units.....:	pg/g
Initial Wgt/Vol :	10.18 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	TEF FACTOR	TEQ CONCENTRATION
2,3,7,8-TCDD	1.1		0.98	1.0	1.1
Total TCDD	24		0.98		
1,2,3,7,8-PeCDD	12		4.9	1.0	12
Total PeCDD	77		4.9		
1,2,3,4,7,8-HxCDD	26		4.9	0.1	2.6
1,2,3,6,7,8-HxCDD	210		4.9	0.1	21
1,2,3,7,8,9-HxCDD	75		4.9	0.1	7.5
Total HxCDD	1000		4.9		
1,2,3,4,6,7,8-HpCDD	7100	D	98	0.01	71
Total HpCDD	14000		98		
OCDD	99000	E D	200	0.0003	30
2,3,7,8-TCDF	1.2	CON	0.98	0.1	0.12
Total TCDF	29		0.98		
1,2,3,7,8-PeCDF	ND		4.9	0.03	0
2,3,4,7,8-PeCDF	ND		4.9	0.3	0
Total PeCDF	96		4.9		
1,2,3,4,7,8-HxCDF	97		4.9	0.1	9.7
1,2,3,6,7,8-HxCDF	38		4.9	0.1	3.8
2,3,4,6,7,8-HxCDF	20		4.9	0.1	2.0
1,2,3,7,8,9-HxCDF	ND		4.9	0.1	0
Total HxCDF	2600		4.9		
1,2,3,4,6,7,8-HpCDF	2500	D	98	0.01	25
1,2,3,4,7,8,9-HpCDF	210	D	98	0.01	2.1
Total HpCDF	13000		98		
OCDF	7200	D	200	0.0003	2.2
Total TEQ Concentration					190

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TestAmerica Honolulu
Sample ID: HUH0028-27
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 012	Work Order #....:	MLL0W2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.98	Units....:	pg/g
Initial Wgt/Vol :	10.18 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	75	40 - 135
13C-1,2,3,7,8-PeCDD	83	40 - 135
13C-1,2,3,6,7,8-HxCDD	68	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	82	40 - 135
13C-OCDD	100	40 - 135
13C-2,3,7,8-TCDF	89	40 - 135
13C-1,2,3,7,8-PeCDF	95	40 - 135
13C-1,2,3,4,7,8-HxCDF	83	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	70	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

Notes:

WHO TEFs for human risk assessment based on the conclusions of the World Health Organization meeting in Geneva, Switzerland, June 2005.

- CON Confirmation analysis.
- D Result was obtained from the analysis of a dilution.
- E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu
Sample ID: HUH0028-28

Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 013	Work Order #....:	MLLOX2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.95	Units.....:	pg/g
Initial Wgt/Vol :	10.45 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	TEF FACTOR	TEQ CONCENTRATION
2,3,7,8-TCDD	1.1		0.96	1.0	1.1
Total TCDD	23		0.96		
1,2,3,7,8-PeCDD	11		4.8	1.0	11
Total PeCDD	59		4.8		
1,2,3,4,7,8-HxCDD	24		4.8	0.1	2.4
1,2,3,6,7,8-HxCDD	200		4.8	0.1	20
1,2,3,7,8,9-HxCDD	74		4.8	0.1	7.4
Total HxCDD	980		4.8		
1,2,3,4,6,7,8-HpCDD	6600	D	96	0.01	66
Total HpCDD	14000		96		
OCDD	100000	E D	190	0.0003	30
2,3,7,8-TCDF	1.1	Q CON	0.96	0.1	0.11
Total TCDF	25		0.96		
1,2,3,7,8-PeCDF	ND		4.8	0.03	0
2,3,4,7,8-PeCDF	ND		4.8	0.3	0
Total PeCDF	93		4.8		
1,2,3,4,7,8-HxCDF	94		4.8	0.1	9.4
1,2,3,6,7,8-HxCDF	38		4.8	0.1	3.8
2,3,4,6,7,8-HxCDF	22		4.8	0.1	2.2
1,2,3,7,8,9-HxCDF	ND		4.8	0.1	0
Total HxCDF	2300		4.8		
1,2,3,4,6,7,8-HpCDF	2000	D	96	0.01	20
1,2,3,4,7,8,9-HpCDF	160	D	96	0.01	1.6
Total HpCDF	10000		96		
OCDF	7200	D	190	0.0003	2.2
Total TEQ Concentration					180

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TestAmerica Honolulu
Sample ID: HUH0028-28
Trace Level Organic Compounds
SW346 8290

Lot - Sample #....:	G1H120486 - 013	Work Order #....:	MLL0X2AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.95	Units....:	pg/g
Initial Wgt/Vol :	10.45 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	76	40 - 135
13C-1,2,3,7,8-PeCDD	83	40 - 135
13C-1,2,3,6,7,8-HxCDD	66	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	94	40 - 135
13C-OCDD	98	40 - 135
13C-2,3,7,8-TCDF	89	40 - 135
13C-1,2,3,7,8-PeCDF	93	40 - 135
13C-1,2,3,4,7,8-HxCDF	79	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	96	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

Notes:

WHO TEFs for human risk assessment based on the conclusions of the World Health Organization meeting in Geneva, Switzerland, June 2005.

- CON Confirmation analysis.
- D Result was obtained from the analysis of a dilution.
- E Estimated result Result concentration exceeds the calibration range.
- Q Estimated maximum possible concentration (EMPC)

TestAmerica Honolulu
Sample ID: HUH0028-29
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 014	Work Order #....:	MLL002AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.88	Units.....:	pg/g
Initial Wgt/Vol :	11.27 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	TEF FACTOR	TEQ CONCENTRATION
2,3,7,8-TCDD	ND		0.89	1.0	0
Total TCDD	15		0.89		
1,2,3,7,8-PeCDD	7.0		4.4	1.0	7.0
Total PeCDD	32		4.4		
1,2,3,4,7,8-HxCDD	15		4.4	0.1	1.5
1,2,3,6,7,8-HxCDD	110		4.4	0.1	11
1,2,3,7,8,9-HxCDD	43		4.4	0.1	4.3
Total HxCDD	590		4.4		
1,2,3,4,6,7,8-HpCDD	4300	D	44	0.01	43
Total HpCDD	7900		44		
OCDD	69000	E D	89	0.0003	21
2,3,7,8-TCDF	ND	CON	0.89	0.1	0
Total TCDF	21		0.89		
1,2,3,7,8-PeCDF	ND		4.4	0.03	0
2,3,4,7,8-PeCDF	ND		4.4	0.3	0
Total PeCDF	72		4.4		
1,2,3,4,7,8-HxCDF	62		4.4	0.1	6.2
1,2,3,6,7,8-HxCDF	26		4.4	0.1	2.6
2,3,4,6,7,8-HxCDF	11		4.4	0.1	1.1
1,2,3,7,8,9-HxCDF	ND		4.4	0.1	0
Total HxCDF	1800		4.4		
1,2,3,4,6,7,8-HpCDF	1500	D	44	0.01	15
1,2,3,4,7,8,9-HpCDF	130	D	44	0.01	1.3
Total HpCDF	7500		44		
OCDF	5200	D	89	0.0003	1.6
Total TEQ Concentration					120

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TestAmerica Honolulu
Sample ID: HUH0028-29

Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	GIH120486 - 014	Work Order #....:	MLL002AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.88	Units....:	pg/g
Initial Wgt/Vol :	11.27 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	75	40 - 135
13C-1,2,3,7,8-PeCDD	80	40 - 135
13C-1,2,3,6,7,8-HxCDD	71	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	81	40 - 135
13C-OCDD	98	40 - 135
13C-2,3,7,8-TCDF	88	40 - 135
13C-1,2,3,7,8-PeCDF	91	40 - 135
13C-1,2,3,4,7,8-HxCDF	83	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	83	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

Notes:

WHO TEFs for human risk assessment based on the conclusions of the World Health Organization meeting in Geneva, Switzerland, June 2005.

- CON Confirmation analysis.
- D Result was obtained from the analysis of a dilution.
- E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu

Sample ID: HUH0028-30

Trace Level Organic Compounds

SW846 8290

Lot - Sample #....:	G1H120486 - 015	Work Order #....:	MLL012AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.98	Units....:	pg/g
Initial Wgt/Vol :	10.14 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	TEF FACTOR	TEQ CONCENTRATION
2,3,7,8-TCDD	ND		0.99	1.0	0
Total TCDD	17		0.99		
1,2,3,7,8-PeCDD	9.9		4.9	1.0	9.9
Total PeCDD	53		4.9		
1,2,3,4,7,8-HxCDD	26		4.9	0.1	2.6
1,2,3,6,7,8-HxCDD	180		4.9	0.1	18
1,2,3,7,8,9-HxCDD	66		4.9	0.1	6.6
Total HxCDD	920		4.9		
1,2,3,4,6,7,8-HpCDD	6300	D	49	0.01	63
Total HpCDD	11000		49		
OCDD	95000	E D	99	0.0003	28
2,3,7,8-TCDF	ND	CON	0.99	0.1	0
Total TCDF	27		0.99		
1,2,3,7,8-PeCDF	ND		4.9	0.03	0
2,3,4,7,8-PeCDF	ND		4.9	0.3	0
Total PeCDF	95		4.9		
1,2,3,4,7,8-HxCDF	88		4.9	0.1	8.8
1,2,3,6,7,8-HxCDF	34		4.9	0.1	3.4
2,3,4,6,7,8-HxCDF	19		4.9	0.1	1.9
1,2,3,7,8,9-HxCDF	ND		4.9	0.1	0
Total HxCDF	2600		4.9		
1,2,3,4,6,7,8-HpCDF	2300	D	49	0.01	23
1,2,3,4,7,8,9-HpCDF	190	D	49	0.01	1.9
Total HpCDF	11000		49		
OCDF	7000	D	99	0.0003	2.1
Total TEQ Concentration					170

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TestAmerica Honolulu

Sample ID: HUH0028-30

Trace Level Organic Compounds

SW846 8290

Lot - Sample #....:	G1H120486 - 015	Work Order #....:	MLL012AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.98	Units....:	pg/g
Initial Wgt/Vol :	10.14 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	58	40 - 135
13C-1,2,3,7,8-PeCDD	62	40 - 135
13C-1,2,3,6,7,8-HxCDD	52	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	61	40 - 135
13C-OCDD	78	40 - 135
13C-2,3,7,8-TCDF	65	40 - 135
13C-1,2,3,7,8-PeCDF	69	40 - 135
13C-1,2,3,4,7,8-HxCDF	64	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	59	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

Notes:

WHO TEFs for human risk assessment based on the conclusions of the World Health Organization meeting in Geneva, Switzerland, June 2005.

CON Confirmation analysis.
D Result was obtained from the analysis of a dilution.
E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu

Sample ID: HUH0028-31

Trace Level Organic Compounds

SW846 8290

Lot - Sample #....:	G1H120486 - 016	Work Order #....:	MLL022AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.95	Units....:	pg/g
Initial Wgt/Vol :	10.46 g	Analyst ID....:	Grandfield S. Virginia		

PARAMETER	RESULT		REPORTING LIMIT	TEF FACTOR	TEQ CONCENTRATION
2,3,7,8-TCDD	ND		0.96	1.0	0
Total TCDD	12		0.96		
1,2,3,7,8-PeCDD	6.9		4.8	1.0	6.9
Total PeCDD	31		4.8		
1,2,3,4,7,8-HxCDD	15		4.8	0.1	1.5
1,2,3,6,7,8-HxCDD	100		4.8	0.1	10.0
1,2,3,7,8,9-HxCDD	45		4.8	0.1	4.5
Total HxCDD	600		4.8		
1,2,3,4,6,7,8-HpCDD	4100	D	48	0.01	41
Total HpCDD	7400		48		
OCDD	62000	E D	96	0.0003	19
2,3,7,8-TCDF	ND	CON	0.96	0.1	0
Total TCDF	14		0.96		
1,2,3,7,8-PeCDF	ND		4.8	0.03	0
2,3,4,7,8-PeCDF	ND		4.8	0.3	0
Total PeCDF	64		4.8		
1,2,3,4,7,8-HxCDF	53		4.8	0.1	5.3
1,2,3,6,7,8-HxCDF	24		4.8	0.1	2.4
2,3,4,6,7,8-HxCDF	12		4.8	0.1	1.2
1,2,3,7,8,9-HxCDF	ND		4.8	0.1	0
Total HxCDF	1500		4.8		
1,2,3,4,6,7,8-HpCDF	1200	D	48	0.01	12
1,2,3,4,7,8,9-HpCDF	110	D	48	0.01	1.1
Total HpCDF	5700		48		
OCDF	4200	D	96	0.0003	1.3
Total TEQ Concentration					110

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TestAmerica Honolulu
Sample ID: HUH0028-31
Trace Level Organic Compounds
SW846 8290

Lot - Sample #....:	G1H120486 - 016	Work Order #....:	MLL022AA	Matrix....:	SOLID
Date Sampled....:	08/03/11	Date Received....:	08/12/11	Instrument ID....:	3D5
Prep Date....:	08/29/11	Analysis Date....:	08/31/11	% Moisture....:	
Prep Batch #:	1241179	Dilution Factor....:	0.95	Units....:	pg/g
Initial Wgt/Vol :	10.46 g	Analyst ID....:	Grandfield S. Virginia		

<u>INTERNAL STANDARDS</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	60	40 - 135
13C-1,2,3,7,8-PeCDD	61	40 - 135
13C-1,2,3,6,7,8-HxCDD	54	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	61	40 - 135
13C-OCDD	69	40 - 135
13C-2,3,7,8-TCDF	68	40 - 135
13C-1,2,3,7,8-PeCDF	69	40 - 135
13C-1,2,3,4,7,8-HxCDF	66	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	66	40 - 135

QUALIFIERS

Results and reporting limits have been adjusted for dry weight.

Notes:

WHO TEFs for human risk assessment based on the conclusions of the World Health Organization meeting in Geneva, Switzerland, June 2005.

- CON Confirmation analysis
- D Result was obtained from the analysis of a dilution.
- E Estimated result. Result concentration exceeds the calibration range.

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Shipping and Receiving Documents

Subcontract Order - TestAmerica Honolulu (HUH0028)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0028**

SENDING LABORATORY:

TestAmerica Honolulu
 99-193 Aiea Heights Drive, Suite 121
 Aiea, HI 96701
 Phone: 808-486-5227
 Fax: 808-486-2456
 Project Manager: Margie Pascua Thach
 Client: Tetra Tech EM Inc.

RECEIVING LABORATORY:

TestAmerica West Sacramento
 880 Riverside Parkway
 West Sacramento, CA 95605
 Phone : (916) 373-5600
 Fax: (916) 372-1059
 Project Location: Hawaii
 Receipt Temperature: 6 °C Ice: Y / N

Please report by 09/02/11 ^{5:00 AM} if possible. MPT 08/10/11

8290 Dioxin: 38 samples for COPC, 2 samples for combined PMA COPC. 8015 DRO/RRO: 10 samples for COPC, 2 samples for combined PMA COPC. For total Metals, first metal is \$22.50, succeeding metals is \$10, except for Mercury is \$35.

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
----------	-------	-----	---------	----------------	-------	----------

Sample ID: HUH0028-01 (PMAK-DU3-A - Solid/Soil) Sampled: 08/02/11 10:45 As PBET pending total results

Dioxins - Furans 8290	%	09/15/11	09/01/11 10:45	\$637.50	0%	
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Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (C)

Sample ID: HUH0028-02 (PMAK-DU3-B - Solid/Soil) Sampled: 08/02/11 10:50

Dioxins - Furans 8290	%	09/15/11	09/01/11 10:50	\$637.50	0%	
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Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (C)

Sample ID: HUH0028-06 (PMAK-DU8-A - Solid/Soil) Sampled: 08/02/11 12:10 As PBET pending total results

Dioxins - Furans 8290	%	09/15/11	09/01/11 12:10	\$637.50	0%	
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Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (C)

Sample ID: HUH0028-07 (PMAK-DU8-B - Solid/Soil) Sampled: 08/02/11 12:15

Dioxins - Furans 8290	%	09/15/11	09/01/11 12:15	\$637.50	0%	
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Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (C)

[Signature]
 Released By

8/10/11 12:35
 Date/Time

[Signature]
 Received By

8/12/11 10:50
 Date/Time

Subcontract Order - TestAmerica Honolulu (HUH0028)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub: HON HUH0028**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0028-11 (PMAK-DU9-A - Solid/Soil) Sampled: 08/02/11 15:50 As PBET pending total results						
Dioxins - Furans 8290	%	09/15/11	09/01/11 15:50	\$637.50	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (C)						
Sample ID: HUH0028-12 (PMAK-DU9-B - Solid/Soil) Sampled: 08/02/11 15:55						
Dioxins - Furans 8290	%	09/15/11	09/01/11 15:55	\$637.50	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (C)						
Sample ID: HUH0028-16 (PMAK-DU16-A - Solid/Soil) Sampled: 08/03/11 09:50 As PBET pending total results						
Dioxins - Furans 8290	%	09/15/11	09/02/11 09:50	\$637.50	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (C)						
Sample ID: HUH0028-17 (PMAK-DU16-B - Solid/Soil) Sampled: 08/03/11 09:55						
Dioxins - Furans 8290	%	09/15/11	09/02/11 09:55	\$637.50	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (C)						
Sample ID: HUH0028-21 (PMAK-DU13-A - Solid/Soil) Sampled: 08/03/11 10:45						
Dioxins - Furans 8290	%	09/15/11	09/02/11 10:45	\$637.50	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (C)						
Sample ID: HUH0028-22 (PMAK-DU13-B - Solid/Soil) Sampled: 08/03/11 10:50						
Dioxins - Furans 8290	%	09/15/11	09/02/11 10:50	\$637.50	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (C)						

Subcontract Order - TestAmerica Honolulu (HUH0028)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0028**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0028-26 (PMAK-DU4-A-P - Solid/Soil) Sampled: 08/03/11 15:00 As PBET pending total results						
Dioxins - Furans 8290	%	09/15/11	09/02/11 15:00	\$637.50	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (C)						
Sample ID: HUH0028-27 (PMAK-DU4-A-T1 - Solid/Soil) Sampled: 08/03/11 15:00 As PBET pending total results						
Dioxins - Furans 8290	%	09/15/11	09/02/11 15:00	\$637.50	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (C)						
Sample ID: HUH0028-28 (PMAK-DU4-A-T2 - Solid/Soil) Sampled: 08/03/11 15:00 As PBET pending total results						
Dioxins - Furans 8290	%	09/15/11	09/02/11 15:00	\$637.50	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (C)						
Sample ID: HUH0028-29 (PMAK-DU4-B-P - Solid/Soil) Sampled: 08/03/11 15:05						
Dioxins - Furans 8290	%	09/15/11	09/02/11 15:05	\$637.50	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (C)						
Sample ID: HUH0028-30 (PMAK-DU4-B-T1 - Solid/Soil) Sampled: 08/03/11 15:05						
Dioxins - Furans 8290	%	09/15/11	09/02/11 15:05	\$637.50	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (C)						
Sample ID: HUH0028-31 (PMAK-DU4-B-T2 - Solid/Soil) Sampled: 08/03/11 15:05						
Dioxins - Furans 8290	%	09/15/11	09/02/11 15:05	\$637.50	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (C)						

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

LOT RECEIPT CHECKLIST TestAmerica West Sacramento

CLIENT TAL Honolulu PM DA LOG# 72205

LOT# (QUANTIMS ID) 51H120486 QUOTE# 73910 LOCATION W25D

DATE RECEIVED 8/12/11 TIME RECEIVED 900 Checked (✓)

DELIVERED BY FEDEX ON TRAC OTHER

GOLDENSTATE UPS EZ PARCEL

TAL COURIER TAL SF CLIENT

SHIPPING CONTAINER(S) TAL CLIENT N/A

CUSTODY SEAL STATUS INTACT BROKEN N/A

CUSTODY SEAL #(S) NA

COC #(S) NA

TEMPERATURE BLANK Observed: NA Corrected: NA

SAMPLE TEMPERATURE - (TEMPERATURES ARE IN °C)

Observed: 656 Average 6 Corrected Average 6

LABORATORY THERMOMETER ID:

IR UNIT: #4 #5 OTHER

JS 8/12/11
Initials Date

pH MEASURED YES ANOMALY N/A

LABELED BY.....

LABELS CHECKED BY.....

PEER REVIEW NA

SHORT HOLD TEST NOTIFICATION SAMPLE RECEIVING

WETCHEM N/A

VOA-ENCORES N/A

METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL N/A

COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH N/A
APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES

CLOUSEAU TEMPERATURE EXCEEDED (2 °C – 6 °C)* N/A

WET ICE BLUE ICE GEL PACK NO COOLING AGENTS USED PM NOTIFIED

JS 8/12/11 8/12/11
Initials Date

Notes _____

*1 Acceptable temperature range for State of Wisconsin samples is ≤4°C.

Lot ID: 61H120486

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VOA*	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
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Encore																				
Folder/filter																				
PUF																				
Petri/Filter																				
XAD Trap																				
Ziploc																				

h = hydrochloric acid s = sulfuric acid na = sodium hydroxide n = nitric acid zn = zinc acetate

Number of VOAs with air bubbles present / total number of VOA's

From: (808) 486-5227
Sample Control
TestAmerica Honolulu
99-193 AIEA HEIGHTS DRIVE
SUITE 121
AIEA, HI 96701

Origin ID: HNLA



J11201104290225

Ship Date: 11AUG11
ActWgt: 25.0 LB
CAD: 2315095/NET3180

Delivery Address Bar Code



SHIP TO: (916) 373-5600 **BILL THIRD PARTY**
Sample Receiving
TestAmerica - West Sacramento
880 Riverside Parkway

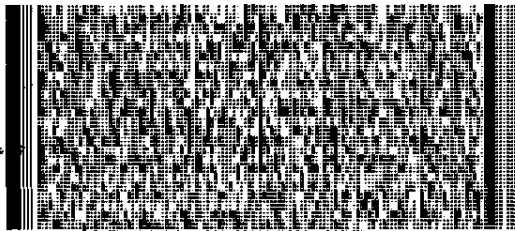
West Sacramento, CA 95605

Ref # 162-260
Invoice #
PO #
Dept #

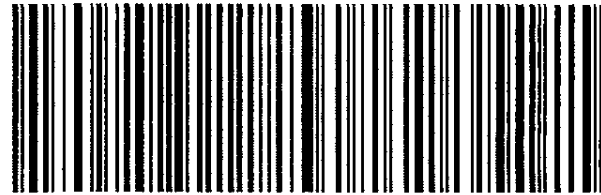
FRI - 12 AUG A1
STANDARD OVERNIGHT

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0201

95605
CA-US
SMF



WD BLUA



50FG1EEE7/F5F4

Animal & Plant Health Insp. Serv.
Plant Protection & Quarantine
LIMITED PERMIT NO.
OAHU S-0019

Movement Authorized By

Federal Quarantine 330.300

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2. Fold the printed page along the horizontal line.
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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: 580-27995-1

Client Project/Site: HUH0028

For:

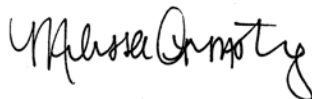
TestAmerica Laboratories, Inc

99-193 Aiea Heights Drive

Suite 121

Aiea, Hawaii 96701

Attn: Margie F Pascua



Authorized for release by:

08/29/2011 01:57:28 PM

Melissa Armstrong

Project Manager I

melissa.armstrong@testamericainc.com

Designee for

Pam Johnson

Project Manager I

pamr.johnson@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.



LINKS

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Visit us at:

www.testamericainc.com



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Case Narrative

Client: TestAmerica Laboratories, Inc
Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Job ID: 580-27995-1

Laboratory: TestAmerica Seattle

Narrative

Receipt

All samples were received in good condition within temperature requirements.

Metals - Method 6010

Limited volume submitted for sample 580-27995-2; only 2 jars provided...a 5g container for Hg, and the container used contained only 5g. Reporting limits have been adjusted accordingly.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 580-93644 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.



Definitions/Glossary

Client: TestAmerica Laboratories, Inc
Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
F	MS or MSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit (Dioxin)
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or method detection limit if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-01

Lab Sample ID: 580-27995-1

Date Collected: 08/02/11 10:45

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11		5.8		mg/Kg		08/23/11 16:00	08/24/11 11:51	10
Lead	25		2.9		mg/Kg		08/23/11 16:00	08/24/11 11:51	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.44		0.018		mg/Kg		08/26/11 09:37	08/26/11 14:02	10



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-02

Lab Sample ID: 580-27995-2

Date Collected: 08/02/11 10:50

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	28		11		mg/Kg		08/23/11 16:00	08/24/11 11:58	10
Lead	28		5.4		mg/Kg		08/23/11 16:00	08/24/11 11:58	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.82		0.019		mg/Kg		08/26/11 09:37	08/26/11 14:08	10



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-03

Lab Sample ID: 580-27995-3

Date Collected: 08/02/11 10:55

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		6.0		mg/Kg		08/23/11 16:00	08/24/11 12:04	10
Lead	6.8		3.0		mg/Kg		08/23/11 16:00	08/24/11 12:04	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.49		0.018		mg/Kg		08/26/11 09:37	08/26/11 14:09	10



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-06

Lab Sample ID: 580-27995-6

Date Collected: 08/02/11 12:10

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	32		5.6		mg/Kg		08/23/11 16:00	08/24/11 12:26	10
Lead	72		2.8		mg/Kg		08/23/11 16:00	08/24/11 12:26	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.25		0.019		mg/Kg		08/26/11 09:37	08/26/11 14:11	10



Client Sample Results

Client: TestAmerica Laboratories, Inc
Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-07

Lab Sample ID: 580-27995-7

Date Collected: 08/02/11 12:15

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.9		5.8		mg/Kg		08/23/11 16:00	08/24/11 12:32	10
Lead	160		2.9		mg/Kg		08/23/11 16:00	08/24/11 12:32	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.69		0.020		mg/Kg		08/26/11 09:37	08/26/11 14:13	10

Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-08

Lab Sample ID: 580-27995-8

Date Collected: 08/02/11 12:20

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.8		mg/Kg		08/23/11 16:00	08/24/11 12:38	10
Lead	240		2.9		mg/Kg		08/23/11 16:00	08/24/11 12:38	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.72		0.019		mg/Kg		08/26/11 09:37	08/26/11 14:19	10



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-11

Lab Sample ID: 580-27995-11

Date Collected: 08/02/11 15:50

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.8		6.5		mg/Kg		08/23/11 16:00	08/24/11 12:45	10
Lead	69		3.2		mg/Kg		08/23/11 16:00	08/24/11 12:45	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.38		0.017		mg/Kg		08/26/11 09:37	08/26/11 14:21	10



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-12

Lab Sample ID: 580-27995-12

Date Collected: 08/02/11 15:55

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12		5.7		mg/Kg		08/23/11 16:00	08/24/11 12:51	10
Lead	270		2.8		mg/Kg		08/23/11 16:00	08/24/11 12:51	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.46		0.019		mg/Kg		08/26/11 09:37	08/26/11 14:23	10



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-13

Lab Sample ID: 580-27995-13

Date Collected: 08/02/11 16:00

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.7		mg/Kg		08/23/11 16:58	08/24/11 14:02	10
Lead	130		2.8		mg/Kg		08/23/11 16:58	08/24/11 14:02	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.37		0.019		mg/Kg		08/26/11 09:37	08/26/11 14:24	10



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-16

Lab Sample ID: 580-27995-16

Date Collected: 08/03/11 09:50

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	17		6.1		mg/Kg		08/23/11 16:58	08/24/11 14:08	10
Lead	24		3.0		mg/Kg		08/23/11 16:58	08/24/11 14:08	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.61		0.017		mg/Kg		08/26/11 09:37	08/26/11 14:26	10



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-17

Lab Sample ID: 580-27995-17

Date Collected: 08/03/11 09:55

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	22		5.5		mg/Kg		08/23/11 16:58	08/24/11 14:30	10
Lead	78		2.8		mg/Kg		08/23/11 16:58	08/24/11 14:30	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.97		0.19		mg/Kg		08/26/11 09:37	08/26/11 15:43	100



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-18

Lab Sample ID: 580-27995-18

Date Collected: 08/03/11 10:00

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	37		5.7		mg/Kg		08/23/11 16:58	08/24/11 14:36	10
Lead	190		2.9		mg/Kg		08/23/11 16:58	08/24/11 14:36	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.50		0.018		mg/Kg		08/26/11 09:37	08/26/11 14:30	10



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-21

Lab Sample ID: 580-27995-21

Date Collected: 08/03/11 10:45

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	75		5.8		mg/Kg		08/23/11 16:58	08/24/11 13:36	10
Lead	90		2.9		mg/Kg		08/23/11 16:58	08/24/11 13:36	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	2.5		0.34		mg/Kg		08/26/11 09:37	08/26/11 15:45	200



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-22

Lab Sample ID: 580-27995-22

Date Collected: 08/03/11 10:50

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	46		5.9		mg/Kg		08/23/11 16:58	08/24/11 14:43	10
Lead	54		3.0		mg/Kg		08/23/11 16:58	08/24/11 14:43	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	2.1		0.37		mg/Kg		08/26/11 09:37	08/26/11 15:47	200



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-23

Lab Sample ID: 580-27995-23

Date Collected: 08/03/11 10:55

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	26		5.8		mg/Kg		08/23/11 16:58	08/24/11 14:49	10
Lead	220		2.9		mg/Kg		08/23/11 16:58	08/24/11 14:49	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.58		0.020		mg/Kg		08/26/11 09:37	08/26/11 14:36	10



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-26

Lab Sample ID: 580-27995-26

Date Collected: 08/03/11 15:00

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	18		5.7		mg/Kg		08/23/11 16:58	08/24/11 14:55	10
Lead	43		2.9		mg/Kg		08/23/11 16:58	08/24/11 14:55	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.99		0.18		mg/Kg		08/26/11 11:32	08/26/11 15:49	100



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-27

Lab Sample ID: 580-27995-27

Date Collected: 08/03/11 15:00

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	18		5.9		mg/Kg		08/23/11 16:58	08/24/11 15:02	10
Lead	39		3.0		mg/Kg		08/23/11 16:58	08/24/11 15:02	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.91		0.020		mg/Kg		08/26/11 11:32	08/26/11 15:24	10



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-28

Lab Sample ID: 580-27995-28

Date Collected: 08/03/11 15:00

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	17		5.8		mg/Kg		08/23/11 16:58	08/24/11 15:08	10
Lead	40		2.9		mg/Kg		08/23/11 16:58	08/24/11 15:08	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.84		0.018		mg/Kg		08/26/11 11:32	08/26/11 15:26	10



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-29

Lab Sample ID: 580-27995-29

Date Collected: 08/03/11 15:05

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	24		5.8		mg/Kg		08/23/11 16:58	08/24/11 15:33	10
Lead	45		2.9		mg/Kg		08/23/11 16:58	08/24/11 15:33	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.54		0.019		mg/Kg		08/26/11 11:32	08/26/11 15:28	10



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-30

Lab Sample ID: 580-27995-30

Date Collected: 08/03/11 15:05

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	26		5.9		mg/Kg		08/23/11 16:58	08/24/11 15:39	10
Lead	72		3.0		mg/Kg		08/23/11 16:58	08/24/11 15:39	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.62		0.019		mg/Kg		08/26/11 11:32	08/26/11 15:30	10



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-31

Lab Sample ID: 580-27995-31

Date Collected: 08/03/11 15:05

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	33		5.9		mg/Kg		08/23/11 16:58	08/24/11 15:46	10
Lead	80		2.9		mg/Kg		08/23/11 16:58	08/24/11 15:46	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.52		0.020		mg/Kg		08/26/11 11:32	08/26/11 15:32	10



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-32

Lab Sample ID: 580-27995-32

Date Collected: 08/03/11 15:10

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13		5.7		mg/Kg		08/23/11 16:58	08/24/11 15:52	10
Lead	2800		2.9		mg/Kg		08/23/11 16:58	08/24/11 15:52	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.55		0.019		mg/Kg		08/26/11 11:32	08/26/11 15:38	10



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-33

Lab Sample ID: 580-27995-33

Date Collected: 08/03/11 15:10

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16		6.0		mg/Kg		08/23/11 16:58	08/24/11 15:59	10
Lead	1400		3.0		mg/Kg		08/23/11 16:58	08/24/11 15:59	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.52		0.019		mg/Kg		08/26/11 11:32	08/26/11 15:40	10



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-34

Lab Sample ID: 580-27995-34

Date Collected: 08/03/11 15:10

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12		6.0		mg/Kg		08/23/11 16:58	08/24/11 16:05	10
Lead	1700		3.0		mg/Kg		08/23/11 16:58	08/24/11 16:05	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.47		0.019		mg/Kg		08/26/11 11:32	08/26/11 15:41	10



QC Sample Results

Client: TestAmerica Laboratories, Inc
Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 580-93531/19-A
Matrix: Solid
Analysis Batch: 93643

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 93531

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		3.0		mg/Kg		08/23/11 16:00	08/24/11 10:00	1
Lead	ND		1.5		mg/Kg		08/23/11 16:00	08/24/11 10:00	1

Lab Sample ID: LCS 580-93531/20-A
Matrix: Solid
Analysis Batch: 93643

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93531

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
Arsenic	200	199		mg/Kg		99	80 - 120
Lead	50.0	48.7		mg/Kg		97	80 - 120

Lab Sample ID: LCSD 580-93531/21-A
Matrix: Solid
Analysis Batch: 93643

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 93531

Analyte	Spike Added	LCSD LCSD		Unit	D	% Rec	% Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
Arsenic	200	197		mg/Kg		99	80 - 120	1	20
Lead	50.0	48.3		mg/Kg		97	80 - 120	1	20

Lab Sample ID: MB 580-93537/19-A
Matrix: Solid
Analysis Batch: 93644

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 93537

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		3.0		mg/Kg		08/23/11 16:58	08/24/11 13:11	1
Lead	ND		1.5		mg/Kg		08/23/11 16:58	08/24/11 13:11	1

Lab Sample ID: LCS 580-93537/20-A
Matrix: Solid
Analysis Batch: 93644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93537

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
Arsenic	200	199		mg/Kg		100	80 - 120
Lead	50.0	49.2		mg/Kg		98	80 - 120

Lab Sample ID: LCSD 580-93537/21-A
Matrix: Solid
Analysis Batch: 93644

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 93537

Analyte	Spike Added	LCSD LCSD		Unit	D	% Rec	% Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
Arsenic	200	196		mg/Kg		98	80 - 120	2	20
Lead	50.0	48.3		mg/Kg		97	80 - 120	2	20

Lab Sample ID: 580-27995-21 MS
Matrix: Solid
Analysis Batch: 93644

Client Sample ID: HUH0028-21
Prep Type: Total/NA
Prep Batch: 93537

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	% Rec	% Rec. Limits
				Result	Qualifier				
Arsenic	75		39.0	124	F	mg/Kg		127	80 - 120
Lead	90		9.74	123	4	mg/Kg		339	80 - 120

QC Sample Results

Client: TestAmerica Laboratories, Inc
Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 580-27995-21 MSD
Matrix: Solid
Analysis Batch: 93644

Client Sample ID: HUH0028-21
Prep Type: Total/NA
Prep Batch: 93537

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Arsenic	75		38.6	124	F	mg/Kg		126	80 - 120	1	20	
Lead	90		9.65	113	4	mg/Kg		230	80 - 120	9	20	

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-93785/23-A
Matrix: Solid
Analysis Batch: 93837

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 93785

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.020		mg/Kg		08/26/11 09:50	08/26/11 13:57	10

Lab Sample ID: LCS 580-93785/24-A
Matrix: Solid
Analysis Batch: 93837

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93785

Analyte	Spike Added	LCS	LCS	Unit	D	% Rec	% Rec.	
							Result	Qualifier
Mercury	0.100	0.115		mg/Kg		115	80 - 120	

Lab Sample ID: LCSD 580-93785/25-A
Matrix: Solid
Analysis Batch: 93837

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 93785

Analyte	Spike Added	LCSD	LCSD	Unit	D	% Rec	% Rec.	
							Result	Qualifier
Mercury	0.100	0.111		mg/Kg		111	80 - 120	3

Lab Sample ID: 580-27995-1 MS
Matrix: Solid
Analysis Batch: 93837

Client Sample ID: HUH0028-01
Prep Type: Total/NA
Prep Batch: 93785

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD
Mercury	0.44		0.0939	0.533	4	mg/Kg		98	80 - 120	

Lab Sample ID: 580-27995-1 MSD
Matrix: Solid
Analysis Batch: 93837

Client Sample ID: HUH0028-01
Prep Type: Total/NA
Prep Batch: 93785

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Mercury	0.44		0.0975	0.542	4	mg/Kg		103	80 - 120	2	20	

Lab Sample ID: MB 580-93794/21-A
Matrix: Solid
Analysis Batch: 93837

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 93794

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.020		mg/Kg		08/26/11 11:32	08/26/11 14:54	10

QC Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 580-93794/22-A
Matrix: Solid
Analysis Batch: 93837

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 93794

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.100	0.109		mg/Kg		109	80 - 120

Lab Sample ID: LCSD 580-93794/23-A
Matrix: Solid
Analysis Batch: 93837

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 93794

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Mercury	0.100	0.107		mg/Kg		107	80 - 120	2	20



Lab Chronicle

Client: TestAmerica Laboratories, Inc
Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-01

Lab Sample ID: 580-27995-1

Date Collected: 08/02/11 10:45

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93531	08/23/11 16:00	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93643	08/24/11 11:51	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 09:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 14:02	FCW	TAL SEA

Client Sample ID: HUH0028-02

Lab Sample ID: 580-27995-2

Date Collected: 08/02/11 10:50

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93531	08/23/11 16:00	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93643	08/24/11 11:58	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 09:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 14:08	FCW	TAL SEA

Client Sample ID: HUH0028-03

Lab Sample ID: 580-27995-3

Date Collected: 08/02/11 10:55

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93531	08/23/11 16:00	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93643	08/24/11 12:04	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 09:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 14:09	FCW	TAL SEA

Client Sample ID: HUH0028-06

Lab Sample ID: 580-27995-6

Date Collected: 08/02/11 12:10

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93531	08/23/11 16:00	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93643	08/24/11 12:26	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 09:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 14:11	FCW	TAL SEA

Client Sample ID: HUH0028-07

Lab Sample ID: 580-27995-7

Date Collected: 08/02/11 12:15

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93531	08/23/11 16:00	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93643	08/24/11 12:32	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 09:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 14:13	FCW	TAL SEA

Lab Chronicle

Client: TestAmerica Laboratories, Inc
Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-08

Lab Sample ID: 580-27995-8

Date Collected: 08/02/11 12:20

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93531	08/23/11 16:00	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93643	08/24/11 12:38	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 09:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 14:19	FCW	TAL SEA

Client Sample ID: HUH0028-11

Lab Sample ID: 580-27995-11

Date Collected: 08/02/11 15:50

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93531	08/23/11 16:00	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93643	08/24/11 12:45	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 09:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 14:21	FCW	TAL SEA

Client Sample ID: HUH0028-12

Lab Sample ID: 580-27995-12

Date Collected: 08/02/11 15:55

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93531	08/23/11 16:00	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93643	08/24/11 12:51	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 09:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 14:23	FCW	TAL SEA

Client Sample ID: HUH0028-13

Lab Sample ID: 580-27995-13

Date Collected: 08/02/11 16:00

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93537	08/23/11 16:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 14:02	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 09:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 14:24	FCW	TAL SEA

Client Sample ID: HUH0028-16

Lab Sample ID: 580-27995-16

Date Collected: 08/03/11 09:50

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93537	08/23/11 16:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 14:08	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 09:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 14:26	FCW	TAL SEA

Lab Chronicle

Client: TestAmerica Laboratories, Inc
Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-17

Lab Sample ID: 580-27995-17

Date Collected: 08/03/11 09:55

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93537	08/23/11 16:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 14:30	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 09:37	PAB	TAL SEA
Total/NA	Analysis	7471A		100	93837	08/26/11 15:43	FCW	TAL SEA

Client Sample ID: HUH0028-18

Lab Sample ID: 580-27995-18

Date Collected: 08/03/11 10:00

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93537	08/23/11 16:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 14:36	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 09:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 14:30	FCW	TAL SEA

Client Sample ID: HUH0028-21

Lab Sample ID: 580-27995-21

Date Collected: 08/03/11 10:45

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93537	08/23/11 16:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 13:36	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 09:37	PAB	TAL SEA
Total/NA	Analysis	7471A		200	93837	08/26/11 15:45	FCW	TAL SEA

Client Sample ID: HUH0028-22

Lab Sample ID: 580-27995-22

Date Collected: 08/03/11 10:50

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93537	08/23/11 16:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 14:43	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 09:37	PAB	TAL SEA
Total/NA	Analysis	7471A		200	93837	08/26/11 15:47	FCW	TAL SEA

Client Sample ID: HUH0028-23

Lab Sample ID: 580-27995-23

Date Collected: 08/03/11 10:55

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93537	08/23/11 16:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 14:49	SP	TAL SEA
Total/NA	Prep	7471A			93785	08/26/11 09:37	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 14:36	FCW	TAL SEA

Lab Chronicle

Client: TestAmerica Laboratories, Inc
Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-26

Lab Sample ID: 580-27995-26

Date Collected: 08/03/11 15:00

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93537	08/23/11 16:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 14:55	SP	TAL SEA
Total/NA	Prep	7471A			93794	08/26/11 11:32	PAB	TAL SEA
Total/NA	Analysis	7471A		100	93837	08/26/11 15:49	FCW	TAL SEA

Client Sample ID: HUH0028-27

Lab Sample ID: 580-27995-27

Date Collected: 08/03/11 15:00

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93537	08/23/11 16:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 15:02	SP	TAL SEA
Total/NA	Prep	7471A			93794	08/26/11 11:32	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 15:24	FCW	TAL SEA

Client Sample ID: HUH0028-28

Lab Sample ID: 580-27995-28

Date Collected: 08/03/11 15:00

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93537	08/23/11 16:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 15:08	SP	TAL SEA
Total/NA	Prep	7471A			93794	08/26/11 11:32	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 15:26	FCW	TAL SEA

Client Sample ID: HUH0028-29

Lab Sample ID: 580-27995-29

Date Collected: 08/03/11 15:05

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93537	08/23/11 16:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 15:33	SP	TAL SEA
Total/NA	Prep	7471A			93794	08/26/11 11:32	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 15:28	FCW	TAL SEA

Client Sample ID: HUH0028-30

Lab Sample ID: 580-27995-30

Date Collected: 08/03/11 15:05

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93537	08/23/11 16:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 15:39	SP	TAL SEA
Total/NA	Prep	7471A			93794	08/26/11 11:32	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 15:30	FCW	TAL SEA

Lab Chronicle

Client: TestAmerica Laboratories, Inc
Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Client Sample ID: HUH0028-31

Lab Sample ID: 580-27995-31

Date Collected: 08/03/11 15:05

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93537	08/23/11 16:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 15:46	SP	TAL SEA
Total/NA	Prep	7471A			93794	08/26/11 11:32	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 15:32	FCW	TAL SEA

Client Sample ID: HUH0028-32

Lab Sample ID: 580-27995-32

Date Collected: 08/03/11 15:10

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93537	08/23/11 16:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 15:52	SP	TAL SEA
Total/NA	Prep	7471A			93794	08/26/11 11:32	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 15:38	FCW	TAL SEA

Client Sample ID: HUH0028-33

Lab Sample ID: 580-27995-33

Date Collected: 08/03/11 15:10

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93537	08/23/11 16:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 15:59	SP	TAL SEA
Total/NA	Prep	7471A			93794	08/26/11 11:32	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 15:40	FCW	TAL SEA

Client Sample ID: HUH0028-34

Lab Sample ID: 580-27995-34

Date Collected: 08/03/11 15:10

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			93537	08/23/11 16:58	PAB	TAL SEA
Total/NA	Analysis	6010B		10	93644	08/24/11 16:05	SP	TAL SEA
Total/NA	Prep	7471A			93794	08/26/11 11:32	PAB	TAL SEA
Total/NA	Analysis	7471A		10	93837	08/26/11 15:41	FCW	TAL SEA

Laboratory References:

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

Certification Summary

Client: TestAmerica Laboratories, Inc
Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Seattle	Alaska	Alaska UST	10	UST-022
TestAmerica Seattle	Alaska	TA-Port Heiden Mobile Lab	10	UST-093
TestAmerica Seattle	California	NELAC	9	1115CA
TestAmerica Seattle	Florida	NELAC	4	E871074
TestAmerica Seattle	L-A-B	DoD ELAP		L2236
TestAmerica Seattle	L-A-B	ISO/IEC 17025		L2236
TestAmerica Seattle	Louisiana	NELAC	6	05016
TestAmerica Seattle	Montana	MT DEQ UST	8	N/A
TestAmerica Seattle	Oregon	NELAC	10	WA100007
TestAmerica Seattle	USDA	USDA		P330-11-00222
TestAmerica Seattle	Washington	State Program	10	C553

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.



Sample Summary

Client: TestAmerica Laboratories, Inc
Project/Site: HUH0028

TestAmerica Job ID: 580-27995-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-27995-1	HUH0028-01	Solid	08/02/11 10:45	08/13/11 09:20
580-27995-2	HUH0028-02	Solid	08/02/11 10:50	08/13/11 09:20
580-27995-3	HUH0028-03	Solid	08/02/11 10:55	08/13/11 09:20
580-27995-6	HUH0028-06	Solid	08/02/11 12:10	08/13/11 09:20
580-27995-7	HUH0028-07	Solid	08/02/11 12:15	08/13/11 09:20
580-27995-8	HUH0028-08	Solid	08/02/11 12:20	08/13/11 09:20
580-27995-11	HUH0028-11	Solid	08/02/11 15:50	08/13/11 09:20
580-27995-12	HUH0028-12	Solid	08/02/11 15:55	08/13/11 09:20
580-27995-13	HUH0028-13	Solid	08/02/11 16:00	08/13/11 09:20
580-27995-16	HUH0028-16	Solid	08/03/11 09:50	08/13/11 09:20
580-27995-17	HUH0028-17	Solid	08/03/11 09:55	08/13/11 09:20
580-27995-18	HUH0028-18	Solid	08/03/11 10:00	08/13/11 09:20
580-27995-21	HUH0028-21	Solid	08/03/11 10:45	08/13/11 09:20
580-27995-22	HUH0028-22	Solid	08/03/11 10:50	08/13/11 09:20
580-27995-23	HUH0028-23	Solid	08/03/11 10:55	08/13/11 09:20
580-27995-26	HUH0028-26	Solid	08/03/11 15:00	08/13/11 09:20
580-27995-27	HUH0028-27	Solid	08/03/11 15:00	08/13/11 09:20
580-27995-28	HUH0028-28	Solid	08/03/11 15:00	08/13/11 09:20
580-27995-29	HUH0028-29	Solid	08/03/11 15:05	08/13/11 09:20
580-27995-30	HUH0028-30	Solid	08/03/11 15:05	08/13/11 09:20
580-27995-31	HUH0028-31	Solid	08/03/11 15:05	08/13/11 09:20
580-27995-32	HUH0028-32	Solid	08/03/11 15:10	08/13/11 09:20
580-27995-33	HUH0028-33	Solid	08/03/11 15:10	08/13/11 09:20
580-27995-34	HUH0028-34	Solid	08/03/11 15:10	08/13/11 09:20

Subcontract Order - TestAmerica Honolulu (HUH0028)

27995

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0028**

SENDING LABORATORY:

TestAmerica Honolulu
 99-193 Aiea Heights Drive, Suite 121
 Aiea, HI 96701
 Phone: 808-486-5227
 Fax: 808-486-2456
 Project Manager: Margie Pascua Thach
 Client: Tetra Tech EM Inc.

RECEIVING LABORATORY:

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

8290 Dioxin: 38 samples for COPC, 2 samples for combined PMA COPC. 8015 DRO/RRO: 10 samples for COPC, 2 samples for combined PMA COPC. For total Metals, first metal is \$22.50, succeeding metals is \$10, except for Mercury is \$35.

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
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Sample ID: HUH0028-01 (PMAK-DU3-A - Solid/Soil) Sampled: 08/02/11 10:45 As PBET pending total results

Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/29/12 10:45	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/29/12 10:45	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/30/11 10:45	\$35.00	0%	

Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (D)

Sample ID: HUH0028-02 (PMAK-DU3-B - Solid/Soil) Sampled: 08/02/11 10:50

Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/29/12 10:50	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/29/12 10:50	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/30/11 10:50	\$35.00	0%	

Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (D)

Sample ID: HUH0028-03 (PMAK-DU3-C - Solid/Soil) Sampled: 08/02/11 10:55

Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/29/12 10:55	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/29/12 10:55	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/30/11 10:55	\$35.00	0%	

Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (D)

Cooler/TB Dig IR cor 0.5 unc02
 Cooler Dsch redish @ Lab
 Web/Packs Packing bubble bag
 w/o Fed ex Int. del

[Signature]
 Released By

8/26/11 9:10
[Signature]
 Date/Time

[Signature]
 Received By

8/31/11 9:20
 Date/Time

Released By

Date/Time

Received By

Date/Time

Subcontract Order - TestAmerica Honolulu (HUH0028)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0028**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0028-04 (PMAK-DU3-D - Solid/Soil)						
			Sampled: 08/02/11 11:00	HOLD analysis pending results of A,B,C		
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/29/12 11:00	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/29/12 11:00	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	08/26/11	08/30/11 11:00	\$35.00	0%	HOLD
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (D)						
Sample ID: HUH0028-05 (PMAK-DU3-E - Solid/Soil)						
			Sampled: 08/02/11 11:05	HOLD analysis pending results of A,B,C		
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/29/12 11:05	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/29/12 11:05	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	08/26/11	08/30/11 11:05	\$35.00	0%	HOLD
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (D)						
Sample ID: HUH0028-06 (PMAK-DU8-A - Solid/Soil)						
			Sampled: 08/02/11 12:10	As PBET pending total results		
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/29/12 12:10	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/29/12 12:10	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/30/11 12:10	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (D)						
Sample ID: HUH0028-07 (PMAK-DU8-B - Solid/Soil)						
			Sampled: 08/02/11 12:15			
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/29/12 12:15	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/29/12 12:15	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/30/11 12:15	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (D)						

Subcontract Order - TestAmerica Honolulu (HUH0028)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0028**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0028-08 (PMAK-DU8-C - Solid/Soil)						
			Sampled: 08/02/11 12:20			
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/29/12 12:20	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/29/12 12:20	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/30/11 12:20	\$35.00	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (D)						
Sample ID: HUH0028-09 (PMAK-DU8-D - Solid/Soil)						
			Sampled: 08/02/11 12:25		HOLD analysis pending results of A,B,C	
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/29/12 12:25	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/29/12 12:25	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	08/26/11	08/30/11 12:25	\$35.00	0%	HOLD
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (D)						
Sample ID: HUH0028-10 (PMAK-DU8-E - Solid/Soil)						
			Sampled: 08/02/11 12:30		HOLD analysis pending results of A,B,C	
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/29/12 12:30	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/29/12 12:30	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	08/26/11	08/30/11 12:30	\$35.00	0%	HOLD
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (D)						
Sample ID: HUH0028-11 (PMAK-DU9-A - Solid/Soil)						
			Sampled: 08/02/11 15:50		As PBET pending total results	
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/29/12 15:50	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/29/12 15:50	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/30/11 15:50	\$35.00	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (D)						



Subcontract Order - TestAmerica Honolulu (HUH0028)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0028**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0028-12 (PMAK-DU9-B - Solid/Soil)						
				Sampled: 08/02/11 15:55		
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/29/12 15:55	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/29/12 15:55	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/30/11 15:55	\$35.00	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (D)						
Sample ID: HUH0028-13 (PMAK-DU9-C - Solid/Soil)						
				Sampled: 08/02/11 16:00		
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/29/12 16:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/29/12 16:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/30/11 16:00	\$35.00	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (D)						
Sample ID: HUH0028-14 (PMAK-DU9-D - Solid/Soil)						
				Sampled: 08/02/11 16:05 HOLD analysis pending results of A,B,C		
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/29/12 16:05	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/29/12 16:05	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	08/26/11	08/30/11 16:05	\$35.00	0%	HOLD
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (E)						
Sample ID: HUH0028-15 (PMAK-DU9-E - Solid/Soil)						
				Sampled: 08/02/11 16:10 HOLD analysis pending results of A,B,C		
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/29/12 16:10	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/29/12 16:10	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	08/26/11	08/30/11 16:10	\$35.00	0%	HOLD
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (E)						

Subcontract Order - TestAmerica Honolulu (HUH0028)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0028**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0028-16 (PMAK-DU16-A - Solid/Soil)						
			Sampled: 08/03/11 09:50		As PBET pending total results	
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 09:50	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 09:50	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 09:50	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (E)						
Sample ID: HUH0028-17 (PMAK-DU16-B - Solid/Soil)						
			Sampled: 08/03/11 09:55			
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 09:55	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 09:55	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 09:55	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (E)						
Sample ID: HUH0028-18 (PMAK-DU16-C - Solid/Soil)						
			Sampled: 08/03/11 10:00			
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 10:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 10:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 10:00	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (D)						
Sample ID: HUH0028-19 (PMAK-DU16-D - Solid/Soil)						
			Sampled: 08/03/11 10:05		HOLD ^{pending results of Arsenic A, B, C not reported} except pH	
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 10:05	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 10:05	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 10:05	\$35.00	0%	HOLD
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (E)						

Subcontract Order - TestAmerica Honolulu (HUH0028)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0028**

Analysis	Units	Due	Expires	Interlab	Price Surch	Comments
Sample ID: HUH0028-20 (PMAK-DU16-E - Solid/Soil)						
			Sampled: 08/03/11 10:10		HOLD except pH <i>pending results of Jagers A,B,C 8/10/11</i>	
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 10:10	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 10:10	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 10:10	\$35.00	0%	HOLD
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (E)						
Sample ID: HUH0028-21 (PMAK-DU13-A - Solid/Soil)						
			Sampled: 08/03/11 10:45			
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 10:45	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 10:45	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 10:45	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (E)						
Sample ID: HUH0028-22 (PMAK-DU13-B - Solid/Soil)						
			Sampled: 08/03/11 10:50			
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 10:50	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 10:50	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 10:50	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (E)						
Sample ID: HUH0028-23 (PMAK-DU13-C - Solid/Soil)						
			Sampled: 08/03/11 10:55			
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 10:55	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 10:55	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 10:55	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (D)						

Subcontract Order - TestAmerica Honolulu (HUH0028)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0028**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0028-24 (PMAK-DU13-D - Solid/Soil)						
				Sampled: 08/03/11 11:00		HOLD except pH <i>pending results of Jagers SEC</i>
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 11:00	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 11:00	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 11:00	\$35.00	0%	HOLD
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (E)						
Sample ID: HUH0028-25 (PMAK-DU13-E - Solid/Soil)						
				Sampled: 08/03/11 11:05		HOLD except pH <i>pending results of layers A,B,C</i>
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 11:05	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 11:05	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 11:05	\$35.00	0%	HOLD
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (E)						
Sample ID: HUH0028-26 (PMAK-DU4-A-P - Solid/Soil)						
				Sampled: 08/03/11 15:00		As PBET pending total results
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:00	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (D)						
Sample ID: HUH0028-27 (PMAK-DU4-A-T1 - Solid/Soil)						
				Sampled: 08/03/11 15:00		As PBET pending total results
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:00	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (D)						



Subcontract Order - TestAmerica Honolulu (HUH0028)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0028**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0028-28 (PMAK-DU4-A-T2 - Solid/Soil)						
			Sampled: 08/03/11 15:00		As PBET pending total results	
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:00	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (D)						
Sample ID: HUH0028-29 (PMAK-DU4-B-P - Solid/Soil)						
			Sampled: 08/03/11 15:05			
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:05	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:05	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:05	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (D)						
Sample ID: HUH0028-30 (PMAK-DU4-B-T1 - Solid/Soil)						
			Sampled: 08/03/11 15:05			
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:05	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:05	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:05	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (D)						
Sample ID: HUH0028-31 (PMAK-DU4-B-T2 - Solid/Soil)						
			Sampled: 08/03/11 15:05			
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:05	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:05	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:05	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (D)						



Subcontract Order - TestAmerica Honolulu (HUH0028)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0028**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0028-32 (PMAK-DU4-C-P - Solid/Soil)						
				Sampled: 08/03/11 15:10		
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:10	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:10	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:10	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental Sub-sample (analyze entire content) (C)						
Sample ID: HUH0028-33 (PMAK-DU4-C-T1 - Solid/Soil)						
				Sampled: 08/03/11 15:10		
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:10	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:10	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:10	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental Sub-sample (analyze entire content) (C)						
Sample ID: HUH0028-34 (PMAK-DU4-C-T2 - Solid/Soil)						
				Sampled: 08/03/11 15:10		
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:10	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:10	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:10	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental Sub-sample (analyze entire content) (C)						
Sample ID: HUH0028-35 (PMAK-DU4-D-P - Solid/Soil)						
				Sampled: 08/03/11 15:15		HOLD analysis pending results of A,B,C
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:15	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:15	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:15	\$35.00	0%	HOLD
<i>Containers Supplied:</i>						
Incremental Sub-sample (analyze entire content) (C)						

Subcontract Order - TestAmerica Honolulu (HUH0028)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0028**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
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Sample ID: HUH0028-36 (PMAK-DU4-D-T1 - Solid/Soil) **Sampled: 08/03/11 15:15** **HOLD analysis pending results of A,B,C**

Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:15	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:15	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:15	\$35.00	0%	HOLD

Containers Supplied:

Incremental
Sub-sample (analyze entire content) (C)

Sample ID: HUH0028-37 (PMAK-DU4-D-T2 - Solid/Soil) **Sampled: 08/03/11 15:15** **HOLD analysis pending results of A,B,C**

Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:15	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:15	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:15	\$35.00	0%	HOLD

Containers Supplied:

Incremental
Sub-sample (analyze entire content) (C)

Sample ID: HUH0028-38 (PMAK-DU4-E-P - Solid/Soil) **Sampled: 08/03/11 15:20** **HOLD analysis pending results of A,B,C**

Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:20	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:20	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:20	\$35.00	0%	HOLD

Containers Supplied:

Incremental
Sub-sample (analyze entire content) (C)

Sample ID: HUH0028-39 (PMAK-DU4-E-T1 - Solid/Soil) **Sampled: 08/03/11 15:20** **HOLD analysis pending results of A,B,C**

Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:20	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:20	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:20	\$35.00	0%	HOLD

Containers Supplied:

Incremental
Sub-sample (analyze entire content) (C)

Subcontract Order - TestAmerica Honolulu (HUH0028)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0028**

Analysis	Units	Due	Expires	Interlab Price Surch	Comments
Sample ID: HUH0028-40 (PMAK-DU4-E-T2 - Solid/Soil)					
			Sampled: 08/03/11 15:20	HOLD analysis pending results of A,B,C	
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:20	\$22.50	0% HOLD
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:20	\$10.00	0% HOLD
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:20	\$35.00	0% HOLD
<i>Containers Supplied:</i>					
Incremental					
Sub-sample (analyze entire content) (C)					



Login Sample Receipt Checklist

Client: TestAmerica Laboratories, Inc

Job Number: 580-27995-1

Login Number: 27995

List Source: TestAmerica Seattle

List Number: 1

Creator: Gamble, Cathy

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	N/A	
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	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
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	
Sample Preservation Verified.	N/A	
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	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



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: 580-27995-2

Client Project/Site: HUH0028

For:

TestAmerica Laboratories, Inc

99-193 Aiea Heights Drive

Suite 121

Aiea, Hawaii 96701

Attn: Margie F Pascua

Pamela R. Johnson

Authorized for release by:

09/19/2011 05:54:48 PM

Pam Johnson

Project Manager I

pamr.johnson@testamericainc.com

LINKS

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.



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Case Narrative

Client: TestAmerica Laboratories, Inc
Project/Site: HUH0028

TestAmerica Job ID: 580-27995-2

Job ID: 580-27995-2

Laboratory: TestAmerica Seattle

Narrative

Comments

No additional comments.

Receipt

Collection dates or times were not present on the sample containers. The samples were logged-in and labeled according to collection dates and times reported on the Chain-of-Custody (COC).

All other samples were received in good condition within temperature requirements.

Metals - Method 7471A

The following samples HUH0028-19 (580-27995-19), HUH0028-24 (580-27995-24), HUH0028-35 (580-27995-35), HUH0028-36 (580-27995-36) and HUH0028-37 (580-27995-37) were prepared outside of preparation holding time.

No other analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.



Definitions/Glossary

Client: TestAmerica Laboratories, Inc
Project/Site: HUH0028

TestAmerica Job ID: 580-27995-2

Qualifiers

Metals

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit (Dioxin)
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or method detection limit if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-2

Client Sample ID: HUH0028-19

Lab Sample ID: 580-27995-19

Date Collected: 08/03/11 10:05

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.4		mg/Kg		09/15/11 13:11	09/16/11 01:26	10
Lead	83		2.7		mg/Kg		09/15/11 13:11	09/16/11 01:26	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.86	H	0.18		mg/Kg		09/06/11 12:35	09/06/11 15:37	100



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-2

Client Sample ID: HUH0028-24

Lab Sample ID: 580-27995-24

Date Collected: 08/03/11 11:00

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.8		mg/Kg		09/15/11 13:11	09/16/11 01:33	10
Lead	48		2.9		mg/Kg		09/15/11 13:11	09/16/11 01:33	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.2	H	0.20		mg/Kg		09/06/11 12:35	09/06/11 15:39	100



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-2

Client Sample ID: HUH0028-35

Lab Sample ID: 580-27995-35

Date Collected: 08/03/11 15:15

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.7		mg/Kg		09/16/11 15:25	09/19/11 16:50	10
Lead	16		2.9		mg/Kg		09/16/11 15:25	09/19/11 16:50	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.34	H	0.19		mg/Kg		09/06/11 12:35	09/06/11 15:41	100



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-2

Client Sample ID: HUH0028-36

Lab Sample ID: 580-27995-36

Date Collected: 08/03/11 15:15

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.8		mg/Kg		09/15/11 13:11	09/16/11 01:40	10
Lead	24		2.9		mg/Kg		09/15/11 13:11	09/16/11 01:40	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.36	H	0.19		mg/Kg		09/06/11 12:35	09/06/11 15:46	100



Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-2

Client Sample ID: HUH0028-37

Lab Sample ID: 580-27995-37

Date Collected: 08/03/11 15:15

Matrix: Solid

Date Received: 08/13/11 09:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		6.1		mg/Kg		09/15/11 13:11	09/16/11 01:47	10
Lead	20		3.0		mg/Kg		09/15/11 13:11	09/16/11 01:47	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.44	H	0.19		mg/Kg		09/06/11 12:35	09/06/11 15:48	100



QC Sample Results

Client: TestAmerica Laboratories, Inc
Project/Site: HUH0028

TestAmerica Job ID: 580-27995-2

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 580-95447/18-A
Matrix: Solid
Analysis Batch: 95517

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 95447

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		3.0		mg/Kg		09/15/11 13:13	09/15/11 22:49	1
Lead	ND		1.5		mg/Kg		09/15/11 13:13	09/15/11 22:49	1

Lab Sample ID: LCS 580-95447/19-A
Matrix: Solid
Analysis Batch: 95517

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 95447

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
Arsenic	200	193		mg/Kg		97	80 - 120
Lead	50.0	47.9		mg/Kg		96	80 - 120

Lab Sample ID: LCSD 580-95447/20-A
Matrix: Solid
Analysis Batch: 95517

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 95447

Analyte	Spike Added	LCSD LCSD		Unit	D	% Rec	% Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
Arsenic	200	191		mg/Kg		96	80 - 120	1	20
Lead	50.0	47.5		mg/Kg		95	80 - 120	1	20

Lab Sample ID: LCSSRM 580-95447/21-A
Matrix: Solid
Analysis Batch: 95517

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 95447

Analyte	Spike Added	LCSSRM LCSSRM		Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
Arsenic	109	109		mg/Kg		100	71.1 - 128.9
Lead	152	158		mg/Kg		104	75.3 - 125.1

Lab Sample ID: MB 580-95542/2-A
Matrix: Solid
Analysis Batch: 95676

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 95542

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		3.0		mg/Kg		09/16/11 15:25	09/19/11 16:31	1
Lead	ND		1.5		mg/Kg		09/16/11 15:25	09/19/11 16:31	1

Lab Sample ID: LCS 580-95542/3-A
Matrix: Solid
Analysis Batch: 95676

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 95542

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
Arsenic	200	199		mg/Kg		100	80 - 120
Lead	50.0	51.3		mg/Kg		103	80 - 120

Lab Sample ID: LCSD 580-95542/4-A
Matrix: Solid
Analysis Batch: 95676

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 95542

Analyte	Spike Added	LCSD LCSD		Unit	D	% Rec	% Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
Arsenic	200	186		mg/Kg		93	80 - 120	7	20

QC Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: HUH0028

TestAmerica Job ID: 580-27995-2

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCSD 580-95542/4-A
 Matrix: Solid
 Analysis Batch: 95676

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 95542

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Lead	50.0	47.8		mg/Kg		96	80 - 120	7	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-94646/20-A
 Matrix: Solid
 Analysis Batch: 94703

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 94646

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		09/06/11 12:35	09/06/11 15:05	10

Lab Sample ID: LCS 580-94646/21-A
 Matrix: Solid
 Analysis Batch: 94703

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 94646

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.100	0.115		mg/Kg		115	80 - 120

Lab Sample ID: LCSD 580-94646/22-A
 Matrix: Solid
 Analysis Batch: 94703

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 94646

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Mercury	0.100	0.110		mg/Kg		110	80 - 120	5	20

Lab Chronicle

Client: TestAmerica Laboratories, Inc
Project/Site: HUH0028

TestAmerica Job ID: 580-27995-2

Client Sample ID: HUH0028-19

Lab Sample ID: 580-27995-19

Date Collected: 08/03/11 10:05

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			94646	09/06/11 12:35	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94703	09/06/11 15:37	FCW	TAL SEA
Total/NA	Prep	3050B			95447	09/15/11 13:11	PAB	TAL SEA
Total/NA	Analysis	6010B		10	95517	09/16/11 01:26	SP	TAL SEA

Client Sample ID: HUH0028-24

Lab Sample ID: 580-27995-24

Date Collected: 08/03/11 11:00

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			94646	09/06/11 12:35	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94703	09/06/11 15:39	FCW	TAL SEA
Total/NA	Prep	3050B			95447	09/15/11 13:11	PAB	TAL SEA
Total/NA	Analysis	6010B		10	95517	09/16/11 01:33	SP	TAL SEA

Client Sample ID: HUH0028-35

Lab Sample ID: 580-27995-35

Date Collected: 08/03/11 15:15

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			94646	09/06/11 12:35	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94703	09/06/11 15:41	FCW	TAL SEA
Total/NA	Prep	3050B			95542	09/16/11 15:25	PAB	TAL SEA
Total/NA	Analysis	6010B		10	95676	09/19/11 16:50	PAB	TAL SEA

Client Sample ID: HUH0028-36

Lab Sample ID: 580-27995-36

Date Collected: 08/03/11 15:15

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			94646	09/06/11 12:35	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94703	09/06/11 15:46	FCW	TAL SEA
Total/NA	Prep	3050B			95447	09/15/11 13:11	PAB	TAL SEA
Total/NA	Analysis	6010B		10	95517	09/16/11 01:40	SP	TAL SEA

Client Sample ID: HUH0028-37

Lab Sample ID: 580-27995-37

Date Collected: 08/03/11 15:15

Matrix: Solid

Date Received: 08/13/11 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			94646	09/06/11 12:35	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94703	09/06/11 15:48	FCW	TAL SEA
Total/NA	Prep	3050B			95447	09/15/11 13:11	PAB	TAL SEA
Total/NA	Analysis	6010B		10	95517	09/16/11 01:47	SP	TAL SEA

Lab Chronicle

Client: TestAmerica Laboratories, Inc
Project/Site: HUH0028

TestAmerica Job ID: 580-27995-2

Laboratory References:

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



Certification Summary

Client: TestAmerica Laboratories, Inc
Project/Site: HUH0028

TestAmerica Job ID: 580-27995-2

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Seattle	Alaska	Alaska UST	10	UST-022
TestAmerica Seattle	Alaska	TA-Port Heiden Mobile Lab	10	UST-093
TestAmerica Seattle	California	NELAC	9	1115CA
TestAmerica Seattle	Florida	NELAC	4	E871074
TestAmerica Seattle	L-A-B	DoD ELAP		L2236
TestAmerica Seattle	L-A-B	ISO/IEC 17025		L2236
TestAmerica Seattle	Louisiana	NELAC	6	05016
TestAmerica Seattle	Montana	MT DEQ UST	8	N/A
TestAmerica Seattle	Oregon	NELAC	10	WA100007
TestAmerica Seattle	USDA	USDA		P330-11-00222
TestAmerica Seattle	Washington	State Program	10	C553

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.



Sample Summary

Client: TestAmerica Laboratories, Inc
Project/Site: HUH0028

TestAmerica Job ID: 580-27995-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-27995-19	HUH0028-19	Solid	08/03/11 10:05	08/13/11 09:20
580-27995-24	HUH0028-24	Solid	08/03/11 11:00	08/13/11 09:20
580-27995-35	HUH0028-35	Solid	08/03/11 15:15	08/13/11 09:20
580-27995-36	HUH0028-36	Solid	08/03/11 15:15	08/13/11 09:20
580-27995-37	HUH0028-37	Solid	08/03/11 15:15	08/13/11 09:20



Johnson, Pam R.

From: Pascua, Margie F.
Sent: Friday, September 02, 2011 8:29 PM
To: Johnson, Pam R.
Subject: RE: Files from 580-27995-1 HUH0028
Attachments: 20110902171749469.pdf

Hi Pam,

I've attached a revised subCOC for this.

Thank you!
 Margie

From: Pascua, Margie F.
Sent: Friday, September 02, 2011 5:18 PM
To: Johnson, Pam R.
Subject: RE: Files from 580-27995-1 HUH0028
Importance: High

Hi Pam,

For this work order, the client asked to proceed analysis on these samples

HUH0028-19	PMAK-DU16-D	As, Pb, Hg
HUH0028-24	PMAK-DU13-D	As, Pb, Hg
HUH0028-35	PMAK-DU4-D-P	As, Pb, Hg
HUH0028-36	PMAK-DU4-D-T1	As, Pb, Hg
HUH0028-37	PMAK-DU4-D-T2	As, Pb, Hg

Thank you, Pam!
 Margie

From: Johnson, Pam [mailto:pamr.johnson@testamericainc.com]
Sent: Tuesday, August 30, 2011 1:31 PM
To: Pascua, Margie F.
Subject: Files from 580-27995-1 HUH0028

Hi Margie,

Attached is the invoice for job 580-27995-1 HUH0028. Melissa reported this for me yesterday because I was out sick. My eyes were all swollen shut. Anyway, I wanted to point out in the narrative about sample -02 only having a 5 gram sample for the arsenic & lead MI sample. I know Tom & I checked these and the sample jar labels all had 10gm for the As & Pb and 5gm for the Hg. It looks like sample -02 was incorrect. Please let me know if you have any other questions.

Thank you,
 Pam

9/6/2011

Subcontract Order - TestAmerica Honolulu (HUH0028)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub: HON:HUH0028**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
----------	-------	-----	---------	----------------	-------	----------

Sample ID: HUH0028-16 (PMAK-DU16-A - Solid/Soil) **Sampled: 08/03/11 09:50** **As PBET pending total results**

Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 09:50	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 09:50	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 09:50	\$35.00	0%	

Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (E)

Sample ID: HUH0028-17 (PMAK-DU16-B - Solid/Soil) **Sampled: 08/03/11 09:55**

Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 09:55	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 09:55	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 09:55	\$35.00	0%	

Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (E)

Sample ID: HUH0028-18 (PMAK-DU16-C - Solid/Soil) **Sampled: 08/03/11 10:00**

Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 10:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 10:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 10:00	\$35.00	0%	

Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (D)

Sample ID: HUH0028-19 (PMAK-DU16-D - Solid/Soil) **Sampled: 08/03/11 10:05** **proceed w/ analysis 090211**

Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 10:05	\$22.50	0%	proceed with analysis 090211
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 10:05	\$10.00	0%	proceed with analysis 090211
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 10:05	\$35.00	0%	proceed with analysis 090211

Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (E)

Subcontract Order - TestAmerica Honolulu (HUH0028)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub:HON:HUH0028**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
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Sample ID: HUH0028-24 (PMAK-DU13-D - Solid/Soil) Sampled: 08/03/11 11:00 proceed w/ analysis 090211

Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 11:00	\$22.50	0%	proceed w/ analysis 090211
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 11:00	\$10.00	0%	proceed w/ analysis 090211
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 11:00	\$35.00	0%	proceed w/ analysis 090211

Containers Supplied:
Incremental
Sub-sample (analyze entire content) (E)

Sample ID: HUH0028-25 (PMAK-DU13-E - Solid/Soil) Sampled: 08/03/11 11:05 HOLD except pH

Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 11:05	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 11:05	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 11:05	\$35.00	0%	HOLD

Containers Supplied:
Incremental
Sub-sample (analyze entire content) (E)

Sample ID: HUH0028-26 (PMAK-DU4-A-P - Solid/Soil) Sampled: 08/03/11 15:00 As PBET pending total results

Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:00	\$35.00	0%	

Containers Supplied:
Incremental
Sub-sample (analyze entire content) (D)

Sample ID: HUH0028-27 (PMAK-DU4-A-T1 - Solid/Soil) Sampled: 08/03/11 15:00 As PBET pending total results

Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:00	\$35.00	0%	

Containers Supplied:
Incremental
Sub-sample (analyze entire content) (D)

Subcontract Order - TestAmerica Honolulu (HUH0028)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub: HON HUH0028**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0028-32 (PMAK-DU4-C-P - Solid/Soil)						
			Sampled: 08/03/11 15:10			
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:10	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:10	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:10	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0028-33 (PMAK-DU4-C-T1 - Solid/Soil)						
			Sampled: 08/03/11 15:10			
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:10	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:10	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:10	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0028-34 (PMAK-DU4-C-T2 - Solid/Soil)						
			Sampled: 08/03/11 15:10			
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:10	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:10	\$10.00	0%	
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:10	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0028-35 (PMAK-DU4-D-P - Solid/Soil)						
			Sampled: 08/03/11 15:15			
proceed w/ analysis 090211						
Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:15	\$22.50	0%	proceed w/ analysis 090211
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:15	\$10.00	0%	proceed w/ analysis 090211
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:15	\$35.00	0%	proceed w/ analysis 090211
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						



Subcontract Order - TestAmerica Honolulu (HUH0028)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub:HON:HUH0028**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
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Sample ID: HUH0028-36 (PMAK-DU4-D-T1 - Solid/Soil) Sampled: 08/03/11 15:15 proceed w/ analysis 090211

Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:15	\$22.50	0%	proceed w/ analysis 090211
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:15	\$10.00	0%	proceed w/ analysis 090211
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:15	\$35.00	0%	proceed w/ analysis 090211

Containers Supplied:

Incremental
Sub-sample (analyze entire content) (C)

Sample ID: HUH0028-37 (PMAK-DU4-D-T2 - Solid/Soil) Sampled: 08/03/11 15:15 proceed w/ analysis 090211

Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:15	\$22.50	0%	proceed w/ analysis 090211
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:15	\$10.00	0%	proceed w/ analysis 090211
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:15	\$35.00	0%	proceed w/ analysis 090211

Containers Supplied:

Incremental
Sub-sample (analyze entire content) (C)

Sample ID: HUH0028-38 (PMAK-DU4-E-P - Solid/Soil) Sampled: 08/03/11 15:20 HOLD analysis pending results of A,B,C

Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:20	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:20	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:20	\$35.00	0%	HOLD

Containers Supplied:

Incremental
Sub-sample (analyze entire content) (C)

Sample ID: HUH0028-39 (PMAK-DU4-E-T1 - Solid/Soil) Sampled: 08/03/11 15:20 HOLD analysis pending results of A,B,C

Arsenic Total 10g SW 6010B	mg/kg	08/26/11	01/30/12 15:20	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	08/26/11	01/30/12 15:20	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	08/26/11	08/31/11 15:20	\$35.00	0%	HOLD

Containers Supplied:

Incremental
Sub-sample (analyze entire content) (C)

Login Sample Receipt Checklist

Client: TestAmerica Laboratories, Inc

Job Number: 580-27995-2

Login Number: 27995

List Source: TestAmerica Seattle

List Number: 1

Creator: Gamble, Cathy

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	N/A	
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	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
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.	False	Refer to Job Narrative for details.
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
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	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Sample Receipt Checklist

Client Name: Tetratech Date/ Time Received: 08/05/11 1015

Received By: MDH

Matrices: soil Carrier: Aloha Air Cargo Airbill#: 687 0524 4024

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Chain of Custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>
Chain of Custody Signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of Custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Type: <u>gel</u>
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Water - VOA Vials have Zero Headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials present: <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Checked: <input checked="" type="checkbox"/>
	pH Adjusted? Yes <input type="checkbox"/>	No <input type="checkbox"/>	Final pH: _____
Encores / MI-VOC / 5035 Vials Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Location: _____
Sample Filtration Needed?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Filtered in Field: <input type="checkbox"/>
Dry Weight Corrected Results?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Take Action: <input type="checkbox"/>
DODQSM / QAPP Project?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Type: _____
Temperature Blank Present? Yes <input checked="" type="checkbox"/>		No <input type="checkbox"/>	
Sample Container Temperature: <u>2</u> °C			

Comments/ Sampling Handling Notes:

Pascua, Margie F.

From: Duzan, Scott [scott.duzan@tetrattech.com]
Sent: Sunday, August 07, 2011 9:20 PM
To: Pascua, Margie F.
Subject: RE: WoAck: HUH0012

Importance: High

Follow Up Flag: Follow up
Flag Status: Red

Yes, please run the extraction now and hold for the actual analysis of pentachlorophenol.

Scott Duzan, LEED AP | Project Manager
Tetra Tech EM Inc.
737 Bishop Street, Suite 3010 | Honolulu, HI 96813
Direct: 808.441.6645 | Main: 808.441.6600 | Fax: 808.836.1689

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From: Pascua, Margie F. [Margie.Pascua@testamericainc.com]
Sent: Wednesday, August 03, 2011 10:39 AM
To: Duzan, Scott
Cc: Selbach, Rosiland
Subject: WoAck: HUH0012

Aloha Scott,

Attached, please find the Work Order Acknowledgment for HUH0012, Project Kilauea, Kauai PMA.

For samples PMAK-DU(1/2)-(D/E), should we extract and hold for Pentachlorophenol? The samples expire on 08/15, but the PMAK-DU(1/2)-(A/B/C) data may not be available until after the hold time expires.

Mahalo!

Margie Pascua Thach
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

99-193 Aiea Heights Drive, Suite 121
Aiea, HI 96701
Office: 808.486.5227 x208
www.testamericainc.com<BLOCKED::http://www.testamericainc.com/>

Please let us know if we met your expectations by rating the service you received from TestAmerica on this project by visiting our website at: Project Feedback<blocked::https://secure.testamericainc.com/snaponline/surveylogin.asp?k=121632876991>

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Honolulu
99-193 Aiea Heights Drive, Suite 121
Aiea, HI 96701
Tel: 808-486-5227

TestAmerica Job ID: HUH0049

Client Project/Site: Kilauea, Kauai PMA, 103S1902014.H003
Client Project Description: Kilauea, Kauai PMA

For:
Tetra Tech EM Inc.
737 Bishop Street, Suite 3010
Honolulu, HI 96813

Attn: Scott Duzan



Authorized for release by:
10/24/2011 01:09:33 PM

Margie Pascua Thach
Project Manager
margie.pascua@testamericainc.com

LINKS

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Definitions/Glossary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Qualifiers

GCMS Volatiles

Qualifier	Qualifier Description
C9	Calibration verification failed to meet method criteria for this analyte. The reported value should be considered an estimate.
M1	The MS and/or MSD were outside the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
R3	The RPD exceeded the acceptance limit due to sample matrix effects.
RL6	The Reporting Limit has been raised to account for a methanol dilution as required by method SW5030/5035. The matrix was not suitable for the low level direct purge method.

GCMS Semivolatiles

Qualifier	Qualifier Description
MHA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
M1	The MS and/or MSD were outside the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
H	Sample analysis performed past method-specified holding time.
Z	Due to sample matrix effects, the surrogate recovery was below the acceptance limits.
C9	Calibration verification failed to meet method criteria for this analyte. The reported value should be considered an estimate.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
Z6	Surrogate recovery was below acceptance limits.

GC Semi VOA

Qualifier	Qualifier Description
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
E	Result exceeded calibration range.
X	Surrogate is outside control limits

GC Semivolatiles

Qualifier	Qualifier Description
MHA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
H	Sample analysis performed past method-specified holding time.
Z9	Unable to calculate surrogate recovery due to matrix interference.
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

DIOXIN

Qualifier	Qualifier Description
G	Elevated reporting limit. The reporting limit is elevated due to matrix interference.
E	Estimated result. Result concentration exceeds the calibration range.
CON	Confirmation analysis.
H	

Metals

Qualifier	Qualifier Description
M8	The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
H	Sample was prepped or analyzed beyond the specified holding time
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit

Definitions/Glossary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

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Case Narrative

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Job ID: HUH0049

Laboratory: TestAmerica Denver

Narrative

CASE NARRATIVE

Client: TestAmerica Laboratories, Inc

Project: Tetra Tech EM - Kilauea, Kauai

Report Number: 280-19305-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 08/18/2011; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 1.8 C.

Per client instructions, samples HUH0049-22, HUH0049-25, HUH0049-26, HUH0049-27, HUH0049-30 and HUH0049-31 were logged for "Extract and Hold". Client will provide instructions if extracts require analysis.

On 9/28/11, samples HUH0049-30 and HUH0049-31 were taken off hold and analyzed per client request.

No other issues were noted.

CHLORINATED HERBICIDES - METHOD 8151A

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Samples HUH0049-23 (280-19305-2)[5X], HUH0049-24 (280-19305-3)[5X], HUH0049-28 (280-19305-7)[5X], HUH0049-29 (280-19305-8)[5X], HUH0049-30 (280-19305-9)[5X] and HUH0049-31 (280-19305-10)[5X] exhibited elevated detection limits due to the matrix of the samples. In order to preserve the integrity of the sample instrumentation and decrease the risk of contamination, these samples were prepped at a 5X dilution. The reporting limits have been adjusted relative to the dilutions required. The samples were noted as dark in color.

The surrogate recovery could not be accurately calculated for samples HUH0049-23 (280-19305-2), HUH0049-24 (280-19305-3) and HUH0049-28 (280-19305-7), HUH0049-30 (280-19305-9) and HUH0049-31 (280-19305-10), because the extract was diluted beyond the ability to quantitate a recovery.

Surrogate DCAA, in the method blank was recovered at 112%, which is outside the QC control limit range of 31-105%. As the associated sample surrogates are 100% in control and results were non-detect, corrective action is deemed unnecessary. Usability of the sample data is not compromised.

Insufficient sample volume was provided to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 280-82326 and 280-82327. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

No other difficulties were encountered.

Laboratory: TestAmerica Honolulu

Case Narrative

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Job ID: HUH0049 (Continued)

Laboratory: TestAmerica Honolulu (Continued)

Narrative

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory unless otherwise stated in the report. 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 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

LABORATORY REPORT

At sample receipt, the cooler/sample was -2 degrees 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.

Samples were prepared in accordance with the State of Hawai'i Department of Health Office of Hazard Evaluation and Emergency Response's Technical Guidance Manual for the Implementation of the Hawai'i State Contingency Plan 2009 edition Laboratory Preparation of Multi-Increment Samples.

Additional Analyses:

Analysis added on 08/09/11, 09/26/11 and 10/06/11 per Eric Jensen, Scott Duzan, or Rosiland Selbach on samples:

HUH0049-04 (PMAK-DU12-D)	Arsenic/Lead 6010, Mercury 7471, Pentachlorophenol 8270, DRO/RRO 8015
HUH0049-05 (PMAK-DU12-E)	Arsenic/Lead 6010, Mercury 7471, Pentachlorophenol 8270, DRO/RRO 8015
HUH0049-09 (PMAK-DU14-D)	Arsenic/Lead 6010, Mercury 7471, Pentachlorophenol 8270
HUH0049-14 (PMAK-DU15-D)	Arsenic/Lead 6010, Mercury 7471, Pentachlorophenol 8270
HUH0049-16 (PMAK-DU22-A)	Bioaccessible arsenic 6010
HUH0049-20 (PMAK-DU17-D)	Arsenic/Lead 6010, Mercury 7471, Pentachlorophenol 8270
HUH0049-21 (PMAK-DU17-E)	pH
HUH0049-22 (PMAK-DU11-A)	VOC 8260, Herbicides 8151 (extraction only), SVOC 8270 (extraction only)
HUH0049-23 (PMAK-DU11-B)	VOC 8260, Herbicides 8151, SVOC 8270, DRO/RRO 8015, Bioaccessible arsenic 6010
HUH0049-24 (PMAK-DU11-C)	VOC 8260, Herbicides 8151, SVOC 8270, DRO/RRO 8015
HUH0049-25 (PMAK-DU11-D)	VOC 8260, Herbicides 8151 (extraction only), SVOC 8270 (extraction only), DRO/RRO 8015 (extraction only)
HUH0049-26 (PMAK-DU11-E)	VOC 8260, Herbicides 8151 (extraction only), SVOC 8270 (extraction only), DRO/RRO 8015 (extraction only)
HUH0049-27 (PMAK-DU10-A)	VOC 8260, Herbicides 8151 (extraction only), SVOC 8270 (extraction only)
HUH0049-28 (PMAK-DU10-B)	VOC 8260, Herbicides 8151, SVOC 8270, DRO/RRO 8015

Case Narrative

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Job ID: HUH0049 (Continued)

Laboratory: TestAmerica Honolulu (Continued)

Bioaccessible arsenic 6010

HUH0049-29 (PMAK-DU10-C) VOC 8260, Herbicides 8151, SVOC 8270, DRO/RRO 8015
HUH0049-30 (PMAK-DU10-D) VOC 8260, Herbicides 8151, SVOC 8270, DRO/RRO 8015
HUH0049-31 (PMAK-DU10-E) VOC 8260, Herbicides 8151, SVOC 8270, DRO/RRO 8015

Herbicides by 8151:

Analysis performed by TestAmerica Denver.

Dioxins and Furans by 8290:

Analysis performed by TestAmerica West Sacramento.

Metals by 6010/7471:

Analysis performed by TestAmerica Seattle.

Laboratory: TestAmerica Seattle

Narrative

Comments

No additional comments.

Receipt

The sample collection times were not listed on any of the sample containers. The samples were logged in using the sampling times listed on the Chain-of-Custody (COC).

Container 580-28091-30-D was compromised by the wet ice packaging. All other containers of this sample set were received in good condition.

All other samples were received in good condition within temperature requirements.

Metals - Method 6010B

Lead failed the recovery criteria low for the MS/MSD of sample HUH0049-03 (580-28091-2) in batch 580-94742. The presence of the '4' qualifier in the report indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Arsenic failed the recovery criteria high for the MSD of sample HUH0049-03 (580-28091-2) in batch 580-94742. The presence of the '4' qualifier in the report indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Method 3050B

There was Insufficient sample volume available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 94616 for samples HUH0049-34 (580-28091-28), HUH0049-35 (580-28091-29), HUH0049-36 (580-28091-30), HUH0049-37 (580-28091-31), HUH0049-38 (580-28091-32), HUH0049-39 (580-28091-33), HUH0049-40 (580-28091-34), HUH0049-47 (580-28091-41), HUH0049-48 (580-28091-42) and HUH0049-49 (580-28091-43).

Metals - Method 7471A

Mercury failed the recovery criteria high for the MS/MSD of sample HUH0049-03 (580-28091-2) in batch 580-94275. The presence of the '4' qualifier in the report indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

The following samples were prepared outside of preparation holding time. HUH0049-28 (580-28091-22), HUH0049-29 (580-28091-23), HUH0049-32 (580-28091-26), HUH0049-33 (580-28091-27), HUH0049-34 (580-28091-28), HUH0049-35 (580-28091-29), HUH0049-36 (580-28091-30), HUH0049-37 (580-28091-31), HUH0049-38 (580-28091-32), HUH0049-39 (580-28091-33), HUH0049-40 (580-28091-34), HUH0049-47 (580-28091-41), HUH0049-48 (580-28091-42) and HUH0049-49 (580-28091-43).

No other analytical or quality issues were noted.



Case Narrative

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Job ID: HUH0049 (Continued)

Laboratory: TestAmerica Seattle (Continued)

General Chemistry

No analytical or quality issues were noted.

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Sample Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
HUH0049-02	PMAK-DU12-B	Solid/Soil	08/04/11 12:25	08/10/11 12:20
HUH0049-03	PMAK-DU12-C	Solid/Soil	08/04/11 12:30	08/10/11 12:20
HUH0049-04	PMAK-DU12-D	Solid/Soil	08/04/11 12:35	08/10/11 12:20
HUH0049-05	PMAK-DU12-E	Solid/Soil	08/04/11 12:40	08/10/11 12:20
HUH0049-07	PMAK-DU14-B	Solid/Soil	08/04/11 13:40	08/10/11 12:20
HUH0049-08	PMAK-DU14-C	Solid/Soil	08/04/11 13:45	08/10/11 12:20
HUH0049-09	PMAK-DU14-D	Solid/Soil	08/04/11 13:50	08/10/11 12:20
HUH0049-10	PMAK-DU14-E	Solid/Soil	08/04/11 13:55	08/10/11 12:20
HUH0049-12	PMAK-DU15-B	Solid/Soil	08/04/11 15:55	08/10/11 12:20
HUH0049-13	PMAK-DU15-C	Solid/Soil	08/04/11 16:00	08/10/11 12:20
HUH0049-14	PMAK-DU15-D	Solid/Soil	08/04/11 16:05	08/10/11 12:20
HUH0049-15	PMAK-DU15-E	Solid/Soil	08/04/11 16:10	08/10/11 12:20
HUH0049-16	PMAK-DU22-A	Solid/Soil	08/05/11 14:00	08/10/11 12:20
HUH0049-18	PMAK-DU17-B	Solid/Soil	08/05/11 14:25	08/10/11 12:20
HUH0049-19	PMAK-DU17-C	Solid/Soil	08/05/11 14:30	08/10/11 12:20
HUH0049-20	PMAK-DU17-D	Solid/Soil	08/05/11 14:35	08/10/11 12:20
HUH0049-21	PMAK-DU17-E	Solid/Soil	08/05/11 14:40	08/10/11 12:20
HUH0049-22	PMAK-DU11-A	Solid/Soil	08/08/11 10:40	08/10/11 12:20
HUH0049-23	PMAK-DU11-B	Solid/Soil	08/08/11 10:45	08/10/11 12:20
HUH0049-24	PMAK-DU11-C	Solid/Soil	08/08/11 10:50	08/10/11 12:20
HUH0049-25	PMAK-DU11-D	Solid/Soil	08/08/11 10:55	08/10/11 12:20
HUH0049-26	PMAK-DU11-E	Solid/Soil	08/08/11 11:00	08/10/11 12:20
HUH0049-27	PMAK-DU10-A	Solid/Soil	08/08/11 13:15	08/10/11 12:20
HUH0049-28	PMAK-DU10-B	Solid/Soil	08/08/11 13:20	08/10/11 12:20
HUH0049-29	PMAK-DU10-C	Solid/Soil	08/08/11 13:25	08/10/11 12:20
HUH0049-30	PMAK-DU10-D	Solid/Soil	08/08/11 13:30	08/10/11 12:20
HUH0049-31	PMAK-DU10-E	Solid/Soil	08/08/11 13:35	08/10/11 12:20
HUH0049-32	PMAK-DU6-A-P	Solid/Soil	08/08/11 16:25	08/10/11 12:20
HUH0049-33	PMAK-DU6-A-T1	Solid/Soil	08/08/11 16:25	08/10/11 12:20
HUH0049-34	PMAK-DU6-A-T2	Solid/Soil	08/08/11 16:25	08/10/11 12:20
HUH0049-35	PMAK-DU6-B-P	Solid/Soil	08/08/11 16:30	08/10/11 12:20
HUH0049-36	PMAK-DU6-B-T1	Solid/Soil	08/08/11 16:30	08/10/11 12:20
HUH0049-37	PMAK-DU6-B-T2	Solid/Soil	08/08/11 16:30	08/10/11 12:20
HUH0049-38	PMAK-DU6-C-P	Solid/Soil	08/08/11 16:35	08/10/11 12:20
HUH0049-39	PMAK-DU6-C-T1	Solid/Soil	08/08/11 16:35	08/10/11 12:20
HUH0049-40	PMAK-DU6-C-T2	Solid/Soil	08/08/11 16:35	08/10/11 12:20
HUH0049-41	PMAK-DU6-D-P	Solid/Soil	08/08/11 16:40	08/10/11 12:20
HUH0049-42	PMAK-DU6-D-T1	Solid/Soil	08/08/11 16:40	08/10/11 12:20
HUH0049-43	PMAK-DU6-D-T2	Solid/Soil	08/08/11 16:40	08/10/11 12:20
HUH0049-44	PMAK-DU6-E-P	Solid/Soil	08/08/11 16:45	08/10/11 12:20
HUH0049-45	PMAK-DU6-E-T1	Solid/Soil	08/08/11 16:45	08/10/11 12:20
HUH0049-46	PMAK-DU6-E-T2	Solid/Soil	08/08/11 16:45	08/10/11 12:20
HUH0049-47	PMAK-DU7-A	Solid/Soil	08/08/11 17:30	08/10/11 12:20
HUH0049-48	PMAK-DU7-B	Solid/Soil	08/08/11 17:35	08/10/11 12:20
HUH0049-49	PMAK-DU7-C	Solid/Soil	08/08/11 17:40	08/10/11 12:20
HUH0049-50	PMAK-DU7-D	Solid/Soil	08/08/11 17:45	08/10/11 12:20
HUH0049-51	PMAK-DU7-E	Solid/Soil	08/08/11 17:50	08/10/11 12:20



Detection Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU12-B

Lab Sample ID: HUH0049-02

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total HxCDD	3300		2500	200			pg/g	500		8290	Total
1,2,3,4,6,7,8-HpCDD	94000		2500	890	0.01	940	pg/g	500		8290	Total
Total HpCDD	170000		2500	890			pg/g	500		8290	Total
OCDD	1800000		5000	990	0.0003	540	pg/g	500		8290	Total
Total HxCDF	32000		2500	450			pg/g	500		8290	Total
1,2,3,4,6,7,8-HpCDF	27000		2500	400	0.01	270	pg/g	500		8290	Total
1,2,3,4,7,8,9-HpCDF	2800		2500	500	0.01	28	pg/g	500		8290	Total
Total HpCDF	120000		2500	450			pg/g	500		8290	Total
OCDF	80000		5000	310	0.0003	24	pg/g	500		8290	Total
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type		
Pentachlorophenol	0.613		0.312		mg/kg	1.00		EPA 8270	Total		
DRO	322		19.5		mg/kg	5.00		EPA 8015	Total		
RRO	1320		97.7		mg/kg	5.00		EPA 8015	Total		
Arsenic	260		5.5		mg/Kg	10		6010B	Total/NA		
Lead	130		2.7		mg/Kg	10		6010B	Total/NA		
Mercury	4.2		0.16		mg/Kg	100		7471A	Total/NA		
pH	7.50		1.00		pH Units	1.00		EPA 9045	Total		

Client Sample ID: PMAK-DU12-C

Lab Sample ID: HUH0049-03

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pentachlorophenol	2.25		0.316		mg/kg	1.00		EPA 8270	Total
DRO	1200		38.6		mg/kg	10.0		EPA 8015	Total
RRO	2490		193		mg/kg	10.0		EPA 8015	Total
Arsenic	370		5.6		mg/Kg	10		6010B	Total/NA
Lead	230		2.8		mg/Kg	10		6010B	Total/NA
Mercury	2.5		0.18		mg/Kg	100		7471A	Total/NA
pH	7.28		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU12-D

Lab Sample ID: HUH0049-04

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
DRO	1470	H	38.5		mg/kg	10.0		EPA 8015	Total
RRO	3330	H	192		mg/kg	10.0		EPA 8015	Total
Arsenic	250		5.9		mg/Kg	10		6010B	Total/NA
Lead	260		2.9		mg/Kg	10		6010B	Total/NA
Mercury	1.5	H	0.19		mg/Kg	100		7471A	Total/NA
pH	7.20		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU12-E

Lab Sample ID: HUH0049-05

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
DRO	1520	H	36.1		mg/kg	10.0		EPA 8015	Total
RRO	1790	H	181		mg/kg	10.0		EPA 8015	Total
Arsenic	130		5.6		mg/Kg	10		6010B	Total/NA
Lead	78		2.8		mg/Kg	10		6010B	Total/NA
Mercury	0.74	H	0.018		mg/Kg	10		7471A	Total/NA
pH	7.21		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU14-B

Lab Sample ID: HUH0049-07

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	25		9.6	9.6			pg/g	9.25		8290	Total

Detection Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU14-B (Continued)

Lab Sample ID: HUH0049-07

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDD	52		46	3.8	0.1	5.2	pg/g	9.25		8290	Total
Total HxCDD	290		46	4.2			pg/g	9.25		8290	Total
1,2,3,4,6,7,8-HpCDD	1700		46	13	0.01	17	pg/g	9.25		8290	Total
Total HpCDD	3600		46	13			pg/g	9.25		8290	Total
OCDD	26000		93	37	0.0003	7.8	pg/g	9.25		8290	Total
Total HxCDF	390		46	6.6			pg/g	9.25		8290	Total
1,2,3,4,6,7,8-HpCDF	440		46	8.0	0.01	4.4	pg/g	9.25		8290	Total
Total HpCDF	1900		46	8.8			pg/g	9.25		8290	Total
OCDF	1200		93	7.7	0.0003	0.36	pg/g	9.25		8290	Total
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type		
Arsenic	1300		5.7		mg/Kg	10		6010B	Total/NA		
Lead	20		2.9		mg/Kg	10		6010B	Total/NA		
Mercury	0.40		0.017		mg/Kg	10		7471A	Total/NA		
pH	6.91		1.00		pH Units	1.00		EPA 9045	Total		

Client Sample ID: PMAK-DU14-C

Lab Sample ID: HUH0049-08

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	1500		5.7		mg/Kg	10		6010B	Total/NA
Lead	32		2.9		mg/Kg	10		6010B	Total/NA
Mercury	0.32		0.017		mg/Kg	10		7471A	Total/NA
pH	6.77		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU14-D

Lab Sample ID: HUH0049-09

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	230		5.8		mg/Kg	10		6010B	Total/NA
Lead	24		2.9		mg/Kg	10		6010B	Total/NA
Mercury	5.0	H	0.88		mg/Kg	500		7471A	Total/NA
pH	7.00		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU14-E

Lab Sample ID: HUH0049-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.16		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU15-B

Lab Sample ID: HUH0049-12

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDD	1100		830	63	0.1	110	pg/g	166.66		8290	Total
Total HxCDD	4500		830	70			pg/g	166.66		8290	Total
1,2,3,4,6,7,8-HpCDD	31000		830	300	0.01	310	pg/g	166.66		8290	Total
Total HpCDD	60000		830	300			pg/g	166.66		8290	Total
OCDD	770000	E	1700	330	0.0003	230	pg/g	166.66		8290	Total
Total HxCDF	8300		830	130			pg/g	166.66		8290	Total
1,2,3,4,6,7,8-HpCDF	8500		830	100	0.01	85	pg/g	166.66		8290	Total
Total HpCDF	39000		830	110			pg/g	166.66		8290	Total
OCDF	26000		1700	110	0.0003	7.8	pg/g	166.66		8290	Total
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type		
Pentachlorophenol	0.777		0.326		mg/kg	1.00		EPA 8270	Total		
Arsenic	2200		5.6		mg/Kg	10		6010B	Total/NA		
Lead	950		2.8		mg/Kg	10		6010B	Total/NA		
Mercury	6.1		1.9		mg/Kg	1000		7471A	Total/NA		

Detection Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU15-B (Continued)

Lab Sample ID: HUH0049-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.30		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU15-C

Lab Sample ID: HUH0049-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pentachlorophenol	2.01		0.308		mg/kg	1.00		EPA 8270	Total
Arsenic	260		5.6		mg/Kg	10		6010B	Total/NA
Lead	1300		2.8		mg/Kg	10		6010B	Total/NA
Mercury	1.3		0.18		mg/Kg	100		7471A	Total/NA
pH	7.84		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU15-D

Lab Sample ID: HUH0049-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pentachlorophenol	3.67	H	1.60		mg/kg	5.00		EPA 8270	Total
Arsenic	1100		5.4		mg/Kg	10		6010B	Total/NA
Lead	510		2.7		mg/Kg	10		6010B	Total/NA
Mercury	1.7	H	0.19		mg/Kg	100		7471A	Total/NA
pH	7.40		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU15-E

Lab Sample ID: HUH0049-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.10		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU22-A

Lab Sample ID: HUH0049-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	60		5.4		mg/Kg	10		6010B	Total/NA
Lead	54		2.7		mg/Kg	10		6010B	Total/NA
Mercury	0.72		0.016		mg/Kg	10		7471A	Total/NA
Arsenic Bio-accessible	14.9		0.971		mg/kg	1.00		EPA 6010	Total
Arsenic Total	178		4.85		mg/kg	5.00		EPA 6010	Total
Arsenic Bio-accessible percent	8.36		0.194		% by Weight	1.00		SBRC Appendix C	Total
pH	7.45		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU17-B

Lab Sample ID: HUH0049-18

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,6,7,8-HpCDD	11000		1200	260	0.01	110	pg/g	250		8290	Total
Total HpCDD	20000		1200	260			pg/g	250		8290	Total
OCDD	900000		2500	400	0.0003	270	pg/g	250		8290	Total
Total HxCDF	1300		1200	100			pg/g	250		8290	Total
1,2,3,4,6,7,8-HpCDF	2200		1200	120	0.01	22	pg/g	250		8290	Total
Total HpCDF	8700		1200	130			pg/g	250		8290	Total
OCDF	7600		2500	140	0.0003	2.3	pg/g	250		8290	Total

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pentachlorophenol	0.567		0.324		mg/kg	1.00		EPA 8270	Total
Arsenic	540		5.4		mg/Kg	10		6010B	Total/NA
Lead	58		2.7		mg/Kg	10		6010B	Total/NA
Mercury	15		1.9		mg/Kg	1000		7471A	Total/NA
pH	7.29		1.00		pH Units	1.00		EPA 9045	Total

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU17-C

Lab Sample ID: HUH0049-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	72		5.8		mg/Kg	10		6010B	Total/NA
Lead	61		2.9		mg/Kg	10		6010B	Total/NA
Mercury	0.63		0.019		mg/Kg	10		7471A	Total/NA
pH	7.30		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU17-D

Lab Sample ID: HUH0049-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	38		5.7		mg/Kg	10		6010B	Total/NA
Lead	26		2.9		mg/Kg	10		6010B	Total/NA
Mercury	0.69	H	0.019		mg/Kg	10		7471A	Total/NA
pH	6.90		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU17-E

Lab Sample ID: HUH0049-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.03		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU11-A

Lab Sample ID: HUH0049-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	0.745		0.330		mg/kg	1.00		EPA 8270	Total
Benzo (a) anthracene	2.02		0.330		mg/kg	1.00		EPA 8270	Total
Benzo (a) pyrene	2.11		0.330		mg/kg	1.00		EPA 8270	Total
Benzo (b) fluoranthene	2.59		0.330		mg/kg	1.00		EPA 8270	Total
Benzo (g,h,i) perylene	1.37		0.330		mg/kg	1.00		EPA 8270	Total
Benzo (k) fluoranthene	0.850		0.330		mg/kg	1.00		EPA 8270	Total
Butyl benzyl phthalate	1.05		0.330		mg/kg	1.00		EPA 8270	Total
Chrysene	2.13		0.330		mg/kg	1.00		EPA 8270	Total
Fluoranthene	4.09		1.65		mg/kg	5.00		EPA 8270	Total
Indeno (1,2,3-cd) pyrene	1.10		0.330		mg/kg	1.00		EPA 8270	Total
Phenanthrene	0.975		0.330		mg/kg	1.00		EPA 8270	Total
Pyrene	3.31		1.65		mg/kg	5.00		EPA 8270	Total

Client Sample ID: PMAK-DU11-B

Lab Sample ID: HUH0049-23

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDD	440		240	19	0.1	44	pg/g	47.61		8290	Total
Total HxCDD	1700		240	21			pg/g	47.61		8290	Total
1,2,3,4,6,7,8-HpCDD	15000		240	64	0.01	150	pg/g	47.61		8290	Total
Total HpCDD	26000		240	64			pg/g	47.61		8290	Total
OCDD	170000		480	150	0.0003	51	pg/g	47.61		8290	Total
1,2,3,4,7,8-HxCDF	340		240	30	0.1	34	pg/g	47.61		8290	Total
Total HxCDF	6900		240	27			pg/g	47.61		8290	Total
1,2,3,4,6,7,8-HpCDF	5900		240	37	0.01	59	pg/g	47.61		8290	Total
1,2,3,4,7,8,9-HpCDF	510		240	46	0.01	5.1	pg/g	47.61		8290	Total
Total HpCDF	24000		240	41			pg/g	47.61		8290	Total
OCDF	17000		480	38	0.0003	5.1	pg/g	47.61		8290	Total
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type		
Benzo (b) fluoranthene	0.344		0.328		mg/kg	1.00		EPA 8270	Total		
Benzo (k) fluoranthene	0.390		0.328		mg/kg	1.00		EPA 8270	Total		
Fluoranthene	0.378		0.328		mg/kg	1.00		EPA 8270	Total		
Pyrene	0.384		0.328		mg/kg	1.00		EPA 8270	Total		

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU11-B (Continued)

Lab Sample ID: HUH0049-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	66		5.5		mg/Kg	10		6010B	Total/NA
Lead	250		2.8		mg/Kg	10		6010B	Total/NA
Mercury	4.3		0.19		mg/Kg	100		7471A	Total/NA
Arsenic Bio-accessible	9.19		1.00		mg/kg	1.00		EPA 6010	Total
Arsenic Total	283		4.95		mg/kg	5.00		EPA 6010	Total
Arsenic Bio-accessible percent	3.25		0.200		% by Weight	1.00		SBRC Appendix C	Total
pH	6.94		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU11-C

Lab Sample ID: HUH0049-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	19		5.7		mg/Kg	10		6010B	Total/NA
Lead	110		2.8		mg/Kg	10		6010B	Total/NA
Mercury	1.4		0.17		mg/Kg	100		7471A	Total/NA
pH	6.94		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU11-D

Lab Sample ID: HUH0049-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	6.90		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU11-E

Lab Sample ID: HUH0049-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	6.76		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU10-A

Lab Sample ID: HUH0049-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pentachlorophenol	1.95		0.322		mg/kg	1.00		EPA 8270	Total

Client Sample ID: PMAK-DU10-B

Lab Sample ID: HUH0049-28

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,6,7,8-HpCDD	110000		5000	1300	0.01	1100	pg/g	1000		8290	Total
Total HpCDD	180000		5000	1300			pg/g	1000		8290	Total
OCDD	1700000		10000	1900	0.0003	510	pg/g	1000		8290	Total
Total HxCDF	52000		5000	580			pg/g	1000		8290	Total
1,2,3,4,6,7,8-HpCDF	42000		5000	930	0.01	420	pg/g	1000		8290	Total
1,2,3,4,7,8,9-HpCDF	5700		5000	1200	0.01	57	pg/g	1000		8290	Total
Total HpCDF	220000		5000	1000			pg/g	1000		8290	Total
OCDF	140000		10000	720	0.0003	42	pg/g	1000		8290	Total
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type		
Pentachlorophenol	0.507		0.327		mg/kg	1.00		EPA 8270	Total		
DRO	160		19.5		mg/kg	5.00		EPA 8015	Total		
RRO	465		97.4		mg/kg	5.00		EPA 8015	Total		
Arsenic	6900		5.3		mg/Kg	10		6010B	Total/NA		
Lead	290		2.6		mg/Kg	10		6010B	Total/NA		
Mercury	30	H	8.7		mg/Kg	5000		7471A	Total/NA		
Arsenic Bio-accessible	2860		1.00		mg/kg	1.00		EPA 6010	Total		
Arsenic Total	12500		99.0		mg/kg	100		EPA 6010	Total		
Arsenic Bio-accessible percent	22.9		0.200		% by Weight	1.00		SBRC Appendix C	Total		
pH	6.97		1.00		pH Units	1.00		EPA 9045	Total		

Detection Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-C

Lab Sample ID: HUH0049-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.672	RL6	0.428		mg/kg	50.0		EPA 8260	Total
1-Methylnaphthalene	12.6		3.07		mg/kg	10.0		EPA 8270	Total
2-Methylnaphthalene	19.0		3.07		mg/kg	10.0		EPA 8270	Total
4-Aminobiphenyl	0.966		0.615		mg/kg	1.00		EPA 8270	Total
4-Chloroaniline	1.33		0.307		mg/kg	1.00		EPA 8270	Total
Acenaphthene	1.22		0.307		mg/kg	1.00		EPA 8270	Total
Anthracene	0.569		0.307		mg/kg	1.00		EPA 8270	Total
Fluorene	1.44		0.307		mg/kg	1.00		EPA 8270	Total
Naphthalene	1.32		0.307		mg/kg	1.00		EPA 8270	Total
Pentachlorophenol	11.9		3.07		mg/kg	10.0		EPA 8270	Total
Phenanthrene	5.79		3.07		mg/kg	10.0		EPA 8270	Total
Pyrene	0.316		0.307		mg/kg	1.00		EPA 8270	Total
DRO	4150		197		mg/kg	50.0		EPA 8015	Total
Arsenic	3800		5.9		mg/Kg	10		6010B	Total/NA
Lead	96		3.0		mg/Kg	10		6010B	Total/NA
Mercury	2.7	H	0.18		mg/Kg	100		7471A	Total/NA
pH	6.86		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU10-D

Lab Sample ID: HUH0049-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	1.52	RL6	0.457		mg/kg	50.0		EPA 8260	Total
Naphthalene	1.21	RL6	0.457		mg/kg	50.0		EPA 8260	Total
1-Methylnaphthalene	15.4	H2	3.13		mg/kg	10.0		EPA 8270	Total
2-Methylnaphthalene	17.2	H2	3.13		mg/kg	10.0		EPA 8270	Total
4-Aminobiphenyl	1.20		0.627		mg/kg	1.00		EPA 8270	Total
4-Chloroaniline	0.674		0.313		mg/kg	1.00		EPA 8270	Total
Acenaphthene	1.98		0.313		mg/kg	1.00		EPA 8270	Total
Anthracene	0.853		0.313		mg/kg	1.00		EPA 8270	Total
Dibenzofuran	0.393		0.313		mg/kg	1.00		EPA 8270	Total
Fluorene	2.28		0.313		mg/kg	1.00		EPA 8270	Total
Naphthalene	1.20		0.313		mg/kg	1.00		EPA 8270	Total
N-Nitrosodiphenylamine	1.58		0.313		mg/kg	1.00		EPA 8270	Total
Pentachlorophenol	11.7	H2	3.13		mg/kg	10.0		EPA 8270	Total
Phenanthrene	8.16	H2	3.13		mg/kg	10.0		EPA 8270	Total
Pyrene	0.472		0.313		mg/kg	1.00		EPA 8270	Total
DRO	2470	H	197		mg/kg	50.0		EPA 8015	Total
RRO	1680	H	987		mg/kg	50.0		EPA 8015	Total
Arsenic	2300		5.7		mg/Kg	10		6010B	Total/NA
Lead	43		2.8		mg/Kg	10		6010B	Total/NA
Mercury	3.3	H	0.39		mg/Kg	200		7471A	Total/NA
pH	6.64		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU10-E

Lab Sample ID: HUH0049-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.526	RL6	0.428		mg/kg	50.0		EPA 8260	Total
1-Chloronaphthalene	3.53	H2	3.29		mg/kg	10.0		EPA 8270	Total
1-Methylnaphthalene	24.7	H2	3.29		mg/kg	10.0		EPA 8270	Total
2-Methylnaphthalene	16.1	H2	3.29		mg/kg	10.0		EPA 8270	Total
4-Chloroaniline	1.16		0.329		mg/kg	1.00		EPA 8270	Total
Acenaphthene	3.67	H2	3.29		mg/kg	10.0		EPA 8270	Total
Anthracene	1.51		0.329		mg/kg	1.00		EPA 8270	Total
Fluoranthene	0.714		0.329		mg/kg	1.00		EPA 8270	Total

Detection Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-E (Continued)

Lab Sample ID: HUH0049-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluorene	4.72	H2	3.29		mg/kg	10.0		EPA 8270	Total
Naphthalene	2.21		0.329		mg/kg	1.00		EPA 8270	Total
Pentachlorophenol	13.3	H2	3.29		mg/kg	10.0		EPA 8270	Total
Phenanthrene	14.3	H2	3.29		mg/kg	10.0		EPA 8270	Total
Pyrene	0.915		0.329		mg/kg	1.00		EPA 8270	Total
DRO	8080	H	388		mg/kg	100		EPA 8015	Total
RRO	4070	H	1940		mg/kg	100		EPA 8015	Total
Arsenic	1800		5.8		mg/Kg	10		6010B	Total/NA
Mercury	0.29	H	0.019		mg/Kg	10		7471A	Total/NA
pH	6.39		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-DU6-A-P

Lab Sample ID: HUH0049-32

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDD	39		17	1.6	0.1	3.9	pg/g	3.31		8290	Total
1,2,3,7,8,9-HxCDD	28		17	1.6	0.1	2.8	pg/g	3.31		8290	Total
Total HxCDD	210		17	1.8			pg/g	3.31		8290	Total
1,2,3,4,6,7,8-HpCDD	1200		17	7.3	0.01	12	pg/g	3.31		8290	Total
Total HpCDD	2000		17	7.3			pg/g	3.31		8290	Total
OCDD	11000		33	8.8	0.0003	3.3	pg/g	3.31		8290	Total
Total TCDF	12		4.1	4.1			pg/g	3.31		8290	Total
Total PeCDF	24		17	4.1			pg/g	3.31		8290	Total
1,2,3,4,7,8-HxCDF	25		17	2.6	0.1	2.5	pg/g	3.31		8290	Total
Total HxCDF	400		17	2.4			pg/g	3.31		8290	Total
1,2,3,4,6,7,8-HpCDF	380		17	2.8	0.01	3.8	pg/g	3.31		8290	Total
1,2,3,4,7,8,9-HpCDF	25		17	3.6	0.01	0.25	pg/g	3.31		8290	Total
Total HpCDF	1300		17	3.2			pg/g	3.31		8290	Total
OCDF	920		33	2.1	0.0003	0.28	pg/g	3.31		8290	Total
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type		
Arsenic	18		6.0		mg/Kg	10		6010B	Total/NA		
Lead	150		3.0		mg/Kg	10		6010B	Total/NA		
Mercury	0.88	H	0.20		mg/Kg	100		7471A	Total/NA		

Client Sample ID: PMAK-DU6-A-T1

Lab Sample ID: HUH0049-33

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDD	39		12	1.5	0.1	3.9	pg/g	2.35		8290	Total
1,2,3,7,8,9-HxCDD	24		12	1.5	0.1	2.4	pg/g	2.35		8290	Total
Total HxCDD	200		12	1.7			pg/g	2.35		8290	Total
1,2,3,4,6,7,8-HpCDD	1100		12	9.1	0.01	11	pg/g	2.35		8290	Total
Total HpCDD	1900		12	9.1			pg/g	2.35		8290	Total
OCDD	10000	E	24	5.3	0.0003	3.0	pg/g	2.35		8290	Total
2,3,7,8-TCDF	3.0	CON	2.4	1.1	0.1	0.30	pg/g	2.35		8290	Total
Total TCDF	8.6		2.4	4.1			pg/g	2.35		8290	Total
Total PeCDF	34		12	3.3			pg/g	2.35		8290	Total
1,2,3,4,7,8-HxCDF	20		12	1.5	0.1	2.0	pg/g	2.35		8290	Total
1,2,3,6,7,8-HxCDF	12		12	1.1	0.1	1.2	pg/g	2.35		8290	Total
Total HxCDF	370		12	1.3			pg/g	2.35		8290	Total
1,2,3,4,6,7,8-HpCDF	370		12	2.2	0.01	3.7	pg/g	2.35		8290	Total
1,2,3,4,7,8,9-HpCDF	28		12	2.8	0.01	0.28	pg/g	2.35		8290	Total
Total HpCDF	1300		12	2.5			pg/g	2.35		8290	Total
OCDF	830		24	2.4	0.0003	0.25	pg/g	2.35		8290	Total

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU6-A-T1 (Continued)

Lab Sample ID: HUH0049-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	15		5.7		mg/Kg	10		6010B	Total/NA
Lead	160		2.9		mg/Kg	10		6010B	Total/NA
Mercury	0.82	H	0.18		mg/Kg	100		7471A	Total/NA

Client Sample ID: PMAK-DU6-A-T2

Lab Sample ID: HUH0049-34

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDD	39		16	0.98	0.1	3.9	pg/g	3.17		8290	Total
1,2,3,7,8,9-HxCDD	27		16	0.98	0.1	2.7	pg/g	3.17		8290	Total
Total HxCDD	190		16	1.1			pg/g	3.17		8290	Total
1,2,3,4,6,7,8-HpCDD	1100		16	6.5	0.01	11	pg/g	3.17		8290	Total
Total HpCDD	2000		16	6.5			pg/g	3.17		8290	Total
OCDD	11000		32	10	0.0003	3.3	pg/g	3.17		8290	Total
Total TCDF	24		3.2	3.5			pg/g	3.17		8290	Total
Total PeCDF	20		16	3.4			pg/g	3.17		8290	Total
1,2,3,4,7,8-HxCDF	21		16	1.9	0.1	2.1	pg/g	3.17		8290	Total
Total HxCDF	390		16	1.7			pg/g	3.17		8290	Total
1,2,3,4,6,7,8-HpCDF	380		16	1.8	0.01	3.8	pg/g	3.17		8290	Total
1,2,3,4,7,8,9-HpCDF	26		16	2.2	0.01	0.26	pg/g	3.17		8290	Total
Total HpCDF	1300		16	2.0			pg/g	3.17		8290	Total
OCDF	880		32	2.5	0.0003	0.26	pg/g	3.17		8290	Total

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16		5.6		mg/Kg	10		6010B	Total/NA
Lead	140		2.8		mg/Kg	10		6010B	Total/NA
Mercury	0.73	H	0.19		mg/Kg	100		7471A	Total/NA

Client Sample ID: PMAK-DU6-B-P

Lab Sample ID: HUH0049-35

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDD	13		4.8	0.26	0.1	1.3	pg/g	0.95		8290	Total
1,2,3,7,8,9-HxCDD	7.6		4.8	0.25	0.1	0.76	pg/g	0.95		8290	Total
Total HxCDD	58		4.8	0.27			pg/g	0.95		8290	Total
1,2,3,4,6,7,8-HpCDD	420		4.8	1.6	0.01	4.2	pg/g	0.95		8290	Total
Total HpCDD	760		4.8	1.6			pg/g	0.95		8290	Total
OCDD	4600	E G	17	17	0.0003	1.4	pg/g	0.95		8290	Total
1,2,3,4,7,8-HxCDF	5.3		4.8	0.68	0.1	0.53	pg/g	0.95		8290	Total
Total HxCDF	140		4.8	0.69			pg/g	0.95		8290	Total
1,2,3,4,6,7,8-HpCDF	150		4.8	0.68	0.01	1.5	pg/g	0.95		8290	Total
1,2,3,4,7,8,9-HpCDF	11		4.8	0.79	0.01	0.11	pg/g	0.95		8290	Total
Total HpCDF	560		4.8	0.73			pg/g	0.95		8290	Total
OCDF	430		9.5	1.3	0.0003	0.13	pg/g	0.95		8290	Total

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	27		2.8		mg/Kg	10		6010B	Total/NA
Mercury	0.72	H	0.19		mg/Kg	100		7471A	Total/NA

Client Sample ID: PMAK-DU6-B-T1

Lab Sample ID: HUH0049-36

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDD	12		4.8	0.21	0.1	1.2	pg/g	0.96		8290	Total
1,2,3,7,8,9-HxCDD	6.6		4.8	0.21	0.1	0.66	pg/g	0.96		8290	Total
Total HxCDD	53		4.8	0.22			pg/g	0.96		8290	Total
1,2,3,4,6,7,8-HpCDD	400		4.8	1.8	0.01	4.0	pg/g	0.96		8290	Total
Total HpCDD	720		4.8	1.8			pg/g	0.96		8290	Total

Detection Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU6-B-T1 (Continued)

Lab Sample ID: HUH0049-36

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
OCDD	4400	E G	15	15	0.0003	1.3	pg/g	0.96		8290	Total
1,2,3,4,7,8-HxCDF	5.2		4.8	0.23	0.1	0.52	pg/g	0.96		8290	Total
Total HxCDF	150		4.8	0.23			pg/g	0.96		8290	Total
1,2,3,4,6,7,8-HpCDF	140		4.8	0.74	0.01	1.4	pg/g	0.96		8290	Total
1,2,3,4,7,8,9-HpCDF	20		4.8	0.86	0.01	0.20	pg/g	0.96		8290	Total
Total HpCDF	550		4.8	0.80			pg/g	0.96		8290	Total
OCDF	430		9.6	0.88	0.0003	0.13	pg/g	0.96		8290	Total
Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Lead	25				2.9		mg/Kg	10		6010B	Total/NA
Mercury	0.55	H			0.21		mg/Kg	100		7471A	Total/NA

Client Sample ID: PMAK-DU6-B-T2

Lab Sample ID: HUH0049-37

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDD	13		4.9	0.28	0.1	1.3	pg/g	0.98		8290	Total
1,2,3,7,8,9-HxCDD	7.7		4.9	0.28	0.1	0.77	pg/g	0.98		8290	Total
Total HxCDD	60		4.9	0.29			pg/g	0.98		8290	Total
1,2,3,4,6,7,8-HpCDD	450		4.9	1.5	0.01	4.5	pg/g	0.98		8290	Total
Total HpCDD	810		4.9	1.5			pg/g	0.98		8290	Total
OCDD	5000	E G	16	16	0.0003	1.5	pg/g	0.98		8290	Total
1,2,3,4,7,8-HxCDF	5.4		4.9	0.26	0.1	0.54	pg/g	0.98		8290	Total
Total HxCDF	160		4.9	0.26			pg/g	0.98		8290	Total
1,2,3,4,6,7,8-HpCDF	160		4.9	0.53	0.01	1.6	pg/g	0.98		8290	Total
1,2,3,4,7,8,9-HpCDF	14		4.9	0.61	0.01	0.14	pg/g	0.98		8290	Total
Total HpCDF	570		4.9	0.56			pg/g	0.98		8290	Total
OCDF	470		9.8	1.9	0.0003	0.14	pg/g	0.98		8290	Total
Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Lead	27				3.0		mg/Kg	10		6010B	Total/NA
Mercury	0.74	H			0.21		mg/Kg	100		7471A	Total/NA

Client Sample ID: PMAK-DU6-C-P

Lab Sample ID: HUH0049-38

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Lead	13				3.0		mg/Kg	10		6010B	Total/NA
Mercury	0.34	H			0.19		mg/Kg	100		7471A	Total/NA

Client Sample ID: PMAK-DU6-C-T1

Lab Sample ID: HUH0049-39

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Lead	15				2.9		mg/Kg	10		6010B	Total/NA
Mercury	0.34	H			0.19		mg/Kg	100		7471A	Total/NA

Client Sample ID: PMAK-DU6-C-T2

Lab Sample ID: HUH0049-40

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Lead	12				3.0		mg/Kg	10		6010B	Total/NA
Mercury	0.37	H			0.19		mg/Kg	100		7471A	Total/NA

Client Sample ID: PMAK-DU6-D-P

Lab Sample ID: HUH0049-41

No Detections

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU6-D-T1

Lab Sample ID: HUH0049-42

No Detections

Client Sample ID: PMAK-DU6-D-T2

Lab Sample ID: HUH0049-43

No Detections

Client Sample ID: PMAK-DU6-E-P

Lab Sample ID: HUH0049-44

No Detections

Client Sample ID: PMAK-DU6-E-T1

Lab Sample ID: HUH0049-45

No Detections

Client Sample ID: PMAK-DU6-E-T2

Lab Sample ID: HUH0049-46

No Detections

Client Sample ID: PMAK-DU7-A

Lab Sample ID: HUH0049-47

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDD	110		47	2.9	0.1	11	pg/g	9.43		8290	Total
1,2,3,7,8,9-HxCDD	63		47	2.9	0.1	6.3	pg/g	9.43		8290	Total
Total HxCDD	560		47	3.0			pg/g	9.43		8290	Total
1,2,3,4,6,7,8-HpCDD	4000		47	15	0.01	40	pg/g	9.43		8290	Total
Total HpCDD	7700		47	15			pg/g	9.43		8290	Total
OCDD	45000	E G	130	130	0.0003	14	pg/g	9.43		8290	Total
Total HxCDF	1200		47	2.7			pg/g	9.43		8290	Total
1,2,3,4,6,7,8-HpCDF	1300		47	5.8	0.01	13	pg/g	9.43		8290	Total
1,2,3,4,7,8,9-HpCDF	97		47	6.7	0.01	0.97	pg/g	9.43		8290	Total
Total HpCDF	4700		47	6.2			pg/g	9.43		8290	Total
OCDF	3800		94	16	0.0003	1.1	pg/g	9.43		8290	Total
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type		
Arsenic	13		5.7		mg/Kg	10		6010B	Total/NA		
Lead	140		2.9		mg/Kg	10		6010B	Total/NA		
Mercury	0.72	H	0.19		mg/Kg	100		7471A	Total/NA		

Client Sample ID: PMAK-DU7-B

Lab Sample ID: HUH0049-48

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDD	86		24	1.5	0.1	8.6	pg/g	4.73		8290	Total
1,2,3,7,8,9-HxCDD	45		24	1.5	0.1	4.5	pg/g	4.73		8290	Total
Total HxCDD	560		24	1.5			pg/g	4.73		8290	Total
1,2,3,4,6,7,8-HpCDD	3700		24	12	0.01	37	pg/g	4.73		8290	Total
Total HpCDD	7000		24	12			pg/g	4.73		8290	Total
OCDD	38000	E G	100	100	0.0003	11	pg/g	4.73		8290	Total
Total PeCDF	62		24	0.75			pg/g	4.73		8290	Total
1,2,3,4,7,8-HxCDF	41		24	1.7	0.1	4.1	pg/g	4.73		8290	Total
1,2,3,6,7,8-HxCDF	35		24	1.6	0.1	3.5	pg/g	4.73		8290	Total
Total HxCDF	1300		24	1.7			pg/g	4.73		8290	Total
1,2,3,4,6,7,8-HpCDF	1200		24	4.4	0.01	12	pg/g	4.73		8290	Total
1,2,3,4,7,8,9-HpCDF	81		24	5.1	0.01	0.81	pg/g	4.73		8290	Total
Total HpCDF	4500		24	4.7			pg/g	4.73		8290	Total
OCDF	3600		47	4.3	0.0003	1.1	pg/g	4.73		8290	Total

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU7-B (Continued)

Lab Sample ID: HUH0049-48

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	54		2.9		mg/Kg	10		6010B	Total/NA
Mercury	0.61	H	0.16		mg/Kg	100		7471A	Total/NA

Client Sample ID: PMAK-DU7-C

Lab Sample ID: HUH0049-49

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	42		2.8		mg/Kg	10		6010B	Total/NA
Mercury	0.51	H	0.18		mg/Kg	100		7471A	Total/NA

Client Sample ID: PMAK-DU7-D

Lab Sample ID: HUH0049-50

No Detections

Client Sample ID: PMAK-DU7-E

Lab Sample ID: HUH0049-51

No Detections

Client Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU12-B

Lab Sample ID: HUH0049-02

Date Collected: 08/04/11 12:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	0.613		0.312		mg/kg		08/17/11 10:10	08/31/11 04:24	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	84		40 - 120				08/17/11 10:10	08/31/11 04:24	1.00

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	322		19.5		mg/kg		08/17/11 10:38	08/18/11 11:32	5.00
RRO	1320		97.7		mg/kg		08/17/11 10:38	08/18/11 11:32	5.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	74		40 - 120				08/17/11 10:38	08/18/11 11:32	5.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		500	440	1		pg/g		08/26/11 16:00	09/07/11 23:59	500
Total TCDD	ND		500	440			pg/g		08/26/11 16:00	09/07/11 23:59	500
1,2,3,7,8-PeCDD	ND		2500	490	1		pg/g		08/26/11 16:00	09/07/11 23:59	500
Total PeCDD	ND		2500	490			pg/g		08/26/11 16:00	09/07/11 23:59	500
1,2,3,4,7,8-HxCDD	ND		2500	260	0.1		pg/g		08/26/11 16:00	09/07/11 23:59	500
1,2,3,6,7,8-HxCDD	ND		2500	180	0.1		pg/g		08/26/11 16:00	09/07/11 23:59	500
1,2,3,7,8,9-HxCDD	ND		2500	180	0.1		pg/g		08/26/11 16:00	09/07/11 23:59	500
Total HxCDD	3300		2500	200			pg/g		08/26/11 16:00	09/07/11 23:59	500
1,2,3,4,6,7,8-HpCDD	94000		2500	890	0.01	940	pg/g		08/26/11 16:00	09/07/11 23:59	500
Total HpCDD	170000		2500	890			pg/g		08/26/11 16:00	09/07/11 23:59	500
OCDD	1800000		5000	990	0.0003	540	pg/g		08/26/11 16:00	09/07/11 23:59	500
2,3,7,8-TCDF	ND		500	140	0.1		pg/g		08/26/11 16:00	09/07/11 23:59	500
Total TCDF	ND		500	140			pg/g		08/26/11 16:00	09/07/11 23:59	500
1,2,3,7,8-PeCDF	ND		2500	670	0.03		pg/g		08/26/11 16:00	09/07/11 23:59	500
2,3,4,7,8-PeCDF	ND		2500	690	0.3		pg/g		08/26/11 16:00	09/07/11 23:59	500
Total PeCDF	ND		2500	680			pg/g		08/26/11 16:00	09/07/11 23:59	500
1,2,3,4,7,8-HxCDF	ND		2500	500	0.1		pg/g		08/26/11 16:00	09/07/11 23:59	500
1,2,3,6,7,8-HxCDF	ND		2500	370	0.1		pg/g		08/26/11 16:00	09/07/11 23:59	500
2,3,4,6,7,8-HxCDF	ND		2500	430	0.1		pg/g		08/26/11 16:00	09/07/11 23:59	500
1,2,3,7,8,9-HxCDF	ND		2500	540	0.1		pg/g		08/26/11 16:00	09/07/11 23:59	500
Total HxCDF	32000		2500	450			pg/g		08/26/11 16:00	09/07/11 23:59	500
1,2,3,4,6,7,8-HpCDF	27000		2500	400	0.01	270	pg/g		08/26/11 16:00	09/07/11 23:59	500
1,2,3,4,7,8,9-HpCDF	2800		2500	500	0.01	28	pg/g		08/26/11 16:00	09/07/11 23:59	500
Total HpCDF	120000		2500	450			pg/g		08/26/11 16:00	09/07/11 23:59	500
OCDF	80000		5000	310	0.0003	24	pg/g		08/26/11 16:00	09/07/11 23:59	500
Total TEQ (WHO 2005)						1800					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	90		40 - 135	08/26/11 16:00	09/07/11 23:59	500
13C-1,2,3,7,8-PeCDD	83		40 - 135	08/26/11 16:00	09/07/11 23:59	500
13C-1,2,3,6,7,8-HxCDD	102		40 - 135	08/26/11 16:00	09/07/11 23:59	500
13C-1,2,3,4,6,7,8-HpCDD	96		40 - 135	08/26/11 16:00	09/07/11 23:59	500
13C-OCDD	120		40 - 135	08/26/11 16:00	09/07/11 23:59	500
13C-2,3,7,8-TCDF	89		40 - 135	08/26/11 16:00	09/07/11 23:59	500
13C-1,2,3,7,8-PeCDF	84		40 - 135	08/26/11 16:00	09/07/11 23:59	500

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU12-B

Lab Sample ID: HUH0049-02

Date Collected: 08/04/11 12:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCDF	98		40 - 135	08/26/11 16:00	09/07/11 23:59	500
13C-1,2,3,4,6,7,8-HpCDF	98		40 - 135	08/26/11 16:00	09/07/11 23:59	500

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	260		5.5		mg/Kg		09/06/11 06:30	09/06/11 17:29	10
Lead	130		2.7		mg/Kg		09/06/11 06:30	09/06/11 17:29	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	4.2		0.16		mg/Kg		08/31/11 13:10	08/31/11 16:56	100

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.50		1.00		pH Units		08/11/11 17:06	08/11/11 17:06	1.00

Client Sample ID: PMAK-DU12-C

Lab Sample ID: HUH0049-03

Date Collected: 08/04/11 12:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	2.25		0.316		mg/kg		08/17/11 10:10	08/31/11 03:44	1.00

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	113		40 - 120	08/17/11 10:10	08/31/11 03:44	1.00

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	1200		38.6		mg/kg		08/17/11 10:38	08/18/11 14:19	10.0
RRO	2490		193		mg/kg		08/17/11 10:38	08/18/11 14:19	10.0

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	108		40 - 120	08/17/11 10:38	08/18/11 14:19	10.0

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	370		5.6		mg/Kg		09/06/11 06:30	09/06/11 16:46	10
Lead	230		2.8		mg/Kg		09/06/11 06:30	09/06/11 16:46	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	2.5		0.18		mg/Kg		08/31/11 13:10	08/31/11 16:51	100

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.28		1.00		pH Units		08/11/11 17:06	08/11/11 17:06	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU12-D

Lab Sample ID: HUH0049-04

Date Collected: 08/04/11 12:35

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	H	0.317		mg/kg		08/17/11 10:10	09/27/11 21:04	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	31	H Z	40 - 120				08/17/11 10:10	09/27/11 21:04	1.00

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	1470	H	38.5		mg/kg		08/17/11 10:38	09/27/11 13:47	10.0
RRO	3330	H	192		mg/kg		08/17/11 10:38	09/27/11 13:47	10.0
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	144	H Z9	35 - 135				08/17/11 10:38	09/27/11 13:47	10.0

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	250		5.9		mg/Kg		10/04/11 16:41	10/05/11 13:37	10
Lead	260		2.9		mg/Kg		10/04/11 16:41	10/05/11 13:37	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.5	H	0.19		mg/Kg		10/04/11 12:06	10/04/11 16:06	100

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.20		1.00		pH Units		08/11/11 17:06	08/11/11 17:06	1.00

Client Sample ID: PMAK-DU12-E

Lab Sample ID: HUH0049-05

Date Collected: 08/04/11 12:40

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	H	0.315		mg/kg		08/17/11 10:10	09/27/11 19:07	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	61	H	40 - 120				08/17/11 10:10	09/27/11 19:07	1.00

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	1520	H	36.1		mg/kg		08/17/11 10:38	09/27/11 14:03	10.0
RRO	1790	H	181		mg/kg		08/17/11 10:38	09/27/11 14:03	10.0
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	52	H	35 - 135				08/17/11 10:38	09/27/11 14:03	10.0

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	130		5.6		mg/Kg		10/04/11 16:41	10/05/11 13:42	10
Lead	78		2.8		mg/Kg		10/04/11 16:41	10/05/11 13:42	10

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU12-E

Lab Sample ID: HUH0049-05

Date Collected: 08/04/11 12:40

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.74	H	0.018		mg/Kg		10/04/11 12:06	10/04/11 15:42	10

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.21		1.00		pH Units		08/11/11 17:06	08/11/11 17:06	1.00

Client Sample ID: PMAK-DU14-B

Lab Sample ID: HUH0049-07

Date Collected: 08/04/11 13:40

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.303		mg/kg		08/17/11 10:10	08/30/11 23:45	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	75		40 - 120				08/17/11 10:10	08/30/11 23:45	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND	G	9.6	9.6	1		pg/g		08/26/11 16:00	09/08/11 00:42	9.25
Total TCDD	25		9.6	9.6			pg/g		08/26/11 16:00	09/08/11 00:42	9.25
1,2,3,7,8-PeCDD	ND		46	9.5	1		pg/g		08/26/11 16:00	09/08/11 00:42	9.25
Total PeCDD	ND		46	9.5			pg/g		08/26/11 16:00	09/08/11 00:42	9.25
1,2,3,4,7,8-HxCDD	ND		46	5.4	0.1		pg/g		08/26/11 16:00	09/08/11 00:42	9.25
1,2,3,6,7,8-HxCDD	52		46	3.8	0.1	5.2	pg/g		08/26/11 16:00	09/08/11 00:42	9.25
1,2,3,7,8,9-HxCDD	ND		46	3.8	0.1		pg/g		08/26/11 16:00	09/08/11 00:42	9.25
Total HxCDD	290		46	4.2			pg/g		08/26/11 16:00	09/08/11 00:42	9.25
1,2,3,4,6,7,8-HpCDD	1700		46	13	0.01	17	pg/g		08/26/11 16:00	09/08/11 00:42	9.25
Total HpCDD	3600		46	13			pg/g		08/26/11 16:00	09/08/11 00:42	9.25
OCDD	26000		93	37	0.0003	7.8	pg/g		08/26/11 16:00	09/08/11 00:42	9.25
2,3,7,8-TCDF	ND	G	13	13	0.1		pg/g		08/26/11 16:00	09/08/11 00:42	9.25
Total TCDF	ND		13	13			pg/g		08/26/11 16:00	09/08/11 00:42	9.25
1,2,3,7,8-PeCDF	ND		46	14	0.03		pg/g		08/26/11 16:00	09/08/11 00:42	9.25
2,3,4,7,8-PeCDF	ND		46	14	0.3		pg/g		08/26/11 16:00	09/08/11 00:42	9.25
Total PeCDF	ND		46	14			pg/g		08/26/11 16:00	09/08/11 00:42	9.25
1,2,3,4,7,8-HxCDF	ND		46	7.3	0.1		pg/g		08/26/11 16:00	09/08/11 00:42	9.25
1,2,3,6,7,8-HxCDF	ND		46	5.4	0.1		pg/g		08/26/11 16:00	09/08/11 00:42	9.25
2,3,4,6,7,8-HxCDF	ND		46	6.3	0.1		pg/g		08/26/11 16:00	09/08/11 00:42	9.25
1,2,3,7,8,9-HxCDF	ND		46	7.9	0.1		pg/g		08/26/11 16:00	09/08/11 00:42	9.25
Total HxCDF	390		46	6.6			pg/g		08/26/11 16:00	09/08/11 00:42	9.25
1,2,3,4,6,7,8-HpCDF	440		46	8.0	0.01	4.4	pg/g		08/26/11 16:00	09/08/11 00:42	9.25
1,2,3,4,7,8,9-HpCDF	ND		46	9.9	0.01		pg/g		08/26/11 16:00	09/08/11 00:42	9.25
Total HpCDF	1900		46	8.8			pg/g		08/26/11 16:00	09/08/11 00:42	9.25
OCDF	1200		93	7.7	0.0003	0.36	pg/g		08/26/11 16:00	09/08/11 00:42	9.25

Total TEQ (WHO 2005) 35

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	74		40 - 135	08/26/11 16:00	09/08/11 00:42	9.25
13C-1,2,3,7,8-PeCDD	72		40 - 135	08/26/11 16:00	09/08/11 00:42	9.25
13C-1,2,3,6,7,8-HxCDD	83		40 - 135	08/26/11 16:00	09/08/11 00:42	9.25

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU14-B

Lab Sample ID: HUH0049-07

Date Collected: 08/04/11 13:40

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	91		40 - 135	08/26/11 16:00	09/08/11 00:42	9.25
13C-OCDD	97		40 - 135	08/26/11 16:00	09/08/11 00:42	9.25
13C-2,3,7,8-TCDF	66		40 - 135	08/26/11 16:00	09/08/11 00:42	9.25
13C-1,2,3,7,8-PeCDF	60		40 - 135	08/26/11 16:00	09/08/11 00:42	9.25
13C-1,2,3,4,7,8-HxCDF	82		40 - 135	08/26/11 16:00	09/08/11 00:42	9.25
13C-1,2,3,4,6,7,8-HpCDF	81		40 - 135	08/26/11 16:00	09/08/11 00:42	9.25

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1300		5.7		mg/Kg		09/06/11 06:30	09/06/11 17:36	10
Lead	20		2.9		mg/Kg		09/06/11 06:30	09/06/11 17:36	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.40		0.017		mg/Kg		08/31/11 13:10	08/31/11 15:55	10

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.91		1.00		pH Units		08/11/11 17:06	08/11/11 17:06	1.00

Client Sample ID: PMAK-DU14-C

Lab Sample ID: HUH0049-08

Date Collected: 08/04/11 13:45

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.307		mg/Kg		08/17/11 10:10	08/31/11 00:25	1.00
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
2,4,6-Tribromophenol	74		40 - 120	08/17/11 10:10	08/31/11 00:25	1.00			

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1500		5.7		mg/Kg		09/06/11 06:30	09/06/11 17:42	10
Lead	32		2.9		mg/Kg		09/06/11 06:30	09/06/11 17:42	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.32		0.017		mg/Kg		08/31/11 13:10	08/31/11 15:58	10

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.77		1.00		pH Units		08/11/11 17:06	08/11/11 17:06	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU14-D

Date Collected: 08/04/11 13:50

Date Received: 08/10/11 12:20

Lab Sample ID: HUH0049-09

Matrix: Solid/Soil

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	H	0.290		mg/kg		08/17/11 10:10	09/27/11 17:49	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	53	H	40 - 120				08/17/11 10:10	09/27/11 17:49	1.00

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	230		5.8		mg/Kg		10/04/11 16:41	10/05/11 13:47	10
Lead	24		2.9		mg/Kg		10/04/11 16:41	10/05/11 13:47	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	5.0	H	0.88		mg/Kg		10/04/11 12:06	10/04/11 16:08	500

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.00		1.00		pH Units		08/11/11 17:06	08/11/11 17:06	1.00

Client Sample ID: PMAK-DU14-E

Date Collected: 08/04/11 13:55

Date Received: 08/10/11 12:20

Lab Sample ID: HUH0049-10

Matrix: Solid/Soil

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.16		1.00		pH Units		08/11/11 17:06	08/11/11 17:06	1.00

Client Sample ID: PMAK-DU15-B

Date Collected: 08/04/11 15:55

Date Received: 08/10/11 12:20

Lab Sample ID: HUH0049-12

Matrix: Solid/Soil

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	0.777		0.326		mg/kg		08/17/11 10:10	08/31/11 05:44	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	90		40 - 120				08/17/11 10:10	08/31/11 05:44	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		170	130	1		pg/g		08/26/11 16:00	09/08/11 01:25	166.66
Total TCDD	ND		170	130			pg/g		08/26/11 16:00	09/08/11 01:25	166.66
1,2,3,7,8-PeCDD	ND		830	160	1		pg/g		08/26/11 16:00	09/08/11 01:25	166.66
Total PeCDD	ND		830	160			pg/g		08/26/11 16:00	09/08/11 01:25	166.66
1,2,3,4,7,8-HxCDD	ND		830	91	0.1		pg/g		08/26/11 16:00	09/08/11 01:25	166.66
1,2,3,6,7,8-HxCDD	1100		830	63	0.1	110	pg/g		08/26/11 16:00	09/08/11 01:25	166.66
1,2,3,7,8,9-HxCDD	ND		830	63	0.1		pg/g		08/26/11 16:00	09/08/11 01:25	166.66
Total HxCDD	4500		830	70			pg/g		08/26/11 16:00	09/08/11 01:25	166.66
1,2,3,4,6,7,8-HpCDD	31000		830	300	0.01	310	pg/g		08/26/11 16:00	09/08/11 01:25	166.66
Total HpCDD	60000		830	300			pg/g		08/26/11 16:00	09/08/11 01:25	166.66
OCDD	770000	E	1700	330	0.0003	230	pg/g		08/26/11 16:00	09/08/11 01:25	166.66

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU15-B

Lab Sample ID: HUH0049-12

Date Collected: 08/04/11 15:55

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		170	22	0.1		pg/g		08/26/11 16:00	09/08/11 01:25	166.66
Total TCDF	ND		170	22			pg/g		08/26/11 16:00	09/08/11 01:25	166.66
1,2,3,7,8-PeCDF	ND		830	190	0.03		pg/g		08/26/11 16:00	09/08/11 01:25	166.66
2,3,4,7,8-PeCDF	ND		830	190	0.3		pg/g		08/26/11 16:00	09/08/11 01:25	166.66
Total PeCDF	ND		830	190			pg/g		08/26/11 16:00	09/08/11 01:25	166.66
1,2,3,4,7,8-HxCDF	ND		830	140	0.1		pg/g		08/26/11 16:00	09/08/11 01:25	166.66
1,2,3,6,7,8-HxCDF	ND		830	110	0.1		pg/g		08/26/11 16:00	09/08/11 01:25	166.66
2,3,4,6,7,8-HxCDF	ND		830	120	0.1		pg/g		08/26/11 16:00	09/08/11 01:25	166.66
1,2,3,7,8,9-HxCDF	ND		830	160	0.1		pg/g		08/26/11 16:00	09/08/11 01:25	166.66
Total HxCDF	8300		830	130			pg/g		08/26/11 16:00	09/08/11 01:25	166.66
1,2,3,4,6,7,8-HpCDF	8500		830	100	0.01	85	pg/g		08/26/11 16:00	09/08/11 01:25	166.66
1,2,3,4,7,8,9-HpCDF	ND		830	130	0.01		pg/g		08/26/11 16:00	09/08/11 01:25	166.66
Total HpCDF	39000		830	110			pg/g		08/26/11 16:00	09/08/11 01:25	166.66
OCDF	26000		1700	110	0.0003	7.8	pg/g		08/26/11 16:00	09/08/11 01:25	166.66
Total TEQ (WHO 2005)						740					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	88		40 - 135	08/26/11 16:00	09/08/11 01:25	166.66
13C-1,2,3,7,8-PeCDD	83		40 - 135	08/26/11 16:00	09/08/11 01:25	166.66
13C-1,2,3,6,7,8-HxCDD	97		40 - 135	08/26/11 16:00	09/08/11 01:25	166.66
13C-1,2,3,4,6,7,8-HpCDD	102		40 - 135	08/26/11 16:00	09/08/11 01:25	166.66
13C-OCDD	122		40 - 135	08/26/11 16:00	09/08/11 01:25	166.66
13C-2,3,7,8-TCDF	85		40 - 135	08/26/11 16:00	09/08/11 01:25	166.66
13C-1,2,3,7,8-PeCDF	79		40 - 135	08/26/11 16:00	09/08/11 01:25	166.66
13C-1,2,3,4,7,8-HxCDF	98		40 - 135	08/26/11 16:00	09/08/11 01:25	166.66
13C-1,2,3,4,6,7,8-HpCDF	98		40 - 135	08/26/11 16:00	09/08/11 01:25	166.66

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2200		5.6		mg/Kg		09/06/11 06:30	09/06/11 17:49	10
Lead	950		2.8		mg/Kg		09/06/11 06:30	09/06/11 17:49	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	6.1		1.9		mg/Kg		08/31/11 13:10	08/31/11 16:48	1000

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.30		1.00		pH Units		08/11/11 17:06	08/11/11 17:06	1.00

Client Sample ID: PMAK-DU15-C

Lab Sample ID: HUH0049-13

Date Collected: 08/04/11 16:00

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	2.01		0.308		mg/kg		08/17/11 10:10	09/01/11 18:18	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	83		40 - 120				08/17/11 10:10	09/01/11 18:18	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU15-C

Lab Sample ID: HUH0049-13

Date Collected: 08/04/11 16:00

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	260		5.6		mg/Kg		09/06/11 06:30	09/06/11 17:56	10
Lead	1300		2.8		mg/Kg		09/06/11 06:30	09/06/11 17:56	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.3		0.18		mg/Kg		08/31/11 13:10	08/31/11 16:58	100

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.84		1.00		pH Units		08/11/11 17:06	08/11/11 17:06	1.00

Client Sample ID: PMAK-DU15-D

Lab Sample ID: HUH0049-14

Date Collected: 08/04/11 16:05

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	3.67	H	1.60		mg/kg		08/17/11 10:10	10/03/11 19:44	5.00
<i>Surrogate</i>	<i>% Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
2,4,6-Tribromophenol	65	H	40 - 120				08/17/11 10:10	09/27/11 18:28	1.00

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1100		5.4		mg/Kg		10/04/11 16:41	10/05/11 13:51	10
Lead	510		2.7		mg/Kg		10/04/11 16:41	10/05/11 13:51	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.7	H	0.19		mg/Kg		10/04/11 12:06	10/04/11 16:10	100

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.40		1.00		pH Units		08/11/11 17:06	08/11/11 17:06	1.00

Client Sample ID: PMAK-DU15-E

Lab Sample ID: HUH0049-15

Date Collected: 08/04/11 16:10

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.10		1.00		pH Units		08/11/11 17:16	08/11/11 17:16	1.00

Client Sample ID: PMAK-DU22-A

Lab Sample ID: HUH0049-16

Date Collected: 08/05/11 14:00

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.281		mg/kg		08/17/11 10:10	09/01/11 18:57	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU22-A

Lab Sample ID: HUH0049-16

Date Collected: 08/05/11 14:00

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	88		40 - 120				08/17/11 10:10	09/01/11 18:57	1.00
Method: 6010B - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	60		5.4		mg/Kg		09/06/11 06:30	09/06/11 18:03	10
Lead	54		2.7		mg/Kg		09/06/11 06:30	09/06/11 18:03	10
Method: 7471A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.72		0.016		mg/Kg		08/31/11 13:10	08/31/11 16:08	10
Method: EPA 6010 - Bio-available Metals									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	14.9		0.971		mg/kg		09/28/11 13:39	09/29/11 08:00	1.00
Arsenic Total	178		4.85		mg/kg		09/28/11 13:39	09/29/11 12:18	5.00
Method: SBRC Appendix C Rev. #8 - Bio-available Metals									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	8.36		0.194		% by Weight		09/28/11 13:39	09/29/11 08:00	1.00
Method: EPA 9045 - General Chemistry Parameters									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.45		1.00		pH Units		08/11/11 17:16	08/11/11 17:16	1.00

Client Sample ID: PMAK-DU17-B

Lab Sample ID: HUH0049-18

Date Collected: 08/05/11 14:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270											
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac		
Pentachlorophenol	0.567		0.324		mg/kg		08/17/11 10:10	08/31/11 01:05	1.00		
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac		
2,4,6-Tribromophenol	69		40 - 120				08/17/11 10:10	08/31/11 01:05	1.00		
Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)											
Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		250	170	1		pg/g		08/26/11 16:00	09/08/11 02:08	250
Total TCDD	ND		250	170			pg/g		08/26/11 16:00	09/08/11 02:08	250
1,2,3,7,8-PeCDD	ND		1200	220	1		pg/g		08/26/11 16:00	09/08/11 02:08	250
Total PeCDD	ND		1200	220			pg/g		08/26/11 16:00	09/08/11 02:08	250
1,2,3,4,7,8-HxCDD	ND		1200	140	0.1		pg/g		08/26/11 16:00	09/08/11 02:08	250
1,2,3,6,7,8-HxCDD	ND		1200	96	0.1		pg/g		08/26/11 16:00	09/08/11 02:08	250
1,2,3,7,8,9-HxCDD	ND		1200	95	0.1		pg/g		08/26/11 16:00	09/08/11 02:08	250
Total HxCDD	ND		1200	110			pg/g		08/26/11 16:00	09/08/11 02:08	250
1,2,3,4,6,7,8-HpCDD	11000		1200	260	0.01	110	pg/g		08/26/11 16:00	09/08/11 02:08	250
Total HpCDD	20000		1200	260			pg/g		08/26/11 16:00	09/08/11 02:08	250
OCDD	900000		2500	400	0.0003	270	pg/g		08/26/11 16:00	09/08/11 02:08	250
2,3,7,8-TCDF	ND		250	58	0.1		pg/g		08/26/11 16:00	09/08/11 02:08	250
Total TCDF	ND		250	58			pg/g		08/26/11 16:00	09/08/11 02:08	250
1,2,3,7,8-PeCDF	ND		1200	250	0.03		pg/g		08/26/11 16:00	09/08/11 02:08	250

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU17-B

Lab Sample ID: HUH0049-18

Date Collected: 08/05/11 14:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,7,8-PeCDF	ND		1200	260	0.3		pg/g		08/26/11 16:00	09/08/11 02:08	250
Total PeCDF	ND		1200	250			pg/g		08/26/11 16:00	09/08/11 02:08	250
1,2,3,4,7,8-HxCDF	ND		1200	110	0.1		pg/g		08/26/11 16:00	09/08/11 02:08	250
1,2,3,6,7,8-HxCDF	ND		1200	82	0.1		pg/g		08/26/11 16:00	09/08/11 02:08	250
2,3,4,6,7,8-HxCDF	ND		1200	95	0.1		pg/g		08/26/11 16:00	09/08/11 02:08	250
1,2,3,7,8,9-HxCDF	ND		1200	120	0.1		pg/g		08/26/11 16:00	09/08/11 02:08	250
Total HxCDF	1300		1200	100			pg/g		08/26/11 16:00	09/08/11 02:08	250
1,2,3,4,6,7,8-HpCDF	2200		1200	120	0.01	22	pg/g		08/26/11 16:00	09/08/11 02:08	250
1,2,3,4,7,8,9-HpCDF	ND		1200	150	0.01		pg/g		08/26/11 16:00	09/08/11 02:08	250
Total HpCDF	8700		1200	130			pg/g		08/26/11 16:00	09/08/11 02:08	250
OCDF	7600		2500	140	0.0003	2.3	pg/g		08/26/11 16:00	09/08/11 02:08	250
Total TEQ (WHO 2005)						400					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	86		40 - 135	08/26/11 16:00	09/08/11 02:08	250
13C-1,2,3,7,8-PeCDD	84		40 - 135	08/26/11 16:00	09/08/11 02:08	250
13C-1,2,3,6,7,8-HxCDD	96		40 - 135	08/26/11 16:00	09/08/11 02:08	250
13C-1,2,3,4,6,7,8-HpCDD	100		40 - 135	08/26/11 16:00	09/08/11 02:08	250
13C-OCDD	119		40 - 135	08/26/11 16:00	09/08/11 02:08	250
13C-2,3,7,8-TCDF	84		40 - 135	08/26/11 16:00	09/08/11 02:08	250
13C-1,2,3,7,8-PeCDF	80		40 - 135	08/26/11 16:00	09/08/11 02:08	250
13C-1,2,3,4,7,8-HxCDF	94		40 - 135	08/26/11 16:00	09/08/11 02:08	250
13C-1,2,3,4,6,7,8-HpCDF	96		40 - 135	08/26/11 16:00	09/08/11 02:08	250

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	540		5.4		mg/Kg		09/06/11 06:30	09/06/11 18:10	10
Lead	58		2.7		mg/Kg		09/06/11 06:30	09/06/11 18:10	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	15		1.9		mg/Kg		08/31/11 13:10	08/31/11 16:49	1000

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.29		1.00		pH Units		08/11/11 17:16	08/11/11 17:16	1.00

Client Sample ID: PMAK-DU17-C

Lab Sample ID: HUH0049-19

Date Collected: 08/05/11 14:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.315		mg/kg		08/17/11 10:10	08/31/11 01:45	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	77		40 - 120				08/17/11 10:10	08/31/11 01:45	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU17-C

Lab Sample ID: HUH0049-19

Date Collected: 08/05/11 14:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	72		5.8		mg/Kg		09/06/11 06:30	09/06/11 18:16	10
Lead	61		2.9		mg/Kg		09/06/11 06:30	09/06/11 18:16	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.63		0.019		mg/Kg		08/31/11 13:10	08/31/11 16:12	10

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.30		1.00		pH Units		08/11/11 17:16	08/11/11 17:16	1.00

Client Sample ID: PMAK-DU17-D

Lab Sample ID: HUH0049-20

Date Collected: 08/05/11 14:35

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	H	0.321		mg/kg		08/17/11 10:10	10/05/11 13:30	1.00
<i>Surrogate</i>	<i>% Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
2,4,6-Tribromophenol	76	H	40 - 120				08/17/11 10:10	10/05/11 13:30	1.00

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	38		5.7		mg/Kg		10/04/11 16:41	10/05/11 13:56	10
Lead	26		2.9		mg/Kg		10/04/11 16:41	10/05/11 13:56	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.69	H	0.019		mg/Kg		10/04/11 12:06	10/04/11 15:53	10

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.90		1.00		pH Units		08/11/11 17:06	08/11/11 17:06	1.00

Client Sample ID: PMAK-DU17-E

Lab Sample ID: HUH0049-21

Date Collected: 08/05/11 14:40

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.03		1.00		pH Units		08/11/11 17:06	08/11/11 17:06	1.00

Client Sample ID: PMAK-DU11-A

Lab Sample ID: HUH0049-22

Date Collected: 08/08/11 10:40

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 71.3

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU11-A

Lab Sample ID: HUH0049-22

Date Collected: 08/08/11 10:40

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 71.3

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
1,1,2,2-Tetrachloroethane	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
1,1,2-Trichloroethane	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
1,1-Dichloroethane	ND	RL6	2.16		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
1,1-Dichloroethene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
1,1-Dichloropropene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
1,2,3-Trichlorobenzene	ND	C9 RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
1,2,3-Trichloropropane	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
1,2,4-Trichlorobenzene	ND	RL6	2.16		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
1,2,4-Trimethylbenzene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
1,2-Dibromo-3-chloropropane	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
1,2-Dibromoethane (EDB)	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
1,2-Dichlorobenzene	ND	RL6	2.16		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
1,2-Dichloroethane	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
1,2-Dichloropropane	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
1,3,5-Trimethylbenzene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
1,3-Dichlorobenzene	ND	RL6	2.16		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
1,3-Dichloropropane	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
1,4-Dichlorobenzene	ND	RL6	2.16		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
2,2-Dichloropropane	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
2-Butanone (MEK)	ND	RL6	2.16		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
2-Chlorotoluene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
2-Hexanone	ND	RL6	2.16		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
4-Chlorotoluene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
4-Methyl-2-pentanone (MIBK)	ND	RL6	2.16		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Acetone	ND	C9 RL6	2.16		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Acrylonitrile	ND	RL6	2.16		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Benzene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Bromobenzene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Bromochloromethane	ND	RL6	2.16		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Bromodichloromethane	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Bromoform	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Bromomethane	ND	RL6	4.33		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Carbon disulfide	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Carbon Tetrachloride	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Chlorobenzene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Chlorodibromomethane	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Chloroethane	ND	RL6	2.16		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Chloroform	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Chloromethane	ND	RL6	2.16		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
cis-1,2-Dichloroethene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
cis-1,3-Dichloropropene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Dibromomethane	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Dichlorodifluoromethane	ND	C9 RL6	2.16		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Ethylbenzene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Hexachlorobutadiene	ND	RL6	2.16		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Iodomethane	ND	RL6	2.16		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Isopropylbenzene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
m,p-Xylene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Methyl tert-Butyl Ether	ND	RL6	0.216		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU11-A

Lab Sample ID: HUH0049-22

Date Collected: 08/08/11 10:40

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 71.3

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND	RL6	2.16		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Naphthalene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
n-Butylbenzene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
n-Propylbenzene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
o-Xylene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
p-Isopropyltoluene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
sec-Butylbenzene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Styrene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
tert-Butylbenzene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Tetrachloroethene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Toluene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
trans-1,2-Dichloroethene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
trans-1,3-Dichloropropene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
trans-1,4-Dichloro-2-butene	ND	RL6	2.16		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Trichloroethene	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Trichlorofluoromethane	ND	RL6	0.433		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Vinyl Acetate	ND	RL6	2.16		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0
Vinyl chloride	ND	RL6	2.16		mg/kg		08/12/11 09:53	08/12/11 17:14	50.0

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4	99		80 - 120	08/12/11 09:53	08/12/11 17:14	50.0
4-Bromofluorobenzene	98		75 - 120	08/12/11 09:53	08/12/11 17:14	50.0
Dibromofluoromethane	100		80 - 120	08/12/11 09:53	08/12/11 17:14	50.0
Toluene-d8	96		80 - 125	08/12/11 09:53	08/12/11 17:14	50.0

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
1,2,4-Trichlorobenzene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
1,2-Dichlorobenzene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
1,3-Dichlorobenzene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
1,4-Dichlorobenzene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
1-Chloronaphthalene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
1-Methylnaphthalene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
1-Naphthylamine	ND	C9	0.660		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
2,3,4,6-Tetrachlorophenol	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
2,4,5-Trichlorophenol	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
2,4,6-Trichlorophenol	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
2,4-Dichlorophenol	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
2,4-Dimethylphenol	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
2,4-Dinitrophenol	ND	C9	1.70		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
2,4-Dinitrotoluene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
2,6-Dichlorophenol	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
2,6-Dinitrotoluene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
2-Chloronaphthalene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
2-Chlorophenol	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
2-Methylnaphthalene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
2-Methylphenol (o-Cresol)	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
2-Naphthylamine	ND		0.660		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
2-Nitroaniline	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
2-Nitrophenol	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU11-A

Lab Sample ID: HUH0049-22

Date Collected: 08/08/11 10:40

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 71.3

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Picoline	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
3,3'-Dichlorobenzidine	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
3,4-Methylphenol (m,p-Cresol)	ND	C9	0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
3-Methylcholanthrene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
3-Nitroaniline	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
4,6-Dinitro-2-methylphenol	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
4-Aminobiphenyl	ND		0.660		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
4-Bromophenyl phenyl ether	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
4-Chloro-3-methylphenol	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
4-Chloroaniline	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
4-Chlorophenyl phenyl ether	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
4-Nitroaniline	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
4-Nitrophenol	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
7,12-Dimethylbenz (a) anthracene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Acenaphthene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Acenaphthylene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Acetophenone	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Aniline	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Anthracene	0.745		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Azobenzene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Benzidine	ND		1.70		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Benzo (a) anthracene	2.02		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Benzo (a) pyrene	2.11		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Benzo (b) fluoranthene	2.59		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Benzo (g,h,i) perylene	1.37		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Benzo (k) fluoranthene	0.850		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Benzoic acid	ND	C9	0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Benzyl alcohol	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Bis(2-chloroethoxy)methane	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Bis(2-chloroethyl)ether	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Bis(2-chloroisopropyl) ether	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Bis(2-ethylhexyl)phthalate	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Butyl benzyl phthalate	1.05		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Chrysene	2.13		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Dibenz (a,j) acridine	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Dibenzo (a,h) anthracene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Dibenzofuran	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Diethyl phthalate	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Dimethyl phthalate	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Dimethylaminoazobenzene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Di-n-butyl phthalate	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Di-n-octyl phthalate	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Ethyl Methanesulfonate	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Fluoranthene	4.09		1.65		mg/kg		08/18/11 11:17	09/15/11 13:04	5.00
Fluorene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Hexachlorobenzene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Hexachlorobutadiene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Hexachlorocyclopentadiene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Hexachloroethane	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Indeno (1,2,3-cd) pyrene	1.10		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU11-A

Lab Sample ID: HUH0049-22

Date Collected: 08/08/11 10:40

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 71.3

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Methyl Methanesulfonate	ND	C9	0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Naphthalene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Nitrobenzene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
N-Nitrosodimethylamine	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
N-Nitrosodi-n-butylamine	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
N-Nitrosodi-n-propylamine	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
N-Nitrosodiphenylamine	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
N-Nitrosopiperidine	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Pentachloronitrobenzene	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Pentachlorophenol	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Phenacetin	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Phenanthrene	0.975		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Phenol	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Pronamide	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Pyrene	3.31		1.65		mg/kg		08/18/11 11:17	09/15/11 13:04	5.00
Pyridine	ND		0.330		mg/kg		08/18/11 11:17	09/13/11 18:18	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>2,4,6-Tribromophenol</i>	77		40 - 120				08/18/11 11:17	09/13/11 18:18	1.00
<i>2-Fluorobiphenyl</i>	60		45 - 120				08/18/11 11:17	09/13/11 18:18	1.00
<i>2-Fluorophenol</i>	54		30 - 120				08/18/11 11:17	09/13/11 18:18	1.00
<i>Nitrobenzene-d5</i>	57		35 - 120				08/18/11 11:17	09/13/11 18:18	1.00
<i>Phenol-d6</i>	67		40 - 120				08/18/11 11:17	09/13/11 18:18	1.00
<i>Terphenyl-d14</i>	65		40 - 130				08/18/11 11:17	09/13/11 18:18	1.00

Method: SM 2540G - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
% Dry Solids	71.3		0.100		Weight %		08/15/11 08:18	08/16/11 13:45	1.00

Client Sample ID: PMAK-DU11-B

Lab Sample ID: HUH0049-23

Date Collected: 08/08/11 10:45

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 68.9

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
1,1,1-Trichloroethane	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
1,1,2,2-Tetrachloroethane	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
1,1,2-Trichloroethane	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
1,1-Dichloroethane	ND	RL6	2.22		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
1,1-Dichloroethene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
1,1-Dichloropropene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
1,2,3-Trichlorobenzene	ND	C9 RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
1,2,3-Trichloropropane	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
1,2,4-Trichlorobenzene	ND	RL6	2.22		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
1,2,4-Trimethylbenzene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
1,2-Dibromo-3-chloropropane	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
1,2-Dibromoethane (EDB)	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
1,2-Dichlorobenzene	ND	RL6	2.22		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0

Client Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU11-B

Lab Sample ID: HUH0049-23

Date Collected: 08/08/11 10:45

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 68.9

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
1,2-Dichloropropane	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
1,3,5-Trimethylbenzene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
1,3-Dichlorobenzene	ND	RL6	2.22		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
1,3-Dichloropropane	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
1,4-Dichlorobenzene	ND	RL6	2.22		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
2,2-Dichloropropane	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
2-Butanone (MEK)	ND	RL6	2.22		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
2-Chlorotoluene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
2-Hexanone	ND	RL6	2.22		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
4-Chlorotoluene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
4-Methyl-2-pentanone (MIBK)	ND	RL6	2.22		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Acetone	ND	C9 RL6	2.22		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Acrylonitrile	ND	RL6	2.22		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Benzene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Bromobenzene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Bromochloromethane	ND	RL6	2.22		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Bromodichloromethane	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Bromoform	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Bromomethane	ND	RL6	4.44		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Carbon disulfide	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Carbon Tetrachloride	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Chlorobenzene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Chlorodibromomethane	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Chloroethane	ND	RL6	2.22		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Chloroform	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Chloromethane	ND	RL6	2.22		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
cis-1,2-Dichloroethene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
cis-1,3-Dichloropropene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Dibromomethane	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Dichlorodifluoromethane	ND	C9 RL6	2.22		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Ethylbenzene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Hexachlorobutadiene	ND	RL6	2.22		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Iodomethane	ND	RL6	2.22		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Isopropylbenzene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
m,p-Xylene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Methyl tert-Butyl Ether	ND	RL6	0.222		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Methylene Chloride	ND	RL6	2.22		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Naphthalene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
n-Butylbenzene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
n-Propylbenzene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
o-Xylene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
p-Isopropyltoluene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
sec-Butylbenzene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Styrene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
tert-Butylbenzene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Tetrachloroethene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Toluene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
trans-1,2-Dichloroethene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
trans-1,3-Dichloropropene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0

Client Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU11-B

Lab Sample ID: HUH0049-23

Date Collected: 08/08/11 10:45

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 68.9

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	ND	RL6	2.22		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Trichloroethene	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Trichlorofluoromethane	ND	RL6	0.444		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Vinyl Acetate	ND	RL6	2.22		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0
Vinyl chloride	ND	RL6	2.22		mg/kg		08/12/11 09:53	08/12/11 17:40	50.0

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4	98		80 - 120	08/12/11 09:53	08/12/11 17:40	50.0
4-Bromofluorobenzene	104		75 - 120	08/12/11 09:53	08/12/11 17:40	50.0
Dibromofluoromethane	100		80 - 120	08/12/11 09:53	08/12/11 17:40	50.0
Toluene-d8	98		80 - 125	08/12/11 09:53	08/12/11 17:40	50.0

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
1,2,4-Trichlorobenzene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
1,2-Dichlorobenzene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
1,3-Dichlorobenzene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
1,4-Dichlorobenzene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
1-Chloronaphthalene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
1-Methylnaphthalene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
1-Naphthylamine	ND	C9	0.656		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
2,3,4,6-Tetrachlorophenol	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
2,4,5-Trichlorophenol	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
2,4,6-Trichlorophenol	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
2,4-Dichlorophenol	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
2,4-Dimethylphenol	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
2,4-Dinitrophenol	ND		1.69		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
2,4-Dinitrotoluene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
2,6-Dichlorophenol	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
2,6-Dinitrotoluene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
2-Chloronaphthalene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
2-Chlorophenol	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
2-Methylnaphthalene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
2-Methylphenol (o-Cresol)	ND	C9	0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
2-Naphthylamine	ND		0.656		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
2-Nitroaniline	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
2-Nitrophenol	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
2-Picoline	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
3,3'-Dichlorobenzidine	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
3,4-Methylphenol (m,p-Cresol)	ND	C9	0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
3-Methylcholanthrene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
3-Nitroaniline	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
4,6-Dinitro-2-methylphenol	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
4-Aminobiphenyl	ND		0.656		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
4-Bromophenyl phenyl ether	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
4-Chloro-3-methylphenol	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
4-Chloroaniline	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
4-Chlorophenyl phenyl ether	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
4-Nitroaniline	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
4-Nitrophenol	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU11-B

Lab Sample ID: HUH0049-23

Date Collected: 08/08/11 10:45

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 68.9

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
7,12-Dimethylbenz (a) anthracene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Acenaphthene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Acenaphthylene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Acetophenone	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Aniline	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Anthracene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Azobenzene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Benzidine	ND		1.69		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Benzo (a) anthracene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Benzo (a) pyrene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Benzo (b) fluoranthene	0.344		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Benzo (g,h,i) perylene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Benzo (k) fluoranthene	0.390		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Benzoic acid	ND	C9	0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Benzyl alcohol	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Bis(2-chloroethoxy)methane	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Bis(2-chloroethyl)ether	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Bis(2-chloroisopropyl) ether	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Bis(2-ethylhexyl)phthalate	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Butyl benzyl phthalate	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Chrysene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Dibenz (a,j) acridine	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Dibenzo (a,h) anthracene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Dibenzofuran	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Diethyl phthalate	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Dimethyl phthalate	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Dimethylaminoazobenzene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Di-n-butyl phthalate	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Di-n-octyl phthalate	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Ethyl Methanesulfonate	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Fluoranthene	0.378		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Fluorene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Hexachlorobenzene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Hexachlorobutadiene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Hexachlorocyclopentadiene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Hexachloroethane	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Indeno (1,2,3-cd) pyrene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Isophorone	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Methyl Methanesulfonate	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Naphthalene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Nitrobenzene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
N-Nitrosodimethylamine	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
N-Nitrosodi-n-butylamine	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
N-Nitrosodi-n-propylamine	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
N-Nitrosodiphenylamine	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
N-Nitrosopiperidine	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Pentachloronitrobenzene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Pentachlorophenol	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Phenacetin	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Phenanthrene	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU11-B

Lab Sample ID: HUH0049-23

Date Collected: 08/08/11 10:45

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 68.9

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Pronamide	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Pyrene	0.384		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Pyridine	ND		0.328		mg/kg		08/18/11 11:17	09/15/11 10:29	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	73		40 - 120				08/18/11 11:17	09/15/11 10:29	1.00
2-Fluorobiphenyl	64		45 - 120				08/18/11 11:17	09/15/11 10:29	1.00
2-Fluorophenol	66		30 - 120				08/18/11 11:17	09/15/11 10:29	1.00
Nitrobenzene-d5	70		35 - 120				08/18/11 11:17	09/15/11 10:29	1.00
Phenol-d6	73		40 - 120				08/18/11 11:17	09/15/11 10:29	1.00
Terphenyl-d14	53		40 - 130				08/18/11 11:17	09/15/11 10:29	1.00

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		390		ug/Kg		08/21/11 10:30	08/25/11 01:36	5
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	233	D	31 - 105				08/21/11 10:30	08/25/11 01:36	5

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		48	30	1		pg/g		08/26/11 16:00	09/08/11 02:51	47.61
Total TCDD	ND		48	30			pg/g		08/26/11 16:00	09/08/11 02:51	47.61
1,2,3,7,8-PeCDD	ND		240	44	1		pg/g		08/26/11 16:00	09/08/11 02:51	47.61
Total PeCDD	ND		240	44			pg/g		08/26/11 16:00	09/08/11 02:51	47.61
1,2,3,4,7,8-HxCDD	ND		240	27	0.1		pg/g		08/26/11 16:00	09/08/11 02:51	47.61
1,2,3,6,7,8-HxCDD	440		240	19	0.1	44	pg/g		08/26/11 16:00	09/08/11 02:51	47.61
1,2,3,7,8,9-HxCDD	ND		240	19	0.1		pg/g		08/26/11 16:00	09/08/11 02:51	47.61
Total HxCDD	1700		240	21			pg/g		08/26/11 16:00	09/08/11 02:51	47.61
1,2,3,4,6,7,8-HpCDD	15000		240	64	0.01	150	pg/g		08/26/11 16:00	09/08/11 02:51	47.61
Total HpCDD	26000		240	64			pg/g		08/26/11 16:00	09/08/11 02:51	47.61
OCDD	170000		480	150	0.0003	51	pg/g		08/26/11 16:00	09/08/11 02:51	47.61
2,3,7,8-TCDF	ND		48	10	0.1		pg/g		08/26/11 16:00	09/08/11 02:51	47.61
Total TCDF	ND		48	10			pg/g		08/26/11 16:00	09/08/11 02:51	47.61
1,2,3,7,8-PeCDF	ND		240	50	0.03		pg/g		08/26/11 16:00	09/08/11 02:51	47.61
2,3,4,7,8-PeCDF	ND		240	51	0.3		pg/g		08/26/11 16:00	09/08/11 02:51	47.61
Total PeCDF	ND		240	50			pg/g		08/26/11 16:00	09/08/11 02:51	47.61
1,2,3,4,7,8-HxCDF	340		240	30	0.1	34	pg/g		08/26/11 16:00	09/08/11 02:51	47.61
1,2,3,6,7,8-HxCDF	ND		240	22	0.1		pg/g		08/26/11 16:00	09/08/11 02:51	47.61
2,3,4,6,7,8-HxCDF	ND		240	25	0.1		pg/g		08/26/11 16:00	09/08/11 02:51	47.61
1,2,3,7,8,9-HxCDF	ND		240	32	0.1		pg/g		08/26/11 16:00	09/08/11 02:51	47.61
Total HxCDF	6900		240	27			pg/g		08/26/11 16:00	09/08/11 02:51	47.61
1,2,3,4,6,7,8-HpCDF	5900		240	37	0.01	59	pg/g		08/26/11 16:00	09/08/11 02:51	47.61
1,2,3,4,7,8,9-HpCDF	510		240	46	0.01	5.1	pg/g		08/26/11 16:00	09/08/11 02:51	47.61
Total HpCDF	24000		240	41			pg/g		08/26/11 16:00	09/08/11 02:51	47.61
OCDF	17000		480	38	0.0003	5.1	pg/g		08/26/11 16:00	09/08/11 02:51	47.61

Total TEQ (WHO 2005) 350

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	92		40 - 135	08/26/11 16:00	09/08/11 02:51	47.61

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU11-B

Lab Sample ID: HUH0049-23

Date Collected: 08/08/11 10:45

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDD	84		40 - 135	08/26/11 16:00	09/08/11 02:51	47.61
13C-1,2,3,6,7,8-HxCDD	100		40 - 135	08/26/11 16:00	09/08/11 02:51	47.61
13C-1,2,3,4,6,7,8-HpCDD	105		40 - 135	08/26/11 16:00	09/08/11 02:51	47.61
13C-OCDD	124		40 - 135	08/26/11 16:00	09/08/11 02:51	47.61
13C-2,3,7,8-TCDF	89		40 - 135	08/26/11 16:00	09/08/11 02:51	47.61
13C-1,2,3,7,8-PeCDF	82		40 - 135	08/26/11 16:00	09/08/11 02:51	47.61
13C-1,2,3,4,7,8-HxCDF	99		40 - 135	08/26/11 16:00	09/08/11 02:51	47.61
13C-1,2,3,4,6,7,8-HpCDF	101		40 - 135	08/26/11 16:00	09/08/11 02:51	47.61

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	66		5.5		mg/Kg		09/06/11 06:30	09/06/11 18:37	10
Lead	250		2.8		mg/Kg		09/06/11 06:30	09/06/11 18:37	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	4.3		0.19		mg/Kg		08/31/11 13:10	08/31/11 17:00	100

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	9.19		1.00		mg/kg		10/05/11 08:51	10/19/11 15:55	1.00
Arsenic Total	283		4.95		mg/kg		10/07/11 15:48	10/11/11 12:50	5.00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	3.25		0.200		% by Weight		10/05/11 08:51	10/19/11 15:55	1.00

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.94		1.00		pH Units		08/11/11 17:06	08/11/11 17:06	1.00

Method: SM 2540G - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
% Dry Solids	68.9		0.100		Weight %		08/15/11 08:18	08/16/11 13:45	1.00

Client Sample ID: PMAK-DU11-C

Lab Sample ID: HUH0049-24

Date Collected: 08/08/11 10:50

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 68.8

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
1,1,1-Trichloroethane	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
1,1,2,2-Tetrachloroethane	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
1,1,2-Trichloroethane	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
1,1-Dichloroethane	ND	RL6	2.58		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
1,1-Dichloroethene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
1,1-Dichloropropene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
1,2,3-Trichlorobenzene	ND	C9 RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
1,2,3-Trichloropropane	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0

Client Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU11-C

Lab Sample ID: HUH0049-24

Date Collected: 08/08/11 10:50

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 68.8

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	RL6	2.58		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
1,2,4-Trimethylbenzene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
1,2-Dibromo-3-chloropropane	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
1,2-Dibromoethane (EDB)	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
1,2-Dichlorobenzene	ND	RL6	2.58		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
1,2-Dichloroethane	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
1,2-Dichloropropane	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
1,3,5-Trimethylbenzene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
1,3-Dichlorobenzene	ND	RL6	2.58		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
1,3-Dichloropropane	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
1,4-Dichlorobenzene	ND	RL6	2.58		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
2,2-Dichloropropane	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
2-Butanone (MEK)	ND	RL6	2.58		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
2-Chlorotoluene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
2-Hexanone	ND	RL6	2.58		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
4-Chlorotoluene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
4-Methyl-2-pentanone (MIBK)	ND	RL6	2.58		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Acetone	ND	RL6 C9	2.58		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Acrylonitrile	ND	RL6	2.58		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Benzene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Bromobenzene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Bromochloromethane	ND	RL6	2.58		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Bromodichloromethane	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Bromoform	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Bromomethane	ND	RL6	5.15		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Carbon disulfide	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Carbon Tetrachloride	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Chlorobenzene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Chlorodibromomethane	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Chloroethane	ND	RL6	2.58		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Chloroform	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Chloromethane	ND	RL6	2.58		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
cis-1,2-Dichloroethene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
cis-1,3-Dichloropropene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Dibromomethane	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Dichlorodifluoromethane	ND	C9 RL6	2.58		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Ethylbenzene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Hexachlorobutadiene	ND	RL6	2.58		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Iodomethane	ND	RL6	2.58		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Isopropylbenzene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
m,p-Xylene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Methyl tert-Butyl Ether	ND	RL6	0.258		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Methylene Chloride	ND	RL6	2.58		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Naphthalene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
n-Butylbenzene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
n-Propylbenzene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
o-Xylene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
p-Isopropyltoluene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
sec-Butylbenzene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Styrene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0

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Lab Sample ID: HUH0049-24

Date Collected: 08/08/11 10:50

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 68.8

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Tetrachloroethene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Toluene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
trans-1,2-Dichloroethene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
trans-1,3-Dichloropropene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
trans-1,4-Dichloro-2-butene	ND	RL6	2.58		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Trichloroethene	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Trichlorofluoromethane	ND	RL6	0.515		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Vinyl Acetate	ND	RL6	2.58		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Vinyl chloride	ND	RL6	2.58		mg/kg		08/12/11 09:53	08/12/11 18:06	50.0
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4	97		80 - 120				08/12/11 09:53	08/12/11 18:06	50.0
4-Bromofluorobenzene	103		75 - 120				08/12/11 09:53	08/12/11 18:06	50.0
Dibromofluoromethane	99		80 - 120				08/12/11 09:53	08/12/11 18:06	50.0
Toluene-d8	98		80 - 125				08/12/11 09:53	08/12/11 18:06	50.0

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
1,2,4-Trichlorobenzene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
1,2-Dichlorobenzene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
1,3-Dichlorobenzene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
1,4-Dichlorobenzene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
1-Chloronaphthalene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
1-Methylnaphthalene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
1-Naphthylamine	ND	C9	0.604		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
2,3,4,6-Tetrachlorophenol	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
2,4,5-Trichlorophenol	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
2,4,6-Trichlorophenol	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
2,4-Dichlorophenol	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
2,4-Dimethylphenol	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
2,4-Dinitrophenol	ND		1.55		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
2,4-Dinitrotoluene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
2,6-Dichlorophenol	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
2,6-Dinitrotoluene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
2-Chloronaphthalene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
2-Chlorophenol	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
2-Methylnaphthalene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
2-Methylphenol (o-Cresol)	ND	C9	0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
2-Naphthylamine	ND		0.604		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
2-Nitroaniline	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
2-Nitrophenol	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
2-Picoline	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
3,3'-Dichlorobenzidine	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
3,4-Methylphenol (m,p-Cresol)	ND	C9	0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
3-Methylcholanthrene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
3-Nitroaniline	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
4,6-Dinitro-2-methylphenol	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
4-Aminobiphenyl	ND		0.604		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
4-Bromophenyl phenyl ether	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00

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Date Received: 08/10/11 12:20

Percent Solids: 68.8

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloro-3-methylphenol	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
4-Chloroaniline	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
4-Chlorophenyl phenyl ether	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
4-Nitroaniline	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
4-Nitrophenol	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
7,12-Dimethylbenz (a) anthracene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Acenaphthene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Acenaphthylene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Acetophenone	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Aniline	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Anthracene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Azobenzene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Benzidine	ND		1.55		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Benzo (a) anthracene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Benzo (a) pyrene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Benzo (b) fluoranthene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Benzo (g,h,i) perylene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Benzo (k) fluoranthene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Benzoic acid	ND	C9	0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Benzyl alcohol	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Bis(2-chloroethoxy)methane	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Bis(2-chloroethyl)ether	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Bis(2-chloroisopropyl) ether	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Bis(2-ethylhexyl)phthalate	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Butyl benzyl phthalate	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Chrysene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Dibenz (a,j) acridine	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Dibenzo (a,h) anthracene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Dibenzofuran	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Diethyl phthalate	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Dimethyl phthalate	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Dimethylaminoazobenzene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Di-n-butyl phthalate	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Di-n-octyl phthalate	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Ethyl Methanesulfonate	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Fluoranthene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Fluorene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Hexachlorobenzene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Hexachlorobutadiene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Hexachlorocyclopentadiene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Hexachloroethane	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Indeno (1,2,3-cd) pyrene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Isophorone	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Methyl Methanesulfonate	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Naphthalene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Nitrobenzene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
N-Nitrosodimethylamine	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
N-Nitrosodi-n-butylamine	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
N-Nitrosodi-n-propylamine	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
N-Nitrosodiphenylamine	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00

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Lab Sample ID: HUH0049-24

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Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 68.8

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosopiperidine	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Pentachloronitrobenzene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Pentachlorophenol	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Phenacetin	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Phenanthrene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Phenol	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Pronamide	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Pyrene	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Pyridine	ND		0.302		mg/kg		08/18/11 11:17	09/15/11 11:08	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	70		40 - 120				08/18/11 11:17	09/15/11 11:08	1.00
2-Fluorobiphenyl	65		45 - 120				08/18/11 11:17	09/15/11 11:08	1.00
2-Fluorophenol	59		30 - 120				08/18/11 11:17	09/15/11 11:08	1.00
Nitrobenzene-d5	62		35 - 120				08/18/11 11:17	09/15/11 11:08	1.00
Phenol-d6	68		40 - 120				08/18/11 11:17	09/15/11 11:08	1.00
Terphenyl-d14	61		40 - 130				08/18/11 11:17	09/15/11 11:08	1.00

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		400		ug/Kg		08/21/11 10:30	08/25/11 02:00	5
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	143	D	31 - 105				08/21/11 10:30	08/25/11 02:00	5

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	19		5.7		mg/Kg		09/06/11 06:30	09/06/11 18:43	10
Lead	110		2.8		mg/Kg		09/06/11 06:30	09/06/11 18:43	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.4		0.17		mg/Kg		08/31/11 13:10	08/31/11 17:02	100

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.94		1.00		pH Units		08/11/11 17:06	08/11/11 17:06	1.00

Method: SM 2540G - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
% Dry Solids	68.8		0.100		Weight %		08/15/11 08:18	08/16/11 13:45	1.00

Client Sample ID: PMAK-DU11-D

Lab Sample ID: HUH0049-25

Date Collected: 08/08/11 10:55

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 69

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
1,1,1-Trichloroethane	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
1,1,2,2-Tetrachloroethane	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0

Client Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU11-D

Lab Sample ID: HUH0049-25

Date Collected: 08/08/11 10:55

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 69

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
1,1-Dichloroethane	ND	RL6	2.20		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
1,1-Dichloroethene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
1,1-Dichloropropene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
1,2,3-Trichlorobenzene	ND	C9 RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
1,2,3-Trichloropropane	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
1,2,4-Trichlorobenzene	ND	RL6	2.20		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
1,2,4-Trimethylbenzene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
1,2-Dibromo-3-chloropropane	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
1,2-Dibromoethane (EDB)	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
1,2-Dichlorobenzene	ND	RL6	2.20		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
1,2-Dichloroethane	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
1,2-Dichloropropane	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
1,3,5-Trimethylbenzene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
1,3-Dichlorobenzene	ND	RL6	2.20		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
1,3-Dichloropropane	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
1,4-Dichlorobenzene	ND	RL6	2.20		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
2,2-Dichloropropane	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
2-Butanone (MEK)	ND	RL6	2.20		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
2-Chlorotoluene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
2-Hexanone	ND	RL6	2.20		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
4-Chlorotoluene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
4-Methyl-2-pentanone (MIBK)	ND	RL6	2.20		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Acetone	ND	C9 RL6	2.20		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Acrylonitrile	ND	RL6	2.20		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Benzene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Bromobenzene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Bromochloromethane	ND	RL6	2.20		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Bromodichloromethane	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Bromoform	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Bromomethane	ND	RL6	4.41		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Carbon disulfide	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Carbon Tetrachloride	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Chlorobenzene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Chlorodibromomethane	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Chloroethane	ND	RL6	2.20		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Chloroform	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Chloromethane	ND	RL6	2.20		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
cis-1,2-Dichloroethene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
cis-1,3-Dichloropropene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Dibromomethane	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Dichlorodifluoromethane	ND	C9 RL6	2.20		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Ethylbenzene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Hexachlorobutadiene	ND	RL6	2.20		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Iodomethane	ND	RL6	2.20		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Isopropylbenzene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
m,p-Xylene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Methyl tert-Butyl Ether	ND	RL6	0.220		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Methylene Chloride	ND	RL6	2.20		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Naphthalene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU11-D

Lab Sample ID: HUH0049-25

Date Collected: 08/08/11 10:55

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 69

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
n-Propylbenzene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
o-Xylene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
p-Isopropyltoluene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
sec-Butylbenzene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Styrene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
tert-Butylbenzene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Tetrachloroethene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Toluene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
trans-1,2-Dichloroethene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
trans-1,3-Dichloropropene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
trans-1,4-Dichloro-2-butene	ND	RL6	2.20		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Trichloroethene	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Trichlorofluoromethane	ND	RL6	0.441		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Vinyl Acetate	ND	RL6	2.20		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0
Vinyl chloride	ND	RL6	2.20		mg/kg		08/12/11 09:53	08/12/11 18:32	50.0

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4	101		80 - 120	08/12/11 09:53	08/12/11 18:32	50.0
4-Bromofluorobenzene	106		75 - 120	08/12/11 09:53	08/12/11 18:32	50.0
Dibromofluoromethane	99		80 - 120	08/12/11 09:53	08/12/11 18:32	50.0
Toluene-d8	95		80 - 125	08/12/11 09:53	08/12/11 18:32	50.0

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.90		1.00		pH Units		08/11/11 17:06	08/11/11 17:06	1.00

Method: SM 2540G - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
% Dry Solids	69.0		0.100		Weight %		08/15/11 08:18	08/16/11 13:45	1.00

Client Sample ID: PMAK-DU11-E

Lab Sample ID: HUH0049-26

Date Collected: 08/08/11 11:00

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 60.4

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
1,1,1-Trichloroethane	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
1,1,2,2-Tetrachloroethane	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
1,1,2-Trichloroethane	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
1,1-Dichloroethane	ND	RL6	2.10		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
1,1-Dichloroethene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
1,1-Dichloropropene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
1,2,3-Trichlorobenzene	ND	C9 RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
1,2,3-Trichloropropane	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
1,2,4-Trichlorobenzene	ND	RL6	2.10		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
1,2,4-Trimethylbenzene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
1,2-Dibromo-3-chloropropane	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
1,2-Dibromoethane (EDB)	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0

Client Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU11-E

Lab Sample ID: HUH0049-26

Date Collected: 08/08/11 11:00

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 60.4

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND	RL6	2.10		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
1,2-Dichloroethane	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
1,2-Dichloropropane	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
1,3,5-Trimethylbenzene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
1,3-Dichlorobenzene	ND	RL6	2.10		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
1,3-Dichloropropane	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
1,4-Dichlorobenzene	ND	RL6	2.10		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
2,2-Dichloropropane	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
2-Butanone (MEK)	ND	RL6	2.10		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
2-Chlorotoluene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
2-Hexanone	ND	RL6	2.10		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
4-Chlorotoluene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
4-Methyl-2-pentanone (MIBK)	ND	RL6	2.10		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Acetone	ND	C9 RL6	2.10		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Acrylonitrile	ND	RL6	2.10		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Benzene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Bromobenzene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Bromochloromethane	ND	RL6	2.10		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Bromodichloromethane	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Bromoform	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Bromomethane	ND	RL6	4.20		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Carbon disulfide	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Carbon Tetrachloride	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Chlorobenzene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Chlorodibromomethane	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Chloroethane	ND	RL6	2.10		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Chloroform	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Chloromethane	ND	RL6	2.10		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
cis-1,2-Dichloroethene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
cis-1,3-Dichloropropene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Dibromomethane	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Dichlorodifluoromethane	ND	C9 RL6	2.10		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Ethylbenzene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Hexachlorobutadiene	ND	RL6	2.10		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Iodomethane	ND	RL6	2.10		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Isopropylbenzene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
m,p-Xylene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Methyl tert-Butyl Ether	ND	RL6	0.210		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Methylene Chloride	ND	RL6	2.10		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Naphthalene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
n-Butylbenzene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
n-Propylbenzene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
o-Xylene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
p-Isopropyltoluene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
sec-Butylbenzene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Styrene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
tert-Butylbenzene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Tetrachloroethene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Toluene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
trans-1,2-Dichloroethene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU11-E

Lab Sample ID: HUH0049-26

Date Collected: 08/08/11 11:00

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 60.4

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
trans-1,4-Dichloro-2-butene	ND	RL6	2.10		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Trichloroethene	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Trichlorofluoromethane	ND	RL6	0.420		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Vinyl Acetate	ND	RL6	2.10		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0
Vinyl chloride	ND	RL6	2.10		mg/kg		08/12/11 09:53	08/12/11 14:38	50.0

Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4	106		80 - 120				08/12/11 09:53	08/12/11 14:38	50.0
4-Bromofluorobenzene	97		75 - 120				08/12/11 09:53	08/12/11 14:38	50.0
Dibromofluoromethane	104		80 - 120				08/12/11 09:53	08/12/11 14:38	50.0
Toluene-d8	93		80 - 125				08/12/11 09:53	08/12/11 14:38	50.0

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.76		1.00		pH Units		08/11/11 17:06	08/11/11 17:06	1.00

Method: SM 2540G - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
% Dry Solids	60.4		0.100		Weight %		08/15/11 08:18	08/16/11 13:45	1.00

Client Sample ID: PMAK-DU10-A

Lab Sample ID: HUH0049-27

Date Collected: 08/08/11 13:15

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 74.6

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
1,1,1-Trichloroethane	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
1,1,1,2,2-Tetrachloroethane	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
1,1,2-Trichloroethane	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
1,1-Dichloroethane	ND	RL6	2.60		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
1,1-Dichloroethene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
1,1-Dichloropropene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
1,2,3-Trichlorobenzene	ND	C9 RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
1,2,3-Trichloropropane	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
1,2,4-Trichlorobenzene	ND	RL6	2.60		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
1,2,4-Trimethylbenzene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
1,2-Dibromo-3-chloropropane	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
1,2-Dibromoethane (EDB)	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
1,2-Dichlorobenzene	ND	RL6	2.60		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
1,2-Dichloroethane	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
1,2-Dichloropropane	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
1,3,5-Trimethylbenzene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
1,3-Dichlorobenzene	ND	RL6	2.60		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
1,3-Dichloropropane	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
1,4-Dichlorobenzene	ND	RL6	2.60		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
2,2-Dichloropropane	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
2-Butanone (MEK)	ND	RL6	2.60		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
2-Chlorotoluene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-A

Lab Sample ID: HUH0049-27

Date Collected: 08/08/11 13:15

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 74.6

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	ND	RL6	2.60		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
4-Chlorotoluene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
4-Methyl-2-pentanone (MIBK)	ND	RL6	2.60		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Acetone	ND	C9 RL6	2.60		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Acrylonitrile	ND	RL6	2.60		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Benzene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Bromobenzene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Bromochloromethane	ND	RL6	2.60		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Bromodichloromethane	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Bromoform	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Bromomethane	ND	RL6	5.20		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Carbon disulfide	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Carbon Tetrachloride	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Chlorobenzene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Chlorodibromomethane	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Chloroethane	ND	RL6	2.60		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Chloroform	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Chloromethane	ND	RL6	2.60		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
cis-1,2-Dichloroethene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
cis-1,3-Dichloropropene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Dibromomethane	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Dichlorodifluoromethane	ND	C9 RL6	2.60		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Ethylbenzene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Hexachlorobutadiene	ND	RL6	2.60		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Iodomethane	ND	RL6	2.60		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Isopropylbenzene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
m,p-Xylene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Methyl tert-Butyl Ether	ND	RL6	0.260		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Methylene Chloride	ND	RL6	2.60		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Naphthalene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
n-Butylbenzene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
n-Propylbenzene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
o-Xylene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
p-Isopropyltoluene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
sec-Butylbenzene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Styrene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
tert-Butylbenzene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Tetrachloroethene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Toluene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
trans-1,2-Dichloroethene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
trans-1,3-Dichloropropene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
trans-1,4-Dichloro-2-butene	ND	RL6	2.60		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Trichloroethene	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Trichlorofluoromethane	ND	RL6	0.520		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Vinyl Acetate	ND	RL6	2.60		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0
Vinyl chloride	ND	RL6	2.60		mg/kg		08/12/11 09:53	08/12/11 15:04	50.0

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4	105		80 - 120	08/12/11 09:53	08/12/11 15:04	50.0
4-Bromofluorobenzene	96		75 - 120	08/12/11 09:53	08/12/11 15:04	50.0

Client Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-A

Lab Sample ID: HUH0049-27

Date Collected: 08/08/11 13:15

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 74.6

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	103		80 - 120	08/12/11 09:53	08/12/11 15:04	50.0
Toluene-d8	93		80 - 125	08/12/11 09:53	08/12/11 15:04	50.0

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
1,2,4-Trichlorobenzene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
1,2-Dichlorobenzene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
1,3-Dichlorobenzene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
1,4-Dichlorobenzene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
1-Chloronaphthalene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
1-Methylnaphthalene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
1-Naphthylamine	ND	C9	0.645		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
2,3,4,6-Tetrachlorophenol	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
2,4,5-Trichlorophenol	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
2,4,6-Trichlorophenol	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
2,4-Dichlorophenol	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
2,4-Dimethylphenol	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
2,4-Dinitrophenol	ND		1.66		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
2,4-Dinitrotoluene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
2,6-Dichlorophenol	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
2,6-Dinitrotoluene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
2-Chloronaphthalene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
2-Chlorophenol	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
2-Methylnaphthalene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
2-Methylphenol (o-Cresol)	ND	C9	0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
2-Naphthylamine	ND		0.645		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
2-Nitroaniline	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
2-Nitrophenol	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
2-Picoline	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
3,3'-Dichlorobenzidine	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
3,4-Methylphenol (m,p-Cresol)	ND	C9	0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
3-Methylcholanthrene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
3-Nitroaniline	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
4,6-Dinitro-2-methylphenol	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
4-Aminobiphenyl	ND		0.645		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
4-Bromophenyl phenyl ether	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
4-Chloro-3-methylphenol	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
4-Chloroaniline	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
4-Chlorophenyl phenyl ether	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
4-Nitroaniline	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
4-Nitrophenol	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
7,12-Dimethylbenz (a) anthracene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Acenaphthene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Acenaphthylene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Acetophenone	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Aniline	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Anthracene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Azobenzene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Benzidine	ND		1.66		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-A

Lab Sample ID: HUH0049-27

Date Collected: 08/08/11 13:15

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 74.6

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo (a) anthracene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Benzo (a) pyrene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Benzo (b) fluoranthene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Benzo (g,h,i) perylene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Benzo (k) fluoranthene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Benzoic acid	ND	C9	0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Benzyl alcohol	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Bis(2-chloroethoxy)methane	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Bis(2-chloroethyl)ether	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Bis(2-chloroisopropyl) ether	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Bis(2-ethylhexyl)phthalate	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Butyl benzyl phthalate	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Chrysene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Dibenz (a,j) acridine	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Dibenzo (a,h) anthracene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Dibenzofuran	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Diethyl phthalate	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Dimethyl phthalate	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Dimethylaminoazobenzene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Di-n-butyl phthalate	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Di-n-octyl phthalate	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Ethyl Methanesulfonate	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Fluoranthene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Fluorene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Hexachlorobenzene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Hexachlorobutadiene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Hexachlorocyclopentadiene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Hexachloroethane	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Indeno (1,2,3-cd) pyrene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Isophorone	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Methyl Methanesulfonate	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Naphthalene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Nitrobenzene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
N-Nitrosodimethylamine	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
N-Nitrosodi-n-butylamine	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
N-Nitrosodi-n-propylamine	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
N-Nitrosodiphenylamine	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
N-Nitrosopiperidine	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Pentachloronitrobenzene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Pentachlorophenol	1.95		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Phenacetin	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Phenanthrene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Phenol	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Pronamide	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Pyrene	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Pyridine	ND		0.322		mg/kg		08/18/11 11:17	09/15/11 11:47	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	71		40 - 120				08/18/11 11:17	09/15/11 11:47	1.00
2-Fluorobiphenyl	75		45 - 120				08/18/11 11:17	09/15/11 11:47	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-A

Lab Sample ID: HUH0049-27

Date Collected: 08/08/11 13:15

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 74.6

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	62		30 - 120	08/18/11 11:17	09/15/11 11:47	1.00
Nitrobenzene-d5	70		35 - 120	08/18/11 11:17	09/15/11 11:47	1.00
Phenol-d6	68		40 - 120	08/18/11 11:17	09/15/11 11:47	1.00
Terphenyl-d14	62		40 - 130	08/18/11 11:17	09/15/11 11:47	1.00

Method: SM 2540G - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
% Dry Solids	74.6		0.100		Weight %		08/15/11 08:18	08/16/11 13:45	1.00

Client Sample ID: PMAK-DU10-B

Lab Sample ID: HUH0049-28

Date Collected: 08/08/11 13:20

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 74.5

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
1,1,1-Trichloroethane	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
1,1,2,2-Tetrachloroethane	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
1,1,2-Trichloroethane	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
1,1-Dichloroethane	ND	RL6	2.34		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
1,1-Dichloroethene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
1,1-Dichloropropene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
1,2,3-Trichlorobenzene	ND	C9 RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
1,2,3-Trichloropropane	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
1,2,4-Trichlorobenzene	ND	RL6	2.34		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
1,2,4-Trimethylbenzene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
1,2-Dibromo-3-chloropropane	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
1,2-Dibromoethane (EDB)	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
1,2-Dichlorobenzene	ND	RL6	2.34		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
1,2-Dichloroethane	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
1,2-Dichloropropane	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
1,3,5-Trimethylbenzene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
1,3-Dichlorobenzene	ND	RL6	2.34		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
1,3-Dichloropropane	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
1,4-Dichlorobenzene	ND	RL6	2.34		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
2,2-Dichloropropane	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
2-Butanone (MEK)	ND	RL6	2.34		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
2-Chlorotoluene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
2-Hexanone	ND	RL6	2.34		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
4-Chlorotoluene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
4-Methyl-2-pentanone (MIBK)	ND	RL6	2.34		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Acetone	ND	C9 RL6	2.34		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Acrylonitrile	ND	RL6	2.34		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Benzene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Bromobenzene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Bromochloromethane	ND	RL6	2.34		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Bromodichloromethane	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Bromoform	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Bromomethane	ND	RL6	4.68		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-B

Lab Sample ID: HUH0049-28

Date Collected: 08/08/11 13:20

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 74.5

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Carbon Tetrachloride	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Chlorobenzene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Chlorodibromomethane	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Chloroethane	ND	RL6	2.34		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Chloroform	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Chloromethane	ND	RL6	2.34		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
cis-1,2-Dichloroethene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
cis-1,3-Dichloropropene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Dibromomethane	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Dichlorodifluoromethane	ND	C9 RL6	2.34		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Ethylbenzene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Hexachlorobutadiene	ND	RL6	2.34		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Iodomethane	ND	RL6	2.34		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Isopropylbenzene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
m,p-Xylene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Methyl tert-Butyl Ether	ND	RL6	0.234		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Methylene Chloride	ND	RL6	2.34		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Naphthalene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
n-Butylbenzene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
n-Propylbenzene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
o-Xylene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
p-Isopropyltoluene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
sec-Butylbenzene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Styrene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
tert-Butylbenzene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Tetrachloroethene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Toluene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
trans-1,2-Dichloroethene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
trans-1,3-Dichloropropene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
trans-1,4-Dichloro-2-butene	ND	RL6	2.34		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Trichloroethene	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Trichlorofluoromethane	ND	RL6	0.468		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Vinyl Acetate	ND	RL6	2.34		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0
Vinyl chloride	ND	RL6	2.34		mg/kg		08/12/11 09:53	08/12/11 15:29	50.0

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4	107		80 - 120	08/12/11 09:53	08/12/11 15:29	50.0
4-Bromofluorobenzene	97		75 - 120	08/12/11 09:53	08/12/11 15:29	50.0
Dibromofluoromethane	103		80 - 120	08/12/11 09:53	08/12/11 15:29	50.0
Toluene-d8	94		80 - 125	08/12/11 09:53	08/12/11 15:29	50.0

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
1,2,4-Trichlorobenzene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
1,2-Dichlorobenzene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
1,3-Dichlorobenzene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
1,4-Dichlorobenzene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
1-Chloronaphthalene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
1-Methylnaphthalene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-B

Lab Sample ID: HUH0049-28

Date Collected: 08/08/11 13:20

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 74.5

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Naphthylamine	ND	C9	0.653		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
2,3,4,6-Tetrachlorophenol	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
2,4,5-Trichlorophenol	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
2,4,6-Trichlorophenol	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
2,4-Dichlorophenol	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
2,4-Dimethylphenol	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
2,4-Dinitrophenol	ND	C9	1.68		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
2,4-Dinitrotoluene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
2,6-Dichlorophenol	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
2,6-Dinitrotoluene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
2-Chloronaphthalene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
2-Chlorophenol	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
2-Methylnaphthalene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
2-Methylphenol (o-Cresol)	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
2-Naphthylamine	ND		0.653		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
2-Nitroaniline	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
2-Nitrophenol	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
2-Picoline	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
3,3'-Dichlorobenzidine	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
3,4-Methylphenol (m,p-Cresol)	ND	C9	0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
3-Methylcholanthrene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
3-Nitroaniline	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
4,6-Dinitro-2-methylphenol	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
4-Aminobiphenyl	ND		0.653		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
4-Bromophenyl phenyl ether	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
4-Chloro-3-methylphenol	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
4-Chloroaniline	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
4-Chlorophenyl phenyl ether	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
4-Nitroaniline	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
4-Nitrophenol	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
7,12-Dimethylbenz (a) anthracene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Acenaphthene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Acenaphthylene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Acetophenone	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Aniline	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Anthracene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Azobenzene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Benzidine	ND		1.68		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Benzo (a) anthracene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Benzo (a) pyrene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Benzo (b) fluoranthene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Benzo (g,h,i) perylene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Benzo (k) fluoranthene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Benzoic acid	ND	C9	0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Benzyl alcohol	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Bis(2-chloroethoxy)methane	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Bis(2-chloroethyl)ether	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Bis(2-chloroisopropyl) ether	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Bis(2-ethylhexyl)phthalate	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Butyl benzyl phthalate	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-B

Lab Sample ID: HUH0049-28

Date Collected: 08/08/11 13:20

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 74.5

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Dibenz (a,j) acridine	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Dibenzo (a,h) anthracene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Dibenzofuran	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Diethyl phthalate	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Dimethyl phthalate	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Dimethylaminoazobenzene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Di-n-butyl phthalate	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Di-n-octyl phthalate	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Ethyl Methanesulfonate	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Fluoranthene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Fluorene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Hexachlorobenzene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Hexachlorobutadiene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Hexachlorocyclopentadiene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Hexachloroethane	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Indeno (1,2,3-cd) pyrene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Isophorone	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Methyl Methanesulfonate	ND	C9	0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Naphthalene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Nitrobenzene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
N-Nitrosodimethylamine	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
N-Nitrosodi-n-butylamine	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
N-Nitrosodi-n-propylamine	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
N-Nitrosodiphenylamine	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
N-Nitrosopiperidine	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Pentachloronitrobenzene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Pentachlorophenol	0.507		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Phenacetin	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Phenanthrene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Phenol	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Pronamide	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Pyrene	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Pyridine	ND		0.327		mg/kg		08/18/11 11:17	09/13/11 16:59	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	67		40 - 120				08/18/11 11:17	09/13/11 16:59	1.00
2-Fluorobiphenyl	60		45 - 120				08/18/11 11:17	09/13/11 16:59	1.00
2-Fluorophenol	61		30 - 120				08/18/11 11:17	09/13/11 16:59	1.00
Nitrobenzene-d5	64		35 - 120				08/18/11 11:17	09/13/11 16:59	1.00
Phenol-d6	67		40 - 120				08/18/11 11:17	09/13/11 16:59	1.00
Terphenyl-d14	77		40 - 130				08/18/11 11:17	09/13/11 16:59	1.00

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		400		ug/Kg		08/21/11 10:30	08/25/11 02:24	5
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	6356	E D	31 - 105				08/21/11 10:30	08/25/11 02:24	5

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-B

Lab Sample ID: HUH0049-28

Date Collected: 08/08/11 13:20

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 74.5

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	160		19.5		mg/kg		08/17/11 10:38	08/18/11 14:47	5.00
RRO	465		97.4		mg/kg		08/17/11 10:38	08/18/11 14:47	5.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	79		40 - 120				08/17/11 10:38	08/18/11 14:47	5.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1000	600	1		pg/g		08/26/11 16:00	09/08/11 03:33	1000
Total TCDD	ND		1000	600			pg/g		08/26/11 16:00	09/08/11 03:33	1000
1,2,3,7,8-PeCDD	ND		5000	740	1		pg/g		08/26/11 16:00	09/08/11 03:33	1000
Total PeCDD	ND		5000	740			pg/g		08/26/11 16:00	09/08/11 03:33	1000
1,2,3,4,7,8-HxCDD	ND		5000	520	0.1		pg/g		08/26/11 16:00	09/08/11 03:33	1000
1,2,3,6,7,8-HxCDD	ND		5000	360	0.1		pg/g		08/26/11 16:00	09/08/11 03:33	1000
1,2,3,7,8,9-HxCDD	ND		5000	360	0.1		pg/g		08/26/11 16:00	09/08/11 03:33	1000
Total HxCDD	ND		5000	400			pg/g		08/26/11 16:00	09/08/11 03:33	1000
1,2,3,4,6,7,8-HpCDD	110000		5000	1300	0.01	1100	pg/g		08/26/11 16:00	09/08/11 03:33	1000
Total HpCDD	180000		5000	1300			pg/g		08/26/11 16:00	09/08/11 03:33	1000
OCDD	1700000		10000	1900	0.0003	510	pg/g		08/26/11 16:00	09/08/11 03:33	1000
2,3,7,8-TCDF	ND		1000	160	0.1		pg/g		08/26/11 16:00	09/08/11 03:33	1000
Total TCDF	ND		1000	160			pg/g		08/26/11 16:00	09/08/11 03:33	1000
1,2,3,7,8-PeCDF	ND		5000	1000	0.03		pg/g		08/26/11 16:00	09/08/11 03:33	1000
2,3,4,7,8-PeCDF	ND		5000	1100	0.3		pg/g		08/26/11 16:00	09/08/11 03:33	1000
Total PeCDF	ND		5000	1000			pg/g		08/26/11 16:00	09/08/11 03:33	1000
1,2,3,4,7,8-HxCDF	ND		5000	650	0.1		pg/g		08/26/11 16:00	09/08/11 03:33	1000
1,2,3,6,7,8-HxCDF	ND		5000	480	0.1		pg/g		08/26/11 16:00	09/08/11 03:33	1000
2,3,4,6,7,8-HxCDF	ND		5000	550	0.1		pg/g		08/26/11 16:00	09/08/11 03:33	1000
1,2,3,7,8,9-HxCDF	ND		5000	700	0.1		pg/g		08/26/11 16:00	09/08/11 03:33	1000
Total HxCDF	52000		5000	580			pg/g		08/26/11 16:00	09/08/11 03:33	1000
1,2,3,4,6,7,8-HpCDF	42000		5000	930	0.01	420	pg/g		08/26/11 16:00	09/08/11 03:33	1000
1,2,3,4,7,8,9-HpCDF	5700		5000	1200	0.01	57	pg/g		08/26/11 16:00	09/08/11 03:33	1000
Total HpCDF	220000		5000	1000			pg/g		08/26/11 16:00	09/08/11 03:33	1000
OCDF	140000		10000	720	0.0003	42	pg/g		08/26/11 16:00	09/08/11 03:33	1000
Total TEQ (WHO 2005)						2100					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	88		40 - 135	08/26/11 16:00	09/08/11 03:33	1000
13C-1,2,3,7,8-PeCDD	83		40 - 135	08/26/11 16:00	09/08/11 03:33	1000
13C-1,2,3,6,7,8-HxCDD	102		40 - 135	08/26/11 16:00	09/08/11 03:33	1000
13C-1,2,3,4,6,7,8-HpCDD	102		40 - 135	08/26/11 16:00	09/08/11 03:33	1000
13C-OCDD	108		40 - 135	08/26/11 16:00	09/08/11 03:33	1000
13C-2,3,7,8-TCDF	85		40 - 135	08/26/11 16:00	09/08/11 03:33	1000
13C-1,2,3,7,8-PeCDF	83		40 - 135	08/26/11 16:00	09/08/11 03:33	1000
13C-1,2,3,4,7,8-HxCDF	98		40 - 135	08/26/11 16:00	09/08/11 03:33	1000
13C-1,2,3,4,6,7,8-HpCDF	100		40 - 135	08/26/11 16:00	09/08/11 03:33	1000

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6900		5.3		mg/Kg		09/06/11 06:30	09/06/11 18:50	10
Lead	290		2.6		mg/Kg		09/06/11 06:30	09/06/11 18:50	10

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-B

Lab Sample ID: HUH0049-28

Date Collected: 08/08/11 13:20

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	30	H	8.7		mg/Kg		09/06/11 09:35	09/06/11 12:49	5000

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	2860		1.00		mg/kg		10/05/11 08:51	10/19/11 15:55	1.00
Arsenic Total	12500		99.0		mg/kg		10/07/11 15:48	10/11/11 13:39	100

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	22.9		0.200		% by Weight		10/05/11 08:51	10/19/11 15:55	1.00

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.97		1.00		pH Units		08/12/11 09:22	08/12/11 09:32	1.00

Method: SM 2540G - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
% Dry Solids	74.5		0.100		Weight %		08/15/11 08:18	08/16/11 13:45	1.00

Client Sample ID: PMAK-DU10-C

Lab Sample ID: HUH0049-29

Date Collected: 08/08/11 13:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 66.8

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
1,1,1-Trichloroethane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
1,1,2,2-Tetrachloroethane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
1,1,2-Trichloroethane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
1,1-Dichloroethane	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
1,1-Dichloroethene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
1,1-Dichloropropene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
1,2,3-Trichlorobenzene	ND	C9 RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
1,2,3-Trichloropropane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
1,2,4-Trichlorobenzene	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
1,2,4-Trimethylbenzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
1,2-Dibromo-3-chloropropane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
1,2-Dibromoethane (EDB)	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
1,2-Dichlorobenzene	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
1,2-Dichloroethane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
1,2-Dichloropropane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
1,3,5-Trimethylbenzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
1,3-Dichlorobenzene	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
1,3-Dichloropropane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
1,4-Dichlorobenzene	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
2,2-Dichloropropane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
2-Butanone (MEK)	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
2-Chlorotoluene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
2-Hexanone	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
4-Chlorotoluene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-C

Lab Sample ID: HUH0049-29

Date Collected: 08/08/11 13:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 66.8

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone (MIBK)	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Acetone	ND	C9 RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Acrylonitrile	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Benzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Bromobenzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Bromochloromethane	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Bromodichloromethane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Bromoform	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Bromomethane	ND	RL6	4.28		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Carbon disulfide	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Carbon Tetrachloride	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Chlorobenzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Chlorodibromomethane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Chloroethane	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Chloroform	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Chloromethane	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
cis-1,2-Dichloroethene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
cis-1,3-Dichloropropene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Dibromomethane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Dichlorodifluoromethane	ND	C9 RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Ethylbenzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Hexachlorobutadiene	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Iodomethane	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Isopropylbenzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
m,p-Xylene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Methyl tert-Butyl Ether	ND	RL6	0.214		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Methylene Chloride	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Naphthalene	0.672	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
n-Butylbenzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
n-Propylbenzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
o-Xylene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
p-Isopropyltoluene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
sec-Butylbenzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Styrene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
tert-Butylbenzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Tetrachloroethene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Toluene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
trans-1,2-Dichloroethene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
trans-1,3-Dichloropropene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
trans-1,4-Dichloro-2-butene	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Trichloroethene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Trichlorofluoromethane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Vinyl Acetate	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Vinyl chloride	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 15:56	50.0
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4	106		80 - 120				08/12/11 09:53	08/12/11 15:56	50.0
4-Bromofluorobenzene	98		75 - 120				08/12/11 09:53	08/12/11 15:56	50.0
Dibromofluoromethane	104		80 - 120				08/12/11 09:53	08/12/11 15:56	50.0
Toluene-d8	95		80 - 125				08/12/11 09:53	08/12/11 15:56	50.0

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-C

Lab Sample ID: HUH0049-29

Date Collected: 08/08/11 13:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 66.8

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
1,2,4-Trichlorobenzene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
1,2-Dichlorobenzene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
1,3-Dichlorobenzene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
1,4-Dichlorobenzene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
1-Chloronaphthalene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
1-Methylnaphthalene	12.6		3.07		mg/kg		08/18/11 11:17	09/15/11 12:25	10.0
1-Naphthylamine	ND	C9	0.615		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
2,3,4,6-Tetrachlorophenol	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
2,4,5-Trichlorophenol	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
2,4,6-Trichlorophenol	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
2,4-Dichlorophenol	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
2,4-Dimethylphenol	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
2,4-Dinitrophenol	ND	C9	1.58		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
2,4-Dinitrotoluene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
2,6-Dichlorophenol	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
2,6-Dinitrotoluene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
2-Chloronaphthalene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
2-Chlorophenol	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
2-Methylnaphthalene	19.0		3.07		mg/kg		08/18/11 11:17	09/15/11 12:25	10.0
2-Methylphenol (o-Cresol)	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
2-Naphthylamine	ND		0.615		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
2-Nitroaniline	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
2-Nitrophenol	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
2-Picoline	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
3,3'-Dichlorobenzidine	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
3,4-Methylphenol (m,p-Cresol)	ND	C9	0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
3-Methylcholanthrene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
3-Nitroaniline	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
4,6-Dinitro-2-methylphenol	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
4-Aminobiphenyl	0.966		0.615		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
4-Bromophenyl phenyl ether	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
4-Chloro-3-methylphenol	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
4-Chloroaniline	1.33		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
4-Chlorophenyl phenyl ether	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
4-Nitroaniline	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
4-Nitrophenol	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
7,12-Dimethylbenz (a) anthracene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Acenaphthene	1.22		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Acenaphthylene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Acetophenone	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Aniline	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Anthracene	0.569		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Azobenzene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Benzidine	ND		1.58		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Benzo (a) anthracene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Benzo (a) pyrene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Benzo (b) fluoranthene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Benzo (g,h,i) perylene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Benzo (k) fluoranthene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-C

Lab Sample ID: HUH0049-29

Date Collected: 08/08/11 13:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 66.8

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzoic acid	ND	C9	0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Benzyl alcohol	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Bis(2-chloroethoxy)methane	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Bis(2-chloroethyl)ether	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Bis(2-chloroisopropyl) ether	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Bis(2-ethylhexyl)phthalate	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Butyl benzyl phthalate	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Chrysene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Dibenz (a,j) acridine	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Dibenzo (a,h) anthracene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Dibenzofuran	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Diethyl phthalate	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Dimethyl phthalate	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Dimethylaminoazobenzene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Di-n-butyl phthalate	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Di-n-octyl phthalate	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Ethyl Methanesulfonate	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Fluoranthene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Fluorene	1.44		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Hexachlorobenzene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Hexachlorobutadiene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Hexachlorocyclopentadiene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Hexachloroethane	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Indeno (1,2,3-cd) pyrene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Isophorone	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Methyl Methanesulfonate	ND	C9	0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Naphthalene	1.32		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Nitrobenzene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
N-Nitrosodimethylamine	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
N-Nitrosodi-n-butylamine	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
N-Nitrosodi-n-propylamine	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
N-Nitrosodiphenylamine	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
N-Nitrosopiperidine	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Pentachloronitrobenzene	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Pentachlorophenol	11.9		3.07		mg/kg		08/18/11 11:17	09/15/11 12:25	10.0
Phenacetin	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Phenanthrene	5.79		3.07		mg/kg		08/18/11 11:17	09/15/11 12:25	10.0
Phenol	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Pronamide	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Pyrene	0.316		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Pyridine	ND		0.307		mg/kg		08/18/11 11:17	09/13/11 17:38	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	64		40 - 120				08/18/11 11:17	09/13/11 17:38	1.00
2-Fluorobiphenyl	82		45 - 120				08/18/11 11:17	09/13/11 17:38	1.00
2-Fluorophenol	68		30 - 120				08/18/11 11:17	09/13/11 17:38	1.00
Nitrobenzene-d5	81		35 - 120				08/18/11 11:17	09/13/11 17:38	1.00
Phenol-d6	76		40 - 120				08/18/11 11:17	09/13/11 17:38	1.00
Terphenyl-d14	71		40 - 130				08/18/11 11:17	09/13/11 17:38	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-C

Lab Sample ID: HUH0049-29

Date Collected: 08/08/11 13:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		390		ug/Kg		08/21/11 10:30	08/27/11 00:42	5
<i>Surrogate</i>	<i>% Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
2,4-Dichlorophenylacetic acid	63	D	31 - 105				08/21/11 10:30	08/27/11 00:42	5

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	4150		197		mg/kg		08/17/11 10:38	08/19/11 10:33	50.0
RRO	ND		984		mg/kg		08/17/11 10:38	08/19/11 10:33	50.0
<i>Surrogate</i>	<i>% Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
o-Terphenyl	802	Z3	40 - 120				08/17/11 10:38	08/19/11 10:33	50.0

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3800		5.9		mg/Kg		09/06/11 06:30	09/06/11 18:57	10
Lead	96		3.0		mg/Kg		09/06/11 06:30	09/06/11 18:57	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	2.7	H	0.18		mg/Kg		09/06/11 09:35	09/06/11 12:11	100

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.86		1.00		pH Units		08/11/11 17:06	08/11/11 17:06	1.00

Method: SM 2540G - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
% Dry Solids	66.8		0.100		Weight %		08/15/11 08:18	08/16/11 13:45	1.00

Client Sample ID: PMAK-DU10-D

Lab Sample ID: HUH0049-30

Date Collected: 08/08/11 13:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 69

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
1,1,1-Trichloroethane	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
1,1,2,2-Tetrachloroethane	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
1,1,2-Trichloroethane	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
1,1-Dichloroethane	ND	RL6	2.29		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
1,1-Dichloroethene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
1,1-Dichloropropene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
1,2,3-Trichlorobenzene	ND	C9 RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
1,2,3-Trichloropropane	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
1,2,4-Trichlorobenzene	ND	RL6	2.29		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
1,2,4-Trimethylbenzene	1.52	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
1,2-Dibromo-3-chloropropane	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
1,2-Dibromoethane (EDB)	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
1,2-Dichlorobenzene	ND	RL6	2.29		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
1,2-Dichloroethane	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-D

Lab Sample ID: HUH0049-30

Date Collected: 08/08/11 13:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 69

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
1,3,5-Trimethylbenzene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
1,3-Dichlorobenzene	ND	RL6	2.29		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
1,3-Dichloropropane	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
1,4-Dichlorobenzene	ND	RL6	2.29		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
2,2-Dichloropropane	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
2-Butanone (MEK)	ND	RL6	2.29		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
2-Chlorotoluene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
2-Hexanone	ND	RL6	2.29		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
4-Chlorotoluene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
4-Methyl-2-pentanone (MIBK)	ND	RL6	2.29		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Acetone	ND	C9 RL6	2.29		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Acrylonitrile	ND	RL6	2.29		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Benzene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Bromobenzene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Bromochloromethane	ND	RL6	2.29		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Bromodichloromethane	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Bromoform	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Bromomethane	ND	RL6	4.57		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Carbon disulfide	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Carbon Tetrachloride	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Chlorobenzene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Chlorodibromomethane	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Chloroethane	ND	RL6	2.29		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Chloroform	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Chloromethane	ND	RL6	2.29		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
cis-1,2-Dichloroethene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
cis-1,3-Dichloropropene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Dibromomethane	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Dichlorodifluoromethane	ND	C9 RL6	2.29		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Ethylbenzene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Hexachlorobutadiene	ND	RL6	2.29		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Iodomethane	ND	RL6	2.29		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Isopropylbenzene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
m,p-Xylene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Methyl tert-Butyl Ether	ND	RL6	0.229		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Methylene Chloride	ND	RL6	2.29		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Naphthalene	1.21	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
n-Butylbenzene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
n-Propylbenzene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
o-Xylene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
p-Isopropyltoluene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
sec-Butylbenzene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Styrene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
tert-Butylbenzene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Tetrachloroethene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Toluene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
trans-1,2-Dichloroethene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
trans-1,3-Dichloropropene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
trans-1,4-Dichloro-2-butene	ND	RL6	2.29		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-D

Lab Sample ID: HUH0049-30

Date Collected: 08/08/11 13:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 69

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Trichlorofluoromethane	ND	RL6	0.457		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Vinyl Acetate	ND	RL6	2.29		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Vinyl chloride	ND	RL6	2.29		mg/kg		08/12/11 09:53	08/12/11 16:21	50.0
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4	110		80 - 120				08/12/11 09:53	08/12/11 16:21	50.0
4-Bromofluorobenzene	100		75 - 120				08/12/11 09:53	08/12/11 16:21	50.0
Dibromofluoromethane	107		80 - 120				08/12/11 09:53	08/12/11 16:21	50.0
Toluene-d8	94		80 - 125				08/12/11 09:53	08/12/11 16:21	50.0

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
1,2,4-Trichlorobenzene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
1,2-Dichlorobenzene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
1,3-Dichlorobenzene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
1,4-Dichlorobenzene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
1-Chloronaphthalene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
1-Methylnaphthalene	15.4	H2	3.13		mg/kg		08/18/11 11:17	10/03/11 18:26	10.0
1-Naphthylamine	ND	C9	0.627		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
2,3,4,6-Tetrachlorophenol	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
2,4,5-Trichlorophenol	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
2,4,6-Trichlorophenol	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
2,4-Dichlorophenol	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
2,4-Dimethylphenol	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
2,4-Dinitrophenol	ND		1.61		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
2,4-Dinitrotoluene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
2,6-Dichlorophenol	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
2,6-Dinitrotoluene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
2-Chloronaphthalene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
2-Chlorophenol	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
2-Methylnaphthalene	17.2	H2	3.13		mg/kg		08/18/11 11:17	10/03/11 18:26	10.0
2-Methylphenol (o-Cresol)	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
2-Naphthylamine	ND		0.627		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
2-Nitroaniline	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
2-Nitrophenol	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
2-Picoline	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
3,3'-Dichlorobenzidine	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
3,4-Methylphenol (m,p-Cresol)	ND	C9	0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
3-Methylcholanthrene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
3-Nitroaniline	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
4,6-Dinitro-2-methylphenol	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
4-Aminobiphenyl	1.20		0.627		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
4-Bromophenyl phenyl ether	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
4-Chloro-3-methylphenol	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
4-Chloroaniline	0.674		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
4-Chlorophenyl phenyl ether	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
4-Nitroaniline	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
4-Nitrophenol	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
7,12-Dimethylbenz (a) anthracene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-D

Lab Sample ID: HUH0049-30

Date Collected: 08/08/11 13:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 69

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
a,a-Dimethylphenethylamine	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Acenaphthene	1.98		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Acenaphthylene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Acetophenone	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Aniline	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Anthracene	0.853		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Azobenzene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Benzidine	ND		1.61		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Benzo (a) anthracene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Benzo (a) pyrene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Benzo (b) fluoranthene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Benzo (g,h,i) perylene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Benzo (k) fluoranthene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Benzoic acid	ND	C9	0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Benzyl alcohol	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Bis(2-chloroethoxy)methane	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Bis(2-chloroethyl)ether	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Bis(2-chloroisopropyl) ether	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Bis(2-ethylhexyl)phthalate	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Butyl benzyl phthalate	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Chrysene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Dibenz (a,j) acridine	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Dibenzo (a,h) anthracene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Dibenzofuran	0.393		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Diethyl phthalate	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Dimethyl phthalate	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Dimethylaminoazobenzene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Di-n-butyl phthalate	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Di-n-octyl phthalate	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Ethyl Methanesulfonate	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Fluoranthene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Fluorene	2.28		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Hexachlorobenzene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Hexachlorobutadiene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Hexachlorocyclopentadiene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Hexachloroethane	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Indeno (1,2,3-cd) pyrene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Isophorone	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Methyl Methanesulfonate	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Naphthalene	1.20		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Nitrobenzene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
N-Nitrosodimethylamine	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
N-Nitrosodi-n-butylamine	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
N-Nitrosodi-n-propylamine	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
N-Nitrosodiphenylamine	1.58		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
N-Nitrosopiperidine	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Pentachloronitrobenzene	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Pentachlorophenol	11.7	H2	3.13		mg/kg		08/18/11 11:17	10/03/11 18:26	10.0
Phenacetin	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Phenanthrene	8.16	H2	3.13		mg/kg		08/18/11 11:17	10/03/11 18:26	10.0

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-D

Lab Sample ID: HUH0049-30

Date Collected: 08/08/11 13:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 69

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Pronamide	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Pyrene	0.472		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Pyridine	ND		0.313		mg/kg		08/18/11 11:17	09/27/11 19:46	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	52		40 - 120				08/18/11 11:17	09/27/11 19:46	1.00
2-Fluorobiphenyl	61		45 - 120				08/18/11 11:17	09/27/11 19:46	1.00
2-Fluorophenol	57		30 - 120				08/18/11 11:17	09/27/11 19:46	1.00
Nitrobenzene-d5	71		35 - 120				08/18/11 11:17	09/27/11 19:46	1.00
Phenol-d6	66		40 - 120				08/18/11 11:17	09/27/11 19:46	1.00
Terphenyl-d14	61		40 - 130				08/18/11 11:17	09/27/11 19:46	1.00

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		390		ug/Kg		08/21/11 10:30	08/27/11 01:07	5
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	3760	E D	31 - 105				08/21/11 10:30	08/27/11 01:07	5

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	2470	H	197		mg/kg		08/17/11 10:38	09/27/11 15:11	50.0
RRO	1680	H	987		mg/kg		08/17/11 10:38	09/27/11 15:11	50.0
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl		H Z9	35 - 135				08/17/11 10:38	09/27/11 15:11	50.0

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2300		5.7		mg/Kg		10/04/11 16:41	10/05/11 14:01	10
Lead	43		2.8		mg/Kg		10/04/11 16:41	10/05/11 14:01	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	3.3	H	0.39		mg/Kg		10/04/11 12:06	10/04/11 16:12	200

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.64		1.00		pH Units		08/11/11 17:06	08/11/11 17:06	1.00

Method: SM 2540G - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
% Dry Solids	69.0		0.100		Weight %		08/15/11 08:18	08/16/11 13:45	1.00

Client Sample ID: PMAK-DU10-E

Lab Sample ID: HUH0049-31

Date Collected: 08/08/11 13:35

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 62.6

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0

Client Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-E

Lab Sample ID: HUH0049-31

Date Collected: 08/08/11 13:35

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 62.6

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
1,1,2,2-Tetrachloroethane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
1,1,2-Trichloroethane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
1,1-Dichloroethane	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
1,1-Dichloroethene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
1,1-Dichloropropene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
1,2,3-Trichlorobenzene	ND	C9 RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
1,2,3-Trichloropropane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
1,2,4-Trichlorobenzene	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
1,2,4-Trimethylbenzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
1,2-Dibromo-3-chloropropane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
1,2-Dibromoethane (EDB)	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
1,2-Dichlorobenzene	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
1,2-Dichloroethane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
1,2-Dichloropropane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
1,3,5-Trimethylbenzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
1,3-Dichlorobenzene	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
1,3-Dichloropropane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
1,4-Dichlorobenzene	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
2,2-Dichloropropane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
2-Butanone (MEK)	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
2-Chlorotoluene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
2-Hexanone	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
4-Chlorotoluene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
4-Methyl-2-pentanone (MIBK)	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Acetone	ND	C9 RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Acrylonitrile	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Benzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Bromobenzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Bromochloromethane	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Bromodichloromethane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Bromoform	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Bromomethane	ND	RL6	4.28		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Carbon disulfide	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Carbon Tetrachloride	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Chlorobenzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Chlorodibromomethane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Chloroethane	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Chloroform	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Chloromethane	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
cis-1,2-Dichloroethene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
cis-1,3-Dichloropropene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Dibromomethane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Dichlorodifluoromethane	ND	C9 RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Ethylbenzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Hexachlorobutadiene	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Iodomethane	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Isopropylbenzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
m,p-Xylene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Methyl tert-Butyl Ether	ND	RL6	0.214		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-E

Lab Sample ID: HUH0049-31

Date Collected: 08/08/11 13:35

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 62.6

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Naphthalene	0.526	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
n-Butylbenzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
n-Propylbenzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
o-Xylene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
p-Isopropyltoluene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
sec-Butylbenzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Styrene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
tert-Butylbenzene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Tetrachloroethene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Toluene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
trans-1,2-Dichloroethene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
trans-1,3-Dichloropropene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
trans-1,4-Dichloro-2-butene	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Trichloroethene	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Trichlorofluoromethane	ND	RL6	0.428		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Vinyl Acetate	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0
Vinyl chloride	ND	RL6	2.14		mg/kg		08/12/11 09:53	08/12/11 16:48	50.0

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4	105		80 - 120	08/12/11 09:53	08/12/11 16:48	50.0
4-Bromofluorobenzene	99		75 - 120	08/12/11 09:53	08/12/11 16:48	50.0
Dibromofluoromethane	102		80 - 120	08/12/11 09:53	08/12/11 16:48	50.0
Toluene-d8	94		80 - 125	08/12/11 09:53	08/12/11 16:48	50.0

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
1,2,4-Trichlorobenzene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
1,2-Dichlorobenzene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
1,3-Dichlorobenzene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
1,4-Dichlorobenzene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
1-Chloronaphthalene	3.53	H2	3.29		mg/kg		08/18/11 11:17	10/03/11 19:05	10.0
1-Methylnaphthalene	24.7	H2	3.29		mg/kg		08/18/11 11:17	10/03/11 19:05	10.0
1-Naphthylamine	ND	C9	0.658		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
2,3,4,6-Tetrachlorophenol	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
2,4,5-Trichlorophenol	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
2,4,6-Trichlorophenol	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
2,4-Dichlorophenol	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
2,4-Dimethylphenol	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
2,4-Dinitrophenol	ND		1.69		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
2,4-Dinitrotoluene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
2,6-Dichlorophenol	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
2,6-Dinitrotoluene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
2-Chloronaphthalene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
2-Chlorophenol	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
2-Methylnaphthalene	16.1	H2	3.29		mg/kg		08/18/11 11:17	10/03/11 19:05	10.0
2-Methylphenol (o-Cresol)	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
2-Naphthylamine	ND		0.658		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
2-Nitroaniline	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
2-Nitrophenol	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-E

Lab Sample ID: HUH0049-31

Date Collected: 08/08/11 13:35

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 62.6

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Picoline	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
3,3'-Dichlorobenzidine	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
3,4-Methylphenol (m,p-Cresol)	ND	C9	0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
3-Methylcholanthrene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
3-Nitroaniline	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
4,6-Dinitro-2-methylphenol	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
4-Aminobiphenyl	ND		0.658		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
4-Bromophenyl phenyl ether	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
4-Chloro-3-methylphenol	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
4-Chloroaniline	1.16		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
4-Chlorophenyl phenyl ether	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
4-Nitroaniline	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
4-Nitrophenol	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
7,12-Dimethylbenz (a) anthracene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Acenaphthene	3.67	H2	3.29		mg/kg		08/18/11 11:17	10/03/11 19:05	10.0
Acenaphthylene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Acetophenone	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Aniline	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Anthracene	1.51		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Azobenzene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Benzidine	ND		1.69		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Benzo (a) anthracene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Benzo (a) pyrene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Benzo (b) fluoranthene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Benzo (g,h,i) perylene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Benzo (k) fluoranthene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Benzoic acid	ND	C9	0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Benzyl alcohol	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Bis(2-chloroethoxy)methane	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Bis(2-chloroethyl)ether	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Bis(2-chloroisopropyl) ether	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Bis(2-ethylhexyl)phthalate	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Butyl benzyl phthalate	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Chrysene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Dibenz (a,j) acridine	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Dibenzo (a,h) anthracene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Dibenzofuran	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Diethyl phthalate	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Dimethyl phthalate	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Dimethylaminoazobenzene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Di-n-butyl phthalate	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Di-n-octyl phthalate	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Ethyl Methanesulfonate	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Fluoranthene	0.714		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Fluorene	4.72	H2	3.29		mg/kg		08/18/11 11:17	10/03/11 19:05	10.0
Hexachlorobenzene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Hexachlorobutadiene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Hexachlorocyclopentadiene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Hexachloroethane	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Indeno (1,2,3-cd) pyrene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-E

Lab Sample ID: HUH0049-31

Date Collected: 08/08/11 13:35

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 62.6

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Methyl Methanesulfonate	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Naphthalene	2.21		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Nitrobenzene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
N-Nitrosodimethylamine	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
N-Nitrosodi-n-butylamine	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
N-Nitrosodi-n-propylamine	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
N-Nitrosodiphenylamine	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
N-Nitrosopiperidine	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Pentachloronitrobenzene	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Pentachlorophenol	13.3	H2	3.29		mg/kg		08/18/11 11:17	10/03/11 19:05	10.0
Phenacetin	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Phenanthrene	14.3	H2	3.29		mg/kg		08/18/11 11:17	10/03/11 19:05	10.0
Phenol	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Pronamide	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Pyrene	0.915		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Pyridine	ND		0.329		mg/kg		08/18/11 11:17	09/27/11 20:25	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	43		40 - 120				08/18/11 11:17	09/27/11 20:25	1.00
2-Fluorobiphenyl	78		45 - 120				08/18/11 11:17	09/27/11 20:25	1.00
2-Fluorophenol	58		30 - 120				08/18/11 11:17	09/27/11 20:25	1.00
Nitrobenzene-d5	71		35 - 120				08/18/11 11:17	09/27/11 20:25	1.00
Phenol-d6	70		40 - 120				08/18/11 11:17	09/27/11 20:25	1.00
Terphenyl-d14	58		40 - 130				08/18/11 11:17	09/27/11 20:25	1.00

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		400		ug/Kg		08/21/11 10:30	08/27/11 01:32	5
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	6936	E D	31 - 105				08/21/11 10:30	08/27/11 01:32	5

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	8080	H	388		mg/kg		08/17/11 10:38	09/27/11 15:27	100
RRO	4070	H	1940		mg/kg		08/17/11 10:38	09/27/11 15:27	100
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	990	H Z9	35 - 135				08/17/11 10:38	09/27/11 15:27	100

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1800		5.8		mg/Kg		10/04/11 16:41	10/05/11 14:05	10
Lead	ND		2.9		mg/Kg		10/04/11 16:41	10/05/11 14:05	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.29	H	0.019		mg/Kg		10/04/11 12:06	10/04/11 15:56	10

Client Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-E

Lab Sample ID: HUH0049-31

Date Collected: 08/08/11 13:35

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 62.6

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.39		1.00		pH Units		08/11/11 17:06	08/11/11 17:06	1.00

Method: SM 2540G - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
% Dry Solids	62.6		0.100		Weight %		08/15/11 08:18	08/16/11 13:45	1.00

Client Sample ID: PMAK-DU6-A-P

Lab Sample ID: HUH0049-32

Date Collected: 08/08/11 16:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.320		mg/kg		08/22/11 09:19	09/01/11 19:36	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	73		40 - 120				08/22/11 09:19	09/01/11 19:36	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		3.3	1.8	1		pg/g		08/26/11 16:00	09/08/11 04:16	3.31
Total TCDD	ND		3.3	1.8			pg/g		08/26/11 16:00	09/08/11 04:16	3.31
1,2,3,7,8-PeCDD	ND		17	3.0	1		pg/g		08/26/11 16:00	09/08/11 04:16	3.31
Total PeCDD	ND		17	3.0			pg/g		08/26/11 16:00	09/08/11 04:16	3.31
1,2,3,4,7,8-HxCDD	ND		17	2.3	0.1		pg/g		08/26/11 16:00	09/08/11 04:16	3.31
1,2,3,6,7,8-HxCDD	39		17	1.6	0.1	3.9	pg/g		08/26/11 16:00	09/08/11 04:16	3.31
1,2,3,7,8,9-HxCDD	28		17	1.6	0.1	2.8	pg/g		08/26/11 16:00	09/08/11 04:16	3.31
Total HxCDD	210		17	1.8			pg/g		08/26/11 16:00	09/08/11 04:16	3.31
1,2,3,4,6,7,8-HpCDD	1200		17	7.3	0.01	12	pg/g		08/26/11 16:00	09/08/11 04:16	3.31
Total HpCDD	2000		17	7.3			pg/g		08/26/11 16:00	09/08/11 04:16	3.31
OCDD	11000		33	8.8	0.0003	3.3	pg/g		08/26/11 16:00	09/08/11 04:16	3.31
2,3,7,8-TCDF	ND	CON	3.3	1.3	0.1		pg/g		08/26/11 16:00	09/08/11 04:16	3.31
Total TCDF	12		4.1	4.1			pg/g		08/26/11 16:00	09/08/11 04:16	3.31
1,2,3,7,8-PeCDF	ND		17	4.1	0.03		pg/g		08/26/11 16:00	09/08/11 04:16	3.31
2,3,4,7,8-PeCDF	ND		17	4.1	0.3		pg/g		08/26/11 16:00	09/08/11 04:16	3.31
Total PeCDF	24		17	4.1			pg/g		08/26/11 16:00	09/08/11 04:16	3.31
1,2,3,4,7,8-HxCDF	25		17	2.6	0.1	2.5	pg/g		08/26/11 16:00	09/08/11 04:16	3.31
1,2,3,6,7,8-HxCDF	ND		17	2.0	0.1		pg/g		08/26/11 16:00	09/08/11 04:16	3.31
2,3,4,6,7,8-HxCDF	ND		17	2.3	0.1		pg/g		08/26/11 16:00	09/08/11 04:16	3.31
1,2,3,7,8,9-HxCDF	ND		17	2.8	0.1		pg/g		08/26/11 16:00	09/08/11 04:16	3.31
Total HxCDF	400		17	2.4			pg/g		08/26/11 16:00	09/08/11 04:16	3.31
1,2,3,4,6,7,8-HpCDF	380		17	2.8	0.01	3.8	pg/g		08/26/11 16:00	09/08/11 04:16	3.31
1,2,3,4,7,8,9-HpCDF	25		17	3.6	0.01	0.25	pg/g		08/26/11 16:00	09/08/11 04:16	3.31
Total HpCDF	1300		17	3.2			pg/g		08/26/11 16:00	09/08/11 04:16	3.31
OCDF	920		33	2.1	0.0003	0.28	pg/g		08/26/11 16:00	09/08/11 04:16	3.31

Total TEQ (WHO 2005) 29

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	76		40 - 135	08/26/11 16:00	09/08/11 04:16	3.31
13C-1,2,3,7,8-PeCDD	73		40 - 135	08/26/11 16:00	09/08/11 04:16	3.31
13C-1,2,3,6,7,8-HxCDD	85		40 - 135	08/26/11 16:00	09/08/11 04:16	3.31

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU6-A-P

Lab Sample ID: HUH0049-32

Date Collected: 08/08/11 16:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	97		40 - 135	08/26/11 16:00	09/08/11 04:16	3.31
13C-OCDD	114		40 - 135	08/26/11 16:00	09/08/11 04:16	3.31
13C-2,3,7,8-TCDF	70		40 - 135	08/26/11 16:00	09/08/11 04:16	3.31
13C-1,2,3,7,8-PeCDF	68		40 - 135	08/26/11 16:00	09/08/11 04:16	3.31
13C-1,2,3,4,7,8-HxCDF	84		40 - 135	08/26/11 16:00	09/08/11 04:16	3.31
13C-1,2,3,4,6,7,8-HpCDF	92		40 - 135	08/26/11 16:00	09/08/11 04:16	3.31

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	18		6.0		mg/Kg		09/06/11 06:30	09/06/11 19:04	10
Lead	150		3.0		mg/Kg		09/06/11 06:30	09/06/11 19:04	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.88	H	0.20		mg/Kg		09/06/11 09:35	09/06/11 12:14	100

Client Sample ID: PMAK-DU6-A-T1

Lab Sample ID: HUH0049-33

Date Collected: 08/08/11 16:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.328		mg/kg		08/22/11 09:19	09/01/11 20:15	1.00
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
2,4,6-Tribromophenol	79		40 - 120	08/22/11 09:19	09/01/11 20:15	1.00			

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		2.4	1.7	1		pg/g		08/26/11 16:00	09/08/11 04:59	2.35
Total TCDD	ND		2.4	1.7			pg/g		08/26/11 16:00	09/08/11 04:59	2.35
1,2,3,7,8-PeCDD	ND		12	2.8	1		pg/g		08/26/11 16:00	09/08/11 04:59	2.35
Total PeCDD	ND		12	2.8			pg/g		08/26/11 16:00	09/08/11 04:59	2.35
1,2,3,4,7,8-HxCDD	ND		12	2.1	0.1		pg/g		08/26/11 16:00	09/08/11 04:59	2.35
1,2,3,6,7,8-HxCDD	39		12	1.5	0.1	3.9	pg/g		08/26/11 16:00	09/08/11 04:59	2.35
1,2,3,7,8,9-HxCDD	24		12	1.5	0.1	2.4	pg/g		08/26/11 16:00	09/08/11 04:59	2.35
Total HxCDD	200		12	1.7			pg/g		08/26/11 16:00	09/08/11 04:59	2.35
1,2,3,4,6,7,8-HpCDD	1100		12	9.1	0.01	11	pg/g		08/26/11 16:00	09/08/11 04:59	2.35
Total HpCDD	1900		12	9.1			pg/g		08/26/11 16:00	09/08/11 04:59	2.35
OCDD	10000	E	24	5.3	0.0003	3.0	pg/g		08/26/11 16:00	09/08/11 04:59	2.35
2,3,7,8-TCDF	3.0	CON	2.4	1.1	0.1	0.30	pg/g		08/26/11 16:00	09/08/11 04:59	2.35
Total TCDF	8.6		2.4	4.1			pg/g		08/26/11 16:00	09/08/11 04:59	2.35
1,2,3,7,8-PeCDF	ND		12	3.3	0.03		pg/g		08/26/11 16:00	09/08/11 04:59	2.35
2,3,4,7,8-PeCDF	ND		12	3.3	0.3		pg/g		08/26/11 16:00	09/08/11 04:59	2.35
Total PeCDF	34		12	3.3			pg/g		08/26/11 16:00	09/08/11 04:59	2.35
1,2,3,4,7,8-HxCDF	20		12	1.5	0.1	2.0	pg/g		08/26/11 16:00	09/08/11 04:59	2.35
1,2,3,6,7,8-HxCDF	12		12	1.1	0.1	1.2	pg/g		08/26/11 16:00	09/08/11 04:59	2.35
2,3,4,6,7,8-HxCDF	ND		12	1.2	0.1		pg/g		08/26/11 16:00	09/08/11 04:59	2.35
1,2,3,7,8,9-HxCDF	ND		12	1.6	0.1		pg/g		08/26/11 16:00	09/08/11 04:59	2.35

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU6-A-T1

Lab Sample ID: HUH0049-33

Date Collected: 08/08/11 16:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
Total HxCDF	370		12	1.3			pg/g		08/26/11 16:00	09/08/11 04:59	2.35
1,2,3,4,6,7,8-HpCDF	370		12	2.2	0.01	3.7	pg/g		08/26/11 16:00	09/08/11 04:59	2.35
1,2,3,4,7,8,9-HpCDF	28		12	2.8	0.01	0.28	pg/g		08/26/11 16:00	09/08/11 04:59	2.35
Total HpCDF	1300		12	2.5			pg/g		08/26/11 16:00	09/08/11 04:59	2.35
OCDF	830		24	2.4	0.0003	0.25	pg/g		08/26/11 16:00	09/08/11 04:59	2.35
Total TEQ (WHO 2005)						28					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	65		40 - 135	08/26/11 16:00	09/08/11 04:59	2.35
13C-1,2,3,7,8-PeCDD	61		40 - 135	08/26/11 16:00	09/08/11 04:59	2.35
13C-1,2,3,6,7,8-HxCDD	71		40 - 135	08/26/11 16:00	09/08/11 04:59	2.35
13C-1,2,3,4,6,7,8-HpCDD	86		40 - 135	08/26/11 16:00	09/08/11 04:59	2.35
13C-OCDD	106		40 - 135	08/26/11 16:00	09/08/11 04:59	2.35
13C-2,3,7,8-TCDF	60		40 - 135	08/26/11 16:00	09/08/11 04:59	2.35
13C-1,2,3,7,8-PeCDF	55		40 - 135	08/26/11 16:00	09/08/11 04:59	2.35
13C-1,2,3,4,7,8-HxCDF	78		40 - 135	08/26/11 16:00	09/08/11 04:59	2.35
13C-1,2,3,4,6,7,8-HpCDF	80		40 - 135	08/26/11 16:00	09/08/11 04:59	2.35

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15		5.7		mg/Kg		09/06/11 06:30	09/06/11 19:10	10
Lead	160		2.9		mg/Kg		09/06/11 06:30	09/06/11 19:10	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.82	H	0.18		mg/Kg		09/06/11 09:35	09/06/11 12:16	100

Client Sample ID: PMAK-DU6-A-T2

Lab Sample ID: HUH0049-34

Date Collected: 08/08/11 16:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.314		mg/kg		08/22/11 09:19	09/01/11 20:54	1.00
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
2,4,6-Tribromophenol	75		40 - 120	08/22/11 09:19	09/01/11 20:54	1.00			

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		3.2	1.6	1		pg/g		08/26/11 16:00	09/08/11 05:42	3.17
Total TCDD	ND		3.2	1.6			pg/g		08/26/11 16:00	09/08/11 05:42	3.17
1,2,3,7,8-PeCDD	ND		16	2.4	1		pg/g		08/26/11 16:00	09/08/11 05:42	3.17
Total PeCDD	ND		16	2.4			pg/g		08/26/11 16:00	09/08/11 05:42	3.17
1,2,3,4,7,8-HxCDD	ND		16	1.4	0.1		pg/g		08/26/11 16:00	09/08/11 05:42	3.17
1,2,3,6,7,8-HxCDD	39		16	0.98	0.1	3.9	pg/g		08/26/11 16:00	09/08/11 05:42	3.17
1,2,3,7,8,9-HxCDD	27		16	0.98	0.1	2.7	pg/g		08/26/11 16:00	09/08/11 05:42	3.17
Total HxCDD	190		16	1.1			pg/g		08/26/11 16:00	09/08/11 05:42	3.17
1,2,3,4,6,7,8-HpCDD	1100		16	6.5	0.01	11	pg/g		08/26/11 16:00	09/08/11 05:42	3.17

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU6-A-T2

Lab Sample ID: HUH0049-34

Date Collected: 08/08/11 16:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
Total HpCDD	2000		16	6.5			pg/g		08/26/11 16:00	09/08/11 05:42	3.17
OCDD	11000		32	10	0.0003	3.3	pg/g		08/26/11 16:00	09/08/11 05:42	3.17
2,3,7,8-TCDF	ND	CON	3.2	1.1	0.1		pg/g		08/26/11 16:00	09/08/11 05:42	3.17
Total TCDF	24		3.2	3.5			pg/g		08/26/11 16:00	09/08/11 05:42	3.17
1,2,3,7,8-PeCDF	ND		16	3.4	0.03		pg/g		08/26/11 16:00	09/08/11 05:42	3.17
2,3,4,7,8-PeCDF	ND		16	3.4	0.3		pg/g		08/26/11 16:00	09/08/11 05:42	3.17
Total PeCDF	20		16	3.4			pg/g		08/26/11 16:00	09/08/11 05:42	3.17
1,2,3,4,7,8-HxCDF	21		16	1.9	0.1	2.1	pg/g		08/26/11 16:00	09/08/11 05:42	3.17
1,2,3,6,7,8-HxCDF	ND		16	1.4	0.1		pg/g		08/26/11 16:00	09/08/11 05:42	3.17
2,3,4,6,7,8-HxCDF	ND		16	1.6	0.1		pg/g		08/26/11 16:00	09/08/11 05:42	3.17
1,2,3,7,8,9-HxCDF	ND		16	2.1	0.1		pg/g		08/26/11 16:00	09/08/11 05:42	3.17
Total HxCDF	390		16	1.7			pg/g		08/26/11 16:00	09/08/11 05:42	3.17
1,2,3,4,6,7,8-HpCDF	380		16	1.8	0.01	3.8	pg/g		08/26/11 16:00	09/08/11 05:42	3.17
1,2,3,4,7,8,9-HpCDF	26		16	2.2	0.01	0.26	pg/g		08/26/11 16:00	09/08/11 05:42	3.17
Total HpCDF	1300		16	2.0			pg/g		08/26/11 16:00	09/08/11 05:42	3.17
OCDF	880		32	2.5	0.0003	0.26	pg/g		08/26/11 16:00	09/08/11 05:42	3.17
Total TEQ (WHO 2005)						27					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	89		40 - 135	08/26/11 16:00	09/08/11 05:42	3.17
13C-1,2,3,7,8-PeCDD	81		40 - 135	08/26/11 16:00	09/08/11 05:42	3.17
13C-1,2,3,6,7,8-HxCDD	98		40 - 135	08/26/11 16:00	09/08/11 05:42	3.17
13C-1,2,3,4,6,7,8-HpCDD	113		40 - 135	08/26/11 16:00	09/08/11 05:42	3.17
13C-OCDD	133		40 - 135	08/26/11 16:00	09/08/11 05:42	3.17
13C-2,3,7,8-TCDF	78		40 - 135	08/26/11 16:00	09/08/11 05:42	3.17
13C-1,2,3,7,8-PeCDF	76		40 - 135	08/26/11 16:00	09/08/11 05:42	3.17
13C-1,2,3,4,7,8-HxCDF	94		40 - 135	08/26/11 16:00	09/08/11 05:42	3.17
13C-1,2,3,4,6,7,8-HpCDF	103		40 - 135	08/26/11 16:00	09/08/11 05:42	3.17

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16		5.6		mg/Kg		09/06/11 07:56	09/06/11 19:55	10
Lead	140		2.8		mg/Kg		09/06/11 07:56	09/06/11 19:55	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.73	H	0.19		mg/Kg		09/06/11 09:35	09/06/11 12:17	100

Client Sample ID: PMAK-DU6-B-P

Lab Sample ID: HUH0049-35

Date Collected: 08/08/11 16:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.307		mg/kg		08/22/11 09:19	09/01/11 21:34	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	45		40 - 120				08/22/11 09:19	09/01/11 21:34	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU6-B-P

Lab Sample ID: HUH0049-35

Date Collected: 08/08/11 16:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.95	0.15	1		pg/g		08/26/11 16:00	09/08/11 02:59	0.95
Total TCDD	ND		0.95	0.15			pg/g		08/26/11 16:00	09/08/11 02:59	0.95
1,2,3,7,8-PeCDD	ND		4.8	0.36	1		pg/g		08/26/11 16:00	09/08/11 02:59	0.95
Total PeCDD	ND		4.8	0.36			pg/g		08/26/11 16:00	09/08/11 02:59	0.95
1,2,3,4,7,8-HxCDD	ND		4.8	0.30	0.1		pg/g		08/26/11 16:00	09/08/11 02:59	0.95
1,2,3,6,7,8-HxCDD	13		4.8	0.26	0.1	1.3	pg/g		08/26/11 16:00	09/08/11 02:59	0.95
1,2,3,7,8,9-HxCDD	7.6		4.8	0.25	0.1	0.76	pg/g		08/26/11 16:00	09/08/11 02:59	0.95
Total HxCDD	58		4.8	0.27			pg/g		08/26/11 16:00	09/08/11 02:59	0.95
1,2,3,4,6,7,8-HpCDD	420		4.8	1.6	0.01	4.2	pg/g		08/26/11 16:00	09/08/11 02:59	0.95
Total HpCDD	760		4.8	1.6			pg/g		08/26/11 16:00	09/08/11 02:59	0.95
OCDD	4600	E G	17	17	0.0003	1.4	pg/g		08/26/11 16:00	09/08/11 02:59	0.95
2,3,7,8-TCDF	ND		0.95	0.094	0.1		pg/g		08/26/11 16:00	09/08/11 02:59	0.95
Total TCDF	ND		0.95	0.094			pg/g		08/26/11 16:00	09/08/11 02:59	0.95
1,2,3,7,8-PeCDF	ND		4.8	0.16	0.03		pg/g		08/26/11 16:00	09/08/11 02:59	0.95
2,3,4,7,8-PeCDF	ND		4.8	0.18	0.3		pg/g		08/26/11 16:00	09/08/11 02:59	0.95
Total PeCDF	ND		4.8	0.17			pg/g		08/26/11 16:00	09/08/11 02:59	0.95
1,2,3,4,7,8-HxCDF	5.3		4.8	0.68	0.1	0.53	pg/g		08/26/11 16:00	09/08/11 02:59	0.95
1,2,3,6,7,8-HxCDF	ND		4.8	0.63	0.1		pg/g		08/26/11 16:00	09/08/11 02:59	0.95
2,3,4,6,7,8-HxCDF	ND		4.8	0.67	0.1		pg/g		08/26/11 16:00	09/08/11 02:59	0.95
1,2,3,7,8,9-HxCDF	ND		4.8	0.77	0.1		pg/g		08/26/11 16:00	09/08/11 02:59	0.95
Total HxCDF	140		4.8	0.69			pg/g		08/26/11 16:00	09/08/11 02:59	0.95
1,2,3,4,6,7,8-HpCDF	150		4.8	0.68	0.01	1.5	pg/g		08/26/11 16:00	09/08/11 02:59	0.95
1,2,3,4,7,8,9-HpCDF	11		4.8	0.79	0.01	0.11	pg/g		08/26/11 16:00	09/08/11 02:59	0.95
Total HpCDF	560		4.8	0.73			pg/g		08/26/11 16:00	09/08/11 02:59	0.95
OCDF	430		9.5	1.3	0.0003	0.13	pg/g		08/26/11 16:00	09/08/11 02:59	0.95
Total TEQ (WHO 2005)						9.9					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	91		40 - 135	08/26/11 16:00	09/08/11 02:59	0.95
13C-1,2,3,7,8-PeCDD	88		40 - 135	08/26/11 16:00	09/08/11 02:59	0.95
13C-1,2,3,6,7,8-HxCDD	93		40 - 135	08/26/11 16:00	09/08/11 02:59	0.95
13C-1,2,3,4,6,7,8-HpCDD	83		40 - 135	08/26/11 16:00	09/08/11 02:59	0.95
13C-OCDD	86		40 - 135	08/26/11 16:00	09/08/11 02:59	0.95
13C-2,3,7,8-TCDF	91		40 - 135	08/26/11 16:00	09/08/11 02:59	0.95
13C-1,2,3,7,8-PeCDF	85		40 - 135	08/26/11 16:00	09/08/11 02:59	0.95
13C-1,2,3,4,7,8-HxCDF	79		40 - 135	08/26/11 16:00	09/08/11 02:59	0.95
13C-1,2,3,4,6,7,8-HpCDF	82		40 - 135	08/26/11 16:00	09/08/11 02:59	0.95

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.6		mg/Kg		09/06/11 07:56	09/06/11 20:02	10
Lead	27		2.8		mg/Kg		09/06/11 07:56	09/06/11 20:02	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.72	H	0.19		mg/Kg		09/06/11 09:35	09/06/11 12:19	100

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU6-B-T1

Lab Sample ID: HUH0049-36

Date Collected: 08/08/11 16:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.327		mg/kg		08/22/11 09:19	09/01/11 22:13	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	36	Z6	40 - 120				08/22/11 09:19	09/01/11 22:13	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.96	0.15	1		pg/g		08/26/11 16:00	09/08/11 03:44	0.96
Total TCDD	ND		0.96	0.15			pg/g		08/26/11 16:00	09/08/11 03:44	0.96
1,2,3,7,8-PeCDD	ND		4.8	0.33	1		pg/g		08/26/11 16:00	09/08/11 03:44	0.96
Total PeCDD	ND		4.8	0.33			pg/g		08/26/11 16:00	09/08/11 03:44	0.96
1,2,3,4,7,8-HxCDD	ND		4.8	0.25	0.1		pg/g		08/26/11 16:00	09/08/11 03:44	0.96
1,2,3,6,7,8-HxCDD	12		4.8	0.21	0.1	1.2	pg/g		08/26/11 16:00	09/08/11 03:44	0.96
1,2,3,7,8,9-HxCDD	6.6		4.8	0.21	0.1	0.66	pg/g		08/26/11 16:00	09/08/11 03:44	0.96
Total HxCDD	53		4.8	0.22			pg/g		08/26/11 16:00	09/08/11 03:44	0.96
1,2,3,4,6,7,8-HpCDD	400		4.8	1.8	0.01	4.0	pg/g		08/26/11 16:00	09/08/11 03:44	0.96
Total HpCDD	720		4.8	1.8			pg/g		08/26/11 16:00	09/08/11 03:44	0.96
OCDD	4400	E G	15	15	0.0003	1.3	pg/g		08/26/11 16:00	09/08/11 03:44	0.96
2,3,7,8-TCDF	ND		0.96	0.11	0.1		pg/g		08/26/11 16:00	09/08/11 03:44	0.96
Total TCDF	ND		0.96	0.11			pg/g		08/26/11 16:00	09/08/11 03:44	0.96
1,2,3,7,8-PeCDF	ND		4.8	0.16	0.03		pg/g		08/26/11 16:00	09/08/11 03:44	0.96
2,3,4,7,8-PeCDF	ND		4.8	0.17	0.3		pg/g		08/26/11 16:00	09/08/11 03:44	0.96
Total PeCDF	ND		4.8	0.17			pg/g		08/26/11 16:00	09/08/11 03:44	0.96
1,2,3,4,7,8-HxCDF	5.2		4.8	0.23	0.1	0.52	pg/g		08/26/11 16:00	09/08/11 03:44	0.96
1,2,3,6,7,8-HxCDF	ND		4.8	0.22	0.1		pg/g		08/26/11 16:00	09/08/11 03:44	0.96
2,3,4,6,7,8-HxCDF	ND		4.8	0.23	0.1		pg/g		08/26/11 16:00	09/08/11 03:44	0.96
1,2,3,7,8,9-HxCDF	ND		4.8	0.26	0.1		pg/g		08/26/11 16:00	09/08/11 03:44	0.96
Total HxCDF	150		4.8	0.23			pg/g		08/26/11 16:00	09/08/11 03:44	0.96
1,2,3,4,6,7,8-HpCDF	140		4.8	0.74	0.01	1.4	pg/g		08/26/11 16:00	09/08/11 03:44	0.96
1,2,3,4,7,8,9-HpCDF	20		4.8	0.86	0.01	0.20	pg/g		08/26/11 16:00	09/08/11 03:44	0.96
Total HpCDF	550		4.8	0.80			pg/g		08/26/11 16:00	09/08/11 03:44	0.96
OCDF	430		9.6	0.88	0.0003	0.13	pg/g		08/26/11 16:00	09/08/11 03:44	0.96
Total TEQ (WHO 2005)						9.4					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	90		40 - 135	08/26/11 16:00	09/08/11 03:44	0.96
13C-1,2,3,7,8-PeCDD	85		40 - 135	08/26/11 16:00	09/08/11 03:44	0.96
13C-1,2,3,6,7,8-HxCDD	97		40 - 135	08/26/11 16:00	09/08/11 03:44	0.96
13C-1,2,3,4,6,7,8-HpCDD	78		40 - 135	08/26/11 16:00	09/08/11 03:44	0.96
13C-OCDD	80		40 - 135	08/26/11 16:00	09/08/11 03:44	0.96
13C-2,3,7,8-TCDF	90		40 - 135	08/26/11 16:00	09/08/11 03:44	0.96
13C-1,2,3,7,8-PeCDF	83		40 - 135	08/26/11 16:00	09/08/11 03:44	0.96
13C-1,2,3,4,7,8-HxCDF	79		40 - 135	08/26/11 16:00	09/08/11 03:44	0.96
13C-1,2,3,4,6,7,8-HpCDF	78		40 - 135	08/26/11 16:00	09/08/11 03:44	0.96

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.8		mg/Kg		09/06/11 07:56	09/06/11 20:09	10
Lead	25		2.9		mg/Kg		09/06/11 07:56	09/06/11 20:09	10

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU6-B-T1

Lab Sample ID: HUH0049-36

Date Collected: 08/08/11 16:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.55	H	0.21		mg/Kg		09/06/11 09:35	09/06/11 12:21	100

Client Sample ID: PMAK-DU6-B-T2

Lab Sample ID: HUH0049-37

Date Collected: 08/08/11 16:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.320		mg/kg		08/22/11 09:19	09/01/11 22:52	1.00

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	33	Z6	40 - 120	08/22/11 09:19	09/01/11 22:52	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.98	0.14	1		pg/g		08/26/11 16:00	09/08/11 04:28	0.98
Total TCDD	ND		0.98	0.14			pg/g		08/26/11 16:00	09/08/11 04:28	0.98
1,2,3,7,8-PeCDD	ND		4.9	0.28	1		pg/g		08/26/11 16:00	09/08/11 04:28	0.98
Total PeCDD	ND		4.9	0.28			pg/g		08/26/11 16:00	09/08/11 04:28	0.98
1,2,3,4,7,8-HxCDD	ND		4.9	0.33	0.1		pg/g		08/26/11 16:00	09/08/11 04:28	0.98
1,2,3,6,7,8-HxCDD	13		4.9	0.28	0.1	1.3	pg/g		08/26/11 16:00	09/08/11 04:28	0.98
1,2,3,7,8,9-HxCDD	7.7		4.9	0.28	0.1	0.77	pg/g		08/26/11 16:00	09/08/11 04:28	0.98
Total HxCDD	60		4.9	0.29			pg/g		08/26/11 16:00	09/08/11 04:28	0.98
1,2,3,4,6,7,8-HpCDD	450		4.9	1.5	0.01	4.5	pg/g		08/26/11 16:00	09/08/11 04:28	0.98
Total HpCDD	810		4.9	1.5			pg/g		08/26/11 16:00	09/08/11 04:28	0.98
OCDD	5000	E G	16	16	0.0003	1.5	pg/g		08/26/11 16:00	09/08/11 04:28	0.98
2,3,7,8-TCDF	ND		0.98	0.11	0.1		pg/g		08/26/11 16:00	09/08/11 04:28	0.98
Total TCDF	ND		0.98	0.11			pg/g		08/26/11 16:00	09/08/11 04:28	0.98
1,2,3,7,8-PeCDF	ND		4.9	0.15	0.03		pg/g		08/26/11 16:00	09/08/11 04:28	0.98
2,3,4,7,8-PeCDF	ND		4.9	0.17	0.3		pg/g		08/26/11 16:00	09/08/11 04:28	0.98
Total PeCDF	ND		4.9	0.16			pg/g		08/26/11 16:00	09/08/11 04:28	0.98
1,2,3,4,7,8-HxCDF	5.4		4.9	0.26	0.1	0.54	pg/g		08/26/11 16:00	09/08/11 04:28	0.98
1,2,3,6,7,8-HxCDF	ND		4.9	0.24	0.1		pg/g		08/26/11 16:00	09/08/11 04:28	0.98
2,3,4,6,7,8-HxCDF	ND		4.9	0.25	0.1		pg/g		08/26/11 16:00	09/08/11 04:28	0.98
1,2,3,7,8,9-HxCDF	ND		4.9	0.29	0.1		pg/g		08/26/11 16:00	09/08/11 04:28	0.98
Total HxCDF	160		4.9	0.26			pg/g		08/26/11 16:00	09/08/11 04:28	0.98
1,2,3,4,6,7,8-HpCDF	160		4.9	0.53	0.01	1.6	pg/g		08/26/11 16:00	09/08/11 04:28	0.98
1,2,3,4,7,8,9-HpCDF	14		4.9	0.61	0.01	0.14	pg/g		08/26/11 16:00	09/08/11 04:28	0.98
Total HpCDF	570		4.9	0.56			pg/g		08/26/11 16:00	09/08/11 04:28	0.98
OCDF	470		9.8	1.9	0.0003	0.14	pg/g		08/26/11 16:00	09/08/11 04:28	0.98

Total TEQ (WHO 2005) 10

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	92		40 - 135	08/26/11 16:00	09/08/11 04:28	0.98
13C-1,2,3,7,8-PeCDD	92		40 - 135	08/26/11 16:00	09/08/11 04:28	0.98
13C-1,2,3,6,7,8-HxCDD	95		40 - 135	08/26/11 16:00	09/08/11 04:28	0.98
13C-1,2,3,4,6,7,8-HpCDD	81		40 - 135	08/26/11 16:00	09/08/11 04:28	0.98
13C-OCDD	84		40 - 135	08/26/11 16:00	09/08/11 04:28	0.98
13C-2,3,7,8-TCDF	92		40 - 135	08/26/11 16:00	09/08/11 04:28	0.98

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU6-B-T2

Lab Sample ID: HUH0049-37

Date Collected: 08/08/11 16:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	87		40 - 135	08/26/11 16:00	09/08/11 04:28	0.98
13C-1,2,3,4,7,8-HxCDF	79		40 - 135	08/26/11 16:00	09/08/11 04:28	0.98
13C-1,2,3,4,6,7,8-HpCDF	85		40 - 135	08/26/11 16:00	09/08/11 04:28	0.98

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.9		mg/Kg		09/06/11 07:56	09/06/11 20:16	10
Lead	27		3.0		mg/Kg		09/06/11 07:56	09/06/11 20:16	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.74	H	0.21		mg/Kg		09/06/11 09:35	09/06/11 12:26	100

Client Sample ID: PMAK-DU6-C-P

Lab Sample ID: HUH0049-38

Date Collected: 08/08/11 16:35

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.318		mg/kg		08/22/11 09:19	09/01/11 23:31	1.00
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
2,4,6-Tribromophenol	40		40 - 120	08/22/11 09:19	09/01/11 23:31	1.00			

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		6.0		mg/Kg		09/06/11 07:56	09/06/11 20:23	10
Lead	13		3.0		mg/Kg		09/06/11 07:56	09/06/11 20:23	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.34	H	0.19		mg/Kg		09/06/11 09:35	09/06/11 12:28	100

Client Sample ID: PMAK-DU6-C-T1

Lab Sample ID: HUH0049-39

Date Collected: 08/08/11 16:35

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.322		mg/kg		08/22/11 09:19	09/02/11 00:10	1.00
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
2,4,6-Tribromophenol	8	Z6	40 - 120	08/22/11 09:19	09/02/11 00:10	1.00			

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.8		mg/Kg		09/06/11 07:56	09/06/11 20:29	10
Lead	15		2.9		mg/Kg		09/06/11 07:56	09/06/11 20:29	10

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU6-C-T1

Date Collected: 08/08/11 16:35

Date Received: 08/10/11 12:20

Lab Sample ID: HUH0049-39

Matrix: Solid/Soil

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.34	H	0.19		mg/Kg		09/06/11 09:35	09/06/11 12:29	100

Client Sample ID: PMAK-DU6-C-T2

Date Collected: 08/08/11 16:35

Date Received: 08/10/11 12:20

Lab Sample ID: HUH0049-40

Matrix: Solid/Soil

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.320		mg/kg		08/22/11 09:19	09/02/11 00:49	1.00

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	27	Z6	40 - 120	08/22/11 09:19	09/02/11 00:49	1.00

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		6.0		mg/Kg		09/06/11 07:56	09/06/11 20:50	10
Lead	12		3.0		mg/Kg		09/06/11 07:56	09/06/11 20:50	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.37	H	0.19		mg/Kg		09/06/11 09:35	09/06/11 12:31	100

Client Sample ID: PMAK-DU6-D-T1

Date Collected: 08/08/11 16:40

Date Received: 08/10/11 12:20

Lab Sample ID: HUH0049-42

Matrix: Solid/Soil

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.316		mg/kg		08/22/11 09:19	09/02/11 01:28	1.00

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	42		40 - 120	08/22/11 09:19	09/02/11 01:28	1.00

Client Sample ID: PMAK-DU7-A

Date Collected: 08/08/11 17:30

Date Received: 08/10/11 12:20

Lab Sample ID: HUH0049-47

Matrix: Solid/Soil

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.325		mg/kg		08/22/11 09:19	09/02/11 02:07	1.00

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	77		40 - 120	08/22/11 09:19	09/02/11 02:07	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.4	1.2	1		pg/g		08/26/11 16:00	09/08/11 05:13	9.43
Total TCDD	ND		9.4	1.2			pg/g		08/26/11 16:00	09/08/11 05:13	9.43
1,2,3,7,8-PeCDD	ND		47	3.0	1		pg/g		08/26/11 16:00	09/08/11 05:13	9.43

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU7-A

Lab Sample ID: HUH0049-47

Date Collected: 08/08/11 17:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
Total PeCDD	ND		47	3.0			pg/g		08/26/11 16:00	09/08/11 05:13	9.43
1,2,3,4,7,8-HxCDD	ND		47	3.3	0.1		pg/g		08/26/11 16:00	09/08/11 05:13	9.43
1,2,3,6,7,8-HxCDD	110		47	2.9	0.1	11	pg/g		08/26/11 16:00	09/08/11 05:13	9.43
1,2,3,7,8,9-HxCDD	63		47	2.9	0.1	6.3	pg/g		08/26/11 16:00	09/08/11 05:13	9.43
Total HxCDD	560		47	3.0			pg/g		08/26/11 16:00	09/08/11 05:13	9.43
1,2,3,4,6,7,8-HpCDD	4000		47	15	0.01	40	pg/g		08/26/11 16:00	09/08/11 05:13	9.43
Total HpCDD	7700		47	15			pg/g		08/26/11 16:00	09/08/11 05:13	9.43
OCDD	45000	E G	130	130	0.0003	14	pg/g		08/26/11 16:00	09/08/11 05:13	9.43
2,3,7,8-TCDF	ND		9.4	0.90	0.1		pg/g		08/26/11 16:00	09/08/11 05:13	9.43
Total TCDF	ND		9.4	0.90			pg/g		08/26/11 16:00	09/08/11 05:13	9.43
1,2,3,7,8-PeCDF	ND		47	1.0	0.03		pg/g		08/26/11 16:00	09/08/11 05:13	9.43
2,3,4,7,8-PeCDF	ND		47	1.1	0.3		pg/g		08/26/11 16:00	09/08/11 05:13	9.43
Total PeCDF	ND		47	1.1			pg/g		08/26/11 16:00	09/08/11 05:13	9.43
1,2,3,4,7,8-HxCDF	ND		47	2.7	0.1		pg/g		08/26/11 16:00	09/08/11 05:13	9.43
1,2,3,6,7,8-HxCDF	ND		47	2.5	0.1		pg/g		08/26/11 16:00	09/08/11 05:13	9.43
2,3,4,6,7,8-HxCDF	ND		47	2.7	0.1		pg/g		08/26/11 16:00	09/08/11 05:13	9.43
1,2,3,7,8,9-HxCDF	ND		47	3.0	0.1		pg/g		08/26/11 16:00	09/08/11 05:13	9.43
Total HxCDF	1200		47	2.7			pg/g		08/26/11 16:00	09/08/11 05:13	9.43
1,2,3,4,6,7,8-HpCDF	1300		47	5.8	0.01	13	pg/g		08/26/11 16:00	09/08/11 05:13	9.43
1,2,3,4,7,8,9-HpCDF	97		47	6.7	0.01	0.97	pg/g		08/26/11 16:00	09/08/11 05:13	9.43
Total HpCDF	4700		47	6.2			pg/g		08/26/11 16:00	09/08/11 05:13	9.43
OCDF	3800		94	16	0.0003	1.1	pg/g		08/26/11 16:00	09/08/11 05:13	9.43
Total TEQ (WHO 2005)						86					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	100		40 - 135	08/26/11 16:00	09/08/11 05:13	9.43
13C-1,2,3,7,8-PeCDD	84		40 - 135	08/26/11 16:00	09/08/11 05:13	9.43
13C-1,2,3,6,7,8-HxCDD	97		40 - 135	08/26/11 16:00	09/08/11 05:13	9.43
13C-1,2,3,4,6,7,8-HpCDD	83		40 - 135	08/26/11 16:00	09/08/11 05:13	9.43
13C-OCDD	85		40 - 135	08/26/11 16:00	09/08/11 05:13	9.43
13C-2,3,7,8-TCDF	85		40 - 135	08/26/11 16:00	09/08/11 05:13	9.43
13C-1,2,3,7,8-PeCDF	77		40 - 135	08/26/11 16:00	09/08/11 05:13	9.43
13C-1,2,3,4,7,8-HxCDF	86		40 - 135	08/26/11 16:00	09/08/11 05:13	9.43
13C-1,2,3,4,6,7,8-HpCDF	84		40 - 135	08/26/11 16:00	09/08/11 05:13	9.43

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13		5.7		mg/Kg		09/06/11 07:56	09/06/11 20:56	10
Lead	140		2.9		mg/Kg		09/06/11 07:56	09/06/11 20:56	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.72	H	0.19		mg/Kg		09/06/11 09:35	09/06/11 12:32	100

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU7-B

Lab Sample ID: HUH0049-48

Date Collected: 08/08/11 17:35

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.326		mg/kg		08/22/11 09:19	09/02/11 02:46	1.00
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	80		40 - 120				08/22/11 09:19	09/02/11 02:46	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		4.7	0.69	1		pg/g		08/26/11 16:00	09/08/11 05:57	4.73
Total TCDD	ND		4.7	0.69			pg/g		08/26/11 16:00	09/08/11 05:57	4.73
1,2,3,7,8-PeCDD	ND		24	1.5	1		pg/g		08/26/11 16:00	09/08/11 05:57	4.73
Total PeCDD	ND		24	1.5			pg/g		08/26/11 16:00	09/08/11 05:57	4.73
1,2,3,4,7,8-HxCDD	ND		24	1.7	0.1		pg/g		08/26/11 16:00	09/08/11 05:57	4.73
1,2,3,6,7,8-HxCDD	86		24	1.5	0.1	8.6	pg/g		08/26/11 16:00	09/08/11 05:57	4.73
1,2,3,7,8,9-HxCDD	45		24	1.5	0.1	4.5	pg/g		08/26/11 16:00	09/08/11 05:57	4.73
Total HxCDD	560		24	1.5			pg/g		08/26/11 16:00	09/08/11 05:57	4.73
1,2,3,4,6,7,8-HpCDD	3700		24	12	0.01	37	pg/g		08/26/11 16:00	09/08/11 05:57	4.73
Total HpCDD	7000		24	12			pg/g		08/26/11 16:00	09/08/11 05:57	4.73
OCDD	38000	E G	100	100	0.0003	11	pg/g		08/26/11 16:00	09/08/11 05:57	4.73
2,3,7,8-TCDF	ND		4.7	0.57	0.1		pg/g		08/26/11 16:00	09/08/11 05:57	4.73
Total TCDF	ND		4.7	0.57			pg/g		08/26/11 16:00	09/08/11 05:57	4.73
1,2,3,7,8-PeCDF	ND		24	0.72	0.03		pg/g		08/26/11 16:00	09/08/11 05:57	4.73
2,3,4,7,8-PeCDF	ND		24	0.79	0.3		pg/g		08/26/11 16:00	09/08/11 05:57	4.73
Total PeCDF	62		24	0.75			pg/g		08/26/11 16:00	09/08/11 05:57	4.73
1,2,3,4,7,8-HxCDF	41		24	1.7	0.1	4.1	pg/g		08/26/11 16:00	09/08/11 05:57	4.73
1,2,3,6,7,8-HxCDF	35		24	1.6	0.1	3.5	pg/g		08/26/11 16:00	09/08/11 05:57	4.73
2,3,4,6,7,8-HxCDF	ND		24	1.7	0.1		pg/g		08/26/11 16:00	09/08/11 05:57	4.73
1,2,3,7,8,9-HxCDF	ND		24	1.9	0.1		pg/g		08/26/11 16:00	09/08/11 05:57	4.73
Total HxCDF	1300		24	1.7			pg/g		08/26/11 16:00	09/08/11 05:57	4.73
1,2,3,4,6,7,8-HpCDF	1200		24	4.4	0.01	12	pg/g		08/26/11 16:00	09/08/11 05:57	4.73
1,2,3,4,7,8,9-HpCDF	81		24	5.1	0.01	0.81	pg/g		08/26/11 16:00	09/08/11 05:57	4.73
Total HpCDF	4500		24	4.7			pg/g		08/26/11 16:00	09/08/11 05:57	4.73
OCDF	3600		47	4.3	0.0003	1.1	pg/g		08/26/11 16:00	09/08/11 05:57	4.73
Total TEQ (WHO 2005)						83					

Internal Standard	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	88		40 - 135	08/26/11 16:00	09/08/11 05:57	4.73
13C-1,2,3,7,8-PeCDD	78		40 - 135	08/26/11 16:00	09/08/11 05:57	4.73
13C-1,2,3,6,7,8-HxCDD	97		40 - 135	08/26/11 16:00	09/08/11 05:57	4.73
13C-1,2,3,4,6,7,8-HpCDD	76		40 - 135	08/26/11 16:00	09/08/11 05:57	4.73
13C-OCDD	85		40 - 135	08/26/11 16:00	09/08/11 05:57	4.73
13C-2,3,7,8-TCDF	84		40 - 135	08/26/11 16:00	09/08/11 05:57	4.73
13C-1,2,3,7,8-PeCDF	76		40 - 135	08/26/11 16:00	09/08/11 05:57	4.73
13C-1,2,3,4,7,8-HxCDF	81		40 - 135	08/26/11 16:00	09/08/11 05:57	4.73
13C-1,2,3,4,6,7,8-HpCDF	79		40 - 135	08/26/11 16:00	09/08/11 05:57	4.73

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.8		mg/Kg		09/06/11 07:56	09/06/11 21:03	10
Lead	54		2.9		mg/Kg		09/06/11 07:56	09/06/11 21:03	10

Client Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU7-B

Date Collected: 08/08/11 17:35
 Date Received: 08/10/11 12:20

Lab Sample ID: HUH0049-48

Matrix: Solid/Soil

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.61	H	0.16		mg/Kg		09/06/11 09:35	09/06/11 12:34	100

Client Sample ID: PMAK-DU7-C

Date Collected: 08/08/11 17:40
 Date Received: 08/10/11 12:20

Lab Sample ID: HUH0049-49

Matrix: Solid/Soil

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.325		mg/kg		08/22/11 09:19	08/30/11 23:06	1.00

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	70		40 - 120	08/22/11 09:19	08/30/11 23:06	1.00

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		5.5		mg/Kg		09/06/11 07:56	09/06/11 21:10	10
Lead	42		2.8		mg/Kg		09/06/11 07:56	09/06/11 21:10	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.51	H	0.18		mg/Kg		09/06/11 09:35	09/06/11 12:36	100

Surrogate Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260

Matrix: Solid/Soil

Prep Type: Total

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (80-120)	BFB (75-120)	DBFM (80-120)	TOL (80-125)
11H0068-BLK1	Method Blank	93	94	98	98
11H0068-BS1	Lab Control Sample	101	100	99	97
11H0068-MS1	Matrix Spike	106	108	81	103
11H0068-MSD1	Matrix Spike Duplicate	104	110	73 M1	102
HUH0049-22	PMAK-DU11-A	99	98	100	96
HUH0049-23	PMAK-DU11-B	98	104	100	98
HUH0049-24	PMAK-DU11-C	97	103	99	98
HUH0049-25	PMAK-DU11-D	101	106	99	95
HUH0049-26	PMAK-DU11-E	106	97	104	93
HUH0049-27	PMAK-DU10-A	105	96	103	93
HUH0049-28	PMAK-DU10-B	107	97	103	94
HUH0049-29	PMAK-DU10-C	106	98	104	95
HUH0049-30	PMAK-DU10-D	110	100	107	94
HUH0049-31	PMAK-DU10-E	105	99	102	94

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4
 BFB = 4-Bromofluorobenzene
 DBFM = Dibromofluoromethane
 TOL = Toluene-d8

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Matrix: Solid/Soil

Prep Type: Total

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		2FP (30-120)	FBP (45-120)	NBZ (35-120)	PHL (40-120)	TBP (40-120)	TPH (40-130)
11H0082-BLK1	Method Blank					83	
11H0082-BS1	Lab Control Sample					98	
11H0082-MS1	PMAK-DU12-C					100	
11H0082-MSD1	PMAK-DU12-C					101	
11H0087-BLK1	Method Blank					82	
11H0087-BS1	Lab Control Sample					103	
11H0087-MS1	Matrix Spike					74	
11H0087-MSD1	Matrix Spike Duplicate					77	
11H0100-BLK1	Method Blank					77	
11H0100-BS1	Lab Control Sample					91	
11H0100-MS1	PMAK-DU7-C					90	
11H0100-MSD1	PMAK-DU7-C					89	
HUH0049-02	PMAK-DU12-B					84	
HUH0049-03	PMAK-DU12-C					113	
HUH0049-04	PMAK-DU12-D					31 H Z	
HUH0049-05	PMAK-DU12-E					61 H	
HUH0049-07	PMAK-DU14-B					75	
HUH0049-08	PMAK-DU14-C					74	
HUH0049-09	PMAK-DU14-D					53 H	
HUH0049-12	PMAK-DU15-B					90	
HUH0049-13	PMAK-DU15-C					83	
HUH0049-14	PMAK-DU15-D					65 H	
HUH0049-16	PMAK-DU22-A					88	
HUH0049-18	PMAK-DU17-B					69	

Surrogate Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Matrix: Solid/Soil

Prep Type: Total

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		2FP (30-120)	FBP (45-120)	NBZ (35-120)	PHL (40-120)	TBP (40-120)	TPH (40-130)
HUH0049-19	PMAK-DU17-C					77	
HUH0049-20	PMAK-DU17-D					76 H	
HUH0049-22	PMAK-DU11-A	54	60	57	67	77	65
HUH0049-23	PMAK-DU11-B	66	64	70	73	73	53
HUH0049-24	PMAK-DU11-C	59	65	62	68	70	61
HUH0049-27	PMAK-DU10-A	62	75	70	68	71	62
HUH0049-28	PMAK-DU10-B	61	60	64	67	67	77
HUH0049-29	PMAK-DU10-C	68	82	81	76	64	71
HUH0049-30	PMAK-DU10-D	57	61	71	66	52	61
HUH0049-31	PMAK-DU10-E	58	78	71	70	43	58
HUH0049-32	PMAK-DU6-A-P					73	
HUH0049-33	PMAK-DU6-A-T1					79	
HUH0049-34	PMAK-DU6-A-T2					75	
HUH0049-35	PMAK-DU6-B-P					45	
HUH0049-36	PMAK-DU6-B-T1					36 Z6	
HUH0049-37	PMAK-DU6-B-T2					33 Z6	
HUH0049-38	PMAK-DU6-C-P					40	
HUH0049-39	PMAK-DU6-C-T1					8 Z6	
HUH0049-40	PMAK-DU6-C-T2					27 Z6	
HUH0049-42	PMAK-DU6-D-T1					42	
HUH0049-47	PMAK-DU7-A					77	
HUH0049-48	PMAK-DU7-B					80	
HUH0049-49	PMAK-DU7-C					70	

Surrogate Legend

- 2FP = 2-Fluorophenol
- FBP = 2-Fluorobiphenyl
- NBZ = Nitrobenzene-d5
- PHL = Phenol-d6
- TBP = 2,4,6-Tribromophenol
- TPH = Terphenyl-d14

Method: 8151A - Herbicides (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	DCPA1
		(31-105)
LCS 280-82326/2-A	Lab Control Sample	93
LCS 280-82327/2-A	Lab Control Sample	82
LCSD 280-82326/9-A	Lab Control Sample Dup	87
LCSD 280-82327/3-A	Lab Control Sample Dup	91
MB 280-82326/1-A	Method Blank	112 X
MB 280-82327/1-A	Method Blank	101

Surrogate Legend

- DCPA = 2,4-Dichlorophenylacetic acid

Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: 8151A - Herbicides (GC)

Matrix: Solid/Soil

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCPA1 (31-105)
HUH0049-23	PMAK-DU11-B	233 D
HUH0049-24	PMAK-DU11-C	143 D
HUH0049-28	PMAK-DU10-B	6356 E D
HUH0049-30	PMAK-DU10-D	3760 E D
HUH0049-31	PMAK-DU10-E	6936 E D

Surrogate Legend

DCPA = 2,4-Dichlorophenylacetic acid

Method: 8151A - Herbicides (GC)

Matrix: Solid/Soil

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCPA2 (31-105)
HUH0049-29	PMAK-DU10-C	63 D

Surrogate Legend

DCPA = 2,4-Dichlorophenylacetic acid

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Matrix: Solid/Soil

Prep Type: Total

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTPH (40-120)
11H0083-BLK1	Method Blank	71
11H0083-BS1	Lab Control Sample	87
11H0083-MS1	PMAK-DU12-C	108
11H0083-MSD1	PMAK-DU12-C	116
HUH0049-02	PMAK-DU12-B	74
HUH0049-03	PMAK-DU12-C	108
HUH0049-28	PMAK-DU10-B	79
HUH0049-29	PMAK-DU10-C	802 Z3

Surrogate Legend

OTPH = o-Terphenyl

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Matrix: Solid/Soil

Prep Type: Total

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTPH (35-135)
HUH0049-04	PMAK-DU12-D	144 H Z9
HUH0049-05	PMAK-DU12-E	52 H
HUH0049-30	PMAK-DU10-D	H Z9
HUH0049-31	PMAK-DU10-E	990 H Z9

Surrogate Legend

OTPH = o-Terphenyl

Internal Standards Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Matrix: Solid

Prep Type: Total

Lab Sample ID	Client Sample ID	Percent Internal Standard Recovery (Acceptance Limits)							
		TCDD (40-135)	PeCDD (40-135)	HxCDD2 (40-135)	HpCDD (40-135)	OCDD (40-135)	TCDF (40-135)	PeCDF1 (40-135)	HxCDF1 (40-135)
G1H260000129B	Method Blank	65	61	71	79	66	61	59	71
G1H260000129C	Lab Control Sample	85	81	97	99	88	79	76	94

Lab Sample ID	Client Sample ID	Percent Internal Standard Recovery (Acceptance Limits)							
		HpCDF1 (40-135)							
G1H260000129B	Method Blank	78							
G1H260000129C	Lab Control Sample	101							

Internal Standard Legend

- TCDD = 13C-2,3,7,8-TCDD
- PeCDD = 13C-1,2,3,7,8-PeCDD
- HxCDD2 = 13C-1,2,3,6,7,8-HxCDD
- HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
- OCDD = 13C-OCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDF1 = 13C-1,2,3,7,8-PeCDF
- HxCDF1 = 13C-1,2,3,4,7,8-HxCDF
- HpCDF1 = 13C-1,2,3,4,6,7,8-HpCDF

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Matrix: Solid/Soil

Prep Type: Total

Lab Sample ID	Client Sample ID	Percent Internal Standard Recovery (Acceptance Limits)							
		TCDD (40-135)	PeCDD (40-135)	HxCDD2 (40-135)	HpCDD (40-135)	OCDD (40-135)	TCDF (40-135)	PeCDF1 (40-135)	HxCDF1 (40-135)
HUH0049-02	PMAK-DU12-B	90	83	102	96	120	89	84	98
HUH0049-07	PMAK-DU14-B	74	72	83	91	97	66	60	82
HUH0049-12	PMAK-DU15-B	88	83	97	102	122	85	79	98
HUH0049-18	PMAK-DU17-B	86	84	96	100	119	84	80	94
HUH0049-23	PMAK-DU11-B	92	84	100	105	124	89	82	99
HUH0049-28	PMAK-DU10-B	88	83	102	102	108	85	83	98
HUH0049-32	PMAK-DU6-A-P	76	73	85	97	114	70	68	84
HUH0049-33	PMAK-DU6-A-T1	65	61	71	86	106	60	55	78
HUH0049-34	PMAK-DU6-A-T2	89	81	98	113	133	78	76	94
HUH0049-35	PMAK-DU6-B-P	91	88	93	83	86	91	85	79
HUH0049-36	PMAK-DU6-B-T1	90	85	97	78	80	90	83	79
HUH0049-37	PMAK-DU6-B-T2	92	92	95	81	84	92	87	79
HUH0049-47	PMAK-DU7-A	100	84	97	83	85	85	77	86
HUH0049-48	PMAK-DU7-B	88	78	97	76	85	84	76	81

Lab Sample ID	Client Sample ID	Percent Internal Standard Recovery (Acceptance Limits)							
		HpCDF1 (40-135)							
HUH0049-02	PMAK-DU12-B	98							
HUH0049-07	PMAK-DU14-B	81							
HUH0049-12	PMAK-DU15-B	98							
HUH0049-18	PMAK-DU17-B	96							
HUH0049-23	PMAK-DU11-B	101							
HUH0049-28	PMAK-DU10-B	100							
HUH0049-32	PMAK-DU6-A-P	92							
HUH0049-33	PMAK-DU6-A-T1	80							

Internal Standards Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Matrix: Solid/Soil

Prep Type: Total

Percent Internal Standard Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HpCDF1 (40-135)
HUH0049-34	PMAK-DU6-A-T2	103
HUH0049-35	PMAK-DU6-B-P	82
HUH0049-36	PMAK-DU6-B-T1	78
HUH0049-37	PMAK-DU6-B-T2	85
HUH0049-47	PMAK-DU7-A	84
HUH0049-48	PMAK-DU7-B	79

Internal Standard Legend

TCDD = 13C-2,3,7,8-TCDD
PeCDD = 13C-1,2,3,7,8-PeCDD
HxCDD2 = 13C-1,2,3,6,7,8-HxCDD
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
OCDD = 13C-OCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDF1 = 13C-1,2,3,7,8-PeCDF
HxCDF1 = 13C-1,2,3,4,7,8-HxCDF
HpCDF1 = 13C-1,2,3,4,6,7,8-HpCDF

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260

Lab Sample ID: 11H0068-BLK1

Matrix: Solid/Soil

Analysis Batch: 11H0068

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 11H0068_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
1,1,1-Trichloroethane	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
1,1,2,2-Tetrachloroethane	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
1,1,2-Trichloroethane	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
1,1-Dichloroethane	ND		0.0500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
1,1-Dichloroethene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
1,1-Dichloropropene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
1,2,3-Trichlorobenzene	ND	C9	0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
1,2,3-Trichloropropane	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
1,2,4-Trichlorobenzene	ND		0.0500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
1,2,4-Trimethylbenzene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
1,2-Dibromo-3-chloropropane	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
1,2-Dibromoethane (EDB)	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
1,2-Dichlorobenzene	ND		0.0500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
1,2-Dichloroethane	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
1,2-Dichloropropane	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
1,3,5-Trimethylbenzene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
1,3-Dichlorobenzene	ND		0.0500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
1,3-Dichloropropane	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
1,4-Dichlorobenzene	ND		0.0500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
2,2-Dichloropropane	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
2-Butanone (MEK)	ND		0.0500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
2-Chlorotoluene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
2-Hexanone	ND		0.0500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
4-Chlorotoluene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
4-Methyl-2-pentanone (MIBK)	ND		0.0500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Acetone	ND	C9	0.0500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Acrylonitrile	ND		0.0500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Benzene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Bromobenzene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Bromochloromethane	ND		0.0500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Bromodichloromethane	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Bromoform	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Bromomethane	ND		0.100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Carbon disulfide	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Carbon Tetrachloride	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Chlorobenzene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Chlorodibromomethane	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Chloroethane	ND		0.0500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Chloroform	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Chloromethane	ND		0.0500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
cis-1,2-Dichloroethene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
cis-1,3-Dichloropropene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Dibromomethane	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Dichlorodifluoromethane	ND	C9	0.0500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Ethylbenzene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Hexachlorobutadiene	ND		0.0500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Iodomethane	ND		0.0500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Isopropylbenzene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Lab Sample ID: 11H0068-BLK1

Matrix: Solid/Soil

Analysis Batch: 11H0068

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 11H0068_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Methyl tert-Butyl Ether	ND		0.00500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Methylene Chloride	ND		0.0500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Naphthalene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
n-Butylbenzene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
n-Propylbenzene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
o-Xylene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
p-Isopropyltoluene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
sec-Butylbenzene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Styrene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
tert-Butylbenzene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Tetrachloroethene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Toluene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
trans-1,2-Dichloroethene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
trans-1,3-Dichloropropene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
trans-1,4-Dichloro-2-butene	ND		0.0500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Trichloroethene	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Trichlorofluoromethane	ND		0.0100		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Vinyl Acetate	ND		0.0500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00
Vinyl chloride	ND		0.0500		mg/kg		08/12/11 09:53	08/12/11 11:08	1.00

Surrogate	Blank % Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4	93		80 - 120	08/12/11 09:53	08/12/11 11:08	1.00
4-Bromofluorobenzene	94		75 - 120	08/12/11 09:53	08/12/11 11:08	1.00
Dibromofluoromethane	98		80 - 120	08/12/11 09:53	08/12/11 11:08	1.00
Toluene-d8	98		80 - 125	08/12/11 09:53	08/12/11 11:08	1.00

Lab Sample ID: 11H0068-BS1

Matrix: Solid/Soil

Analysis Batch: 11H0068

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 11H0068_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
1,1,1,2-Tetrachloroethane	0.0492	0.0588		mg/kg		119	80 - 125
1,1,1-Trichloroethane	0.0500	0.0531		mg/kg		106	80 - 130
1,1,2,2-Tetrachloroethane	0.0492	0.0603		mg/kg		122	80 - 130
1,1,2-Trichloroethane	0.0492	0.0569		mg/kg		116	75 - 130
1,1-Dichloroethane	0.0498	0.0530		mg/kg		107	65 - 135
1,1-Dichloroethene	0.0495	0.0488		mg/kg		99	80 - 140
1,1-Dichloropropene	0.0495	0.0501		mg/kg		101	80 - 120
1,2,3-Trichlorobenzene	0.0500	0.0403	C9	mg/kg		81	80 - 120
1,2,3-Trichloropropane	0.0492	0.0573		mg/kg		116	80 - 140
1,2,4-Trichlorobenzene	0.0498	0.0459		mg/kg		92	80 - 120
1,2,4-Trimethylbenzene	0.0490	0.0553		mg/kg		113	80 - 120
1,2-Dibromo-3-chloropropane	0.0500	0.0531		mg/kg		106	70 - 135
1,2-Dibromoethane (EDB)	0.0500	0.0579		mg/kg		116	75 - 130
1,2-Dichlorobenzene	0.0490	0.0559		mg/kg		114	80 - 120
1,2-Dichloroethane	0.0500	0.0537		mg/kg		107	80 - 120
1,2-Dichloropropane	0.0500	0.0551		mg/kg		110	80 - 120
1,3,5-Trimethylbenzene	0.0495	0.0559		mg/kg		113	80 - 120

QC Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Lab Sample ID: 11H0068-BS1

Matrix: Solid/Soil

Analysis Batch: 11H0068

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 11H0068_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.
							Limits
1,3-Dichlorobenzene	0.0500	0.0548		mg/kg		110	80 - 120
1,3-Dichloropropane	0.0500	0.0590		mg/kg		118	80 - 130
1,4-Dichlorobenzene	0.0500	0.0546		mg/kg		109	80 - 120
2,2-Dichloropropane	0.0500	0.0467		mg/kg		93	80 - 130
2-Butanone (MEK)	0.250	0.258		mg/kg		103	55 - 155
2-Chlorotoluene	0.0495	0.0549		mg/kg		111	80 - 120
2-Hexanone	0.246	0.283		mg/kg		115	55 - 155
4-Chlorotoluene	0.0492	0.0548		mg/kg		111	80 - 125
4-Methyl-2-pentanone (MIBK)	0.249	0.277		mg/kg		111	65 - 150
Acetone	0.250	0.209	C9	mg/kg		83	45 - 155
Acrylonitrile	0.250	0.296		mg/kg		119	55 - 145
Benzene	0.0498	0.0526		mg/kg		106	70 - 135
Bromobenzene	0.0498	0.0567		mg/kg		114	80 - 120
Bromochloromethane	0.0495	0.0546		mg/kg		110	80 - 130
Bromodichloromethane	0.0495	0.0509		mg/kg		103	80 - 120
Bromoform	0.0495	0.0540		mg/kg		109	75 - 125
Bromomethane	0.0500	0.0506		mg/kg		101	75 - 150
Carbon disulfide	0.0500	0.0500		mg/kg		100	60 - 160
Carbon Tetrachloride	0.0500	0.0550		mg/kg		110	80 - 130
Chlorobenzene	0.0500	0.0557		mg/kg		111	80 - 120
Chlorodibromomethane	0.0495	0.0553		mg/kg		112	75 - 135
Chloroethane	0.0498	0.0505		mg/kg		101	65 - 150
Chloroform	0.0500	0.0548		mg/kg		110	80 - 125
Chloromethane	0.0500	0.0482		mg/kg		96	70 - 125
cis-1,2-Dichloroethene	0.0500	0.0463		mg/kg		93	75 - 125
cis-1,3-Dichloropropene	0.0525	0.0567		mg/kg		108	70 - 125
Dibromomethane	0.0492	0.0579		mg/kg		118	80 - 125
Dichlorodifluoromethane	0.0490	0.0354	C9	mg/kg		72	70 - 135
Ethylbenzene	0.0495	0.0554		mg/kg		112	75 - 135
Hexachlorobutadiene	0.0490	0.0532		mg/kg		109	80 - 130
Isopropylbenzene	0.0500	0.0477		mg/kg		95	80 - 120
m,p-Xylene	0.100	0.110		mg/kg		110	70 - 130
Methyl tert-Butyl Ether	0.0500	0.0456		mg/kg		91	70 - 135
Methylene Chloride	0.0500	0.0480		mg/kg		96	75 - 125
Naphthalene	0.0500	0.0502		mg/kg		100	75 - 130
n-Butylbenzene	0.0495	0.0551		mg/kg		111	80 - 125
n-Propylbenzene	0.0500	0.0563		mg/kg		113	80 - 125
o-Xylene	0.0495	0.0551		mg/kg		111	70 - 130
p-Isopropyltoluene	0.0498	0.0523		mg/kg		105	80 - 120
sec-Butylbenzene	0.0500	0.0561		mg/kg		112	80 - 120
Styrene	0.0500	0.0583		mg/kg		117	80 - 120
tert-Butylbenzene	0.0498	0.0556		mg/kg		112	80 - 120
Tetrachloroethene	0.0500	0.0497		mg/kg		99	70 - 125
Toluene	0.0500	0.0520		mg/kg		104	75 - 135
trans-1,2-Dichloroethene	0.0500	0.0575		mg/kg		115	80 - 140
trans-1,3-Dichloropropene	0.0475	0.0496		mg/kg		105	70 - 125
trans-1,4-Dichloro-2-butene	0.0500	0.0397		mg/kg		79	40 - 150
Trichloroethene	0.0500	0.0533		mg/kg		107	80 - 120
Trichlorofluoromethane	0.0495	0.0508		mg/kg		103	65 - 135
Vinyl Acetate	0.0500	0.0619		mg/kg		124	25 - 165

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Lab Sample ID: 11H0068-BS1

Matrix: Solid/Soil

Analysis Batch: 11H0068

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 11H0068_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Vinyl chloride	0.0500	0.0670		mg/kg		134	60 - 140

Surrogate	LCS % Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4	101		80 - 120
4-Bromofluorobenzene	100		75 - 120
Dibromofluoromethane	99		80 - 120
Toluene-d8	97		80 - 125

Lab Sample ID: 11H0068-MS1

Matrix: Solid/Soil

Analysis Batch: 11H0068

Client Sample ID: Matrix Spike

Prep Type: Total

Prep Batch: 11H0068_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
1,1,1,2-Tetrachloroethane	ND		0.0447	0.0558		mg/kg		125	80 - 125
1,1,1-Trichloroethane	ND		0.0454	0.0519		mg/kg		114	80 - 130
1,1,1,2-Tetrachloroethane	ND		0.0447	0.0174	M1	mg/kg		39	80 - 130
1,1,2-Trichloroethane	ND		0.0447	0.0546		mg/kg		122	75 - 130
1,1-Dichloroethane	ND		0.0451	0.0514		mg/kg		114	65 - 135
1,1-Dichloroethene	ND		0.0449	0.0439		mg/kg		98	80 - 140
1,1-Dichloropropene	ND		0.0449	0.0467		mg/kg		104	80 - 120
1,2,3-Trichlorobenzene	ND		0.0454	0.0314	M1 C9	mg/kg		69	80 - 120
1,2,3-Trichloropropane	ND		0.0447	0.0578		mg/kg		129	80 - 140
1,2,4-Trichlorobenzene	ND		0.0451	0.0374		mg/kg		83	80 - 120
1,2,4-Trimethylbenzene	ND		0.0445	0.0523		mg/kg		118	80 - 120
1,2-Dibromo-3-chloropropane	ND		0.0454	0.0494		mg/kg		109	70 - 135
1,2-Dibromoethane (EDB)	ND		0.0454	0.0559		mg/kg		123	75 - 130
1,2-Dichlorobenzene	ND		0.0445	0.0520		mg/kg		117	80 - 120
1,2-Dichloroethane	ND		0.0454	0.0514		mg/kg		113	80 - 120
1,2-Dichloropropane	ND		0.0454	0.0522		mg/kg		115	80 - 120
1,3,5-Trimethylbenzene	ND		0.0449	0.0519		mg/kg		116	80 - 120
1,3-Dichlorobenzene	ND		0.0454	0.0507		mg/kg		112	80 - 120
1,3-Dichloropropane	ND		0.0454	0.0573		mg/kg		126	80 - 130
1,4-Dichlorobenzene	ND		0.0454	0.0504		mg/kg		111	80 - 120
2,2-Dichloropropane	ND		0.0454	0.0495		mg/kg		109	80 - 130
2-Butanone (MEK)	ND		0.227	0.254		mg/kg		112	55 - 155
2-Chlorotoluene	ND		0.0449	0.0521		mg/kg		116	80 - 120
2-Hexanone	ND		0.223	0.273		mg/kg		122	55 - 155
4-Chlorotoluene	ND		0.0447	0.0520		mg/kg		116	80 - 125
4-Methyl-2-pentanone (MIBK)	ND		0.226	0.257		mg/kg		114	65 - 150
Acetone	0.0122		0.227	0.243	C9	mg/kg		101	45 - 155
Acrylonitrile	ND		0.226	0.263		mg/kg		116	55 - 145
Benzene	ND		0.0451	0.0503		mg/kg		112	70 - 135
Bromobenzene	ND		0.0451	0.0547	M1	mg/kg		121	80 - 120
Bromochloromethane	ND		0.0449	0.0519		mg/kg		116	80 - 130
Bromodichloromethane	ND		0.0449	0.0479		mg/kg		107	80 - 120
Bromoform	ND		0.0449	0.0536		mg/kg		119	75 - 125
Bromomethane	ND		0.0453	0.0471		mg/kg		104	75 - 150
Carbon disulfide	ND		0.0454	0.0465		mg/kg		102	60 - 160
Carbon Tetrachloride	ND		0.0454	0.0524		mg/kg		115	80 - 130

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Lab Sample ID: 11H0068-MS1

Matrix: Solid/Soil

Analysis Batch: 11H0068

Client Sample ID: Matrix Spike

Prep Type: Total

Prep Batch: 11H0068_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Chlorobenzene	ND		0.0454	0.0515		mg/kg		113	80 - 120	
Chlorodibromomethane	ND		0.0449	0.0524		mg/kg		117	75 - 135	
Chloroethane	ND		0.0452	0.0468		mg/kg		104	65 - 150	
Chloroform	ND		0.0454	0.0521		mg/kg		115	80 - 125	
Chloromethane	ND		0.0454	0.0449		mg/kg		99	70 - 125	
cis-1,2-Dichloroethene	ND		0.0454	0.0451		mg/kg		99	75 - 125	
cis-1,3-Dichloropropene	ND		0.0476	0.0560		mg/kg		118	70 - 125	
Dibromomethane	ND		0.0447	0.0547		mg/kg		122	80 - 125	
Dichlorodifluoromethane	ND		0.0445	0.0332	C9	mg/kg		75	70 - 135	
Ethylbenzene	ND		0.0449	0.0508		mg/kg		113	75 - 135	
Hexachlorobutadiene	ND		0.0445	0.0350	M1	mg/kg		79	80 - 130	
Isopropylbenzene	ND		0.0454	0.0451		mg/kg		99	80 - 120	
m,p-Xylene	ND		0.0907	0.103		mg/kg		113	70 - 130	
Methyl tert-Butyl Ether	ND		0.0453	0.0457		mg/kg		101	70 - 135	
Methylene Chloride	ND		0.0454	0.0456		mg/kg		100	75 - 125	
Naphthalene	ND		0.0454	0.0436		mg/kg		96	75 - 130	
n-Butylbenzene	ND		0.0449	0.0472		mg/kg		105	80 - 125	
n-Propylbenzene	ND		0.0454	0.0528		mg/kg		116	80 - 125	
o-Xylene	ND		0.0449	0.0513		mg/kg		114	70 - 130	
p-Isopropyltoluene	ND		0.0451	0.0463		mg/kg		102	80 - 120	
sec-Butylbenzene	ND		0.0454	0.0496		mg/kg		109	80 - 120	
Styrene	ND		0.0454	0.0539		mg/kg		119	80 - 120	
tert-Butylbenzene	ND		0.0451	0.0507		mg/kg		112	80 - 120	
Tetrachloroethene	ND		0.0454	0.0460		mg/kg		101	70 - 125	
Toluene	0.00213		0.0454	0.0520		mg/kg		110	75 - 135	
trans-1,2-Dichloroethene	ND		0.0454	0.0546		mg/kg		120	80 - 140	
trans-1,3-Dichloropropene	ND		0.0431	0.0481		mg/kg		112	70 - 125	
trans-1,4-Dichloro-2-butene	ND		0.0454	0.0403		mg/kg		89	40 - 150	
Trichloroethene	ND		0.0454	0.0798	M1	mg/kg		176	80 - 120	
Trichlorofluoromethane	ND		0.0449	0.0469		mg/kg		104	65 - 135	
Vinyl Acetate	0.00140		0.0454	0.00316	M1	mg/kg		4	25 - 165	
Vinyl chloride	ND		0.0454	0.0539		mg/kg		119	60 - 140	

Surrogate	Matrix Spike	Matrix Spike	Limits
	% Recovery	Qualifier	
1,2-Dichloroethane-d4	106		80 - 120
4-Bromofluorobenzene	108		75 - 120
Dibromofluoromethane	81		80 - 120
Toluene-d8	103		80 - 125

Lab Sample ID: 11H0068-MSD1

Matrix: Solid/Soil

Analysis Batch: 11H0068

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total

Prep Batch: 11H0068_P

Analyte	Sample	Sample	Spike	Matrix Spike Dup	Matrix Spike Dup	Unit	D	% Rec	% Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
1,1,1,2-Tetrachloroethane	ND		0.0468	0.0596	M1	mg/kg		127	80 - 125	7	25	
1,1,1-Trichloroethane	ND		0.0475	0.0544		mg/kg		114	80 - 130	5	25	
1,1,2,2-Tetrachloroethane	ND		0.0468	0.0133	M1 R3	mg/kg		28	80 - 130	26	25	
1,1,2-Trichloroethane	ND		0.0468	0.0566		mg/kg		121	75 - 130	4	25	
1,1-Dichloroethane	ND		0.0473	0.0530		mg/kg		112	65 - 135	3	25	

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Lab Sample ID: 11H0068-MSD1

Matrix: Solid/Soil

Analysis Batch: 11H0068

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total

Prep Batch: 11H0068_P

Analyte	Sample	Sample	Spike	Matrix Spike Dup	Matrix Spike Dup	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
1,1-Dichloroethene	ND		0.0471	0.0472		mg/kg		100	80 - 140	7	25	
1,1-Dichloropropene	ND		0.0471	0.0492		mg/kg		105	80 - 120	5	25	
1,2,3-Trichlorobenzene	ND		0.0475	0.0336	M1 C9	mg/kg		71	80 - 120	7	25	
1,2,3-Trichloropropane	ND		0.0468	0.0634		mg/kg		135	80 - 140	9	25	
1,2,4-Trichlorobenzene	ND		0.0473	0.0393		mg/kg		83	80 - 120	5	25	
1,2,4-Trimethylbenzene	ND		0.0466	0.0556		mg/kg		119	80 - 120	6	25	
1,2-Dibromo-3-chloropropane	ND		0.0475	0.0508		mg/kg		107	70 - 135	3	25	
1,2-Dibromoethane (EDB)	ND		0.0475	0.0587		mg/kg		123	75 - 130	5	25	
1,2-Dichlorobenzene	ND		0.0466	0.0562	M1	mg/kg		121	80 - 120	8	25	
1,2-Dichloroethane	ND		0.0475	0.0536		mg/kg		113	80 - 120	4	25	
1,2-Dichloropropane	ND		0.0475	0.0538		mg/kg		113	80 - 120	3	25	
1,3,5-Trimethylbenzene	ND		0.0471	0.0572	M1	mg/kg		121	80 - 120	10	25	
1,3-Dichlorobenzene	ND		0.0475	0.0550		mg/kg		116	80 - 120	8	25	
1,3-Dichloropropane	ND		0.0475	0.0604		mg/kg		127	80 - 130	5	25	
1,4-Dichlorobenzene	ND		0.0475	0.0553		mg/kg		116	80 - 120	9	25	
2,2-Dichloropropane	ND		0.0475	0.0490		mg/kg		103	80 - 130	0.9	25	
2-Butanone (MEK)	ND		0.238	0.259		mg/kg		109	55 - 155	2	25	
2-Chlorotoluene	ND		0.0471	0.0570	M1	mg/kg		121	80 - 120	9	25	
2-Hexanone	ND		0.233	0.287		mg/kg		123	55 - 155	5	25	
4-Chlorotoluene	ND		0.0468	0.0568		mg/kg		121	80 - 125	9	25	
4-Methyl-2-pentanone (MIBK)	ND		0.237	0.268		mg/kg		113	65 - 150	4	25	
Acetone	0.0122		0.238	0.240	C9	mg/kg		95	45 - 155	1	25	
Acrylonitrile	ND		0.237	0.265		mg/kg		112	55 - 145	1	25	
Benzene	ND		0.0473	0.0522		mg/kg		110	70 - 135	4	25	
Bromobenzene	ND		0.0473	0.0605	M1	mg/kg		128	80 - 120	10	25	
Bromochloromethane	ND		0.0471	0.0545		mg/kg		116	80 - 130	5	25	
Bromodichloromethane	ND		0.0471	0.0497		mg/kg		106	80 - 120	4	25	
Bromoform	ND		0.0471	0.0584		mg/kg		124	75 - 125	9	25	
Bromomethane	ND		0.0475	0.0490		mg/kg		103	75 - 150	4	25	
Carbon disulfide	ND		0.0475	0.0485		mg/kg		102	60 - 160	4	25	
Carbon Tetrachloride	ND		0.0475	0.0546		mg/kg		115	80 - 130	4	25	
Chlorobenzene	ND		0.0475	0.0546		mg/kg		115	80 - 120	6	25	
Chlorodibromomethane	ND		0.0471	0.0557		mg/kg		118	75 - 135	6	25	
Chloroethane	ND		0.0474	0.0482		mg/kg		102	65 - 150	3	25	
Chloroform	ND		0.0475	0.0544		mg/kg		114	80 - 125	4	25	
Chloromethane	ND		0.0475	0.0505		mg/kg		106	70 - 125	12	25	
cis-1,2-Dichloroethene	ND		0.0475	0.0463		mg/kg		97	75 - 125	3	25	
cis-1,3-Dichloropropene	ND		0.0499	0.0588		mg/kg		118	70 - 125	5	25	
Dibromomethane	ND		0.0468	0.0558		mg/kg		119	80 - 125	2	25	
Dichlorodifluoromethane	ND		0.0466	0.0345	C9	mg/kg		74	70 - 135	4	25	
Ethylbenzene	ND		0.0471	0.0536		mg/kg		114	75 - 135	5	25	
Hexachlorobutadiene	ND		0.0466	0.0383		mg/kg		82	80 - 130	9	25	
Isopropylbenzene	ND		0.0475	0.0493		mg/kg		104	80 - 120	9	25	
m,p-Xylene	ND		0.0951	0.107		mg/kg		113	70 - 130	4	25	
Methyl tert-Butyl Ether	ND		0.0475	0.0482		mg/kg		101	70 - 135	5	25	
Methylene Chloride	ND		0.0475	0.0466		mg/kg		98	75 - 125	2	25	
Naphthalene	ND		0.0475	0.0473		mg/kg		99	75 - 130	8	25	
n-Butylbenzene	ND		0.0471	0.0497		mg/kg		106	80 - 125	5	25	
n-Propylbenzene	ND		0.0475	0.0572		mg/kg		120	80 - 125	8	25	
o-Xylene	ND		0.0471	0.0539		mg/kg		115	70 - 130	5	25	

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: EPA 8260 - Volatile Organic Compounds by EPA 8260 (Continued)

Lab Sample ID: 11H0068-MSD1

Matrix: Solid/Soil

Analysis Batch: 11H0068

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total

Prep Batch: 11H0068_P

Analyte	Sample	Sample	Spike	Matrix Spike Dup	Matrix Spike Dup	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
p-Isopropyltoluene	ND		0.0473	0.0501		mg/kg		106	80 - 120	8	25	
sec-Butylbenzene	ND		0.0475	0.0530		mg/kg		111	80 - 120	7	25	
Styrene	ND		0.0475	0.0577	M1	mg/kg		121	80 - 120	7	25	
tert-Butylbenzene	ND		0.0473	0.0545		mg/kg		115	80 - 120	7	25	
Tetrachloroethene	ND		0.0475	0.0490		mg/kg		103	70 - 125	6	25	
Toluene	0.00213		0.0475	0.0551		mg/kg		111	75 - 135	6	25	
trans-1,2-Dichloroethene	ND		0.0475	0.0568		mg/kg		119	80 - 140	4	25	
trans-1,3-Dichloropropene	ND		0.0452	0.0514		mg/kg		114	70 - 125	7	25	
trans-1,4-Dichloro-2-butene	ND		0.0475	0.0485		mg/kg		102	40 - 150	18	25	
Trichloroethene	ND		0.0475	0.0867	M1	mg/kg		182	80 - 120	8	25	
Trichlorofluoromethane	ND		0.0471	0.0485		mg/kg		103	65 - 135	3	25	
Vinyl Acetate	0.00140		0.0475	0.00181	M1 R3	mg/kg		0.9	25 - 165	54	25	
Vinyl chloride	ND		0.0475	0.0676	M1	mg/kg		142	60 - 140	22	25	

Matrix Spike Dup Matrix Spike Dup

Surrogate	% Recovery	Qualifier	Limits
1,2-Dichloroethane-d4	104		80 - 120
4-Bromofluorobenzene	110		75 - 120
Dibromofluoromethane	73	M1	80 - 120
Toluene-d8	102		80 - 125

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Lab Sample ID: 11H0082-BLK1

Matrix: Solid/Soil

Analysis Batch: 11H0082

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 11H0082_P

Analyte	Blank	Blank	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Pentachlorophenol	ND		0.330		mg/kg		08/17/11 10:10	08/30/11 19:07	1.00

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	83		40 - 120	08/17/11 10:10	08/30/11 19:07	1.00

Lab Sample ID: 11H0082-BS1

Matrix: Solid/Soil

Analysis Batch: 11H0082

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 11H0082_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	RPD
Pentachlorophenol	1.67	1.74		mg/kg		105	50 - 120	

Surrogate	% Recovery	Qualifier	Limits
2,4,6-Tribromophenol	98		40 - 120

Lab Sample ID: 11H0082-MS1

Matrix: Solid/Soil

Analysis Batch: 11H0082

Client Sample ID: PMAK-DU12-C

Prep Type: Total

Prep Batch: 11H0082_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD
Pentachlorophenol	2.25		1.59	2.53	MHA	mg/kg		18	50 - 120	

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Lab Sample ID: 11H0082-MS1
Matrix: Solid/Soil
Analysis Batch: 11H0082

Client Sample ID: PMAK-DU12-C
Prep Type: Total
Prep Batch: 11H0082_P

Surrogate	Matrix Spike		Limits
	% Recovery	Qualifier	
2,4,6-Tribromophenol	100		40 - 120

Lab Sample ID: 11H0082-MSD1
Matrix: Solid/Soil
Analysis Batch: 11H0082

Client Sample ID: PMAK-DU12-C
Prep Type: Total
Prep Batch: 11H0082_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
	Pentachlorophenol	2.25		1.62	2.10	MHA	mg/kg		-9	50 - 120	18

Surrogate	Matrix Spike Dup		Limits
	% Recovery	Qualifier	
2,4,6-Tribromophenol	101		40 - 120

Lab Sample ID: 11H0087-BLK1
Matrix: Solid/Soil
Analysis Batch: 11H0087

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 11H0087_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Pentachlorophenol	ND		0.330		mg/kg		08/18/11 11:17	09/01/11 17:00

Surrogate	Blank		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
2,4,6-Tribromophenol	82		40 - 120	08/18/11 11:17	09/01/11 17:00	1.00

Lab Sample ID: 11H0087-BS1
Matrix: Solid/Soil
Analysis Batch: 11H0087

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 11H0087_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
	Pentachlorophenol	1.67	2.01		mg/kg		120

Surrogate	LCS		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
2,4,6-Tribromophenol	103		40 - 120	08/18/11 11:17	09/01/11 17:00	1.00

Lab Sample ID: 11H0087-MS1
Matrix: Solid/Soil
Analysis Batch: 11H0087

Client Sample ID: Matrix Spike
Prep Type: Total
Prep Batch: 11H0087_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
	Pentachlorophenol	ND		1.62	1.33		mg/kg		82

Surrogate	Matrix Spike		Limits
	% Recovery	Qualifier	
2,4,6-Tribromophenol	74		40 - 120

Lab Sample ID: 11H0087-MSD1
Matrix: Solid/Soil
Analysis Batch: 11H0087

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total
Prep Batch: 11H0087_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
	Pentachlorophenol	ND		1.58	1.36		mg/kg		86	50 - 120	2

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Lab Sample ID: 11H0087-MSD1
Matrix: Solid/Soil
Analysis Batch: 11H0087

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total
Prep Batch: 11H0087_P

	<i>Matrix Spike Dup</i>	<i>Matrix Spike Dup</i>	
<i>Surrogate</i>	<i>% Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
2,4,6-Tribromophenol	77		40 - 120

Lab Sample ID: 11H0100-BLK1
Matrix: Solid/Soil
Analysis Batch: 11H0100

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 11H0100_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.330		mg/kg		08/22/11 09:19	08/30/11 20:26	1.00

	<i>Blank</i>	<i>Blank</i>	
<i>Surrogate</i>	<i>% Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
2,4,6-Tribromophenol	77		40 - 120

	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	08/22/11 09:19	08/30/11 20:26	1.00

Lab Sample ID: 11H0100-BS1
Matrix: Solid/Soil
Analysis Batch: 11H0100

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 11H0100_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Pentachlorophenol	1.67	1.57		mg/kg		94	50 - 120

	<i>LCS</i>	<i>LCS</i>	
<i>Surrogate</i>	<i>% Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
2,4,6-Tribromophenol	91		40 - 120

Lab Sample ID: 11H0100-MS1
Matrix: Solid/Soil
Analysis Batch: 11H0100

Client Sample ID: PMAK-DU7-C
Prep Type: Total
Prep Batch: 11H0100_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Pentachlorophenol	ND		1.48	0.910		mg/kg		61	50 - 120

	<i>Matrix Spike</i>	<i>Matrix Spike</i>	
<i>Surrogate</i>	<i>% Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
2,4,6-Tribromophenol	90		40 - 120

Lab Sample ID: 11H0100-MSD1
Matrix: Solid/Soil
Analysis Batch: 11H0100

Client Sample ID: PMAK-DU7-C
Prep Type: Total
Prep Batch: 11H0100_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	Limit
Pentachlorophenol	ND		1.64	0.755	M1	mg/kg		46	50 - 120	19	30

	<i>Matrix Spike Dup</i>	<i>Matrix Spike Dup</i>	
<i>Surrogate</i>	<i>% Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
2,4,6-Tribromophenol	89		40 - 120

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 280-82326/1-A

Matrix: Solid

Analysis Batch: 83235

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 83236

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		77		ug/Kg		08/21/11 10:30	08/25/11 03:12	1
Surrogate	% Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	112	X	31 - 105				08/21/11 10:30	08/25/11 03:12	1

Lab Sample ID: LCS 280-82326/2-A

Matrix: Solid

Analysis Batch: 83235

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 83236

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
2,4-D	89.0	97.3		ug/Kg		109	32 - 115
Surrogate	% Recovery	LCS Qualifier	Limits				% Rec. Limits
2,4-Dichlorophenylacetic acid	93		31 - 105				

Lab Sample ID: LCSD 280-82326/9-A

Matrix: Solid

Analysis Batch: 83235

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 83236

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	Limit
2,4-D	91.5	95.6		ug/Kg		105	32 - 115	14	40
Surrogate	% Recovery	LCSD Qualifier	Limits				% Rec. Limits	RPD	Limit
2,4-Dichlorophenylacetic acid	87		31 - 105						

Lab Sample ID: MB 280-82327/1-A

Matrix: Solid

Analysis Batch: 83235

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 83237

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		77		ug/Kg		08/21/11 10:30	08/25/11 07:10	1
Surrogate	% Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	101		31 - 105				08/21/11 10:30	08/25/11 07:10	1

Lab Sample ID: LCS 280-82327/2-A

Matrix: Solid

Analysis Batch: 83235

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 83237

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
2,4-D	89.0	93.7		ug/Kg		105	32 - 115
Surrogate	% Recovery	LCS Qualifier	Limits				% Rec. Limits
2,4-Dichlorophenylacetic acid	82		31 - 105				

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LCSD 280-82327/3-A
Matrix: Solid
Analysis Batch: 83235

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 82327

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
2,4-D	91.5	94.9		ug/Kg		104	32 - 115	1	40
Surrogate	% Recovery	Qualifier	Limits						
2,4-Dichlorophenylacetic acid	91		31 - 105						

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Lab Sample ID: 11H0083-BLK1
Matrix: Solid/Soil
Analysis Batch: 11H0083

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 11H0083_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	ND		4.00		mg/kg		08/17/11 10:38	08/18/11 10:36	1.00
RRO	ND		20.0		mg/kg		08/17/11 10:38	08/18/11 10:36	1.00
Surrogate	% Recovery	Qualifier	Limits						
o-Terphenyl	71		40 - 120						

Lab Sample ID: 11H0083-BS1
Matrix: Solid/Soil
Analysis Batch: 11H0083

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 11H0083_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
DRO	167	152		mg/kg		91	55 - 125
Surrogate	% Recovery	Qualifier	Limits				
o-Terphenyl	87		40 - 120				

Lab Sample ID: 11H0083-MS1
Matrix: Solid/Soil
Analysis Batch: 11H0083

Client Sample ID: PMAK-DU12-C
Prep Type: Total
Prep Batch: 11H0083_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
DRO	1200		159	1330		mg/kg		85	55 - 125
Surrogate	% Recovery	Qualifier	Limits						
o-Terphenyl	108		40 - 120						

Lab Sample ID: 11H0083-MSD1
Matrix: Solid/Soil
Analysis Batch: 11H0083

Client Sample ID: PMAK-DU12-C
Prep Type: Total
Prep Batch: 11H0083_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
DRO	1200		160	1410	MHA	mg/kg		134	55 - 125	6	30
Surrogate	% Recovery	Qualifier	Limits								
o-Terphenyl	116		40 - 120								

QC Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Lab Sample ID: G1H260000129B

Matrix: Solid

Analysis Batch: 1238129

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 1238129_P

Analyte	MB MB		ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier									
2,3,7,8-TCDD	ND		2.0	1.2	1	pg/g		08/26/11 16:00	09/08/11 07:07	2	
Total TCDD	ND		2.0	1.2		pg/g		08/26/11 16:00	09/08/11 07:07	2	
1,2,3,7,8-PeCDD	ND		10	2.0	1	pg/g		08/26/11 16:00	09/08/11 07:07	2	
Total PeCDD	ND		10	2.0		pg/g		08/26/11 16:00	09/08/11 07:07	2	
1,2,3,4,7,8-HxCDD	ND		10	1.1	0.1	pg/g		08/26/11 16:00	09/08/11 07:07	2	
1,2,3,6,7,8-HxCDD	ND		10	0.79	0.1	pg/g		08/26/11 16:00	09/08/11 07:07	2	
1,2,3,7,8,9-HxCDD	ND		10	0.78	0.1	pg/g		08/26/11 16:00	09/08/11 07:07	2	
Total HxCDD	ND		10	0.88		pg/g		08/26/11 16:00	09/08/11 07:07	2	
1,2,3,4,6,7,8-HpCDD	ND		10	1.1	0.01	pg/g		08/26/11 16:00	09/08/11 07:07	2	
Total HpCDD	ND		10	1.1		pg/g		08/26/11 16:00	09/08/11 07:07	2	
OCDD	ND		20	2.3	0.0003	pg/g		08/26/11 16:00	09/08/11 07:07	2	
2,3,7,8-TCDF	ND	H	2.5	2.5	0.1	pg/g		08/26/11 16:00	09/08/11 07:07	2	
Total TCDF	ND		2.5	2.5		pg/g		08/26/11 16:00	09/08/11 07:07	2	
1,2,3,7,8-PeCDF	ND		10	2.1	0.03	pg/g		08/26/11 16:00	09/08/11 07:07	2	
2,3,4,7,8-PeCDF	ND		10	2.1	0.3	pg/g		08/26/11 16:00	09/08/11 07:07	2	
Total PeCDF	ND		10	2.1		pg/g		08/26/11 16:00	09/08/11 07:07	2	
1,2,3,4,7,8-HxCDF	ND		10	1.0	0.1	pg/g		08/26/11 16:00	09/08/11 07:07	2	
1,2,3,6,7,8-HxCDF	ND		10	0.75	0.1	pg/g		08/26/11 16:00	09/08/11 07:07	2	
2,3,4,6,7,8-HxCDF	ND		10	0.86	0.1	pg/g		08/26/11 16:00	09/08/11 07:07	2	
1,2,3,7,8,9-HxCDF	ND		10	1.1	0.1	pg/g		08/26/11 16:00	09/08/11 07:07	2	
Total HxCDF	ND		10	0.91		pg/g		08/26/11 16:00	09/08/11 07:07	2	
1,2,3,4,6,7,8-HpCDF	ND		10	0.86	0.01	pg/g		08/26/11 16:00	09/08/11 07:07	2	
1,2,3,4,7,8,9-HpCDF	ND		10	1.1	0.01	pg/g		08/26/11 16:00	09/08/11 07:07	2	
Total HpCDF	ND		10	0.95		pg/g		08/26/11 16:00	09/08/11 07:07	2	
OCDF	ND		20	1.8	0.0003	pg/g		08/26/11 16:00	09/08/11 07:07	2	

Total TEQ

0.00

Internal Standard	MB MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
13C-2,3,7,8-TCDD	65		40 - 135	08/26/11 16:00	09/08/11 07:07	2
13C-1,2,3,7,8-PeCDD	61		40 - 135	08/26/11 16:00	09/08/11 07:07	2
13C-1,2,3,6,7,8-HxCDD	71		40 - 135	08/26/11 16:00	09/08/11 07:07	2
13C-1,2,3,4,6,7,8-HpCDD	79		40 - 135	08/26/11 16:00	09/08/11 07:07	2
13C-OCDD	66		40 - 135	08/26/11 16:00	09/08/11 07:07	2
13C-2,3,7,8-TCDF	61		40 - 135	08/26/11 16:00	09/08/11 07:07	2
13C-1,2,3,7,8-PeCDF	59		40 - 135	08/26/11 16:00	09/08/11 07:07	2
13C-1,2,3,4,7,8-HxCDF	71		40 - 135	08/26/11 16:00	09/08/11 07:07	2
13C-1,2,3,4,6,7,8-HpCDF	78		40 - 135	08/26/11 16:00	09/08/11 07:07	2

Lab Sample ID: G1H260000129C

Matrix: Solid

Analysis Batch: 1238129

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 1238129_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	Limits
2,3,7,8-TCDD	20.0	20.2		pg/g		101		60 - 138
1,2,3,7,8-PeCDD	100	99.4		pg/g		99		70 - 122
1,2,3,4,7,8-HxCDD	100	108		pg/g		108		60 - 138
1,2,3,6,7,8-HxCDD	100	91.7		pg/g		92		68 - 136
1,2,3,7,8,9-HxCDD	100	95.4		pg/g		95		68 - 138
1,2,3,4,6,7,8-HpCDD	100	101		pg/g		101		71 - 128

QC Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Lab Sample ID: G1H260000129C
Matrix: Solid
Analysis Batch: 1238129

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 1238129_P

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
OCDD	200	206		pg/g		103	70 - 128
2,3,7,8-TCDF	20.0	20.5	H	pg/g		103	56 - 158
1,2,3,7,8-PeCDF	100	94.7		pg/g		95	69 - 134
2,3,4,7,8-PeCDF	100	93.3		pg/g		93	70 - 131
1,2,3,4,7,8-HxCDF	100	97.7		pg/g		98	74 - 128
1,2,3,6,7,8-HxCDF	100	90.5		pg/g		91	67 - 140
2,3,4,6,7,8-HxCDF	100	88.7		pg/g		89	71 - 137
1,2,3,7,8,9-HxCDF	100	98.7		pg/g		99	72 - 134
1,2,3,4,6,7,8-HpCDF	100	91.2		pg/g		91	71 - 134
1,2,3,4,7,8,9-HpCDF	100	94.2		pg/g		94	68 - 129
OCDF	200	204		pg/g		102	63 - 141

Internal Standard	LCS		Limits
	% Recovery	Qualifier	
13C-2,3,7,8-TCDD	85		40 - 135
13C-1,2,3,7,8-PeCDD	81		40 - 135
13C-1,2,3,6,7,8-HxCDD	97		40 - 135
13C-1,2,3,4,6,7,8-HpCDD	99		40 - 135
13C-OCDD	88		40 - 135
13C-2,3,7,8-TCDF	79		40 - 135
13C-1,2,3,7,8-PeCDF	76		40 - 135
13C-1,2,3,4,7,8-HxCDF	94		40 - 135
13C-1,2,3,4,6,7,8-HpCDF	101		40 - 135

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 580-94482/18-A
Matrix: Solid
Analysis Batch: 94742

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 94482

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		3.0		mg/Kg		09/06/11 06:30	09/06/11 16:20	1
Lead	ND		1.5		mg/Kg		09/06/11 06:30	09/06/11 16:20	1

Lab Sample ID: LCS 580-94482/19-A
Matrix: Solid
Analysis Batch: 94742

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 94482

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
Arsenic	200	198		mg/Kg		99	80 - 120
Lead	50.0	48.5		mg/Kg		97	80 - 120

Lab Sample ID: LCSD 580-94482/20-A
Matrix: Solid
Analysis Batch: 94742

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 94482

Analyte	Spike Added	LCSD		Unit	D	% Rec	% Rec.		
		Result	Qualifier				Limits	RPD	Limit
Arsenic	200	200		mg/Kg		100	80 - 120	1	20
Lead	50.0	49.4		mg/Kg		99	80 - 120	2	20

QC Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 580-28091-2 MS

Matrix: Solid

Analysis Batch: 94742

Client Sample ID: HUH0049-03

Prep Type: Total/NA

Prep Batch: 94482

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	% Rec	% Rec. Limits
	Result	Qualifier		Result	Qualifier				
Arsenic	370		36.8	407	4	mg/Kg		106	80 - 120
Lead	230		9.20	229	4	mg/Kg		-63	80 - 120

Lab Sample ID: 580-28091-2 MSD

Matrix: Solid

Analysis Batch: 94742

Client Sample ID: HUH0049-03

Prep Type: Total/NA

Prep Batch: 94482

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	% Rec	% Rec. Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Arsenic	370		34.9	440	4	mg/Kg		207	80 - 120	8	20
Lead	230		8.73	234	4	mg/Kg		-10	80 - 120	2	20

Lab Sample ID: MB 580-94616/15-A

Matrix: Solid

Analysis Batch: 94742

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 94616

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		3.0		mg/Kg		09/06/11 07:56	09/06/11 19:36	1
Lead	ND		1.5		mg/Kg		09/06/11 07:56	09/06/11 19:36	1

Lab Sample ID: LCS 580-94616/16-A

Matrix: Solid

Analysis Batch: 94742

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 94616

Analyte	Spike Added	LCS	LCS	Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
Arsenic	200	199		mg/Kg		100	80 - 120
Lead	50.0	50.0		mg/Kg		100	80 - 120

Lab Sample ID: LCSD 580-94616/17-A

Matrix: Solid

Analysis Batch: 94742

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 94616

Analyte	Spike Added	LCSD	LCSD	Unit	D	% Rec	% Rec. Limits	RPD	Limit
		Result	Qualifier						
Arsenic	200	193		mg/Kg		97	80 - 120	3	20
Lead	50.0	48.5		mg/Kg		97	80 - 120	3	20

Lab Sample ID: MB 580-96891/20-A

Matrix: Solid

Analysis Batch: 96987

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 96891

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		3.0		mg/Kg		10/04/11 16:41	10/05/11 11:53	1
Lead	ND		1.5		mg/Kg		10/04/11 16:41	10/05/11 11:53	1

Lab Sample ID: LCS 580-96891/21-A

Matrix: Solid

Analysis Batch: 96987

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 96891

Analyte	Spike Added	LCS	LCS	Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
Arsenic	200	218		mg/Kg		109	80 - 120
Lead	50.0	56.3		mg/Kg		113	80 - 120

QC Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCSD 580-96891/22-A
 Matrix: Solid
 Analysis Batch: 96987

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 96891

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD	Limit
							Limits	RPD		
Arsenic	200	219		mg/Kg		110	80 - 120	0	20	
Lead	50.0	56.1		mg/Kg		112	80 - 120	0	20	

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-94228/18-A
 Matrix: Solid
 Analysis Batch: 94275

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 94228

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.020		mg/Kg		08/31/11 13:10	08/31/11 15:41	10

Lab Sample ID: LCS 580-94228/19-A
 Matrix: Solid
 Analysis Batch: 94275

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 94228

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	RPD
Mercury	0.100	0.0968		mg/Kg		97	80 - 120	

Lab Sample ID: LCSD 580-94228/20-A
 Matrix: Solid
 Analysis Batch: 94275

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 94228

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD	Limit
							Limits	RPD		
Mercury	0.100	0.0972		mg/Kg		97	80 - 120	0	20	

Lab Sample ID: 580-28091-2 MS
 Matrix: Solid
 Analysis Batch: 94275

Client Sample ID: HUH0049-03
 Prep Type: Total/NA
 Prep Batch: 94228

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec.	
									Limits	RPD
Mercury	2.5		0.0952	2.86	4	mg/Kg		403	80 - 120	

Lab Sample ID: 580-28091-2 MSD
 Matrix: Solid
 Analysis Batch: 94275

Client Sample ID: HUH0049-03
 Prep Type: Total/NA
 Prep Batch: 94228

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec.		RPD	Limit
									Limits	RPD		
Mercury	2.5		0.0935	2.89	4	mg/Kg		450	80 - 120	1	20	

Lab Sample ID: MB 580-94646/20-A
 Matrix: Solid
 Analysis Batch: 94703

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 94646

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.020		mg/Kg		09/06/11 09:35	09/06/11 12:05	10

QC Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 580-94646/21-A
 Matrix: Solid
 Analysis Batch: 94703

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 94646

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.100	0.115		mg/Kg		115	80 - 120

Lab Sample ID: LCSD 580-94646/22-A
 Matrix: Solid
 Analysis Batch: 94703

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 94646

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Mercury	0.100	0.110		mg/Kg		110	80 - 120	5	20

Lab Sample ID: MB 580-96848/20-A
 Matrix: Solid
 Analysis Batch: 96893

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 96848

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		10/04/11 12:06	10/04/11 15:02	10

Lab Sample ID: LCS 580-96848/21-A
 Matrix: Solid
 Analysis Batch: 96893

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 96848

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.100	0.0940		mg/Kg		94	80 - 120

Lab Sample ID: LCSD 580-96848/22-A
 Matrix: Solid
 Analysis Batch: 96893

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 96848

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Mercury	0.100	0.0890		mg/Kg		89	80 - 120	5	20

Method: EPA 6010 - Bio-available Metals

Lab Sample ID: 11J0009-BLK1
 Matrix: Solid/Soil
 Analysis Batch: 11J0009

Client Sample ID: Method Blank
 Prep Type: Total
 Prep Batch: 11J0009_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Total	ND		1.00		mg/kg		09/28/11 13:39	09/29/11 10:42	1.00

Lab Sample ID: 11J0009-BS1
 Matrix: Solid/Soil
 Analysis Batch: 11J0009

Client Sample ID: Lab Control Sample
 Prep Type: Total
 Prep Batch: 11J0009_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic Total	50.0	48.1		mg/kg		96	80 - 120

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: EPA 6010 - Bio-available Metals (Continued)

Lab Sample ID: 11J0009-MS1
Matrix: Solid/Soil
Analysis Batch: 11J0009

Client Sample ID: PMAK-DU22-A
Prep Type: Total
Prep Batch: 11J0009_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD
Arsenic Total	178		49.5	194	M8	mg/kg		33	80 - 120	

Lab Sample ID: 11J0009-MSD1
Matrix: Solid/Soil
Analysis Batch: 11J0009

Client Sample ID: PMAK-DU22-A
Prep Type: Total
Prep Batch: 11J0009_P

Analyte	Sample	Sample	Spike	Matrix Spike Dup	Matrix Spike Dup	Unit	D	% Rec	% Rec.		RPD
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit
Arsenic Total	178		48.1	228		mg/kg		104	80 - 120	16	20

Lab Sample ID: 11J0041-BLK1
Matrix: Solid/Soil
Analysis Batch: 11J0041

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 11J0041_P

Analyte	Blank	Blank	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic Total	ND		1.00		mg/kg		10/07/11 15:28	10/11/11 12:23	1.00

Lab Sample ID: 11J0041-BS1
Matrix: Solid/Soil
Analysis Batch: 11J0041

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 11J0041_P

Analyte	Spike	LCS	LCS	Unit	D	% Rec	% Rec.	
							Result	Qualifier
Arsenic Total	50.0	49.2		mg/kg		98	80 - 120	

Lab Sample ID: 11J0041-MS1
Matrix: Solid/Soil
Analysis Batch: 11J0041

Client Sample ID: PMAK-DU11-B
Prep Type: Total
Prep Batch: 11J0041_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD
Arsenic Total	283		50.0	325		mg/kg		84	80 - 120	

Lab Sample ID: 11J0041-MSD1
Matrix: Solid/Soil
Analysis Batch: 11J0041

Client Sample ID: PMAK-DU11-B
Prep Type: Total
Prep Batch: 11J0041_P

Analyte	Sample	Sample	Spike	Matrix Spike Dup	Matrix Spike Dup	Unit	D	% Rec	% Rec.		RPD
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit
Arsenic Total	283		50.0	344		mg/kg		122	80 - 120	6	20

Method: EPA 9045 - General Chemistry Parameters

Lab Sample ID: 11H0055-DUP1
Matrix: Solid/Soil
Analysis Batch: 11H0055

Client Sample ID: PMAK-DU17-D
Prep Type: Total
Prep Batch: 11H0055_P

Analyte	Sample	Sample	Duplicate	Duplicate	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
pH	6.90		7.01		pH Units		2	20

QC Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method: EPA 9045 - General Chemistry Parameters (Continued)

Lab Sample ID: 11H0056-DUP1
Matrix: Solid/Soil
Analysis Batch: 11H0056

Client Sample ID: PMAK-DU17-C
Prep Type: Total
Prep Batch: 11H0056_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
pH	7.30		7.30		pH Units		0	20

Lab Sample ID: 11H0059-DUP1
Matrix: Solid/Soil
Analysis Batch: 11H0059

Client Sample ID: PMAK-DU10-B
Prep Type: Total
Prep Batch: 11H0059_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
pH	6.97		7.14		pH Units		2	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

GCMS Volatiles

Analysis Batch: 11H0068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0068-BLK1	Method Blank	Total	Solid/Soil	EPA 8260	11H0068_P
11H0068-BS1	Lab Control Sample	Total	Solid/Soil	EPA 8260	11H0068_P
11H0068-MS1	Matrix Spike	Total	Solid/Soil	EPA 8260	11H0068_P
11H0068-MSD1	Matrix Spike Duplicate	Total	Solid/Soil	EPA 8260	11H0068_P
HUH0049-22	PMAK-DU11-A	Total	Solid/Soil	EPA 8260	11H0068_P
HUH0049-23	PMAK-DU11-B	Total	Solid/Soil	EPA 8260	11H0068_P
HUH0049-24	PMAK-DU11-C	Total	Solid/Soil	EPA 8260	11H0068_P
HUH0049-25	PMAK-DU11-D	Total	Solid/Soil	EPA 8260	11H0068_P
HUH0049-26	PMAK-DU11-E	Total	Solid/Soil	EPA 8260	11H0068_P
HUH0049-27	PMAK-DU10-A	Total	Solid/Soil	EPA 8260	11H0068_P
HUH0049-28	PMAK-DU10-B	Total	Solid/Soil	EPA 8260	11H0068_P
HUH0049-29	PMAK-DU10-C	Total	Solid/Soil	EPA 8260	11H0068_P
HUH0049-30	PMAK-DU10-D	Total	Solid/Soil	EPA 8260	11H0068_P
HUH0049-31	PMAK-DU10-E	Total	Solid/Soil	EPA 8260	11H0068_P

Prep Batch: 11H0068_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0068-BLK1	Method Blank	Total	Solid/Soil	EPA 5030/5035	11H0068_P
11H0068-BS1	Lab Control Sample	Total	Solid/Soil	EPA 5030/5035	11H0068_P
11H0068-MS1	Matrix Spike	Total	Solid/Soil	EPA 5030/5035	11H0068_P
11H0068-MSD1	Matrix Spike Duplicate	Total	Solid/Soil	EPA 5030/5035	11H0068_P
HUH0049-22	PMAK-DU11-A	Total	Solid/Soil	EPA 5030/5035	11H0068_P
HUH0049-23	PMAK-DU11-B	Total	Solid/Soil	EPA 5030/5035	11H0068_P
HUH0049-24	PMAK-DU11-C	Total	Solid/Soil	EPA 5030/5035	11H0068_P
HUH0049-25	PMAK-DU11-D	Total	Solid/Soil	EPA 5030/5035	11H0068_P
HUH0049-26	PMAK-DU11-E	Total	Solid/Soil	EPA 5030/5035	11H0068_P
HUH0049-27	PMAK-DU10-A	Total	Solid/Soil	EPA 5030/5035	11H0068_P
HUH0049-28	PMAK-DU10-B	Total	Solid/Soil	EPA 5030/5035	11H0068_P
HUH0049-29	PMAK-DU10-C	Total	Solid/Soil	EPA 5030/5035	11H0068_P
HUH0049-30	PMAK-DU10-D	Total	Solid/Soil	EPA 5030/5035	11H0068_P
HUH0049-31	PMAK-DU10-E	Total	Solid/Soil	EPA 5030/5035	11H0068_P

GCMS Semivolatiles

Analysis Batch: 11H0082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0082-BLK1	Method Blank	Total	Solid/Soil	EPA 8270	11H0082_P
11H0082-BS1	Lab Control Sample	Total	Solid/Soil	EPA 8270	11H0082_P
11H0082-MS1	PMAK-DU12-C	Total	Solid/Soil	EPA 8270	11H0082_P
11H0082-MSD1	PMAK-DU12-C	Total	Solid/Soil	EPA 8270	11H0082_P
HUH0049-02	PMAK-DU12-B	Total	Solid/Soil	EPA 8270	11H0082_P
HUH0049-03	PMAK-DU12-C	Total	Solid/Soil	EPA 8270	11H0082_P
HUH0049-04	PMAK-DU12-D	Total	Solid/Soil	EPA 8270	11H0082_P
HUH0049-05	PMAK-DU12-E	Total	Solid/Soil	EPA 8270	11H0082_P
HUH0049-07	PMAK-DU14-B	Total	Solid/Soil	EPA 8270	11H0082_P
HUH0049-08	PMAK-DU14-C	Total	Solid/Soil	EPA 8270	11H0082_P
HUH0049-09	PMAK-DU14-D	Total	Solid/Soil	EPA 8270	11H0082_P
HUH0049-12	PMAK-DU15-B	Total	Solid/Soil	EPA 8270	11H0082_P
HUH0049-13	PMAK-DU15-C	Total	Solid/Soil	EPA 8270	11H0082_P
HUH0049-14	PMAK-DU15-D	Total	Solid/Soil	EPA 8270	11H0082_P
HUH0049-16	PMAK-DU22-A	Total	Solid/Soil	EPA 8270	11H0082_P
HUH0049-18	PMAK-DU17-B	Total	Solid/Soil	EPA 8270	11H0082_P

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

GCMS Semivolatiles (Continued)

Analysis Batch: 11H0082 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-19	PMAK-DU17-C	Total	Solid/Soil	EPA 8270	11H0082_P
HUH0049-20	PMAK-DU17-D	Total	Solid/Soil	EPA 8270	11H0082_P

Analysis Batch: 11H0087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0087-BLK1	Method Blank	Total	Solid/Soil	EPA 8270	11H0087_P
11H0087-BS1	Lab Control Sample	Total	Solid/Soil	EPA 8270	11H0087_P
11H0087-MS1	Matrix Spike	Total	Solid/Soil	EPA 8270	11H0087_P
11H0087-MSD1	Matrix Spike Duplicate	Total	Solid/Soil	EPA 8270	11H0087_P
HUH0049-22	PMAK-DU11-A	Total	Solid/Soil	EPA 8270	11H0087_P
HUH0049-23	PMAK-DU11-B	Total	Solid/Soil	EPA 8270	11H0087_P
HUH0049-24	PMAK-DU11-C	Total	Solid/Soil	EPA 8270	11H0087_P
HUH0049-27	PMAK-DU10-A	Total	Solid/Soil	EPA 8270	11H0087_P
HUH0049-28	PMAK-DU10-B	Total	Solid/Soil	EPA 8270	11H0087_P
HUH0049-29	PMAK-DU10-C	Total	Solid/Soil	EPA 8270	11H0087_P
HUH0049-30	PMAK-DU10-D	Total	Solid/Soil	EPA 8270	11H0087_P
HUH0049-31	PMAK-DU10-E	Total	Solid/Soil	EPA 8270	11H0087_P

Analysis Batch: 11H0100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0100-BLK1	Method Blank	Total	Solid/Soil	EPA 8270	11H0100_P
11H0100-BS1	Lab Control Sample	Total	Solid/Soil	EPA 8270	11H0100_P
11H0100-MS1	PMAK-DU7-C	Total	Solid/Soil	EPA 8270	11H0100_P
11H0100-MSD1	PMAK-DU7-C	Total	Solid/Soil	EPA 8270	11H0100_P
HUH0049-32	PMAK-DU6-A-P	Total	Solid/Soil	EPA 8270	11H0100_P
HUH0049-33	PMAK-DU6-A-T1	Total	Solid/Soil	EPA 8270	11H0100_P
HUH0049-34	PMAK-DU6-A-T2	Total	Solid/Soil	EPA 8270	11H0100_P
HUH0049-35	PMAK-DU6-B-P	Total	Solid/Soil	EPA 8270	11H0100_P
HUH0049-36	PMAK-DU6-B-T1	Total	Solid/Soil	EPA 8270	11H0100_P
HUH0049-37	PMAK-DU6-B-T2	Total	Solid/Soil	EPA 8270	11H0100_P
HUH0049-38	PMAK-DU6-C-P	Total	Solid/Soil	EPA 8270	11H0100_P
HUH0049-39	PMAK-DU6-C-T1	Total	Solid/Soil	EPA 8270	11H0100_P
HUH0049-40	PMAK-DU6-C-T2	Total	Solid/Soil	EPA 8270	11H0100_P
HUH0049-42	PMAK-DU6-D-T1	Total	Solid/Soil	EPA 8270	11H0100_P
HUH0049-47	PMAK-DU7-A	Total	Solid/Soil	EPA 8270	11H0100_P
HUH0049-48	PMAK-DU7-B	Total	Solid/Soil	EPA 8270	11H0100_P
HUH0049-49	PMAK-DU7-C	Total	Solid/Soil	EPA 8270	11H0100_P

Prep Batch: 11H0082_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0082-BLK1	Method Blank	Total	Solid/Soil	EPA 3550 MS	
11H0082-BS1	Lab Control Sample	Total	Solid/Soil	EPA 3550 MS	
11H0082-MS1	PMAK-DU12-C	Total	Solid/Soil	EPA 3550 MS	
11H0082-MSD1	PMAK-DU12-C	Total	Solid/Soil	EPA 3550 MS	
HUH0049-02	PMAK-DU12-B	Total	Solid/Soil	EPA 3550 MS	
HUH0049-03	PMAK-DU12-C	Total	Solid/Soil	EPA 3550 MS	
HUH0049-04	PMAK-DU12-D	Total	Solid/Soil	EPA 3550 MS	
HUH0049-05	PMAK-DU12-E	Total	Solid/Soil	EPA 3550 MS	
HUH0049-07	PMAK-DU14-B	Total	Solid/Soil	EPA 3550 MS	
HUH0049-08	PMAK-DU14-C	Total	Solid/Soil	EPA 3550 MS	
HUH0049-09	PMAK-DU14-D	Total	Solid/Soil	EPA 3550 MS	
HUH0049-12	PMAK-DU15-B	Total	Solid/Soil	EPA 3550 MS	

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

GCMS Semivolatiles (Continued)

Prep Batch: 11H0082_P (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-13	PMAK-DU15-C	Total	Solid/Soil	EPA 3550 MS	
HUH0049-14	PMAK-DU15-D	Total	Solid/Soil	EPA 3550 MS	
HUH0049-16	PMAK-DU22-A	Total	Solid/Soil	EPA 3550 MS	
HUH0049-18	PMAK-DU17-B	Total	Solid/Soil	EPA 3550 MS	
HUH0049-19	PMAK-DU17-C	Total	Solid/Soil	EPA 3550 MS	
HUH0049-20	PMAK-DU17-D	Total	Solid/Soil	EPA 3550 MS	

Prep Batch: 11H0087_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0087-BLK1	Method Blank	Total	Solid/Soil	EPA 3550 MS	
11H0087-BS1	Lab Control Sample	Total	Solid/Soil	EPA 3550 MS	
11H0087-MS1	Matrix Spike	Total	Solid/Soil	EPA 3550 MS	
11H0087-MSD1	Matrix Spike Duplicate	Total	Solid/Soil	EPA 3550 MS	
HUH0049-22	PMAK-DU11-A	Total	Solid/Soil	EPA 3550 MS	
HUH0049-23	PMAK-DU11-B	Total	Solid/Soil	EPA 3550 MS	
HUH0049-24	PMAK-DU11-C	Total	Solid/Soil	EPA 3550 MS	
HUH0049-27	PMAK-DU10-A	Total	Solid/Soil	EPA 3550 MS	
HUH0049-28	PMAK-DU10-B	Total	Solid/Soil	EPA 3550 MS	
HUH0049-29	PMAK-DU10-C	Total	Solid/Soil	EPA 3550 MS	
HUH0049-30	PMAK-DU10-D	Total	Solid/Soil	EPA 3550 MS	
HUH0049-31	PMAK-DU10-E	Total	Solid/Soil	EPA 3550 MS	

Prep Batch: 11H0100_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0100-BLK1	Method Blank	Total	Solid/Soil	EPA 3550 MS	
11H0100-BS1	Lab Control Sample	Total	Solid/Soil	EPA 3550 MS	
11H0100-MS1	PMAK-DU7-C	Total	Solid/Soil	EPA 3550 MS	
11H0100-MSD1	PMAK-DU7-C	Total	Solid/Soil	EPA 3550 MS	
HUH0049-32	PMAK-DU6-A-P	Total	Solid/Soil	EPA 3550 MS	
HUH0049-33	PMAK-DU6-A-T1	Total	Solid/Soil	EPA 3550 MS	
HUH0049-34	PMAK-DU6-A-T2	Total	Solid/Soil	EPA 3550 MS	
HUH0049-35	PMAK-DU6-B-P	Total	Solid/Soil	EPA 3550 MS	
HUH0049-36	PMAK-DU6-B-T1	Total	Solid/Soil	EPA 3550 MS	
HUH0049-37	PMAK-DU6-B-T2	Total	Solid/Soil	EPA 3550 MS	
HUH0049-38	PMAK-DU6-C-P	Total	Solid/Soil	EPA 3550 MS	
HUH0049-39	PMAK-DU6-C-T1	Total	Solid/Soil	EPA 3550 MS	
HUH0049-40	PMAK-DU6-C-T2	Total	Solid/Soil	EPA 3550 MS	
HUH0049-42	PMAK-DU6-D-T1	Total	Solid/Soil	EPA 3550 MS	
HUH0049-47	PMAK-DU7-A	Total	Solid/Soil	EPA 3550 MS	
HUH0049-48	PMAK-DU7-B	Total	Solid/Soil	EPA 3550 MS	
HUH0049-49	PMAK-DU7-C	Total	Solid/Soil	EPA 3550 MS	

GC Semi VOA

Prep Batch: 82326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-23	PMAK-DU11-B	Total/NA	Solid/Soil	8151A	
HUH0049-24	PMAK-DU11-C	Total/NA	Solid/Soil	8151A	
HUH0049-28	PMAK-DU10-B	Total/NA	Solid/Soil	8151A	
HUH0049-29	PMAK-DU10-C	Total/NA	Solid/Soil	8151A	
LCS 280-82326/2-A	Lab Control Sample	Total/NA	Solid	8151A	
LCS 280-82326/9-A	Lab Control Sample Dup	Total/NA	Solid	8151A	

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

GC Semi VOA (Continued)

Prep Batch: 82326 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-82326/1-A	Method Blank	Total/NA	Solid	8151A	

Prep Batch: 82327

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-30	PMAK-DU10-D	Total/NA	Solid/Soil	8151A	
HUH0049-31	PMAK-DU10-E	Total/NA	Solid/Soil	8151A	
LCS 280-82327/2-A	Lab Control Sample	Total/NA	Solid	8151A	
LCS 280-82327/3-A	Lab Control Sample Dup	Total/NA	Solid	8151A	
MB 280-82327/1-A	Method Blank	Total/NA	Solid	8151A	

Analysis Batch: 83235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-23	PMAK-DU11-B	Total/NA	Solid/Soil	8151A	82326
HUH0049-24	PMAK-DU11-C	Total/NA	Solid/Soil	8151A	82326
HUH0049-28	PMAK-DU10-B	Total/NA	Solid/Soil	8151A	82326
LCS 280-82326/2-A	Lab Control Sample	Total/NA	Solid	8151A	82326
LCS 280-82327/2-A	Lab Control Sample	Total/NA	Solid	8151A	82327
LCS 280-82326/9-A	Lab Control Sample Dup	Total/NA	Solid	8151A	82326
LCS 280-82327/3-A	Lab Control Sample Dup	Total/NA	Solid	8151A	82327
MB 280-82326/1-A	Method Blank	Total/NA	Solid	8151A	82326
MB 280-82327/1-A	Method Blank	Total/NA	Solid	8151A	82327

Analysis Batch: 83470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-29	PMAK-DU10-C	Total/NA	Solid/Soil	8151A	82326
HUH0049-30	PMAK-DU10-D	Total/NA	Solid/Soil	8151A	82327
HUH0049-31	PMAK-DU10-E	Total/NA	Solid/Soil	8151A	82327

GC Semivolatiles

Analysis Batch: 11H0083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0083-BLK1	Method Blank	Total	Solid/Soil	EPA 8015	11H0083_P
11H0083-BS1	Lab Control Sample	Total	Solid/Soil	EPA 8015	11H0083_P
11H0083-MS1	PMAK-DU12-C	Total	Solid/Soil	EPA 8015	11H0083_P
11H0083-MSD1	PMAK-DU12-C	Total	Solid/Soil	EPA 8015	11H0083_P
HUH0049-02	PMAK-DU12-B	Total	Solid/Soil	EPA 8015	11H0083_P
HUH0049-03	PMAK-DU12-C	Total	Solid/Soil	EPA 8015	11H0083_P
HUH0049-04	PMAK-DU12-D	Total	Solid/Soil	EPA 8015	11H0083_P
HUH0049-05	PMAK-DU12-E	Total	Solid/Soil	EPA 8015	11H0083_P
HUH0049-28	PMAK-DU10-B	Total	Solid/Soil	EPA 8015	11H0083_P
HUH0049-29	PMAK-DU10-C	Total	Solid/Soil	EPA 8015	11H0083_P
HUH0049-30	PMAK-DU10-D	Total	Solid/Soil	EPA 8015	11H0083_P
HUH0049-31	PMAK-DU10-E	Total	Solid/Soil	EPA 8015	11H0083_P

Prep Batch: 11H0083_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0083-BLK1	Method Blank	Total	Solid/Soil	EPA 3550 GC	
11H0083-BS1	Lab Control Sample	Total	Solid/Soil	EPA 3550 GC	
11H0083-MS1	PMAK-DU12-C	Total	Solid/Soil	EPA 3550 GC	
11H0083-MSD1	PMAK-DU12-C	Total	Solid/Soil	EPA 3550 GC	
HUH0049-02	PMAK-DU12-B	Total	Solid/Soil	EPA 3550 GC	

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

GC Semivolatiles (Continued)

Prep Batch: 11H0083_P (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-03	PMAK-DU12-C	Total	Solid/Soil	EPA 3550 GC	
HUH0049-04	PMAK-DU12-D	Total	Solid/Soil	EPA 3550 GC	
HUH0049-05	PMAK-DU12-E	Total	Solid/Soil	EPA 3550 GC	
HUH0049-28	PMAK-DU10-B	Total	Solid/Soil	EPA 3550 GC	
HUH0049-29	PMAK-DU10-C	Total	Solid/Soil	EPA 3550 GC	
HUH0049-30	PMAK-DU10-D	Total	Solid/Soil	EPA 3550 GC	
HUH0049-31	PMAK-DU10-E	Total	Solid/Soil	EPA 3550 GC	

Specialty Organics

Analysis Batch: 1238129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
G1H260000129B	Method Blank	Total	Solid	8290	
G1H260000129C	Lab Control Sample	Total	Solid	8290	
HUH0049-02	PMAK-DU12-B	Total	Solid/Soil	8290	
HUH0049-07	PMAK-DU14-B	Total	Solid/Soil	8290	
HUH0049-12	PMAK-DU15-B	Total	Solid/Soil	8290	
HUH0049-18	PMAK-DU17-B	Total	Solid/Soil	8290	
HUH0049-23	PMAK-DU11-B	Total	Solid/Soil	8290	
HUH0049-28	PMAK-DU10-B	Total	Solid/Soil	8290	
HUH0049-32	PMAK-DU6-A-P	Total	Solid/Soil	8290	
HUH0049-33	PMAK-DU6-A-T1	Total	Solid/Soil	8290	
HUH0049-34	PMAK-DU6-A-T2	Total	Solid/Soil	8290	
HUH0049-35	PMAK-DU6-B-P	Total	Solid/Soil	8290	
HUH0049-36	PMAK-DU6-B-T1	Total	Solid/Soil	8290	
HUH0049-37	PMAK-DU6-B-T2	Total	Solid/Soil	8290	
HUH0049-47	PMAK-DU7-A	Total	Solid/Soil	8290	
HUH0049-48	PMAK-DU7-B	Total	Solid/Soil	8290	

Prep Batch: 1238129_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
G1H260000129B	Method Blank	Total	Solid	8290	
G1H260000129C	Lab Control Sample	Total	Solid	8290	
HUH0049-02	PMAK-DU12-B	Total	Solid/Soil	8290	
HUH0049-07	PMAK-DU14-B	Total	Solid/Soil	8290	
HUH0049-12	PMAK-DU15-B	Total	Solid/Soil	8290	
HUH0049-18	PMAK-DU17-B	Total	Solid/Soil	8290	
HUH0049-23	PMAK-DU11-B	Total	Solid/Soil	8290	
HUH0049-28	PMAK-DU10-B	Total	Solid/Soil	8290	
HUH0049-32	PMAK-DU6-A-P	Total	Solid/Soil	8290	
HUH0049-33	PMAK-DU6-A-T1	Total	Solid/Soil	8290	
HUH0049-34	PMAK-DU6-A-T2	Total	Solid/Soil	8290	
HUH0049-35	PMAK-DU6-B-P	Total	Solid/Soil	8290	
HUH0049-36	PMAK-DU6-B-T1	Total	Solid/Soil	8290	
HUH0049-37	PMAK-DU6-B-T2	Total	Solid/Soil	8290	
HUH0049-47	PMAK-DU7-A	Total	Solid/Soil	8290	
HUH0049-48	PMAK-DU7-B	Total	Solid/Soil	8290	

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Metals

Prep Batch: 94228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-28091-2 MS	HUH0049-03	Total/NA	Solid	7471A	
580-28091-2 MSD	HUH0049-03	Total/NA	Solid	7471A	
HUH0049-02	PMAK-DU12-B	Total/NA	Solid/Soil	7471A	
HUH0049-03	PMAK-DU12-C	Total/NA	Solid/Soil	7471A	
HUH0049-07	PMAK-DU14-B	Total/NA	Solid/Soil	7471A	
HUH0049-08	PMAK-DU14-C	Total/NA	Solid/Soil	7471A	
HUH0049-12	PMAK-DU15-B	Total/NA	Solid/Soil	7471A	
HUH0049-13	PMAK-DU15-C	Total/NA	Solid/Soil	7471A	
HUH0049-16	PMAK-DU22-A	Total/NA	Solid/Soil	7471A	
HUH0049-18	PMAK-DU17-B	Total/NA	Solid/Soil	7471A	
HUH0049-19	PMAK-DU17-C	Total/NA	Solid/Soil	7471A	
HUH0049-23	PMAK-DU11-B	Total/NA	Solid/Soil	7471A	
HUH0049-24	PMAK-DU11-C	Total/NA	Solid/Soil	7471A	
LCS 580-94228/19-A	Lab Control Sample	Total/NA	Solid	7471A	
LCSD 580-94228/20-A	Lab Control Sample Dup	Total/NA	Solid	7471A	
MB 580-94228/18-A	Method Blank	Total/NA	Solid	7471A	

Analysis Batch: 94275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-28091-2 MS	HUH0049-03	Total/NA	Solid	7471A	94228
580-28091-2 MSD	HUH0049-03	Total/NA	Solid	7471A	94228
HUH0049-02	PMAK-DU12-B	Total/NA	Solid/Soil	7471A	94228
HUH0049-03	PMAK-DU12-C	Total/NA	Solid/Soil	7471A	94228
HUH0049-07	PMAK-DU14-B	Total/NA	Solid/Soil	7471A	94228
HUH0049-08	PMAK-DU14-C	Total/NA	Solid/Soil	7471A	94228
HUH0049-12	PMAK-DU15-B	Total/NA	Solid/Soil	7471A	94228
HUH0049-13	PMAK-DU15-C	Total/NA	Solid/Soil	7471A	94228
HUH0049-16	PMAK-DU22-A	Total/NA	Solid/Soil	7471A	94228
HUH0049-18	PMAK-DU17-B	Total/NA	Solid/Soil	7471A	94228
HUH0049-19	PMAK-DU17-C	Total/NA	Solid/Soil	7471A	94228
HUH0049-23	PMAK-DU11-B	Total/NA	Solid/Soil	7471A	94228
HUH0049-24	PMAK-DU11-C	Total/NA	Solid/Soil	7471A	94228
LCS 580-94228/19-A	Lab Control Sample	Total/NA	Solid	7471A	94228
LCSD 580-94228/20-A	Lab Control Sample Dup	Total/NA	Solid	7471A	94228
MB 580-94228/18-A	Method Blank	Total/NA	Solid	7471A	94228

Prep Batch: 94482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-28091-2 MS	HUH0049-03	Total/NA	Solid	3050B	
580-28091-2 MSD	HUH0049-03	Total/NA	Solid	3050B	
HUH0049-02	PMAK-DU12-B	Total/NA	Solid/Soil	3050B	
HUH0049-03	PMAK-DU12-C	Total/NA	Solid/Soil	3050B	
HUH0049-07	PMAK-DU14-B	Total/NA	Solid/Soil	3050B	
HUH0049-08	PMAK-DU14-C	Total/NA	Solid/Soil	3050B	
HUH0049-12	PMAK-DU15-B	Total/NA	Solid/Soil	3050B	
HUH0049-13	PMAK-DU15-C	Total/NA	Solid/Soil	3050B	
HUH0049-16	PMAK-DU22-A	Total/NA	Solid/Soil	3050B	
HUH0049-18	PMAK-DU17-B	Total/NA	Solid/Soil	3050B	
HUH0049-19	PMAK-DU17-C	Total/NA	Solid/Soil	3050B	
HUH0049-23	PMAK-DU11-B	Total/NA	Solid/Soil	3050B	
HUH0049-24	PMAK-DU11-C	Total/NA	Solid/Soil	3050B	
HUH0049-28	PMAK-DU10-B	Total/NA	Solid/Soil	3050B	

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Metals (Continued)

Prep Batch: 94482 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-29	PMAK-DU10-C	Total/NA	Solid/Soil	3050B	
HUH0049-32	PMAK-DU6-A-P	Total/NA	Solid/Soil	3050B	
HUH0049-33	PMAK-DU6-A-T1	Total/NA	Solid/Soil	3050B	
LCS 580-94482/19-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 580-94482/20-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
MB 580-94482/18-A	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 94616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-34	PMAK-DU6-A-T2	Total/NA	Solid/Soil	3050B	
HUH0049-35	PMAK-DU6-B-P	Total/NA	Solid/Soil	3050B	
HUH0049-36	PMAK-DU6-B-T1	Total/NA	Solid/Soil	3050B	
HUH0049-37	PMAK-DU6-B-T2	Total/NA	Solid/Soil	3050B	
HUH0049-38	PMAK-DU6-C-P	Total/NA	Solid/Soil	3050B	
HUH0049-39	PMAK-DU6-C-T1	Total/NA	Solid/Soil	3050B	
HUH0049-40	PMAK-DU6-C-T2	Total/NA	Solid/Soil	3050B	
HUH0049-47	PMAK-DU7-A	Total/NA	Solid/Soil	3050B	
HUH0049-48	PMAK-DU7-B	Total/NA	Solid/Soil	3050B	
HUH0049-49	PMAK-DU7-C	Total/NA	Solid/Soil	3050B	
LCS 580-94616/16-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 580-94616/17-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
MB 580-94616/15-A	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 94646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-28	PMAK-DU10-B	Total/NA	Solid/Soil	7471A	
HUH0049-29	PMAK-DU10-C	Total/NA	Solid/Soil	7471A	
HUH0049-32	PMAK-DU6-A-P	Total/NA	Solid/Soil	7471A	
HUH0049-33	PMAK-DU6-A-T1	Total/NA	Solid/Soil	7471A	
HUH0049-34	PMAK-DU6-A-T2	Total/NA	Solid/Soil	7471A	
HUH0049-35	PMAK-DU6-B-P	Total/NA	Solid/Soil	7471A	
HUH0049-36	PMAK-DU6-B-T1	Total/NA	Solid/Soil	7471A	
HUH0049-37	PMAK-DU6-B-T2	Total/NA	Solid/Soil	7471A	
HUH0049-38	PMAK-DU6-C-P	Total/NA	Solid/Soil	7471A	
HUH0049-39	PMAK-DU6-C-T1	Total/NA	Solid/Soil	7471A	
HUH0049-40	PMAK-DU6-C-T2	Total/NA	Solid/Soil	7471A	
HUH0049-47	PMAK-DU7-A	Total/NA	Solid/Soil	7471A	
HUH0049-48	PMAK-DU7-B	Total/NA	Solid/Soil	7471A	
HUH0049-49	PMAK-DU7-C	Total/NA	Solid/Soil	7471A	
LCS 580-94646/21-A	Lab Control Sample	Total/NA	Solid	7471A	
LCSD 580-94646/22-A	Lab Control Sample Dup	Total/NA	Solid	7471A	
MB 580-94646/20-A	Method Blank	Total/NA	Solid	7471A	

Analysis Batch: 94703

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-28	PMAK-DU10-B	Total/NA	Solid/Soil	7471A	94646
HUH0049-29	PMAK-DU10-C	Total/NA	Solid/Soil	7471A	94646
HUH0049-32	PMAK-DU6-A-P	Total/NA	Solid/Soil	7471A	94646
HUH0049-33	PMAK-DU6-A-T1	Total/NA	Solid/Soil	7471A	94646
HUH0049-34	PMAK-DU6-A-T2	Total/NA	Solid/Soil	7471A	94646
HUH0049-35	PMAK-DU6-B-P	Total/NA	Solid/Soil	7471A	94646
HUH0049-36	PMAK-DU6-B-T1	Total/NA	Solid/Soil	7471A	94646

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Metals (Continued)

Analysis Batch: 94703 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-37	PMAK-DU6-B-T2	Total/NA	Solid/Soil	7471A	94646
HUH0049-38	PMAK-DU6-C-P	Total/NA	Solid/Soil	7471A	94646
HUH0049-39	PMAK-DU6-C-T1	Total/NA	Solid/Soil	7471A	94646
HUH0049-40	PMAK-DU6-C-T2	Total/NA	Solid/Soil	7471A	94646
HUH0049-47	PMAK-DU7-A	Total/NA	Solid/Soil	7471A	94646
HUH0049-48	PMAK-DU7-B	Total/NA	Solid/Soil	7471A	94646
HUH0049-49	PMAK-DU7-C	Total/NA	Solid/Soil	7471A	94646
LCS 580-94646/21-A	Lab Control Sample	Total/NA	Solid	7471A	94646
LCS 580-94646/22-A	Lab Control Sample Dup	Total/NA	Solid	7471A	94646
MB 580-94646/20-A	Method Blank	Total/NA	Solid	7471A	94646

Analysis Batch: 94742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-28091-2 MS	HUH0049-03	Total/NA	Solid	6010B	94482
580-28091-2 MSD	HUH0049-03	Total/NA	Solid	6010B	94482
HUH0049-02	PMAK-DU12-B	Total/NA	Solid/Soil	6010B	94482
HUH0049-03	PMAK-DU12-C	Total/NA	Solid/Soil	6010B	94482
HUH0049-07	PMAK-DU14-B	Total/NA	Solid/Soil	6010B	94482
HUH0049-08	PMAK-DU14-C	Total/NA	Solid/Soil	6010B	94482
HUH0049-12	PMAK-DU15-B	Total/NA	Solid/Soil	6010B	94482
HUH0049-13	PMAK-DU15-C	Total/NA	Solid/Soil	6010B	94482
HUH0049-16	PMAK-DU22-A	Total/NA	Solid/Soil	6010B	94482
HUH0049-18	PMAK-DU17-B	Total/NA	Solid/Soil	6010B	94482
HUH0049-19	PMAK-DU17-C	Total/NA	Solid/Soil	6010B	94482
HUH0049-23	PMAK-DU11-B	Total/NA	Solid/Soil	6010B	94482
HUH0049-24	PMAK-DU11-C	Total/NA	Solid/Soil	6010B	94482
HUH0049-28	PMAK-DU10-B	Total/NA	Solid/Soil	6010B	94482
HUH0049-29	PMAK-DU10-C	Total/NA	Solid/Soil	6010B	94482
HUH0049-32	PMAK-DU6-A-P	Total/NA	Solid/Soil	6010B	94482
HUH0049-33	PMAK-DU6-A-T1	Total/NA	Solid/Soil	6010B	94482
HUH0049-34	PMAK-DU6-A-T2	Total/NA	Solid/Soil	6010B	94616
HUH0049-35	PMAK-DU6-B-P	Total/NA	Solid/Soil	6010B	94616
HUH0049-36	PMAK-DU6-B-T1	Total/NA	Solid/Soil	6010B	94616
HUH0049-37	PMAK-DU6-B-T2	Total/NA	Solid/Soil	6010B	94616
HUH0049-38	PMAK-DU6-C-P	Total/NA	Solid/Soil	6010B	94616
HUH0049-39	PMAK-DU6-C-T1	Total/NA	Solid/Soil	6010B	94616
HUH0049-40	PMAK-DU6-C-T2	Total/NA	Solid/Soil	6010B	94616
HUH0049-47	PMAK-DU7-A	Total/NA	Solid/Soil	6010B	94616
HUH0049-48	PMAK-DU7-B	Total/NA	Solid/Soil	6010B	94616
HUH0049-49	PMAK-DU7-C	Total/NA	Solid/Soil	6010B	94616
LCS 580-94482/19-A	Lab Control Sample	Total/NA	Solid	6010B	94482
LCS 580-94616/16-A	Lab Control Sample	Total/NA	Solid	6010B	94616
LCS 580-94482/20-A	Lab Control Sample Dup	Total/NA	Solid	6010B	94482
LCS 580-94616/17-A	Lab Control Sample Dup	Total/NA	Solid	6010B	94616
MB 580-94482/18-A	Method Blank	Total/NA	Solid	6010B	94482
MB 580-94616/15-A	Method Blank	Total/NA	Solid	6010B	94616

Prep Batch: 96848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-04	PMAK-DU12-D	Total/NA	Solid/Soil	7471A	
HUH0049-05	PMAK-DU12-E	Total/NA	Solid/Soil	7471A	
HUH0049-09	PMAK-DU14-D	Total/NA	Solid/Soil	7471A	

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Metals (Continued)

Prep Batch: 96848 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-14	PMAK-DU15-D	Total/NA	Solid/Soil	7471A	
HUH0049-20	PMAK-DU17-D	Total/NA	Solid/Soil	7471A	
HUH0049-30	PMAK-DU10-D	Total/NA	Solid/Soil	7471A	
HUH0049-31	PMAK-DU10-E	Total/NA	Solid/Soil	7471A	
LCS 580-96848/21-A	Lab Control Sample	Total/NA	Solid	7471A	
LCSD 580-96848/22-A	Lab Control Sample Dup	Total/NA	Solid	7471A	
MB 580-96848/20-A	Method Blank	Total/NA	Solid	7471A	

Prep Batch: 96891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-04	PMAK-DU12-D	Total/NA	Solid/Soil	3050B	
HUH0049-05	PMAK-DU12-E	Total/NA	Solid/Soil	3050B	
HUH0049-09	PMAK-DU14-D	Total/NA	Solid/Soil	3050B	
HUH0049-14	PMAK-DU15-D	Total/NA	Solid/Soil	3050B	
HUH0049-20	PMAK-DU17-D	Total/NA	Solid/Soil	3050B	
HUH0049-30	PMAK-DU10-D	Total/NA	Solid/Soil	3050B	
HUH0049-31	PMAK-DU10-E	Total/NA	Solid/Soil	3050B	
LCS 580-96891/21-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 580-96891/22-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
MB 580-96891/20-A	Method Blank	Total/NA	Solid	3050B	

Analysis Batch: 96893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-04	PMAK-DU12-D	Total/NA	Solid/Soil	7471A	96848
HUH0049-05	PMAK-DU12-E	Total/NA	Solid/Soil	7471A	96848
HUH0049-09	PMAK-DU14-D	Total/NA	Solid/Soil	7471A	96848
HUH0049-14	PMAK-DU15-D	Total/NA	Solid/Soil	7471A	96848
HUH0049-20	PMAK-DU17-D	Total/NA	Solid/Soil	7471A	96848
HUH0049-30	PMAK-DU10-D	Total/NA	Solid/Soil	7471A	96848
HUH0049-31	PMAK-DU10-E	Total/NA	Solid/Soil	7471A	96848
LCS 580-96848/21-A	Lab Control Sample	Total/NA	Solid	7471A	96848
LCSD 580-96848/22-A	Lab Control Sample Dup	Total/NA	Solid	7471A	96848
MB 580-96848/20-A	Method Blank	Total/NA	Solid	7471A	96848

Analysis Batch: 96987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-04	PMAK-DU12-D	Total/NA	Solid/Soil	6010B	96891
HUH0049-05	PMAK-DU12-E	Total/NA	Solid/Soil	6010B	96891
HUH0049-09	PMAK-DU14-D	Total/NA	Solid/Soil	6010B	96891
HUH0049-14	PMAK-DU15-D	Total/NA	Solid/Soil	6010B	96891
HUH0049-20	PMAK-DU17-D	Total/NA	Solid/Soil	6010B	96891
HUH0049-30	PMAK-DU10-D	Total/NA	Solid/Soil	6010B	96891
HUH0049-31	PMAK-DU10-E	Total/NA	Solid/Soil	6010B	96891
LCS 580-96891/21-A	Lab Control Sample	Total/NA	Solid	6010B	96891
LCSD 580-96891/22-A	Lab Control Sample Dup	Total/NA	Solid	6010B	96891
MB 580-96891/20-A	Method Blank	Total/NA	Solid	6010B	96891

Analysis Batch: 1110083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-16	PMAK-DU22-A	Total	Solid/Soil	SBRC Appendix C Rev. #8	1110083_P
HUH0049-16	PMAK-DU22-A	Total	Solid/Soil	EPA 6010	1110083_P



QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Metals (Continued)

Pre prep Batch: 11I0085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-16	PMAK-DU22-A	Total	Solid/Soil	SBRC Appendix C Rev. #8	

Analysis Batch: 11J0009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11J0009-BLK1	Method Blank	Total	Solid/Soil	EPA 6010	11J0009_P
11J0009-BS1	Lab Control Sample	Total	Solid/Soil	EPA 6010	11J0009_P
11J0009-MS1	PMAK-DU22-A	Total	Solid/Soil	EPA 6010	11J0009_P
11J0009-MSD1	PMAK-DU22-A	Total	Solid/Soil	EPA 6010	11J0009_P
HUH0049-16	PMAK-DU22-A	Total	Solid/Soil	EPA 6010	11J0009_P

Pre prep Batch: 11J0018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-23	PMAK-DU11-B	Total	Solid/Soil	SBRC Appendix C Rev. #8	
HUH0049-28	PMAK-DU10-B	Total	Solid/Soil	SBRC Appendix C Rev. #8	

Analysis Batch: 11J0020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-23	PMAK-DU11-B	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0020_P
HUH0049-23	PMAK-DU11-B	Total	Solid/Soil	EPA 6010	11J0020_P
HUH0049-28	PMAK-DU10-B	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0020_P
HUH0049-28	PMAK-DU10-B	Total	Solid/Soil	EPA 6010	11J0020_P

Analysis Batch: 11J0041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11J0041-BLK1	Method Blank	Total	Solid/Soil	EPA 6010	11J0041_P
11J0041-BS1	Lab Control Sample	Total	Solid/Soil	EPA 6010	11J0041_P
11J0041-MS1	PMAK-DU11-B	Total	Solid/Soil	EPA 6010	11J0041_P
11J0041-MSD1	PMAK-DU11-B	Total	Solid/Soil	EPA 6010	11J0041_P
HUH0049-23	PMAK-DU11-B	Total	Solid/Soil	EPA 6010	11J0041_P
HUH0049-28	PMAK-DU10-B	Total	Solid/Soil	EPA 6010	11J0041_P

Prep Batch: 11I0083_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-16	PMAK-DU22-A	Total	Solid/Soil	EPA 3050	11I0085

Prep Batch: 11J0009_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11J0009-BLK1	Method Blank	Total	Solid/Soil	EPA 3050	
11J0009-BS1	Lab Control Sample	Total	Solid/Soil	EPA 3050	
11J0009-MS1	PMAK-DU22-A	Total	Solid/Soil	EPA 3050	
11J0009-MSD1	PMAK-DU22-A	Total	Solid/Soil	EPA 3050	
HUH0049-16	PMAK-DU22-A	Total	Solid/Soil	EPA 3050	

Prep Batch: 11J0020_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-23	PMAK-DU11-B	Total	Solid/Soil	EPA 3050	11J0018
HUH0049-28	PMAK-DU10-B	Total	Solid/Soil	EPA 3050	11J0018

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Metals (Continued)

Prep Batch: 11J0041_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11J0041-BLK1	Method Blank	Total	Solid/Soil	EPA 3050	
11J0041-BS1	Lab Control Sample	Total	Solid/Soil	EPA 3050	
11J0041-MS1	PMAK-DU11-B	Total	Solid/Soil	EPA 3050	
11J0041-MSD1	PMAK-DU11-B	Total	Solid/Soil	EPA 3050	
HUH0049-23	PMAK-DU11-B	Total	Solid/Soil	EPA 3050	
HUH0049-28	PMAK-DU10-B	Total	Solid/Soil	EPA 3050	

WetChem

Analysis Batch: 11H0055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0055-DUP1	PMAK-DU17-D	Total	Solid/Soil	EPA 9045	11H0055_P
HUH0049-02	PMAK-DU12-B	Total	Solid/Soil	EPA 9045	11H0055_P
HUH0049-03	PMAK-DU12-C	Total	Solid/Soil	EPA 9045	11H0055_P
HUH0049-04	PMAK-DU12-D	Total	Solid/Soil	EPA 9045	11H0055_P
HUH0049-05	PMAK-DU12-E	Total	Solid/Soil	EPA 9045	11H0055_P
HUH0049-07	PMAK-DU14-B	Total	Solid/Soil	EPA 9045	11H0055_P
HUH0049-08	PMAK-DU14-C	Total	Solid/Soil	EPA 9045	11H0055_P
HUH0049-09	PMAK-DU14-D	Total	Solid/Soil	EPA 9045	11H0055_P
HUH0049-10	PMAK-DU14-E	Total	Solid/Soil	EPA 9045	11H0055_P
HUH0049-12	PMAK-DU15-B	Total	Solid/Soil	EPA 9045	11H0055_P
HUH0049-13	PMAK-DU15-C	Total	Solid/Soil	EPA 9045	11H0055_P
HUH0049-14	PMAK-DU15-D	Total	Solid/Soil	EPA 9045	11H0055_P
HUH0049-20	PMAK-DU17-D	Total	Solid/Soil	EPA 9045	11H0055_P
HUH0049-21	PMAK-DU17-E	Total	Solid/Soil	EPA 9045	11H0055_P
HUH0049-23	PMAK-DU11-B	Total	Solid/Soil	EPA 9045	11H0055_P
HUH0049-24	PMAK-DU11-C	Total	Solid/Soil	EPA 9045	11H0055_P
HUH0049-25	PMAK-DU11-D	Total	Solid/Soil	EPA 9045	11H0055_P
HUH0049-26	PMAK-DU11-E	Total	Solid/Soil	EPA 9045	11H0055_P
HUH0049-29	PMAK-DU10-C	Total	Solid/Soil	EPA 9045	11H0055_P
HUH0049-30	PMAK-DU10-D	Total	Solid/Soil	EPA 9045	11H0055_P
HUH0049-31	PMAK-DU10-E	Total	Solid/Soil	EPA 9045	11H0055_P

Analysis Batch: 11H0056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0056-DUP1	PMAK-DU17-C	Total	Solid/Soil	EPA 9045	11H0056_P
HUH0049-15	PMAK-DU15-E	Total	Solid/Soil	EPA 9045	11H0056_P
HUH0049-16	PMAK-DU22-A	Total	Solid/Soil	EPA 9045	11H0056_P
HUH0049-18	PMAK-DU17-B	Total	Solid/Soil	EPA 9045	11H0056_P
HUH0049-19	PMAK-DU17-C	Total	Solid/Soil	EPA 9045	11H0056_P

Analysis Batch: 11H0059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0059-DUP1	PMAK-DU10-B	Total	Solid/Soil	EPA 9045	11H0059_P
HUH0049-28	PMAK-DU10-B	Total	Solid/Soil	EPA 9045	11H0059_P

Analysis Batch: 11H0066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-22	PMAK-DU11-A	Total	Solid/Soil	SM 2540G	11H0066_P
HUH0049-23	PMAK-DU11-B	Total	Solid/Soil	SM 2540G	11H0066_P
HUH0049-24	PMAK-DU11-C	Total	Solid/Soil	SM 2540G	11H0066_P
HUH0049-25	PMAK-DU11-D	Total	Solid/Soil	SM 2540G	11H0066_P

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

WetChem (Continued)

Analysis Batch: 11H0066 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-26	PMAK-DU11-E	Total	Solid/Soil	SM 2540G	11H0066_P
HUH0049-27	PMAK-DU10-A	Total	Solid/Soil	SM 2540G	11H0066_P
HUH0049-28	PMAK-DU10-B	Total	Solid/Soil	SM 2540G	11H0066_P
HUH0049-29	PMAK-DU10-C	Total	Solid/Soil	SM 2540G	11H0066_P
HUH0049-30	PMAK-DU10-D	Total	Solid/Soil	SM 2540G	11H0066_P
HUH0049-31	PMAK-DU10-E	Total	Solid/Soil	SM 2540G	11H0066_P

Prep Batch: 11H0055_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0055-DUP1	PMAK-DU17-D	Total	Solid/Soil	Default Prep GenChem	
HUH0049-02	PMAK-DU12-B	Total	Solid/Soil	Default Prep GenChem	
HUH0049-03	PMAK-DU12-C	Total	Solid/Soil	Default Prep GenChem	
HUH0049-04	PMAK-DU12-D	Total	Solid/Soil	Default Prep GenChem	
HUH0049-05	PMAK-DU12-E	Total	Solid/Soil	Default Prep GenChem	
HUH0049-07	PMAK-DU14-B	Total	Solid/Soil	Default Prep GenChem	
HUH0049-08	PMAK-DU14-C	Total	Solid/Soil	Default Prep GenChem	
HUH0049-09	PMAK-DU14-D	Total	Solid/Soil	Default Prep GenChem	
HUH0049-10	PMAK-DU14-E	Total	Solid/Soil	Default Prep GenChem	
HUH0049-12	PMAK-DU15-B	Total	Solid/Soil	Default Prep GenChem	
HUH0049-13	PMAK-DU15-C	Total	Solid/Soil	Default Prep GenChem	
HUH0049-14	PMAK-DU15-D	Total	Solid/Soil	Default Prep GenChem	
HUH0049-20	PMAK-DU17-D	Total	Solid/Soil	Default Prep GenChem	
HUH0049-21	PMAK-DU17-E	Total	Solid/Soil	Default Prep GenChem	
HUH0049-23	PMAK-DU11-B	Total	Solid/Soil	Default Prep GenChem	
HUH0049-24	PMAK-DU11-C	Total	Solid/Soil	Default Prep GenChem	
HUH0049-25	PMAK-DU11-D	Total	Solid/Soil	Default Prep GenChem	
HUH0049-26	PMAK-DU11-E	Total	Solid/Soil	Default Prep GenChem	
HUH0049-29	PMAK-DU10-C	Total	Solid/Soil	Default Prep GenChem	
HUH0049-30	PMAK-DU10-D	Total	Solid/Soil	Default Prep GenChem	
HUH0049-31	PMAK-DU10-E	Total	Solid/Soil	Default Prep GenChem	

Prep Batch: 11H0056_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0056-DUP1	PMAK-DU17-C	Total	Solid/Soil	Default Prep GenChem	
HUH0049-15	PMAK-DU15-E	Total	Solid/Soil	Default Prep GenChem	



QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

WetChem (Continued)

Prep Batch: 11H0056_P (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-16	PMAK-DU22-A	Total	Solid/Soil	Default Prep GenChem	
HUH0049-18	PMAK-DU17-B	Total	Solid/Soil	Default Prep GenChem	
HUH0049-19	PMAK-DU17-C	Total	Solid/Soil	Default Prep GenChem	

Prep Batch: 11H0059_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0059-DUP1	PMAK-DU10-B	Total	Solid/Soil	Default Prep GenChem	
HUH0049-28	PMAK-DU10-B	Total	Solid/Soil	Default Prep GenChem	

Prep Batch: 11H0066_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0049-22	PMAK-DU11-A	Total	Solid/Soil	Default Prep GenChem	
HUH0049-23	PMAK-DU11-B	Total	Solid/Soil	Default Prep GenChem	
HUH0049-24	PMAK-DU11-C	Total	Solid/Soil	Default Prep GenChem	
HUH0049-25	PMAK-DU11-D	Total	Solid/Soil	Default Prep GenChem	
HUH0049-26	PMAK-DU11-E	Total	Solid/Soil	Default Prep GenChem	
HUH0049-27	PMAK-DU10-A	Total	Solid/Soil	Default Prep GenChem	
HUH0049-28	PMAK-DU10-B	Total	Solid/Soil	Default Prep GenChem	
HUH0049-29	PMAK-DU10-C	Total	Solid/Soil	Default Prep GenChem	
HUH0049-30	PMAK-DU10-D	Total	Solid/Soil	Default Prep GenChem	
HUH0049-31	PMAK-DU10-E	Total	Solid/Soil	Default Prep GenChem	



Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU12-B

Lab Sample ID: HUH0049-02

Date Collected: 08/04/11 12:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.946	11H0082_P	08/17/11 10:10	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0082	08/31/11 04:24	VH	TAL HON
Total	Prep	EPA 3550 GC		0.977	11H0083_P	08/17/11 10:38	KR	TAL HON
Total	Analysis	EPA 8015		5.00	11H0083	08/18/11 11:32	VH	TAL HON
Total	Prep	8290			1238129_P	08/26/11 16:00	CC	TAL WSC
Total	Analysis	8290		500	1238129	09/07/11 23:59	SO	TAL WSC
Total/NA	Prep	7471A			94228	08/31/11 13:10	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94275	08/31/11 16:56	FCW	TAL SEA
Total/NA	Prep	3050B			94482	09/06/11 06:30	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 17:29	SP	TAL SEA
Total	Analysis	EPA 9045		1.00	11H0055	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0055_P	08/11/11 17:06	HJM	TAL HON

Client Sample ID: PMAK-DU12-C

Lab Sample ID: HUH0049-03

Date Collected: 08/04/11 12:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.958	11H0082_P	08/17/11 10:10	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0082	08/31/11 03:44	VH	TAL HON
Total	Prep	EPA 3550 GC		0.965	11H0083_P	08/17/11 10:38	KR	TAL HON
Total	Analysis	EPA 8015		10.0	11H0083	08/18/11 14:19	VH	TAL HON
Total/NA	Prep	7471A			94228	08/31/11 13:10	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94275	08/31/11 16:51	FCW	TAL SEA
Total/NA	Prep	3050B			94482	09/06/11 06:30	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 16:46	SP	TAL SEA
Total	Analysis	EPA 9045		1.00	11H0055	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0055_P	08/11/11 17:06	HJM	TAL HON

Client Sample ID: PMAK-DU12-D

Lab Sample ID: HUH0049-04

Date Collected: 08/04/11 12:35

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.962	11H0082_P	08/17/11 10:10	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0082	09/27/11 21:04	VH	TAL HON
Total	Prep	EPA 3550 GC		0.962	11H0083_P	08/17/11 10:38	KR	TAL HON
Total	Analysis	EPA 8015		10.0	11H0083	09/27/11 13:47	VH	TAL HON
Total/NA	Prep	7471A			96848	10/04/11 12:06	PAB	TAL SEA
Total/NA	Analysis	7471A		100	96893	10/04/11 16:06	FCW	TAL SEA
Total/NA	Prep	3050B			96891	10/04/11 16:41	PAB	TAL SEA
Total/NA	Analysis	6010B		10	96987	10/05/11 13:37	SP	TAL SEA
Total	Analysis	EPA 9045		1.00	11H0055	08/11/11 17:06	HJM	TAL HON

Lab Chronicle

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU12-D

Lab Sample ID: HUH0049-04

Date Collected: 08/04/11 12:35

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	Default Prep GenChem		1.00	11H0055_P	08/11/11 17:06	HJM	TAL HON

Client Sample ID: PMAK-DU12-E

Lab Sample ID: HUH0049-05

Date Collected: 08/04/11 12:40

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.955	11H0082_P	08/17/11 10:10	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0082	09/27/11 19:07	VH	TAL HON
Total	Prep	EPA 3550 GC		0.904	11H0083_P	08/17/11 10:38	KR	TAL HON
Total	Analysis	EPA 8015		10.0	11H0083	09/27/11 14:03	VH	TAL HON
Total/NA	Prep	7471A			96848	10/04/11 12:06	PAB	TAL SEA
Total/NA	Analysis	7471A		10	96893	10/04/11 15:42	FCW	TAL SEA
Total/NA	Prep	3050B			96891	10/04/11 16:41	PAB	TAL SEA
Total/NA	Analysis	6010B		10	96987	10/05/11 13:42	SP	TAL SEA
Total	Analysis	EPA 9045		1.00	11H0055	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0055_P	08/11/11 17:06	HJM	TAL HON

Client Sample ID: PMAK-DU14-B

Lab Sample ID: HUH0049-07

Date Collected: 08/04/11 13:40

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.917	11H0082_P	08/17/11 10:10	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0082	08/30/11 23:45	VH	TAL HON
Total	Prep	8290			1238129_P	08/26/11 16:00	CC	TAL WSC
Total	Analysis	8290		9.25	1238129	09/08/11 00:42	SO	TAL WSC
Total/NA	Prep	7471A			94228	08/31/11 13:10	PAB	TAL SEA
Total/NA	Analysis	7471A		10	94275	08/31/11 15:55	FCW	TAL SEA
Total/NA	Prep	3050B			94482	09/06/11 06:30	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 17:36	SP	TAL SEA
Total	Analysis	EPA 9045		1.00	11H0055	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0055_P	08/11/11 17:06	HJM	TAL HON

Client Sample ID: PMAK-DU14-C

Lab Sample ID: HUH0049-08

Date Collected: 08/04/11 13:45

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.932	11H0082_P	08/17/11 10:10	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0082	08/31/11 00:25	VH	TAL HON
Total/NA	Prep	7471A			94228	08/31/11 13:10	PAB	TAL SEA

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU14-C

Lab Sample ID: HUH0049-08

Date Collected: 08/04/11 13:45

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	7471A		10	94275	08/31/11 15:58	FCW	TAL SEA
Total/NA	Prep	3050B			94482	09/06/11 06:30	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 17:42	SP	TAL SEA
Total	Analysis	EPA 9045		1.00	11H0055	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0055_P	08/11/11 17:06	HJM	TAL HON

Client Sample ID: PMAK-DU14-D

Lab Sample ID: HUH0049-09

Date Collected: 08/04/11 13:50

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.880	11H0082_P	08/17/11 10:10	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0082	09/27/11 17:49	VH	TAL HON
Total/NA	Prep	7471A			96848	10/04/11 12:06	PAB	TAL SEA
Total/NA	Analysis	7471A		500	96893	10/04/11 16:08	FCW	TAL SEA
Total/NA	Prep	3050B			96891	10/04/11 16:41	PAB	TAL SEA
Total/NA	Analysis	6010B		10	96987	10/05/11 13:47	SP	TAL SEA
Total	Analysis	EPA 9045		1.00	11H0055	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0055_P	08/11/11 17:06	HJM	TAL HON

Client Sample ID: PMAK-DU14-E

Lab Sample ID: HUH0049-10

Date Collected: 08/04/11 13:55

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Analysis	EPA 9045		1.00	11H0055	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0055_P	08/11/11 17:06	HJM	TAL HON

Client Sample ID: PMAK-DU15-B

Lab Sample ID: HUH0049-12

Date Collected: 08/04/11 15:55

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.987	11H0082_P	08/17/11 10:10	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0082	08/31/11 05:44	VH	TAL HON
Total	Prep	8290			1238129_P	08/26/11 16:00	CC	TAL WSC
Total	Analysis	8290		166.66	1238129	09/08/11 01:25	SO	TAL WSC
Total/NA	Prep	7471A			94228	08/31/11 13:10	PAB	TAL SEA
Total/NA	Analysis	7471A		1000	94275	08/31/11 16:48	FCW	TAL SEA
Total/NA	Prep	3050B			94482	09/06/11 06:30	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 17:49	SP	TAL SEA
Total	Analysis	EPA 9045		1.00	11H0055	08/11/11 17:06	HJM	TAL HON

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU15-B

Lab Sample ID: HUH0049-12

Date Collected: 08/04/11 15:55

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	Default Prep GenChem		1.00	11H0055_P	08/11/11 17:06	HJM	TAL HON

Client Sample ID: PMAK-DU15-C

Lab Sample ID: HUH0049-13

Date Collected: 08/04/11 16:00

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.935	11H0082_P	08/17/11 10:10	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0082	09/01/11 18:18	VH	TAL HON
Total/NA	Prep	7471A			94228	08/31/11 13:10	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94275	08/31/11 16:58	FCW	TAL SEA
Total/NA	Prep	3050B			94482	09/06/11 06:30	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 17:56	SP	TAL SEA
Total	Analysis	EPA 9045		1.00	11H0055	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0055_P	08/11/11 17:06	HJM	TAL HON

Client Sample ID: PMAK-DU15-D

Lab Sample ID: HUH0049-14

Date Collected: 08/04/11 16:05

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.971	11H0082_P	08/17/11 10:10	KR	TAL HON
Total	Analysis	EPA 8270		5.00	11H0082	10/03/11 19:44	VH	TAL HON
Total	Analysis	EPA 8270		1.00	11H0082	09/27/11 18:28	VH	TAL HON
Total/NA	Prep	7471A			96848	10/04/11 12:06	PAB	TAL SEA
Total/NA	Analysis	7471A		100	96893	10/04/11 16:10	FCW	TAL SEA
Total/NA	Prep	3050B			96891	10/04/11 16:41	PAB	TAL SEA
Total/NA	Analysis	6010B		10	96987	10/05/11 13:51	SP	TAL SEA
Total	Analysis	EPA 9045		1.00	11H0055	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0055_P	08/11/11 17:06	HJM	TAL HON

Client Sample ID: PMAK-DU15-E

Lab Sample ID: HUH0049-15

Date Collected: 08/04/11 16:10

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Analysis	EPA 9045		1.00	11H0056	08/11/11 17:16	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0056_P	08/11/11 17:16	HJM	TAL HON

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU22-A

Lab Sample ID: HUH0049-16

Date Collected: 08/05/11 14:00

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.852	11H0082_P	08/17/11 10:10	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0082	09/01/11 18:57	VH	TAL HON
Total/NA	Prep	7471A			94228	08/31/11 13:10	PAB	TAL SEA
Total/NA	Analysis	7471A		10	94275	08/31/11 16:08	FCW	TAL SEA
Total/NA	Prep	3050B			94482	09/06/11 06:30	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 18:03	SP	TAL SEA
Total	Prep	EPA 3050		0.971	11J0009_P	09/28/11 13:39	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0009	09/29/11 12:18	HM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	1110085	09/28/11 13:10	HJM	TAL HON
Total	Prep	EPA 3050		0.971	1110083_P	09/28/11 13:39	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	1110083	09/29/11 08:00	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	1110083	09/29/11 08:00	HJM	TAL HON
Total	Analysis	EPA 9045		1.00	11H0056	08/11/11 17:16	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0056_P	08/11/11 17:16	HJM	TAL HON

Client Sample ID: PMAK-DU17-B

Lab Sample ID: HUH0049-18

Date Collected: 08/05/11 14:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.980	11H0082_P	08/17/11 10:10	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0082	08/31/11 01:05	VH	TAL HON
Total	Prep	8290			1238129_P	08/26/11 16:00	CC	TAL WSC
Total	Analysis	8290		250	1238129	09/08/11 02:08	SO	TAL WSC
Total/NA	Prep	7471A			94228	08/31/11 13:10	PAB	TAL SEA
Total/NA	Analysis	7471A		1000	94275	08/31/11 16:49	FCW	TAL SEA
Total/NA	Prep	3050B			94482	09/06/11 06:30	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 18:10	SP	TAL SEA
Total	Analysis	EPA 9045		1.00	11H0056	08/11/11 17:16	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0056_P	08/11/11 17:16	HJM	TAL HON

Client Sample ID: PMAK-DU17-C

Lab Sample ID: HUH0049-19

Date Collected: 08/05/11 14:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.955	11H0082_P	08/17/11 10:10	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0082	08/31/11 01:45	VH	TAL HON
Total/NA	Prep	7471A			94228	08/31/11 13:10	PAB	TAL SEA
Total/NA	Analysis	7471A		10	94275	08/31/11 16:12	FCW	TAL SEA
Total/NA	Prep	3050B			94482	09/06/11 06:30	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 18:16	SP	TAL SEA

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU17-C

Lab Sample ID: HUH0049-19

Date Collected: 08/05/11 14:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Analysis	EPA 9045		1.00	11H0056	08/11/11 17:16	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0056_P	08/11/11 17:16	HJM	TAL HON

Client Sample ID: PMAK-DU17-D

Lab Sample ID: HUH0049-20

Date Collected: 08/05/11 14:35

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.974	11H0082_P	08/17/11 10:10	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0082	10/05/11 13:30	VH	TAL HON
Total/NA	Prep	7471A			96848	10/04/11 12:06	PAB	TAL SEA
Total/NA	Analysis	7471A		10	96893	10/04/11 15:53	FCW	TAL SEA
Total/NA	Prep	3050B			96891	10/04/11 16:41	PAB	TAL SEA
Total/NA	Analysis	6010B		10	96987	10/05/11 13:56	SP	TAL SEA
Total	Analysis	EPA 9045		1.00	11H0055	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0055_P	08/11/11 17:06	JMC	TAL HON

Client Sample ID: PMAK-DU17-E

Lab Sample ID: HUH0049-21

Date Collected: 08/05/11 14:40

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Analysis	EPA 9045		1.00	11H0055	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0055_P	08/11/11 17:06	HJM	TAL HON

Client Sample ID: PMAK-DU11-A

Lab Sample ID: HUH0049-22

Date Collected: 08/08/11 10:40

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 71.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 5030/5035		0.865	11H0068_P	08/12/11 09:53	DJK	TAL HON
Total	Analysis	EPA 8260		50.0	11H0068	08/12/11 17:14	DK	TAL HON
Total	Prep	EPA 3550 MS		1.00	11H0087_P	08/18/11 11:17	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0087	09/13/11 18:18	VH	TAL HON
Total	Analysis	EPA 8270		5.00	11H0087	09/15/11 13:04	VH	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0066_P	08/15/11 08:18	HJM	TAL HON
Total	Analysis	SM 2540G		1.00	11H0066	08/16/11 13:45	HJM	TAL HON

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU11-B

Lab Sample ID: HUH0049-23

Date Collected: 08/08/11 10:45

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 68.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 5030/5035		0.888	11H0068_P	08/12/11 09:53	DJK	TAL HON
Total	Analysis	EPA 8260		50.0	11H0068	08/12/11 17:40	DK	TAL HON
Total	Prep	EPA 3550 MS		0.993	11H0087_P	08/18/11 11:17	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0087	09/15/11 10:29	VH	TAL HON
Total/NA	Prep	8151A			82326	08/21/11 10:30	CRC	TAL DEN
Total/NA	Analysis	8151A		5	83235	08/25/11 01:36	DW	TAL DEN
Total	Prep	8290			1238129_P	08/26/11 16:00	CC	TAL WSC
Total	Analysis	8290		47.61	1238129	09/08/11 02:51	SO	TAL WSC
Total/NA	Prep	7471A			94228	08/31/11 13:10	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94275	08/31/11 17:00	FCW	TAL SEA
Total/NA	Prep	3050B			94482	09/06/11 06:30	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 18:37	SP	TAL SEA
Total	Prep	EPA 3050		0.990	11J0041_P	10/07/11 15:48	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0041	10/11/11 12:50	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0020_P	10/05/11 08:51	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0018	10/07/11 14:30	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0020	10/19/11 15:55	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0020	10/19/11 15:55	HJM	TAL HON
Total	Analysis	EPA 9045		1.00	11H0055	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0055_P	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0066_P	08/15/11 08:18	HJM	TAL HON
Total	Analysis	SM 2540G		1.00	11H0066	08/16/11 13:45	HJM	TAL HON

Client Sample ID: PMAK-DU11-C

Lab Sample ID: HUH0049-24

Date Collected: 08/08/11 10:50

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 68.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 5030/5035		1.03	11H0068_P	08/12/11 09:53	DJK	TAL HON
Total	Analysis	EPA 8260		50.0	11H0068	08/12/11 18:06	DK	TAL HON
Total	Prep	EPA 3550 MS		0.915	11H0087_P	08/18/11 11:17	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0087	09/15/11 11:08	VH	TAL HON
Total/NA	Prep	8151A			82326	08/21/11 10:30	CRC	TAL DEN
Total/NA	Analysis	8151A		5	83235	08/25/11 02:00	DW	TAL DEN
Total/NA	Prep	7471A			94228	08/31/11 13:10	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94275	08/31/11 17:02	FCW	TAL SEA
Total/NA	Prep	3050B			94482	09/06/11 06:30	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 18:43	SP	TAL SEA
Total	Analysis	EPA 9045		1.00	11H0055	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0055_P	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0066_P	08/15/11 08:18	HJM	TAL HON

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU11-C

Lab Sample ID: HUH0049-24

Date Collected: 08/08/11 10:50

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 68.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Analysis	SM 2540G		1.00	11H0066	08/16/11 13:45	HJM	TAL HON

Client Sample ID: PMAK-DU11-D

Lab Sample ID: HUH0049-25

Date Collected: 08/08/11 10:55

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 69

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 5030/5035		0.882	11H0068_P	08/12/11 09:53	DJK	TAL HON
Total	Analysis	EPA 8260		50.0	11H0068	08/12/11 18:32	DK	TAL HON
Total	Analysis	EPA 9045		1.00	11H0055	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0055_P	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0066_P	08/15/11 08:18	HJM	TAL HON
Total	Analysis	SM 2540G		1.00	11H0066	08/16/11 13:45	HJM	TAL HON

Client Sample ID: PMAK-DU11-E

Lab Sample ID: HUH0049-26

Date Collected: 08/08/11 11:00

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 60.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 5030/5035		0.840	11H0068_P	08/12/11 09:53	DJK	TAL HON
Total	Analysis	EPA 8260		50.0	11H0068	08/12/11 14:38	DK	TAL HON
Total	Analysis	EPA 9045		1.00	11H0055	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0055_P	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0066_P	08/15/11 08:18	HJM	TAL HON
Total	Analysis	SM 2540G		1.00	11H0066	08/16/11 13:45	HJM	TAL HON

Client Sample ID: PMAK-DU10-A

Lab Sample ID: HUH0049-27

Date Collected: 08/08/11 13:15

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 74.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 5030/5035		1.04	11H0068_P	08/12/11 09:53	DJK	TAL HON
Total	Analysis	EPA 8260		50.0	11H0068	08/12/11 15:04	DK	TAL HON
Total	Prep	EPA 3550 MS		0.977	11H0087_P	08/18/11 11:17	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0087	09/15/11 11:47	VH	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0066_P	08/15/11 08:18	HJM	TAL HON
Total	Analysis	SM 2540G		1.00	11H0066	08/16/11 13:45	HJM	TAL HON

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-B

Lab Sample ID: HUH0049-28

Date Collected: 08/08/11 13:20

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 74.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 5030/5035		0.936	11H0068_P	08/12/11 09:53	DJK	TAL HON
Total	Analysis	EPA 8260		50.0	11H0068	08/12/11 15:29	DK	TAL HON
Total	Prep	EPA 3550 MS		0.990	11H0087_P	08/18/11 11:17	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0087	09/13/11 16:59	VH	TAL HON
Total/NA	Prep	8151A			82326	08/21/11 10:30	CRC	TAL DEN
Total/NA	Analysis	8151A		5	83235	08/25/11 02:24	DW	TAL DEN
Total	Prep	EPA 3550 GC		0.974	11H0083_P	08/17/11 10:38	KR	TAL HON
Total	Analysis	EPA 8015		5.00	11H0083	08/18/11 14:47	VH	TAL HON
Total	Prep	8290			1238129_P	08/26/11 16:00	CC	TAL WSC
Total	Analysis	8290		1000	1238129	09/08/11 03:33	SO	TAL WSC
Total/NA	Prep	7471A			94646	09/06/11 09:35	PAB	TAL SEA
Total/NA	Analysis	7471A		5000	94703	09/06/11 12:49	FCW	TAL SEA
Total/NA	Prep	3050B			94482	09/06/11 06:30	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 18:50	SP	TAL SEA
Total	Prep	EPA 3050		0.990	11J0041_P	10/07/11 15:48	HJM	TAL HON
Total	Analysis	EPA 6010		100	11J0041	10/11/11 13:39	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0020_P	10/05/11 08:51	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0018	10/07/11 14:30	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0020	10/19/11 15:55	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0020	10/19/11 15:55	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0059_P	08/12/11 09:22	HJM	TAL HON
Total	Analysis	EPA 9045		1.00	11H0059	08/12/11 09:32	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0066_P	08/15/11 08:18	HJM	TAL HON
Total	Analysis	SM 2540G		1.00	11H0066	08/16/11 13:45	HJM	TAL HON

Client Sample ID: PMAK-DU10-C

Lab Sample ID: HUH0049-29

Date Collected: 08/08/11 13:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 66.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 5030/5035		0.856	11H0068_P	08/12/11 09:53	DJK	TAL HON
Total	Analysis	EPA 8260		50.0	11H0068	08/12/11 15:56	DK	TAL HON
Total	Prep	EPA 3550 MS		0.932	11H0087_P	08/18/11 11:17	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0087	09/13/11 17:38	VH	TAL HON
Total	Analysis	EPA 8270		10.0	11H0087	09/15/11 12:25	VH	TAL HON
Total/NA	Prep	8151A			82326	08/21/11 10:30	CRC	TAL DEN
Total/NA	Analysis	8151A		5	83470	08/27/11 00:42	DW	TAL DEN
Total	Prep	EPA 3550 GC		0.984	11H0083_P	08/17/11 10:38	KR	TAL HON
Total	Analysis	EPA 8015		50.0	11H0083	08/19/11 10:33	VH	TAL HON
Total/NA	Prep	7471A			94646	09/06/11 09:35	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94703	09/06/11 12:11	FCW	TAL SEA
Total/NA	Prep	3050B			94482	09/06/11 06:30	PAB	TAL SEA

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-C

Lab Sample ID: HUH0049-29

Date Collected: 08/08/11 13:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	6010B		10	94742	09/06/11 18:57	SP	TAL SEA
Total	Analysis	EPA 9045		1.00	11H0055	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0055_P	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0066_P	08/15/11 08:18	HJM	TAL HON
Total	Analysis	SM 2540G		1.00	11H0066	08/16/11 13:45	HJM	TAL HON

Client Sample ID: PMAK-DU10-D

Lab Sample ID: HUH0049-30

Date Collected: 08/08/11 13:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 69

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 5030/5035		0.914	11H0068_P	08/12/11 09:53	DJK	TAL HON
Total	Analysis	EPA 8260		50.0	11H0068	08/12/11 16:21	DK	TAL HON
Total	Prep	EPA 3550 MS		0.949	11H0087_P	08/18/11 11:17	KR	TAL HON
Total	Analysis	EPA 8270		10.0	11H0087	10/03/11 18:26	VH	TAL HON
Total	Analysis	EPA 8270		1.00	11H0087	09/27/11 19:46	VH	TAL HON
Total/NA	Prep	8151A			82327	08/21/11 10:30	CRC	TAL DEN
Total/NA	Analysis	8151A		5	83470	08/27/11 01:07	DW	TAL DEN
Total	Prep	EPA 3550 GC		0.987	11H0083_P	08/17/11 10:38	KR	TAL HON
Total	Analysis	EPA 8015		50.0	11H0083	09/27/11 15:11	VH	TAL HON
Total/NA	Prep	7471A			96848	10/04/11 12:06	PAB	TAL SEA
Total/NA	Analysis	7471A		200	96893	10/04/11 16:12	FCW	TAL SEA
Total/NA	Prep	3050B			96891	10/04/11 16:41	PAB	TAL SEA
Total/NA	Analysis	6010B		10	96987	10/05/11 14:01	SP	TAL SEA
Total	Analysis	EPA 9045		1.00	11H0055	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0055_P	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0066_P	08/15/11 08:18	HJM	TAL HON
Total	Analysis	SM 2540G		1.00	11H0066	08/16/11 13:45	HJM	TAL HON

Client Sample ID: PMAK-DU10-E

Lab Sample ID: HUH0049-31

Date Collected: 08/08/11 13:35

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 62.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 5030/5035		0.856	11H0068_P	08/12/11 09:53	DJK	TAL HON
Total	Analysis	EPA 8260		50.0	11H0068	08/12/11 16:48	DK	TAL HON
Total	Prep	EPA 3550 MS		0.997	11H0087_P	08/18/11 11:17	KR	TAL HON
Total	Analysis	EPA 8270		10.0	11H0087	10/03/11 19:05	VH	TAL HON
Total	Analysis	EPA 8270		1.00	11H0087	09/27/11 20:25	VH	TAL HON
Total/NA	Prep	8151A			82327	08/21/11 10:30	CRC	TAL DEN
Total/NA	Analysis	8151A		5	83470	08/27/11 01:32	DW	TAL DEN
Total	Prep	EPA 3550 GC		0.971	11H0083_P	08/17/11 10:38	KR	TAL HON

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU10-E

Lab Sample ID: HUH0049-31

Date Collected: 08/08/11 13:35

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Percent Solids: 62.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Analysis	EPA 8015		100	11H0083	09/27/11 15:27	VH	TAL HON
Total/NA	Prep	7471A			96848	10/04/11 12:06	PAB	TAL SEA
Total/NA	Analysis	7471A		10	96893	10/04/11 15:56	FCW	TAL SEA
Total/NA	Prep	3050B			96891	10/04/11 16:41	PAB	TAL SEA
Total/NA	Analysis	6010B		10	96987	10/05/11 14:05	SP	TAL SEA
Total	Analysis	EPA 9045		1.00	11H0055	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0055_P	08/11/11 17:06	HJM	TAL HON
Total	Prep	Default Prep GenChem		1.00	11H0066_P	08/15/11 08:18	HJM	TAL HON
Total	Analysis	SM 2540G		1.00	11H0066	08/16/11 13:45	HJM	TAL HON

Client Sample ID: PMAK-DU6-A-P

Lab Sample ID: HUH0049-32

Date Collected: 08/08/11 16:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.971	11H0100_P	08/22/11 09:19	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0100	09/01/11 19:36	VH	TAL HON
Total	Prep	8290			1238129_P	08/26/11 16:00	CC	TAL WSC
Total	Analysis	8290		3.31	1238129	09/08/11 04:16	SO	TAL WSC
Total/NA	Prep	7471A			94646	09/06/11 09:35	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94703	09/06/11 12:14	FCW	TAL SEA
Total/NA	Prep	3050B			94482	09/06/11 06:30	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 19:04	SP	TAL SEA

Client Sample ID: PMAK-DU6-A-T1

Lab Sample ID: HUH0049-33

Date Collected: 08/08/11 16:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.993	11H0100_P	08/22/11 09:19	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0100	09/01/11 20:15	VH	TAL HON
Total	Prep	8290			1238129_P	08/26/11 16:00	CC	TAL WSC
Total	Analysis	8290		2.35	1238129	09/08/11 04:59	SO	TAL WSC
Total/NA	Prep	7471A			94646	09/06/11 09:35	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94703	09/06/11 12:16	FCW	TAL SEA
Total/NA	Prep	3050B			94482	09/06/11 06:30	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 19:10	SP	TAL SEA

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU6-A-T2

Lab Sample ID: HUH0049-34

Date Collected: 08/08/11 16:25

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.952	11H0100_P	08/22/11 09:19	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0100	09/01/11 20:54	VH	TAL HON
Total	Prep	8290			1238129_P	08/26/11 16:00	CC	TAL WSC
Total	Analysis	8290		3.17	1238129	09/08/11 05:42	SO	TAL WSC
Total/NA	Prep	7471A			94646	09/06/11 09:35	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94703	09/06/11 12:17	FCW	TAL SEA
Total/NA	Prep	3050B			94616	09/06/11 07:56	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 19:55	SP	TAL SEA

Client Sample ID: PMAK-DU6-B-P

Lab Sample ID: HUH0049-35

Date Collected: 08/08/11 16:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.932	11H0100_P	08/22/11 09:19	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0100	09/01/11 21:34	VH	TAL HON
Total	Prep	8290			1238129_P	08/26/11 16:00	CC	TAL WSC
Total	Analysis	8290		0.95	1238129	09/08/11 02:59	SO	TAL WSC
Total/NA	Prep	7471A			94646	09/06/11 09:35	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94703	09/06/11 12:19	FCW	TAL SEA
Total/NA	Prep	3050B			94616	09/06/11 07:56	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 20:02	SP	TAL SEA

Client Sample ID: PMAK-DU6-B-T1

Lab Sample ID: HUH0049-36

Date Collected: 08/08/11 16:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.990	11H0100_P	08/22/11 09:19	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0100	09/01/11 22:13	VH	TAL HON
Total	Prep	8290			1238129_P	08/26/11 16:00	CC	TAL WSC
Total	Analysis	8290		0.96	1238129	09/08/11 03:44	SO	TAL WSC
Total/NA	Prep	7471A			94646	09/06/11 09:35	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94703	09/06/11 12:21	FCW	TAL SEA
Total/NA	Prep	3050B			94616	09/06/11 07:56	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 20:09	SP	TAL SEA

Client Sample ID: PMAK-DU6-B-T2

Lab Sample ID: HUH0049-37

Date Collected: 08/08/11 16:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.971	11H0100_P	08/22/11 09:19	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0100	09/01/11 22:52	VH	TAL HON

Lab Chronicle

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU6-B-T2

Lab Sample ID: HUH0049-37

Date Collected: 08/08/11 16:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	8290			1238129_P	08/26/11 16:00	CC	TAL WSC
Total	Analysis	8290		0.98	1238129	09/08/11 04:28	SO	TAL WSC
Total/NA	Prep	7471A			94646	09/06/11 09:35	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94703	09/06/11 12:26	FCW	TAL SEA
Total/NA	Prep	3050B			94616	09/06/11 07:56	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 20:16	SP	TAL SEA

Client Sample ID: PMAK-DU6-C-P

Lab Sample ID: HUH0049-38

Date Collected: 08/08/11 16:35

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.965	11H0100_P	08/22/11 09:19	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0100	09/01/11 23:31	VH	TAL HON
Total/NA	Prep	7471A			94646	09/06/11 09:35	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94703	09/06/11 12:28	FCW	TAL SEA
Total/NA	Prep	3050B			94616	09/06/11 07:56	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 20:23	SP	TAL SEA

Client Sample ID: PMAK-DU6-C-T1

Lab Sample ID: HUH0049-39

Date Collected: 08/08/11 16:35

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.977	11H0100_P	08/22/11 09:19	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0100	09/02/11 00:10	VH	TAL HON
Total/NA	Prep	7471A			94646	09/06/11 09:35	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94703	09/06/11 12:29	FCW	TAL SEA
Total/NA	Prep	3050B			94616	09/06/11 07:56	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 20:29	SP	TAL SEA

Client Sample ID: PMAK-DU6-C-T2

Lab Sample ID: HUH0049-40

Date Collected: 08/08/11 16:35

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.971	11H0100_P	08/22/11 09:19	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0100	09/02/11 00:49	VH	TAL HON
Total/NA	Prep	7471A			94646	09/06/11 09:35	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94703	09/06/11 12:31	FCW	TAL SEA
Total/NA	Prep	3050B			94616	09/06/11 07:56	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 20:50	SP	TAL SEA

Lab Chronicle

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Client Sample ID: PMAK-DU6-D-T1

Lab Sample ID: HUH0049-42

Date Collected: 08/08/11 16:40

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.958	11H0100_P	08/22/11 09:19	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0100	09/02/11 01:28	VH	TAL HON

Client Sample ID: PMAK-DU7-A

Lab Sample ID: HUH0049-47

Date Collected: 08/08/11 17:30

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.984	11H0100_P	08/22/11 09:19	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0100	09/02/11 02:07	VH	TAL HON
Total	Prep	8290			1238129_P	08/26/11 16:00	CC	TAL WSC
Total	Analysis	8290		9.43	1238129	09/08/11 05:13	SO	TAL WSC
Total/NA	Prep	7471A			94646	09/06/11 09:35	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94703	09/06/11 12:32	FCW	TAL SEA
Total/NA	Prep	3050B			94616	09/06/11 07:56	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 20:56	SP	TAL SEA

Client Sample ID: PMAK-DU7-B

Lab Sample ID: HUH0049-48

Date Collected: 08/08/11 17:35

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.987	11H0100_P	08/22/11 09:19	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0100	09/02/11 02:46	VH	TAL HON
Total	Prep	8290			1238129_P	08/26/11 16:00	CC	TAL WSC
Total	Analysis	8290		4.73	1238129	09/08/11 05:57	SO	TAL WSC
Total/NA	Prep	7471A			94646	09/06/11 09:35	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94703	09/06/11 12:34	FCW	TAL SEA
Total/NA	Prep	3050B			94616	09/06/11 07:56	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 21:03	SP	TAL SEA

Client Sample ID: PMAK-DU7-C

Lab Sample ID: HUH0049-49

Date Collected: 08/08/11 17:40

Matrix: Solid/Soil

Date Received: 08/10/11 12:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.984	11H0100_P	08/22/11 09:19	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0100	08/30/11 23:06	VH	TAL HON
Total/NA	Prep	7471A			94646	09/06/11 09:35	PAB	TAL SEA
Total/NA	Analysis	7471A		100	94703	09/06/11 12:36	FCW	TAL SEA
Total/NA	Prep	3050B			94616	09/06/11 07:56	PAB	TAL SEA
Total/NA	Analysis	6010B		10	94742	09/06/11 21:10	SP	TAL SEA

Lab Chronicle

Client: Tetra Tech EM Inc.

Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL HON = TestAmerica Honolulu, 99-193 Aiea Heights Drive, Suite 121, Aiea, HI 96701, TEL 808-486-5227

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

TAL WSC = TestAmerica West Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

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Certification Summary

Client: Tetra Tech EM Inc.

TestAmerica Job ID: HUH0049

Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Honolulu	Alaska	Alaska UST	10	
TestAmerica Honolulu	Florida	NELAC	4	E87907
TestAmerica Honolulu	Hawaii	State Program	9	
TestAmerica Honolulu	L-A-B	DoD ELAP		L2250
TestAmerica Honolulu	USDA	USDA		HON-S-206
TestAmerica Denver	A2LA	DoD ELAP		2907.01
TestAmerica Denver	A2LA	ISO/IEC 17025		2907.01
TestAmerica Denver	Alabama	State Program	4	40730
TestAmerica Denver	Alaska	Alaska UST	10	UST-30
TestAmerica Denver	Arizona	State Program	9	AZ0713
TestAmerica Denver	Arkansas	State Program	6	88-0687
TestAmerica Denver	California	State Program	9	2513
TestAmerica Denver	Colorado	State Program	8	N/A
TestAmerica Denver	Connecticut	State Program	1	PH-0686
TestAmerica Denver	Florida	NELAC	4	E87667
TestAmerica Denver	Georgia	State Program	4	N/A
TestAmerica Denver	Idaho	State Program	10	CO00026
TestAmerica Denver	Illinois	NELAC	5	200017
TestAmerica Denver	Iowa	State Program	7	370
TestAmerica Denver	Kansas	NELAC	7	E-10166
TestAmerica Denver	Louisiana	NELAC	6	30785
TestAmerica Denver	Maine	State Program	1	CO0002
TestAmerica Denver	Maryland	State Program	3	268
TestAmerica Denver	Minnesota	NELAC	5	8-999-405
TestAmerica Denver	Nevada	State Program	9	CO0026
TestAmerica Denver	New Hampshire	NELAC	1	205310
TestAmerica Denver	New Jersey	NELAC	2	CO004
TestAmerica Denver	New Mexico	State Program	6	N/A
TestAmerica Denver	New York	NELAC	2	11964
TestAmerica Denver	North Carolina	North Carolina DENR	4	358
TestAmerica Denver	North Dakota	State Program	8	R-034
TestAmerica Denver	Oklahoma	State Program	6	8614
TestAmerica Denver	Oregon	NELAC	10	CO200001
TestAmerica Denver	Pennsylvania	NELAC	3	68-00664
TestAmerica Denver	South Carolina	State Program	4	72002
TestAmerica Denver	Tennessee	State Program	4	TN02944
TestAmerica Denver	Texas	NELAC	6	T104704183-08-TX
TestAmerica Denver	USDA	USDA		P330-08-00036
TestAmerica Denver	Utah	NELAC	8	QUAN5
TestAmerica Denver	Washington	State Program	10	C1284
TestAmerica Denver	West Virginia	West Virginia DEP	3	354
TestAmerica Denver	Wisconsin	State Program	5	999615430
TestAmerica Seattle	Alaska	Alaska UST	10	UST-022
TestAmerica Seattle	Alaska	TA-Port Heiden Mobile Lab	10	UST-093
TestAmerica Seattle	California	NELAC	9	1115CA
TestAmerica Seattle	Florida	NELAC	4	E871074
TestAmerica Seattle	L-A-B	DoD ELAP		L2236
TestAmerica Seattle	L-A-B	ISO/IEC 17025		L2236
TestAmerica Seattle	Louisiana	NELAC	6	05016
TestAmerica Seattle	Montana	MT DEQ UST	8	N/A
TestAmerica Seattle	Oregon	NELAC	10	WA100007
TestAmerica Seattle	USDA	USDA		P330-11-00222
TestAmerica Seattle	Washington	State Program	10	C553

Certification Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica West Sacramento		USEPA UCMR		CA00044
TestAmerica West Sacramento	A2LA	DoD ELAP		2928-01
TestAmerica West Sacramento	Alaska	Alaska UST	10	UST-055
TestAmerica West Sacramento	Arizona	State Program	9	AZ0708
TestAmerica West Sacramento	Arkansas	State Program	6	88-0691
TestAmerica West Sacramento	California	NELAC	9	1119CA
TestAmerica West Sacramento	Colorado	State Program	8	N/A
TestAmerica West Sacramento	Connecticut	State Program	1	PH-0691
TestAmerica West Sacramento	Florida	NELAC	4	E87570
TestAmerica West Sacramento	Georgia	State Program	4	960
TestAmerica West Sacramento	Guam	State Program	9	N/A
TestAmerica West Sacramento	Hawaii	State Program	9	N/A
TestAmerica West Sacramento	Illinois	NELAC	5	200060
TestAmerica West Sacramento	Kansas	NELAC	7	E-10375
TestAmerica West Sacramento	Louisiana	NELAC	6	30612
TestAmerica West Sacramento	Michigan	State Program	5	9947
TestAmerica West Sacramento	Nevada	State Program	9	CA44
TestAmerica West Sacramento	New Jersey	NELAC	2	CA005
TestAmerica West Sacramento	New Mexico	State Program	6	N/A
TestAmerica West Sacramento	New York	NELAC	2	11666
TestAmerica West Sacramento	Oregon	NELAC	10	CA200005
TestAmerica West Sacramento	Pennsylvania	NELAC	3	68-01272
TestAmerica West Sacramento	South Carolina	State Program	4	87014
TestAmerica West Sacramento	Texas	NELAC	6	T104704399-08-TX
TestAmerica West Sacramento	US Fish & Wildlife	US Fish & Wildlife		LE148388-0
TestAmerica West Sacramento	USDA	USDA		P330-09-00055
TestAmerica West Sacramento	Utah	NELAC	8	QUAN1
TestAmerica West Sacramento	Virginia	State Program	3	178
TestAmerica West Sacramento	Washington	State Program	10	C581
TestAmerica West Sacramento	West Virginia	West Virginia DEP	3	334
TestAmerica West Sacramento	West Virginia	West Virginia DHHR (DW)	3	9930C
TestAmerica West Sacramento	Wisconsin	State Program	5	998204680
TestAmerica West Sacramento	Wyoming	State Program	8	8TMS-Q

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: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUH0049

Method	Method Description	Protocol	Laboratory
EPA 8260	Volatile Organic Compounds by EPA 8260		TAL HON
EPA 8270	Semivolatile Organics Compounds by EPA 8270		TAL HON
8151A	Herbicides (GC)	SW846	TAL DEN
EPA 8015	Extractable Petroleum Hydrocarbons by 8015M		TAL HON
8290	Dioxins/Furans, HRGC/HRMS (8290)	SW846	TAL WSC
6010B	Metals (ICP)	SW846	TAL SEA
7471A	Mercury (CVAA)	SW846	TAL SEA
EPA 6010	Bio-available Metals		TAL HON
SBRC Appendix C Rev. #8	Bio-available Metals		TAL HON
EPA 9045	General Chemistry Parameters		TAL HON
SM 2540G	General Chemistry Parameters		TAL HON

Protocol References:

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL HON = TestAmerica Honolulu, 99-193 Aiea Heights Drive, Suite 121, Aiea, HI 96701, TEL 808-486-5227

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

TAL WSC = TestAmerica West Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

September 14, 2011

TestAmerica Project Number: G1H180492
PO/Contract: SUB HON HUH0049

Margie Pascua Thach
TestAmerica - Honolulu
RL Cushing Building
99-193 Aiea Heights Dr
Aiea, HI 96701

Dear Ms. Pascua Thach,

This report contains the analytical results for the samples received under chain of custody by TestAmerica on August 18, 2011. These samples are associated with your HUH0049 project.

The test results in this report meet all NELAC requirements for parameters that accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The case narrative is an integral part of this report.

If you have any questions, please feel free to call me at (916) 374-4383.

Sincerely,



DAVID R. ALLTUCKER
Project Manager



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TestAmerica West Sacramento Project Number G1H180492

SOLID, 8290, Dioxins/Furans

Sample(s): 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14

The method blank (MB) and the laboratory control sample (LCS) associated with this extraction batch exhibited elevated instrument noise for 2,3,7,8 TCDF requiring the detection limits to be raised appropriately. This analyte was flagged with the "H" qualifier.

Sample(s): 2, 10, 11, 12, 13, 14

The samples exhibited elevated noise or matrix interferences for several analytes requiring the detection limits to be raised appropriately. These analytes were flagged with the "G" qualifier.

Sample(s): 3, 8, 9, 10, 11, 12, 13, 14

The concentrations of OCDD in the samples exceeded the upper quantitation level of the initial calibration curve, but the peaks did not saturate the instrument detector. Historical data indicates that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported with the "E" qualifier.

Sample(s): 7, 8, 9

The result for 2, 3, 7, 8-TCDF is reported from the confirmation analysis that occurred on September 8, 2011.

There were no other anomalies associated with this project.

TestAmerica Laboratories West Sacramento Certifications/Accreditations

Certifying State	Certificate #	Certifying State	Certificate #
A2LA (DoD-ELAP)	2928-01	New Mexico	NA
Alaska	UST-055	New York*	11666
Arizona	AZ0708	Oregon*	CA 200005
Arkansas	88-0691	Pennsylvania*	68-1272
California*	01119CA	South Carolina	87014
Colorado	NA	Texas*	T104704399-08-TX
Connecticut	PH-0691	UCMR	CA00044
Florida*	E87570	US Fish & Wildlife	LE148388-0
Georgia	960	USDA Foreign Plant	37-82605
Guam	10-009r	USDA Foreign Soil	P330-09-00055
Hawaii	NA	Utah*	QUAN1
Illinois*	002701	Virginia	178
Kansas*	E-10375	Washington	C581
Louisiana*	01944	West Virginia	9930C, 334
Michigan	9947	Wisconsin	998204680
Nevada	CA44	Wyoming	8TMS-Q
New Jersey*	CA005		

*NELAP accredited. A more detailed parameter list is available upon request. Updated 5/25/2011

QC Parameter Definitions

QC Batch: The QC batch consists of a set of up to 20 field samples that behave similarly (i.e., same matrix) and are processed using the same procedures, reagents, and standards at the same time.

Method Blank: An analytical control consisting of all reagents, which may include internal standards and surrogates, and is carried through the entire analytical procedure. The method blank is used to define the level of laboratory background contamination.

Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD): An aliquot of blank matrix spiked with known amounts of representative target analytes. The LCS (and LCSD as required) is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects. If an LCSD is performed, it may also be used to evaluate the precision of the process.

Duplicate Sample (DU): Different aliquots of the same sample are analyzed to evaluate the precision of an analysis.

Surrogates: Organic compounds not expected to be detected in field samples, which behave similarly to target analytes. These are added to every sample within a batch at a known concentration to determine the efficiency of the sample preparation and analytical process.

Matrix Spike and Matrix Spike Duplicate (MS/MSD): An MS is an aliquot of a matrix fortified with known quantities of specific compounds and subjected to an entire analytical procedure in order to indicate the appropriateness of the method for a particular matrix. The percent recovery for the respective compound(s) is then calculated. The MSD is a second aliquot of the same matrix as the matrix spike, also spiked, in order to determine the precision of the method.

Isotope Dilution: For isotope dilution methods, isotopically labeled analogs (internal standards) of the native target analytes are spiked into the sample at time of extraction. These internal standards are used for quantitation, and monitor and correct for matrix effects. Since matrix effects on method performance can be judged by the recovery of these analogs, there is little added benefit of performing MS/MSD for these methods. MS/MSD are only performed for client or QAPP requirements.

Control Limits: The reported control limits are either based on laboratory historical data, method requirements, or project data quality objectives. The control limits represent the estimated uncertainty of the test results.

Sample Summary

TestAmerica West Sacramento Project Number G1H180492

<u>WO#</u>	<u>Sample #</u>	<u>Client Sample ID</u>	<u>Sampling Date</u>	<u>Received Date</u>
MLTJX	1	HUH0049-02	8/4/2011 12:25 PM	8/18/2011 08:40 AM
MLTKD	2	HUH0049-07	8/4/2011 01:40 PM	8/18/2011 08:40 AM
MLTKH	3	HUH0049-12	8/4/2011 03:55 PM	8/18/2011 08:40 AM
MLTKM	4	HUH0049-18	8/5/2011 02:25 PM	8/18/2011 08:40 AM
MLTKW	5	HUH0049-23	8/8/2011 10:45 AM	8/18/2011 08:40 AM
MLTK8	6	HUH0049-28	8/8/2011 01:20 PM	8/18/2011 08:40 AM
MLTLD	7	HUH0049-32	8/8/2011 04:25 PM	8/18/2011 08:40 AM
MLTLT	8	HUH0049-33	8/8/2011 04:25 PM	8/18/2011 08:40 AM
MLTLV	9	HUH0049-34	8/8/2011 04:25 PM	8/18/2011 08:40 AM
MLTL1	10	HUH0049-35	8/8/2011 04:30 PM	8/18/2011 08:40 AM
MLTL2	11	HUH0049-36	8/8/2011 04:30 PM	8/18/2011 08:40 AM
MLTL3	12	HUH0049-37	8/8/2011 04:30 PM	8/18/2011 08:40 AM
MLTL4	13	HUH0049-47	8/8/2011 05:30 PM	8/18/2011 08:40 AM
MLTL6	14	HUH0049-48	8/8/2011 05:35 PM	8/18/2011 08:40 AM

Notes(s):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity, pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Subcontract Order - TestAmerica Honolulu (HUH0049)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0049**

SENDING LABORATORY:

TestAmerica Honolulu
 99-193 Aiea Heights Drive, Suite 121
 Aiea, HI 96701
 Phone: 808-486-5227
 Fax: 808-486-2456
 Project Manager: Margie Pascua Thach
 Client: Tetra Tech EM Inc.

RECEIVING LABORATORY:

TestAmerica West Sacramento
 880 Riverside Parkway
 West Sacramento, CA 95605
 Phone : (916) 373-5600
 Fax: (916) 372-1059
 Project Location: Hawaii
 Receipt Temperature: _____ °C Ice: Y / N

8290 Dioxin: 38 samples for COPC, 2 samples for combined PMA COPC. 8015 DRO/RRO: 10 samples for COPC, 2 samples for combined PMA COPC. For total Metals, first metal is \$22.50, succeeding metals is \$10, except for Mercury is \$35.

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
----------	-------	-----	---------	----------------	-------	----------

Sample ID: HUH0049-02 (PMAK-DU12-B - Solid/Soil) **Sampled: 08/04/11 12:25**

Dioxins - Furans 8290	%	09/20/11	09/03/11 12:25	\$637.50	0%	
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Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (D) 4

Sample ID: HUH0049-07 (PMAK-DU14-B - Solid/Soil) **Sampled: 08/04/11 13:40**

Dioxins - Furans 8290	%	09/20/11	09/03/11 13:40	\$637.50	0%	
-----------------------	---	----------	----------------	----------	----	--

Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (D) 2

Sample ID: HUH0049-12 (PMAK-DU15-B - Solid/Soil) **Sampled: 08/04/11 15:55**

Dioxins - Furans 8290	%	09/20/11	09/03/11 15:55	\$637.50	0%	
-----------------------	---	----------	----------------	----------	----	--

Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (D) 2

Sample ID: HUH0049-18 (PMAK-DU17-B - Solid/Soil) **Sampled: 08/05/11 14:25**

Dioxins - Furans 8290	%	09/20/11	09/04/11 14:25	\$637.50	0%	
-----------------------	---	----------	----------------	----------	----	--

Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (D) 1

Released By <u>Margie Thach</u>	Date/Time <u>8/17/11 10:50</u>	Received By <u>JCH</u>	Date/Time <u>10/24/11 14:30</u>
---------------------------------	--------------------------------	------------------------	---------------------------------

Subcontract Order - TestAmerica Honolulu (HUH0049)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0049**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
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Sample ID: HUH0049-23 (PMAK-DU11-B - Solid/Soil)

Sampled: 08/08/11 10:45

Dioxins - Furans 8290	%	09/20/11	09/07/11 10:45	\$637.50	0%	
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Containers Supplied:

Incremental

Sub-sample (analyze entire content) (D) ↘

Sample ID: HUH0049-28 (PMAK-DU10-B - Solid/Soil)

Sampled: 08/08/11 13:20

Dioxins - Furans 8290	%	09/20/11	09/07/11 13:20	\$637.50	0%	
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Containers Supplied:

Incremental

Sub-sample (analyze entire content) (D) ↘

Sample ID: HUH0049-32 (PMAK-DU6-A-P - Solid/Soil)

Sampled: 08/08/11 16:25 As PBET pending total results

Dioxins - Furans 8290	%	09/20/11	09/07/11 16:25	\$637.50	0%	
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Containers Supplied:

Incremental

Sub-sample (analyze entire content) (D) ↘

Sample ID: HUH0049-33 (PMAK-DU6-A-T1 - Solid/Soil)

Sampled: 08/08/11 16:25 As PBET pending total results

Dioxins - Furans 8290	%	09/20/11	09/07/11 16:25	\$637.50	0%	
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Containers Supplied:

Incremental

Sub-sample (analyze entire content) (D) ↘

Sample ID: HUH0049-34 (PMAK-DU6-A-T2 - Solid/Soil)

Sampled: 08/08/11 16:25 As PBET pending total results

Dioxins - Furans 8290	%	09/20/11	09/07/11 16:25	\$637.50	0%	
-----------------------	---	----------	----------------	----------	----	--

Containers Supplied:

Incremental

Sub-sample (analyze entire content) (D) ↘

Sample ID: HUH0049-35 (PMAK-DU6-B-P - Solid/Soil)

Sampled: 08/08/11 16:30

Dioxins - Furans 8290	%	09/20/11	09/07/11 16:30	\$637.50	0%	
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Containers Supplied:

Incremental

Sub-sample (analyze entire content) (D) ↘

Subcontract Order - TestAmerica Honolulu (HUH0049)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0049**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
----------	-------	-----	---------	----------------	-------	----------

Sample ID: HUH0049-36 (PMAK-DU6-B-T1 - Solid/Soil)

Sampled: 08/08/11 16:30

Dioxins - Furans 8290	%	09/20/11	09/07/11 16:30	\$637.50	0%	
-----------------------	---	----------	----------------	----------	----	--

Containers Supplied:

Incremental

Sub-sample (analyze entire content) (D) 2

Sample ID: HUH0049-37 (PMAK-DU6-B-T2 - Solid/Soil)

Sampled: 08/08/11 16:30

Dioxins - Furans 8290	%	09/20/11	09/07/11 16:30	\$637.50	0%	
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Containers Supplied:

Incremental

Sub-sample (analyze entire content) (D) 2

Sample ID: HUH0049-47 (PMAK-DU7-A - Solid/Soil)

Sampled: 08/08/11 17:30

As PBET pending total results

Dioxins - Furans 8290	%	09/20/11	09/07/11 17:30	\$637.50	0%	
-----------------------	---	----------	----------------	----------	----	--

Containers Supplied:

Incremental

Sub-sample (analyze entire content) (D) 2

Sample ID: HUH0049-48 (PMAK-DU7-B - Solid/Soil)

Sampled: 08/08/11 17:35

Dioxins - Furans 8290	%	09/20/11	09/07/11 17:35	\$637.50	0%	
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Containers Supplied:

Incremental

Sub-sample (analyze entire content) (D) 2

CLIENT TAC Honolulu PM DA LOG # 72344
 LOT# (QUANTIMS ID) G1H180492 QUOTE# 73910 LOCATION WIS
 DATE RECEIVED 10/24/11 TIME RECEIVED 0845 Checked (✓)
 DELIVERED BY FEDEX ON TRAC OTHER
 GOLDENSTATE UPS EZ PARCEL
 TAL COURIER TAL SF CLIENT
 SHIPPING CONTAINER(S) TAL CLIENT N/A
 CUSTODY SEAL STATUS INTACT BROKEN N/A
 CUSTODY SEAL #(S) 5026
 COC #(S) 26
 TEMPERATURE BLANK Observed: _____ Corrected: 2
 SAMPLE TEMPERATURE - (TEMPERATURES ARE IN °C)
 Observed: 6.65 Average 6 Corrected Average 6
LABORATORY THERMOMETER ID:
 IR UNIT: #4 #5 OTHER _____

Initials [Signature] Date 10/24/11

=====
 pH MEASURED YES ANOMALY N/A
 LABELED BY.....
 LABELS CHECKED BY.....
 PEER REVIEW _____ NA
 SHORT HOLD TEST NOTIFICATION SAMPLE RECEIVING
 WETCHEM N/A
 VOA-ENCORES N/A
 METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL N/A
 COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH N/A
 APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES
 CLOUSEAU TEMPERATURE EXCEEDED (2 °C - 6 °C)* N/A
 WET ICE BLUE ICE GEL PACK NO COOLING AGENTS USED PM NOTIFIED

Initials [Signature] Date 10/24/11

Notes _____

*1 Acceptable temperature range for State of Wisconsin samples is ≤4°C.



Lot ID: G1H180492

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VOA*	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
VOAh*	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
AGB																				
AGBs																				
250AGB																				
250AGBs																				
250AGBn																				
500AGB																				
___AGJ																				
500AGJ																				
250AGJ																				
125AGJ									2	2	2	2	2	2						
ID CGJ	4	2	2	2	2	2	2	2												
500CGJ																				
250CGJ																				
125CGJ																				
PJ																				
PJn																				
500PJ																				
500PJn																				
500PJna																				
500PJzn/na																				
250PJ																				
250PJn																				
250PJna																				
250PJzn/na																				
Acetate Tube																				
___CT																				
Encore																				
Folder/filter																				
PUF																				
Petri/Filter																				
XAD Trap																				
Ziploc																				

h = hydrochloric acid s = sulfuric acid na = sodium hydroxide n = nitric acid zn = zinc acetate

Number of VOAs with air bubbles present / total number of VOA's

From: (808) 486-5227
Sample Control
TestAmerica Honolulu
99-193 AIEA HEIGHTS DRIVE
SUITE 121
AIEA, HI 96701

Origin ID: HNLA



J11201104290225

Ship Date: 17AUG11
Act/Wgt: 40.0 LB
CAD: 2315095/NET3180

Delivery Address Bar Code



SHIP TO: (916) 373-5600

BILL THIRD PARTY

Sample Receiving
TestAmerica - West Sacramento
880 Riverside Parkway

West Sacramento, CA 95605

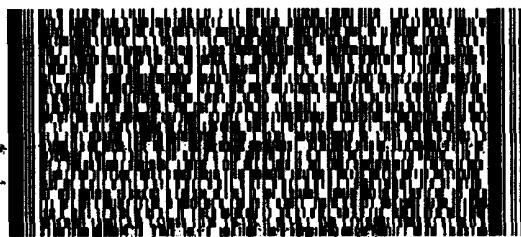
Ref # 162-260
Invoice #
PO #
Dept #

THU - 18 AUG A1
STANDARD OVERNIGHT

TRK# 7974 2311 3614
0201

95605
CA-US
SMF

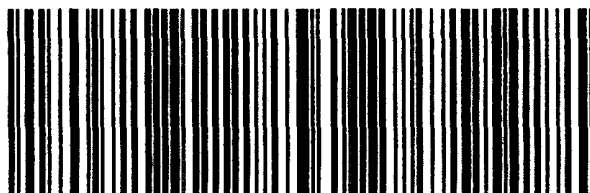
WD BLUA



Animal & Plant Health Insp. Serv.
Plant Protection & Quarantine
DANIEL P. RICHIE D.D.

CAHU 6-0019

Movement Authorized By
Federal Quarantine 500.500



50FG1EEE7/FSF4

After printing this label:

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LABORATORY USE ONLY
LAB JOB NO. MUM0049
LOCATION _____
CONTAINERS _____

Chain of Custody / Analysis Request Form

Item no.	Client sample ID	GRAB	Matrix							MIS	Date / time released	Released by (print / sign)	Delivery method	Received by (print / sign)	Company / Agency affiliation	Date / time received	Condition noted	
			Water	Soil	Drinking water	Sludge	Liquid	Solid	Oil									Other
1	PMAK-DU12-A	X	X															
2	PMAK-DU12-B	X	X															
3	PMAK-DU12-C	X	X															
4	PMAK-DU12-D	X	X															
5	PMAK-DU12-E	X	X															
6	PMAK-DU14-A	X	X															
7	PMAK-DU14-B	X	X															
8	PMAK-DU14-C	X	X															
9	PMAK-DU14-D	X	X															
10	PMAK-DU14-E	X	X															

Report to: Scott Duzan, scott.duzan@tetratech.com
Company name: Tetra Tech EMI
Address: 737 Bishop Street, Suite 3010
City: Honolulu State: HI ZIP: 96813
Phone: 808.441.6645 Fax _____
Sampler: SD # samples in shipment: 51
Contact email address: scott.duzan@tetratech.com

Project identification
Job name: Kilauea PMA
Job number: 103S1902014.H003

Indicate analyses requested

TEQ Dioxins 8290	Total Arsenic 6010	Bioaccessible Arsenic PBET	Mercury 7471	Lead 6010	TPH-DRO and TPH-RRO 8015	Pentachlorophenol 8270	Organochlorine Pesticides 8081	Chlorinated Herbicides 8151	SVOC 8270	Modified Pesticide Screen 8270	Carbamate Herbicides 8321	Total Metals 6010 and 7471	TCLP Pesticides 8081	TCLP Metals 6010 and 7471	PH 9015	Flammability ASTM D4986
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

LABORATORY ID no. MUM0049
After - 01
-02
-03
-04
-05
-06
-07
-08
-09
-10

Released by (print / sign) Resi and Selbach Date / time released 8/11/11
Delivery method Air
Received by (print / sign) Jensen Carr Date / time received 8/11/11
Company / Agency affiliation TestAmerica
Condition noted Water Col (not - 22)

Comments: Provide data in PDF and MS Excel format.
Hold layer A samples for DU12, DU14, DU15, DU17, DU11, and DU18. Do not analyze these layer A samples. Analyze for bioaccessible arsenic only if the total AS for pH is 7 days. Analyze samples for DU12, DU14, DU15, DU17, DU11 and DU18 for pH immediately. Hold layers D and E for all samples and do not analyze w/ the exception of pH. Pending results of layers A-C Tetratech will give further direction.

Distribution: White - TestAmerica Yellow - TestAmerica Pink - Client
COC REV 04/2008
Please check one:
* Dispose by lab
* Return to client
* Archive

Page 1 of 6



LAB JOB NO. MUK0049
LOCATION
CONTAINERS

Chain of Custody / Analysis Request Form

Item no.	Client sample ID	Released by (print / sign)	Date / time released	Delivery method	Received by (print / sign)	Company / Agency affiliation	Date / time received	Condition noted	Indicate analysis requested										Laboratory ID no.						
									TEQ Dioxins 8290	Total Arsenic 6010	Bioaccessible Arsenic PBET	Mercury 7471	Lead 6010	TPH-DRO and TPH-RRO 8015	Pentachlorophenol 8270	Organochlorine Pesticides 8081	Chlorinated Herbicides 8151	SVOC 8270		Modified Pesticide Screen 8270	Carbamate Herbicides 8321	Total Metals 6010 and 7471	TCLP Pesticides 8081	TCLP Metals 6010 and 7471	pH 9015
1	PMAK-DUIS-A			GRAB	8/11/11 15:50	TestAmerica	8/11/11 15:50		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MUK0049-4
2	PMAK-DUIS-B			GRAB	8/11/11 15:55	TestAmerica	8/11/11 15:55		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-12
3	PMAK-DUIS-C			GRAB	8/11/11 16:00	TestAmerica	8/11/11 16:00		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-13
4	PMAK-DUIS-D			GRAB	8/11/11 16:05	TestAmerica	8/11/11 16:05		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-14
5	PMAK-DUIS-E			GRAB	8/11/11 16:10	TestAmerica	8/11/11 16:10		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-15
6	PMAK-DUI7-A			GRAB	8/11/11 14:00	TestAmerica	8/11/11 14:00		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-16
7	PMAK-DUI7-A			GRAB	8/11/11 14:20	TestAmerica	8/11/11 14:20		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-17
8	PMAK-DUI7-B			GRAB	8/11/11 14:25	TestAmerica	8/11/11 14:25		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-18
9	PMAK-DUI7-C			GRAB	8/11/11 14:30	TestAmerica	8/11/11 14:30		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-19
10	PMAK-DUI7-D			GRAB	8/11/11 14:35	TestAmerica	8/11/11 14:35		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-20

Report to: Scott Duzan, scott.duzan@tetratech.com
 Company name: Tetra Tech EMI
 Address: 737 Bishop Street, Suite 3010
 City: Honolulu State: HI zip: 96813
 Phone: 808.441.6645 Fax
 Contact email address: scott.duzan@tetratech.com
 # samples in shipment: 51
 Project identification: Kilauea PMA
 Job name: Kilauea PMA
 Job number: 103S1902014.H003
 Matrix: Drinking water, Wastewater, Soil, Water, GRAB, MIS
 Preservation Method: Other, Oil, Solid, Liquid, Sludge, Drinking water, Wastewater, Soil, Water, GRAB, MIS
 Date / time released: / /
 Released by (print / sign): Paul Simon Carr
 Delivery method: See Simon Carr
 Received by (print / sign): Paul Simon Carr
 Company / Agency affiliation: TestAmerica
 Date / time received: 8/10/11 12:20
 Condition noted: See Wet/Gel-22

Comments: Provide data in PDF and MS Excel format.
 See page 1
 Distribution: White - TestAmerica Yellow - TestAmerica Pink - Client
 Please check one:
 Dispose by lab
 Return to client
 Archive
 Page 2 of 6
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LABORATORY USE ONLY
LAB JOB NO. MUM0049
LOCATION _____
CONTAINERS _____

Chain of Custody / Analysis Request Form

Item no.	Client sample ID	GRAB	Matrix							No. of containers	Sampling			Indicate analyses requested										Laboratory ID no.									
			Water	Soil	Wastewater	Drinking water	Sludge	Liquid	Solid		Other	Preservation method	Date	Time	TEQ Dioxins 8290	Total Arsenic 6010	Bioaccessible Arsenic PBT	Mercury 7471	Lead 6010	TPH-DRO and TPH-RRO 8015	Pentachlorophenol 8270	Organochlorine Pesticides 8081	Chlorinated Herbicides 8151		SVOC 8270	Modified Pesticide Screen 8270	Carbamate Herbicides 8321	Total Metals 6010 and 7471	TCLP Metals 6010 and 7471	TCLP Pesticides 8081	PH 9015	Flammability ASTM D4986	
1	PMAX-DUI7-E	X	X								NA	8/5/11	14:40	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MUM0049-22
2	PMAX-DUI1-A	X	X								NA	8/10/11	10:40	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MUM0049-23	
3	PMAX-DUI1-B	X	X								NA	10:45	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MUM0049-24		
4	PMAX-DUI1-C	X	X								NA	10:50	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MUM0049-25		
5	PMAX-DUI1-D	X	X								NA	10:55	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MUM0049-26		
6	PMAX-DUI1-E	X	X								NA	11:00	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MUM0049-27		
7	PMAX-DUI9-A	X	X								NA	13:15	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MUM0049-28		
8	PMAX-DUI9-B	X	X								NA	13:20	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MUM0049-29		
9	PMAX-DUI9-C	X	X								NA	13:25	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MUM0049-30		
10	PMAX-DUI9-D	X	X								NA	13:30	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MUM0049-30		

Company / Agency affiliation: TestAmerica Date / time received: 8/10/11 12:20
 Received by (print / sign): [Signature] Date / time released: / /
 Delivery method: See Jason Carr Condition noted: But withed - 22

Report to: Scott Duzan, scott.duzan@tetratech.com
 Company name: Tetra Tech EMI
 Address: 737 Bishop Street, Suite 3010
 City: Honolulu State: HI ZIP: 96813
 Phone: 808.441.6645 Fax: _____
 Contact email address: scott.duzan@tetratech.com
 Job name: Kilauea PMA
 Job number: 103S1902014.H003
 Project identification: _____
 Sampler: SD # samples in shipment: 51

Comments: Provide data in PDF and MS Excel format.
See page 1

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 COC REV 04/2008 Distribution: White - TestAmerica Yellow - TestAmerica Pink - Client
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SOLID, 8290, Dioxins/Furans

TestAmerica Honolulu

Client Sample ID: HUH0049-02

Trace Level Organic Compounds

Lot-Sample #...: G1H180492-001 Work Order #...: MLTJX1AA Matrix.....: SOLID
 Date Sampled...: 08/04/11 Date Received...: 08/18/11
 Prep Date.....: 08/26/11 Analysis Date...: 09/07/11
 Prep Batch #...: 1238129
 Dilution Factor: 500
 % Moisture.....:

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	500	pg/g	SW846 8290
Total TCDD	ND	500	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	2500	pg/g	SW846 8290
Total PeCDD	ND	2500	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	2500	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	ND	2500	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	ND	2500	pg/g	SW846 8290
Total HxCDD	3300	2500	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	94000	2500	pg/g	SW846 8290
Total HpCDD	170000	2500	pg/g	SW846 8290
OCDD	1800000	5000	pg/g	SW846 8290
2,3,7,8-TCDF	ND	500	pg/g	SW846 8290
Total TCDF	ND	500	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	2500	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	2500	pg/g	SW846 8290
Total PeCDF	ND	2500	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	ND	2500	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	2500	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	2500	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	2500	pg/g	SW846 8290
Total HxCDF	32000	2500	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	27000	2500	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	2800	2500	pg/g	SW846 8290
Total HpCDF	120000	2500	pg/g	SW846 8290
OCDF	80000	5000	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	90	(40 - 135)
13C-1,2,3,7,8-PeCDD	83	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	102	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	96	(40 - 135)
13C-OCDD	120	(40 - 135)
13C-2,3,7,8-TCDF	89	(40 - 135)
13C-1,2,3,7,8-PeCDF	84	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	98	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	98	(40 - 135)

TestAmerica Honolulu

Client Sample ID: HUH0049-07

Trace Level Organic Compounds

Lot-Sample #....: G1H180492-002 Work Order #....: MLTKD1AA Matrix.....: SOLID
 Date Sampled....: 08/04/11 Date Received...: 08/18/11
 Prep Date.....: 08/26/11 Analysis Date...: 09/08/11
 Prep Batch #....: 1238129
 Dilution Factor: 9.25
 % Moisture.....:

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND G	9.6	pg/g	SW846 8290
Total TCDD	25	9.6	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	46	pg/g	SW846 8290
Total PeCDD	ND	46	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	46	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	52	46	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	ND	46	pg/g	SW846 8290
Total HxCDD	290	46	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	1700	46	pg/g	SW846 8290
Total HpCDD	3600	46	pg/g	SW846 8290
OCDD	26000	93	pg/g	SW846 8290
2,3,7,8-TCDF	ND G	13	pg/g	SW846 8290
Total TCDF	ND	13	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	46	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	46	pg/g	SW846 8290
Total PeCDF	ND	46	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	ND	46	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	46	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	46	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	46	pg/g	SW846 8290
Total HxCDF	390	46	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	440	46	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	ND	46	pg/g	SW846 8290
Total HpCDF	1900	46	pg/g	SW846 8290
OCDF	1200	93	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	74	(40 - 135)
13C-1,2,3,7,8-PeCDD	72	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	83	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	91	(40 - 135)
13C-OCDD	97	(40 - 135)
13C-2,3,7,8-TCDF	66	(40 - 135)
13C-1,2,3,7,8-PeCDF	60	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	82	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	81	(40 - 135)

NOTE (S) :
 G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

TestAmerica Honolulu

Client Sample ID: HUH0049-12

Trace Level Organic Compounds

Lot-Sample #....: G1H180492-003 Work Order #....: MLTKH1AA Matrix.....: SOLID
 Date Sampled....: 08/04/11 Date Received...: 08/18/11
 Prep Date.....: 08/26/11 Analysis Date...: 09/08/11
 Prep Batch #....: 1238129
 Dilution Factor: 166.66
 % Moisture.....:

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	170	pg/g	SW846 8290
Total TCDD	ND	170	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	830	pg/g	SW846 8290
Total PeCDD	ND	830	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	830	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	1100	830	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	ND	830	pg/g	SW846 8290
Total HxCDD	4500	830	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	31000	830	pg/g	SW846 8290
Total HpCDD	60000	830	pg/g	SW846 8290
OCDD	770000 E	1700	pg/g	SW846 8290
2,3,7,8-TCDF	ND	170	pg/g	SW846 8290
Total TCDF	ND	170	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	830	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	830	pg/g	SW846 8290
Total PeCDF	ND	830	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	ND	830	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	830	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	830	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	830	pg/g	SW846 8290
Total HxCDF	8300	830	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	8500	830	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	ND	830	pg/g	SW846 8290
Total HpCDF	39000	830	pg/g	SW846 8290
OCDF	26000	1700	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	88	(40 - 135)
13C-1,2,3,7,8-PeCDD	83	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	97	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	102	(40 - 135)
13C-OCDD	122	(40 - 135)
13C-2,3,7,8-TCDF	85	(40 - 135)
13C-1,2,3,7,8-PeCDF	79	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	98	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	98	(40 - 135)

NOTE (S) :
 E Estimated result. Result concentration exceeds the calibration range.

TestAmerica Honolulu

Client Sample ID: HUH0049-18

Trace Level Organic Compounds

Lot-Sample #...: G1H180492-004 Work Order #...: MLTKM1AA Matrix.....: SOLID
 Date Sampled...: 08/05/11 Date Received...: 08/18/11
 Prep Date.....: 08/26/11 Analysis Date...: 09/08/11
 Prep Batch #...: 1238129
 Dilution Factor: 250
 % Moisture.....:

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	250	pg/g	SW846 8290
Total TCDD	ND	250	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	1200	pg/g	SW846 8290
Total PeCDD	ND	1200	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	1200	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	ND	1200	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	ND	1200	pg/g	SW846 8290
Total HxCDD	ND	1200	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	11000	1200	pg/g	SW846 8290
Total HpCDD	20000	1200	pg/g	SW846 8290
OCDD	900000	2500	pg/g	SW846 8290
2,3,7,8-TCDF	ND	250	pg/g	SW846 8290
Total TCDF	ND	250	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	1200	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	1200	pg/g	SW846 8290
Total PeCDF	ND	1200	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	ND	1200	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	1200	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	1200	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	1200	pg/g	SW846 8290
Total HxCDF	1300	1200	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	2200	1200	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	ND	1200	pg/g	SW846 8290
Total HpCDF	8700	1200	pg/g	SW846 8290
OCDF	7600	2500	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	86	(40 - 135)
13C-1,2,3,7,8-PeCDD	84	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	96	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	100	(40 - 135)
13C-OCDD	119	(40 - 135)
13C-2,3,7,8-TCDF	84	(40 - 135)
13C-1,2,3,7,8-PeCDF	80	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	94	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	96	(40 - 135)

TestAmerica Honolulu

Client Sample ID: HUH0049-23

Trace Level Organic Compounds

Lot-Sample #....: G1H180492-005 Work Order #....: MLTKW1AA Matrix.....: SOLID
 Date Sampled....: 08/08/11 Date Received...: 08/18/11
 Prep Date.....: 08/26/11 Analysis Date...: 09/08/11
 Prep Batch #....: 1238129
 Dilution Factor: 47.61
 % Moisture.....:

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	48	pg/g	SW846 8290
Total TCDD	ND	48	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	240	pg/g	SW846 8290
Total PeCDD	ND	240	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	240	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	440	240	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	ND	240	pg/g	SW846 8290
Total HxCDD	1700	240	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	15000	240	pg/g	SW846 8290
Total HpCDD	26000	240	pg/g	SW846 8290
OCDD	170000	480	pg/g	SW846 8290
2,3,7,8-TCDF	ND	48	pg/g	SW846 8290
Total TCDF	ND	48	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	240	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	240	pg/g	SW846 8290
Total PeCDF	ND	240	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	340	240	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	240	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	240	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	240	pg/g	SW846 8290
Total HxCDF	6900	240	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	5900	240	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	510	240	pg/g	SW846 8290
Total HpCDF	24000	240	pg/g	SW846 8290
OCDF	17000	480	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	92	(40 - 135)
13C-1,2,3,7,8-PeCDD	84	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	100	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	105	(40 - 135)
13C-OCDD	124	(40 - 135)
13C-2,3,7,8-TCDF	89	(40 - 135)
13C-1,2,3,7,8-PeCDF	82	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	99	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	101	(40 - 135)

TestAmerica Honolulu

Client Sample ID: HUH0049-28

Trace Level Organic Compounds

Lot-Sample #...: G1H180492-006 Work Order #...: MLTK81AA Matrix.....: SOLID
 Date Sampled...: 08/08/11 Date Received...: 08/18/11
 Prep Date.....: 08/26/11 Analysis Date...: 09/08/11
 Prep Batch #...: 1238129
 Dilution Factor: 1000
 % Moisture.....:

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	1000	pg/g	SW846 8290
Total TCDD	ND	1000	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	5000	pg/g	SW846 8290
Total PeCDD	ND	5000	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	5000	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	ND	5000	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	ND	5000	pg/g	SW846 8290
Total HxCDD	ND	5000	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	110000	5000	pg/g	SW846 8290
Total HpCDD	180000	5000	pg/g	SW846 8290
OCDD	1700000	10000	pg/g	SW846 8290
2,3,7,8-TCDF	ND	1000	pg/g	SW846 8290
Total TCDF	ND	1000	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	5000	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	5000	pg/g	SW846 8290
Total PeCDF	ND	5000	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	ND	5000	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	5000	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	5000	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	5000	pg/g	SW846 8290
Total HxCDF	52000	5000	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	42000	5000	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	5700	5000	pg/g	SW846 8290
Total HpCDF	220000	5000	pg/g	SW846 8290
OCDF	140000	10000	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	88	(40 - 135)
13C-1,2,3,7,8-PeCDD	83	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	102	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	102	(40 - 135)
13C-OCDD	108	(40 - 135)
13C-2,3,7,8-TCDF	85	(40 - 135)
13C-1,2,3,7,8-PeCDF	83	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	98	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	100	(40 - 135)

TestAmerica Honolulu

Client Sample ID: HUH0049-32

Trace Level Organic Compounds

Lot-Sample #...: G1H180492-007 Work Order #...: MLTLD1AA Matrix.....: SOLID
 Date Sampled...: 08/08/11 Date Received...: 08/18/11
 Prep Date.....: 08/26/11 Analysis Date...: 09/08/11
 Prep Batch #...: 1238129
 Dilution Factor: 3.31
 % Moisture.....:

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	3.3	pg/g	SW846 8290
Total TCDD	ND	3.3	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	17	pg/g	SW846 8290
Total PeCDD	ND	17	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	17	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	39	17	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	28	17	pg/g	SW846 8290
Total HxCDD	210	17	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	1200	17	pg/g	SW846 8290
Total HpCDD	2000	17	pg/g	SW846 8290
OCDD	11000	33	pg/g	SW846 8290
2,3,7,8-TCDF	ND CON	3.3	pg/g	SW846 8290
Total TCDF	12	4.1	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	17	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	17	pg/g	SW846 8290
Total PeCDF	24	17	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	25	17	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	17	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	17	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	17	pg/g	SW846 8290
Total HxCDF	400	17	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	380	17	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	25	17	pg/g	SW846 8290
Total HpCDF	1300	17	pg/g	SW846 8290
OCDF	920	33	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	76	(40 - 135)
13C-1,2,3,7,8-PeCDD	73	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	85	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	97	(40 - 135)
13C-OCDD	114	(40 - 135)
13C-2,3,7,8-TCDF	70	(40 - 135)
13C-1,2,3,7,8-PeCDF	68	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	84	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	92	(40 - 135)

NOTE(S):

CON Confirmation analysis.

TestAmerica Honolulu

Client Sample ID: HUH0049-33

Trace Level Organic Compounds

Lot-Sample #....: G1H180492-008 Work Order #....: MLTLT1AA Matrix.....: SOLID
 Date Sampled....: 08/08/11 Date Received...: 08/18/11
 Prep Date.....: 08/26/11 Analysis Date...: 09/08/11
 Prep Batch #....: 1238129
 Dilution Factor: 2.35
 % Moisture.....:

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	2.4	pg/g	SW846 8290
Total TCDD	ND	2.4	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	12	pg/g	SW846 8290
Total PeCDD	ND	12	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	12	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	39	12	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	24	12	pg/g	SW846 8290
Total HxCDD	200	12	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	1100	12	pg/g	SW846 8290
Total HpCDD	1900	12	pg/g	SW846 8290
OCDD	10000 E	24	pg/g	SW846 8290
2,3,7,8-TCDF	3.0 CON	2.4	pg/g	SW846 8290
Total TCDF	8.6	2.4	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	12	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	12	pg/g	SW846 8290
Total PeCDF	34	12	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	20	12	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	12	12	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	12	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	12	pg/g	SW846 8290
Total HxCDF	370	12	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	370	12	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	28	12	pg/g	SW846 8290
Total HpCDF	1300	12	pg/g	SW846 8290
OCDF	830	24	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	65	(40 - 135)
13C-1,2,3,7,8-PeCDD	61	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	71	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	86	(40 - 135)
13C-OCDD	106	(40 - 135)
13C-2,3,7,8-TCDF	60	(40 - 135)
13C-1,2,3,7,8-PeCDF	55	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	78	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	80	(40 - 135)

NOTE(S):

E Estimated result. Result concentration exceeds the calibration range.
 CON Confirmation analysis.

TestAmerica Honolulu

Client Sample ID: HUH0049-34

Trace Level Organic Compounds

Lot-Sample #....: G1H180492-009 Work Order #....: MLTLV1AA Matrix.....: SOLID
 Date Sampled....: 08/08/11 Date Received...: 08/18/11
 Prep Date.....: 08/26/11 Analysis Date...: 09/08/11
 Prep Batch #....: 1238129
 Dilution Factor: 3.17
 % Moisture.....:

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	3.2	pg/g	SW846 8290
Total TCDD	ND	3.2	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	16	pg/g	SW846 8290
Total PeCDD	ND	16	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	16	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	39	16	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	27	16	pg/g	SW846 8290
Total HxCDD	190	16	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	1100	16	pg/g	SW846 8290
Total HpCDD	2000	16	pg/g	SW846 8290
OCDD	11000	32	pg/g	SW846 8290
2,3,7,8-TCDF	ND CON	3.2	pg/g	SW846 8290
Total TCDF	24	3.2	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	16	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	16	pg/g	SW846 8290
Total PeCDF	20	16	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	21	16	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	16	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	16	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	16	pg/g	SW846 8290
Total HxCDF	390	16	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	380	16	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	26	16	pg/g	SW846 8290
Total HpCDF	1300	16	pg/g	SW846 8290
OCDF	880	32	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	89	(40 - 135)
13C-1,2,3,7,8-PeCDD	81	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	98	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	113	(40 - 135)
13C-OCDD	133	(40 - 135)
13C-2,3,7,8-TCDF	78	(40 - 135)
13C-1,2,3,7,8-PeCDF	76	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	94	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	103	(40 - 135)

NOTE(S):
 CON Confirmation analysis.

TestAmerica Honolulu

Client Sample ID: HUH0049-35

Trace Level Organic Compounds

Lot-Sample #....: G1H180492-010 Work Order #....: MLTL11AA Matrix.....: SOLID
 Date Sampled....: 08/08/11 Date Received...: 08/18/11
 Prep Date.....: 08/26/11 Analysis Date...: 09/08/11
 Prep Batch #....: 1238129
 Dilution Factor: 0.95
 % Moisture.....:

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	0.95	pg/g	SW846 8290
Total TCDD	ND	0.95	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	4.8	pg/g	SW846 8290
Total PeCDD	ND	4.8	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	4.8	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	13	4.8	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	7.6	4.8	pg/g	SW846 8290
Total HxCDD	58	4.8	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	420	4.8	pg/g	SW846 8290
Total HpCDD	760	4.8	pg/g	SW846 8290
OCDD	4600 E,G	17	pg/g	SW846 8290
2,3,7,8-TCDF	ND	0.95	pg/g	SW846 8290
Total TCDF	ND	0.95	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	4.8	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	4.8	pg/g	SW846 8290
Total PeCDF	ND	4.8	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	5.3	4.8	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	4.8	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	4.8	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	4.8	pg/g	SW846 8290
Total HxCDF	140	4.8	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	150	4.8	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	11	4.8	pg/g	SW846 8290
Total HpCDF	560	4.8	pg/g	SW846 8290
OCDF	430	9.5	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	91	(40 - 135)
13C-1,2,3,7,8-PeCDD	88	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	93	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	83	(40 - 135)
13C-OCDD	86	(40 - 135)
13C-2,3,7,8-TCDF	91	(40 - 135)
13C-1,2,3,7,8-PeCDF	85	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	79	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	82	(40 - 135)

NOTE (S) :

- E Estimated result. Result concentration exceeds the calibration range.
- G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

TestAmerica Honolulu

Client Sample ID: HUH0049-36

Trace Level Organic Compounds

Lot-Sample #...: G1H180492-011 Work Order #...: MLTL21AA Matrix.....: SOLID
 Date Sampled...: 08/08/11 Date Received...: 08/18/11
 Prep Date.....: 08/26/11 Analysis Date...: 09/08/11
 Prep Batch #...: 1238129
 Dilution Factor: 0.96
 % Moisture.....:

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	0.96	pg/g	SW846 8290
Total TCDD	ND	0.96	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	4.8	pg/g	SW846 8290
Total PeCDD	ND	4.8	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	4.8	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	12	4.8	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	6.6	4.8	pg/g	SW846 8290
Total HxCDD	53	4.8	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	400	4.8	pg/g	SW846 8290
Total HpCDD	720	4.8	pg/g	SW846 8290
OCDD	4400 E,G	15	pg/g	SW846 8290
2,3,7,8-TCDF	ND	0.96	pg/g	SW846 8290
Total TCDF	ND	0.96	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	4.8	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	4.8	pg/g	SW846 8290
Total PeCDF	ND	4.8	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	5.2	4.8	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	4.8	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	4.8	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	4.8	pg/g	SW846 8290
Total HxCDF	150	4.8	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	140	4.8	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	20	4.8	pg/g	SW846 8290
Total HpCDF	550	4.8	pg/g	SW846 8290
OCDF	430	9.6	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	90	(40 - 135)
13C-1,2,3,7,8-PeCDD	85	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	97	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	78	(40 - 135)
13C-OCDD	80	(40 - 135)
13C-2,3,7,8-TCDF	90	(40 - 135)
13C-1,2,3,7,8-PeCDF	83	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	79	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	78	(40 - 135)

NOTE(S) :

- E Estimated result. Result concentration exceeds the calibration range.
- G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

TestAmerica Honolulu

Client Sample ID: HUH0049-37

Trace Level Organic Compounds

Lot-Sample #...: G1H180492-012 Work Order #...: MLTL31AA Matrix.....: SOLID
 Date Sampled...: 08/08/11 Date Received...: 08/18/11
 Prep Date.....: 08/26/11 Analysis Date...: 09/08/11
 Prep Batch #...: 1238129
 Dilution Factor: 0.98
 % Moisture.....:

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	0.98	pg/g	SW846 8290
Total TCDD	ND	0.98	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	4.9	pg/g	SW846 8290
Total PeCDD	ND	4.9	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	4.9	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	13	4.9	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	7.7	4.9	pg/g	SW846 8290
Total HxCDD	60	4.9	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	450	4.9	pg/g	SW846 8290
Total HpCDD	810	4.9	pg/g	SW846 8290
OCDD	5000 E,G	16	pg/g	SW846 8290
2,3,7,8-TCDF	ND	0.98	pg/g	SW846 8290
Total TCDF	ND	0.98	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	4.9	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	4.9	pg/g	SW846 8290
Total PeCDF	ND	4.9	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	5.4	4.9	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	4.9	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	4.9	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	4.9	pg/g	SW846 8290
Total HxCDF	160	4.9	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	160	4.9	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	14	4.9	pg/g	SW846 8290
Total HpCDF	570	4.9	pg/g	SW846 8290
OCDF	470	9.8	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	92	(40 - 135)
13C-1,2,3,7,8-PeCDD	92	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	95	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	81	(40 - 135)
13C-OCDD	84	(40 - 135)
13C-2,3,7,8-TCDF	92	(40 - 135)
13C-1,2,3,7,8-PeCDF	87	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	79	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	85	(40 - 135)

NOTE(S):

- E Estimated result. Result concentration exceeds the calibration range.
- G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

TestAmerica Honolulu

Client Sample ID: HUH0049-47

Trace Level Organic Compounds

Lot-Sample #....: G1H180492-013 Work Order #....: MLTL41AA Matrix.....: SOLID
 Date Sampled....: 08/08/11 Date Received...: 08/18/11
 Prep Date.....: 08/26/11 Analysis Date...: 09/08/11
 Prep Batch #....: 1238129
 Dilution Factor: 9.43
 % Moisture.....:

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	9.4	pg/g	SW846 8290
Total TCDD	ND	9.4	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	47	pg/g	SW846 8290
Total PeCDD	ND	47	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	47	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	110	47	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	63	47	pg/g	SW846 8290
Total HxCDD	560	47	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	4000	47	pg/g	SW846 8290
Total HpCDD	7700	47	pg/g	SW846 8290
OCDD	45000 E,G	130	pg/g	SW846 8290
2,3,7,8-TCDF	ND	9.4	pg/g	SW846 8290
Total TCDF	ND	9.4	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	47	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	47	pg/g	SW846 8290
Total PeCDF	ND	47	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	ND	47	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	47	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	47	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	47	pg/g	SW846 8290
Total HxCDF	1200	47	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	1300	47	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	97	47	pg/g	SW846 8290
Total HpCDF	4700	47	pg/g	SW846 8290
OCDF	3800	94	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	100	(40 - 135)
13C-1,2,3,7,8-PeCDD	84	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	97	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	83	(40 - 135)
13C-OCDD	85	(40 - 135)
13C-2,3,7,8-TCDF	85	(40 - 135)
13C-1,2,3,7,8-PeCDF	77	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	86	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	84	(40 - 135)

NOTE(S) :

- E Estimated result. Result concentration exceeds the calibration range.
- G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

TestAmerica Honolulu

Client Sample ID: HUH0049-48

Trace Level Organic Compounds

Lot-Sample #....: G1H180492-014 Work Order #....: MLTL61AA Matrix.....: SOLID
 Date Sampled....: 08/08/11 Date Received...: 08/18/11
 Prep Date.....: 08/26/11 Analysis Date...: 09/08/11
 Prep Batch #....: 1238129
 Dilution Factor: 4.73
 % Moisture.....:

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	4.7	pg/g	SW846 8290
Total TCDD	ND	4.7	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	24	pg/g	SW846 8290
Total PeCDD	ND	24	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	24	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	86	24	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	45	24	pg/g	SW846 8290
Total HxCDD	560	24	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	3700	24	pg/g	SW846 8290
Total HpCDD	7000	24	pg/g	SW846 8290
OCDD	38000 E,G	100	pg/g	SW846 8290
2,3,7,8-TCDF	ND	4.7	pg/g	SW846 8290
Total TCDF	ND	4.7	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	24	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	24	pg/g	SW846 8290
Total PeCDF	62	24	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	41	24	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	35	24	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	24	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	24	pg/g	SW846 8290
Total HxCDF	1300	24	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	1200	24	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	81	24	pg/g	SW846 8290
Total HpCDF	4500	24	pg/g	SW846 8290
OCDF	3600	47	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	88	(40 - 135)
13C-1,2,3,7,8-PeCDD	78	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	97	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	76	(40 - 135)
13C-OCDD	85	(40 - 135)
13C-2,3,7,8-TCDF	84	(40 - 135)
13C-1,2,3,7,8-PeCDF	76	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	81	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	79	(40 - 135)

NOTE (S) :

- E Estimated result. Result concentration exceeds the calibration range.
- G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

QC DATA ASSOCIATION SUMMARY

G1H180492

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	SOLID	SW846 8290		1238129	
002	SOLID	SW846 8290		1238129	
003	SOLID	SW846 8290		1238129	
004	SOLID	SW846 8290		1238129	
005	SOLID	SW846 8290		1238129	
006	SOLID	SW846 8290		1238129	
007	SOLID	SW846 8290		1238129	
008	SOLID	SW846 8290		1238129	
009	SOLID	SW846 8290		1238129	
010	SOLID	SW846 8290		1238129	
011	SOLID	SW846 8290		1238129	
012	SOLID	SW846 8290		1238129	
013	SOLID	SW846 8290		1238129	
014	SOLID	SW846 8290		1238129	

METHOD BLANK REPORT

Trace Level Organic Compounds

Client Lot #...: G1H180492
 MB Lot-Sample #: G1H260000-129

Work Order #...: ML3K61AA

Matrix.....: SOLID

Analysis Date...: 09/08/11
 Dilution Factor: 2

Prep Date.....: 08/26/11

Prep Batch #...: 1238129

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	2.0	pg/g	SW846 8290
Total TCDD	ND	2.0	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	10	pg/g	SW846 8290
Total PeCDD	ND	10	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	10	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	ND	10	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	ND	10	pg/g	SW846 8290
Total HxCDD	ND	10	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	ND	10	pg/g	SW846 8290
Total HpCDD	ND	10	pg/g	SW846 8290
OCDD	ND	20	pg/g	SW846 8290
2,3,7,8-TCDF	ND H	2.5	pg/g	SW846 8290
Total TCDF	ND	2.5	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	10	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	10	pg/g	SW846 8290
Total PeCDF	ND	10	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	ND	10	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	10	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	10	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	10	pg/g	SW846 8290
Total HxCDF	ND	10	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	ND	10	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	ND	10	pg/g	SW846 8290
Total HpCDF	ND	10	pg/g	SW846 8290
OCDF	ND	20	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	65	(40 - 135)
13C-1,2,3,7,8-PeCDD	61	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	71	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	79	(40 - 135)
13C-OCDD	66	(40 - 135)
13C-2,3,7,8-TCDF	61	(40 - 135)
13C-1,2,3,7,8-PeCDF	59	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	71	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	78	(40 - 135)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

H: SEE NCM.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

Trace Level Organic Compounds

Client Lot #...: G1H180492 Work Order #...: ML3K61AC Matrix.....: SOLID
 LCS Lot-Sample#: G1H260000-129
 Prep Date.....: 08/26/11 Analysis Date...: 09/08/11
 Prep Batch #...: 1238129
 Dilution Factor: 2

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
2,3,7,8-TCDD	101	(60 - 138)	SW846 8290
1,2,3,7,8-PeCDD	99	(70 - 122)	SW846 8290
1,2,3,4,7,8-HxCDD	108	(60 - 138)	SW846 8290
1,2,3,6,7,8-HxCDD	92	(68 - 136)	SW846 8290
1,2,3,7,8,9-HxCDD	95	(68 - 138)	SW846 8290
1,2,3,4,6,7,8-HpCDD	101	(71 - 128)	SW846 8290
OCDD	103	(70 - 128)	SW846 8290
2,3,7,8-TCDF	103 H	(56 - 158)	SW846 8290
1,2,3,7,8-PeCDF	95	(69 - 134)	SW846 8290
2,3,4,7,8-PeCDF	93	(70 - 131)	SW846 8290
1,2,3,4,7,8-HxCDF	98	(74 - 128)	SW846 8290
1,2,3,6,7,8-HxCDF	91	(67 - 140)	SW846 8290
2,3,4,6,7,8-HxCDF	89	(71 - 137)	SW846 8290
1,2,3,7,8,9-HxCDF	99	(72 - 134)	SW846 8290
1,2,3,4,6,7,8-HpCDF	91	(71 - 134)	SW846 8290
1,2,3,4,7,8,9-HpCDF	94	(68 - 129)	SW846 8290
OCDF	102	(63 - 141)	SW846 8290

<u>INTERNAL STANDARD</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	85	(40 - 135)
13C-1,2,3,7,8-PeCDD	81	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	97	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	99	(40 - 135)
13C-OCDD	88	(40 - 135)
13C-2,3,7,8-TCDF	79	(40 - 135)
13C-1,2,3,7,8-PeCDF	76	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	94	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	101	(40 - 135)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters
 H: SEE NCM.

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot #...: G1H180492 Work Order #...: ML3K61AC Matrix.....: SOLID
 LCS Lot-Sample#: G1H260000-129
 Prep Date.....: 08/26/11 Analysis Date...: 09/08/11
 Prep Batch #...: 1238129
 Dilution Factor: 2

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>METHOD</u>
2,3,7,8-TCDD	20.0	20.2	pg/g	101	SW846 8290
1,2,3,7,8-PeCDD	100	99.4	pg/g	99	SW846 8290
1,2,3,4,7,8-HxCDD	100	108	pg/g	108	SW846 8290
1,2,3,6,7,8-HxCDD	100	91.7	pg/g	92	SW846 8290
1,2,3,7,8,9-HxCDD	100	95.4	pg/g	95	SW846 8290
1,2,3,4,6,7,8-HpCDD	100	101	pg/g	101	SW846 8290
OCDD	200	206	pg/g	103	SW846 8290
2,3,7,8-TCDF	20.0	20.5 H	pg/g	103	SW846 8290
1,2,3,7,8-PeCDF	100	94.7	pg/g	95	SW846 8290
2,3,4,7,8-PeCDF	100	93.3	pg/g	93	SW846 8290
1,2,3,4,7,8-HxCDF	100	97.7	pg/g	98	SW846 8290
1,2,3,6,7,8-HxCDF	100	90.5	pg/g	91	SW846 8290
2,3,4,6,7,8-HxCDF	100	88.7	pg/g	89	SW846 8290
1,2,3,7,8,9-HxCDF	100	98.7	pg/g	99	SW846 8290
1,2,3,4,6,7,8-HpCDF	100	91.2	pg/g	91	SW846 8290
1,2,3,4,7,8,9-HpCDF	100	94.2	pg/g	94	SW846 8290
OCDF	200	204	pg/g	102	SW846 8290

<u>INTERNAL STANDARD</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
13C-2,3,7,8-TCDD	85	(40 - 135)
13C-1,2,3,7,8-PeCDD	81	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	97	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	99	(40 - 135)
13C-OCDD	88	(40 - 135)
13C-2,3,7,8-TCDF	79	(40 - 135)
13C-1,2,3,7,8-PeCDF	76	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	94	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	101	(40 - 135)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters
 H: SEE NCM.

LABORATORY USE ONLY

LAB JOB NO. MUK0049

LOCATION _____

CONTAINERS _____

Chain of Custody / Analysis Request Form

Report to: Scott Duzan, scott.duzan@tetrattech.com		Project identification	
Company name: Tetra Tech EMI		Job name: Kilauea PMA	
Address: 737 Bishop Street, Suite 3010		Job number: 103S1902014.H003	
City: Honolulu	State: HI	ZIP: 96813	
Phone: 808.441.6645	Fax	Contact email address: scott.duzan@tetrattech.com	
Sampler: SD	# samples in shipment	51	

Item no.	Client sample ID	MIS	GRAB	Matrix								Preservation method	Sampling			Indicate analyses requested													Laboratory ID no.						
				Water	Soil	Wastewater	Drinking water	Sludge	Liquid	Solid	Oil		Other	Date	Time	No. of containers	TEQ Dioxins 8290	Total Arsenic 6010	Bioaccessible Arsenic PBET	Mercury 7471	Lead 6010	TPH-DRO and TPH-RRO 8015	Pentachlorophenol 8270	Organochlorine Pesticides 8081	Chlorinated Herbicides 8151	SVOC 8270	Modified Pesticide Screen 8270	Carbamate Herbicides 8321		Total Metals 6010 and 7471	TCLP Pesticides 8081	TCLP Metals 6010 and 7471	pH 9015	Flammability ASTM D4986	
1	PMAK-DUIS-A	X		X								NA	8/4/11	15:50	1																				MUK0049-4
2	PMAK-DUIS-B	X		X								NA	I	15:55	1	X	X	X	X														X	-12	
3	PMAK-DUIS-C	X		X								NA		16:00	1		X	X	X														X	-13	
4	PMAK-DUIS-D	X		X								NA		16:05	2		X	X	X														X	-14	
5	PMAK-DUIS-E	X		X								NA		16:10	2		X	X	X														X	-15	
6	PMAK-DU22-A	X		X								NA		8/5/11	14:00	1		X	X	X	X											X	-16		
7	PMAK-DU17-A	X		X								NA	I	14:20	1																		-17		
8	PMAK-DU17-B	X		X								NA		14:25	1	X	X	X	X													X	-18		
9	PMAK-DU17-C	X		X								NA		14:30	1		X	X	X													X	-19		
10	PMAK-DU17-D	X		X								NA		14:35	2		X	X	X													X	-20		
Released by (print / sign)		Date / time released		Delivery method		Received by (print / sign)		Company / Agency affiliation		Date / time received		Condition noted																							
		/				Glen Simpson Carr		TestAmerica		8/10/11 1220		Bum Wet/Gal-22																							

Comments: Provide data in PDF and MS Excel format.

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LABORATORY USE ONLY

LAB JOB NO. HUH0049

LOCATION _____

CONTAINERS _____

Chain of Custody / Analysis Request Form

Report to: Scott Duzan, scott.duzan@tetratech.com		Project identification	
Company name: Tetra Tech EMI		Job name: Kilauea PMA	
Address: 737 Bishop Street, Suite 3010		Job number: 103S1902014.H003	
City: Honolulu	State: HI	ZIP: 96813	
Phone: 808.441.6645	Fax	Contact email address: scott.duzan@tetratech.com	
Sampler: SD	# samples in shipment	51	

Item no.	Client sample ID	MIS	Matrix									Sampling			Indicate analyses requested													Laboratory ID no.							
			GRAB	Water	Soil	Wastewater	Drinking water	Siludge	Liquid	Solid	Oil	Other	Preservation method	Date	Time	No. of containers	TEQ Dioxins 8290	Total Arsenic 6010	Bioaccessible Arsenic PBET	Mercury 7471	Lead 6010	TPH-DRO and TPH-RRO 8015	Pentachlorophenol 8270	Organochlorine Pesticides 8081	Chloridnated Herbicides 8151	SVOC 8270	Modified Pesticide Screen 8270		Carbamate Herbicides 8321	Total Metals 6010 and 7471	TCLP Pesticides 8081	TCLP Metals 6010 and 7471	pH 9015	Flammability ASTM D4986	
1	PMAK-DU17-E	X		X								8/5/11	14:40	2	X		X	X			X														HUH0049-21
2	PMAK-DU11-A	X		X								8/8/11	10:40	1																				-22	
3	PMAK-DU11-B	X		X									10:45	1	X	X	X	X			X										X			-23	
4	PMAK-DU11-C	X		X									10:50	2		X	X	X			X										X			-24	
5	PMAK-DU11-D	X		X									10:55	2		X	X	X			X										X			-25	
6	PMAK-DU11-E	X		X									11:00	2		X	X	X			X										X			-26	
7	PMAK-DU18-A	X		X									13:15	1																					-27
8	PMAK-DU18-B	X		X									13:20	1	X	X	X	X	X	X	X	X									X				-28
9	PMAK-DU18-C	X		X									13:25	2		X	X	X	X	X	X	X									X				-29
10	PMAK-DU18-D	X		X									13:30	2		X	X	X	X	X	X	X									X				-30

Comments: Provide data in PDF and MS Excel format.

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10/24/2011



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LAB JOB NO. HLH0049

LOCATION _____

CONTAINERS _____

Chain of Custody / Analysis Request Form

Report to: Scott Duzan, scott.duzan@tetratech.com		Project identification		Indicate analyses requested													
Company name: Tetra Tech EMI		Job name: Kilauea PMA															
Address: 737 Bishop Street, Suite 3010		Job number: 103S1902014.H003															
City: Honolulu State: HI ZIP: 96813		Contact email address: scott.duzan@tetratech.com															
Phone: 808.441.6645 Fax _____																	
Sampler: SD # samples in shipment <u>51</u>																	

Item no.	Client sample ID	MIS	GRAB	Matrix								Preservation method	Sampling			No. of containers	TEQ Dioxins 8290	Total Arsenic 6010	Bioaccessible Arsenic PBET	Mercury 7471	Lead 6010	TPH-DRO and TPH-RRO 8015	Pentachlorophenol 8270	Organochlorine Pesticides 8081	Chlorinated Herbicides 8151	SVOC 8270	Modified Pesticide Screen 8270	Carbamate Herbicides 8321	Total Metals 6010 and 7471	TCLP Pesticides 8081	TCLP Metals 6010 and 7471	pH 9015	Flammability ASTM D4986	Laboratory ID no.	
				Water	Soil	Wastewater	Drinking water	Sludge	Liquid	Solid	Oil		Other	Date	Time																				
1	PMAK-DU10-E	X		X								NA	8/8/11	13:35	2	X		X	X	X	X	X											X	HLH0049-31	
2	PMAK-DUG-A-P	X		X								NA		16:25	1	X	X	X	X	X	X	X													-32
3	PMAK-DUG-A-T1	X		X								NA		"	1	X	X	X	X	X	X	X												-33	
4	PMAK-DUG-A-T2	X		X								NA		"	1	X	X	X	X	X	X	X												-34	
5	PMAK-DUG-B-P	X		X								NA		16:30	1	X	X		X	X	X	X												-35	
6	PMAK-DUG-B-T1	X		X								NA		"	1	X	X		X	X	X	X												-36	
7	PMAK-DUG-B-T2	X		X								NA		"	1	X	X		X	X	X	X												-37	
8	PMAK-DUG-C-P	X		X								NA		16:35	1		X		X	X	X	X												-38	
9	PMAK-DUG-C-T1	X		X								NA		"	1		X		X	X	X	X												-39	
10	PMAK-DUG-C-T2	X		X								NA		"	1		X		X	X	X	X												-40	

Released by (print / sign)	Date / time released	Delivery method	Received by (print / sign)	Company / Agency affiliation	Date / time received	Condition noted
	/		<i>Jan Carr</i>	TestAmerica	8/10/11 11:20	Enter Wst/Gel -22
	/		<i>Jan Carr</i>		/	
	/				/	

Comments: Provide data in PDF and MS Excel format.

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LAB JOB NO. HU0049

LOCATION _____

CONTAINERS _____

Chain of Custody / Analysis Request Form

Report to: Scott Duzan, scott.duzan@tetratech.com		Project identification	
Company name: Tetra Tech EMI		Job name: Kilauea PMA	
Address: 737 Bishop Street, Suite 3010		Job number: 103S1902014.H003	
City: Honolulu	State: HI	ZIP: 96813	
Phone: 808.441.6645	Fax	Contact email address: scott.duzan@tetratech.com	
Sampler: SD	# samples in shipment <u>51</u>		

Page 176 of 179

Item no.	Client sample ID	MIS	GRAB	Matrix								Preservation method	Sampling			Indicate analyses requested													Laboratory ID no.								
				Water	Soil	Wastewater	Drinking water	Sludge	Liquid	Solid	Oil		Other	Date	Time	No. of containers	TEQ Dioxins 8290	Total Arsenic 6010	Bioaccessible Arsenic PBET	Mercury 7471	Lead 6010	TPH-DRO and TPH-RRO 8015	Pentachlorophenol 8270	Organochlorine Pesticides 8081	Chlorinated Herbicides 8151	SVOC 8270	Modified Pesticide Screen 8270	Carbamate Herbicides 8321		Total Metals 6010 and 7471	TCLP Pesticides 8081	TCLP Metals 6010 and 7471	pH 9015	Flammability ASTM D4986			
1	PMAK-DU6-D-P	X		X								NA	8/8/11	16:40	1	X		X	X																		HU0049-41
2	PMAK-DU6-D-T1	X		X								NA		"	1	X		X	X																-42		
3	PMAK-DU6-D-T2	X		X							NA	"		1	X		X	X																		-43	
4	PMAK-DU6-E-P	X		X							NA	16:45		1	X		X	X																		-44	
5	PMAK-DU6-E-T1	X		X							NA	"		1	X		X	X																		-45	
6	PMAK-DU6-E-T2	X		X							NA	"		1	X		X	X																		-46	
7	PMAK-DU7-A	X		X							NA	17:30		1	X	X	X	X	X																	-47	
8	PMAK-DU7-B	X		X							NA	17:35		1	X	X	X	X	X																	-48	
9	PMAK-DU7-C	X		X							NA	17:40		2	X	X	X	X	X																	-49	
10	PMAK-DU7-D	X		X							NA	17:45		2	X	X	X	X	X																	-50	

Released by (print / sign)	Date / time released	Delivery method	Received by (print / sign)	Company / Agency affiliation	Date / time received	Condition noted
	/		<i>Frank Simon Carr</i>	TestAmerica	8/10/11 11:22	<i>Pat Wetzel</i> -22
	/				/	
	/				/	

Comments: Provide data in PDF and MS Excel format.

See page 1

Please check one:
 Dispose by lab
 Return to client
 Archive

10/24/2011



LABORATORY USE ONLY

LAB JOB NO. KUH0049

LOCATION _____

CONTAINERS _____

Chain of Custody / Analysis Request Form

Report to: Scott Duzan, scott.duzan@tetratech.com

Company name: Tetra Tech EMI

Address: 737 Bishop Street, Suite 3010

City: Honolulu State: HI ZIP: 96813

Phone: 808.441.6645 Fax _____

Sampler: SD # samples in shipment 51

Project identification

Job name: Kilauea PMA

Job number: 103S1902014.H003

Contact email address: scott.duzan@tetratech.com

Indicate analyses requested

TEQ Dioxins 8290	Total Arsenic 6010	Bioaccessible Arsenic PBET	Mercury 7471	Lead 6010	TPH-DRO and TPH-PRO 8015	Pentachlorophenol 8270	Organochlorine Pesticides 8081	Chlorinated Herbicides 8151	SVOC 8270	Modified Pesticide Screen 8270	Carbamate Herbicides 8321	Total Metals 6010 and 7471	TCLP Pesticides 8081	TCLP Metals 6010 and 7471	pH 9015	Flammability ASTM D4986
------------------	--------------------	----------------------------	--------------	-----------	--------------------------	------------------------	--------------------------------	-----------------------------	-----------	--------------------------------	---------------------------	----------------------------	----------------------	---------------------------	---------	-------------------------

Item no.	Client sample ID	MIS	Matrix								Sampling		No. of containers	Indicate analyses requested																Laboratory ID no.					
			GRAB	Water	Soil	Wastewater	Drinking water	Sludge	Liquid	Solid	Oil	Other		Preservation method	Date	Time	TEQ Dioxins 8290	Total Arsenic 6010	Bioaccessible Arsenic PBET	Mercury 7471	Lead 6010	TPH-DRO and TPH-PRO 8015	Pentachlorophenol 8270	Organochlorine Pesticides 8081	Chlorinated Herbicides 8151	SVOC 8270	Modified Pesticide Screen 8270	Carbamate Herbicides 8321	Total Metals 6010 and 7471		TCLP Pesticides 8081	TCLP Metals 6010 and 7471	pH 9015	Flammability ASTM D4986	
1	PMAK-DU7-E	X	X	X							NA	8/8/11	17:50	2	X	X	X	X																	KUH0049-51
2		X	X	X							NA																								
3		X	X	X							NA																								
4		X	X	X							NA																								
5		X	X	X							NA																								
6		X	X	X							NA																								
7		X	X	X							NA																								
8		X	X	X							NA																								
9		X	X	X							NA																								
10		X	X	X							NA																								

Released by (print / sign)	Date / time released	Delivery method	Received by (print / sign)	Company / Agency affiliation	Date / time received	Condition noted
	/		<i>[Signature]</i>	TestAmerica	8/10/11 1220 Sun Wet Cell	-22
	/				/	
	/				/	

Comments: Provide data in PDF and MS Excel format.

See page 1

Please check one:
 Dispose by lab
 Return to client
 Archive

02/24/2011



Sample Receipt Checklist

Client Name: Tetra Tech Date/ Time Received: 8/10/11 1220

Received By: JL

Matrices: Soil

Carrier: Alpha

Airbill# :

- | | | | |
|---|---|--|---|
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Chain of Custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | <input type="checkbox"/> |
| Chain of Custody Signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of Custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sample containers on ice? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Type: <u>Gel/Water</u> |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Water - VOA Vials have Zero Headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | No VOA vials present: <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Checked: <input checked="" type="checkbox"/> |
| | pH Adjusted? Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | Final pH: _____ |
| Encores / MI-VOC / 5035 Vials Present? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | Location: _____ |
| Sample Filtration Needed? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | Filtered in Field: <input type="checkbox"/> |
| Dry Weight Corrected Results? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | Take Action: <input type="checkbox"/> |
| DODQSM / QAPP Project? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | Type: _____ |

Temperature Blank Present? Yes No Blind
 Sample Container Temperature: -2 °C

Comments/ Sampling Handling Notes:

Samples received frozen. JL 8/10/11

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Honolulu

99-193 Aiea Heights Drive, Suite 121

Aiea, HI 96701

Tel: 808-486-5227

TestAmerica Job ID: HUH0072

Client Project/Site: Kilauea, Kauai PMA

Client Project Description: Kilauea, Kauai PMA

For:

Tetra Tech EM Inc.

737 Bishop Street, Suite 3010

Honolulu, HI 96813

Attn: Scott Duzan



Authorized for release by:

12/30/2011 3:23:20 PM

Marvin D. Heskett III

Laboratory Director

marvin.heskett@testamericainc.com

Designee for

Margie Pascua Thach

Project Manager

margie.pascua@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Qualifiers

GCMS Semivolatiles

Qualifier	Qualifier Description
C9	Calibration verification failed to meet method criteria for this analyte. The reported value should be considered an estimate.
RL1	Reporting limit raised due to sample matrix effects.

GC Semivolatiles

Qualifier	Qualifier Description
M1	The MS and/or MSD were outside the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
MHA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
Q	Associated Analytes did not meet acceptance criteria.
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
Z1	Surrogate recovery was above acceptance limits.

DIOXIN

Qualifier	Qualifier Description
a	Spiked analyte recovery is outside stated control limits.

Metals

Qualifier	Qualifier Description
M1	The MS and/or MSD were outside the acceptance limits due to sample matrix interference. See Blank Spike (LCS).

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Job ID: HUH0072

Laboratory: TestAmerica Honolulu

Narrative

This report has been re-generated in full. An error was made in data entry on the bio accessible data. The results for samples HUH0072-06 & -07 were switched prior to conducting the bio accessible calculation. Corrected results are contained in this report.

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory unless otherwise stated in the report. 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 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

LABORATORY REPORT

At sample receipt, the cooler/sample was -2 degrees 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.

Samples were prepared in accordance with the State of Hawai'i Department of Health Office of Hazard Evaluation and Emergency Response's Technical Guidance Manual for the Implementation of the Hawai'i State Contingency Plan 2009 edition Laboratory Preparation of Multi-Increment Samples.

Additional Analyses:

Analysis added on 09/26/11 and 10/03/11 per Rosiland Selbach on samples:

HUH0072-02 (PMAK-DU21-A)	Bioaccessible arsenic 6010
HUH0072-03 (PMAK-DU23-A)	Bioaccessible arsenic 6010
HUH0072-04 (PMAK-DU24-A-P)	Bioaccessible arsenic 6010
HUH0072-05 (PMAK-DU24-A-T1)	Bioaccessible arsenic 6010
HUH0072-06 (PMAK-DU24-A-T2)	Bioaccessible arsenic 6010
HUH0072-07 (PMAK-DU18-A-P)	Bioaccessible arsenic 6010
HUH0072-08 (PMAK-DU18-A-T1)	Bioaccessible arsenic 6010
HUH0072-09 (PMAK-DU18-A-T2)	Bioaccessible arsenic 6010
HUH0072-11 (PMAK-DU5-B)	Bioaccessible arsenic 6010
HUH0072-12 (PMAK-DU5-C)	Bioaccessible arsenic 6010
HUH0072-13 (PMAK-DU5-D)	Arsenic/Lead 6010, Mercury 7471
HUH0072-16 (PMAK-DU19)	Bioaccessible arsenic 6010
HUH0072-17 (PMAK-DU25-A)	Bioaccessible arsenic 6010

Herbicides by 8151, Triazine Pesticides & Organophosphorus Pesticides by 8270M, Carbamate Herbicides by 8321:

Analysis performed by Anatek Laboratories. Please see data under the Subcontract section of this report.

Dioxins and Furans by 8290:

Case Narrative

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Job ID: HUH0072 (Continued)

Laboratory: TestAmerica Honolulu (Continued)

Analysis performed by TestAmerica West Sacramento.

Metals by 6010/7471:

Analysis performed by TestAmerica Denver. Please see data under the Subcontract section of this report.

TCLP Pesticides by 8081, TCLP Metals by 6010/7470, and Flammability:

Analysis performed by TestAmerica Irvine.

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Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
HUH0072-01	PMAK-DU27	Solid/Soil	08/09/11 13:00	08/11/11 16:00
HUH0072-02	PMAK-DU21-A	Solid/Soil	08/10/11 10:00	08/11/11 16:00
HUH0072-03	PMAK-DU23-A	Solid/Soil	08/10/11 11:45	08/11/11 16:00
HUH0072-04	PMAK-DU24-A-P	Solid/Soil	08/10/11 14:20	08/11/11 16:00
HUH0072-05	PMAK-DU24-A-T1	Solid/Soil	08/10/11 14:25	08/11/11 16:00
HUH0072-06	PMAK-DU24-A-T2	Solid/Soil	08/10/11 14:30	08/11/11 16:00
HUH0072-07	PMAK-DU18-A-P	Solid/Soil	08/10/11 16:10	08/11/11 16:00
HUH0072-08	PMAK-DU18-A-T1	Solid/Soil	08/10/11 16:15	08/11/11 16:00
HUH0072-09	PMAK-DU18-A-T2	Solid/Soil	08/10/11 16:20	08/11/11 16:00
HUH0072-11	PMAK-DU5-B	Solid/Soil	08/10/11 16:25	08/11/11 16:00
HUH0072-12	PMAK-DU5-C	Solid/Soil	08/10/11 16:30	08/11/11 16:00
HUH0072-13	PMAK-DU5-D	Solid/Soil	08/10/11 16:35	08/11/11 16:00
HUH0072-14	PMAK-DU5-E	Solid/Soil	08/10/11 16:40	08/11/11 16:00
HUH0072-15	PMAK-DU26	Solid/Soil	08/10/11 16:45	08/11/11 16:00
HUH0072-16	PMAK-DU19	Solid/Soil	08/11/11 11:00	08/11/11 16:00
HUH0072-17	PMAK-DU25-A	Solid/Soil	08/11/11 13:00	08/11/11 16:00
HUH0072-18	PMAK-Area 1,3,4-WC	Solid/Soil	08/11/11 11:20	08/11/11 16:00
HUH0072-19	PMAK-Area 2-WC	Solid/Soil	08/11/11 11:40	08/11/11 16:00
HUH0072-20	PMAK-Area 5-WC	Solid/Soil	08/11/11 11:55	08/11/11 16:00

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU27

Lab Sample ID: HUH0072-01

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total HxCDD	2000		710	13			pg/g	142.85		8290	Total
1,2,3,4,6,7,8-HpCDD	21000		710	67	0.01	210	pg/g	142.85		8290	Total
Total HpCDD	56000		710	67			pg/g	142.85		8290	Total
OCDD	360000		1400	250	0.0003	110	pg/g	142.85		8290	Total
Total HxCDF	2200		710	10			pg/g	142.85		8290	Total
1,2,3,4,6,7,8-HpCDF	4500		710	19	0.01	45	pg/g	142.85		8290	Total
Total HpCDF	22000		710	20			pg/g	142.85		8290	Total
OCDF	18000		1400	32	0.0003	5.4	pg/g	142.85		8290	Total
Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
DRO	42.8			3.88			mg/kg	1.00		EPA 8015	Total
RRO	161			19.4			mg/kg	1.00		EPA 8015	Total
delta-BHC	0.0170			0.00769			mg/kg	2.00		EPA 8081	Total

Client Sample ID: PMAK-DU21-A

Lab Sample ID: HUH0072-02

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Arsenic Bio-accessible	19.1			1.00			mg/kg	1.00		EPA 6010	Total
Arsenic Total	96.8			4.95			mg/kg	5.00		EPA 6010	Total
Arsenic Bio-accessible percent	19.7			0.200			% by Weight	1.00		SBRC Appendix C	Total

Client Sample ID: PMAK-DU23-A

Lab Sample ID: HUH0072-03

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDD	63		57	1.1	0.1	6.3	pg/g	11.49		8290	Total
Total HxCDD	240		57	1.2			pg/g	11.49		8290	Total
1,2,3,4,6,7,8-HpCDD	2100		57	7.1	0.01	21	pg/g	11.49		8290	Total
Total HpCDD	3400		57	7.1			pg/g	11.49		8290	Total
OCDD	25000		110	23	0.0003	7.5	pg/g	11.49		8290	Total
Total HxCDF	770		57	1.1			pg/g	11.49		8290	Total
1,2,3,4,6,7,8-HpCDF	830		57	4.4	0.01	8.3	pg/g	11.49		8290	Total
1,2,3,4,7,8,9-HpCDF	81		57	5.1	0.01	0.81	pg/g	11.49		8290	Total
Total HpCDF	2900		57	4.7			pg/g	11.49		8290	Total
OCDF	2200		110	4.4	0.0003	0.66	pg/g	11.49		8290	Total
Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Arsenic Total	18.4			4.95			mg/kg	5.00		EPA 6010	Total

Client Sample ID: PMAK-DU24-A-P

Lab Sample ID: HUH0072-04

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total HxCDD	250		240	3.5			pg/g	47.61		8290	Total
Total HxCDD	240		240	3.3			pg/g	47.61		8290	Total
1,2,3,4,6,7,8-HpCDD	4500		240	25	0.01	45	pg/g	47.61		8290	Total
1,2,3,4,6,7,8-HpCDD	4500		240	19	0.01	45	pg/g	47.61		8290	Total
Total HpCDD	7200		240	25			pg/g	47.61		8290	Total
Total HpCDD	7300		240	19			pg/g	47.61		8290	Total
OCDD	90000		480	87	0.0003	27	pg/g	47.61		8290	Total
OCDD	91000		480	83	0.0003	27	pg/g	47.61		8290	Total
Total HxCDF	1400		240	4.7			pg/g	47.61		8290	Total
Total HxCDF	1400		240	3.5			pg/g	47.61		8290	Total
1,2,3,4,6,7,8-HpCDF	1800		240	14	0.01	18	pg/g	47.61		8290	Total
1,2,3,4,6,7,8-HpCDF	1800		240	8.4	0.01	18	pg/g	47.61		8290	Total
Total HpCDF	6200		240	15			pg/g	47.61		8290	Total
Total HpCDF	6100		240	9.0			pg/g	47.61		8290	Total

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU24-A-P (Continued)

Lab Sample ID: HUH0072-04

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
OCDF	5000		480	13	0.0003	1.5	pg/g	47.61		8290	Total
OCDF	5000		480	6.7	0.0003	1.5	pg/g	47.61		8290	Total
Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Arsenic Bio-accessible	16.8			1.00			mg/kg	1.00		EPA 6010	Total
Arsenic Total	242			4.81			mg/kg	5.00		EPA 6010	Total
Arsenic Bio-accessible percent	6.94			0.200			% by Weight	1.00		SBRC Appendix C	Total

Client Sample ID: PMAK-DU24-A-T1

Lab Sample ID: HUH0072-05

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Arsenic Bio-accessible	16.1			1.00			mg/kg	1.00		EPA 6010	Total
Arsenic Total	198			4.81			mg/kg	5.00		EPA 6010	Total
Arsenic Bio-accessible percent	8.14			0.200			% by Weight	1.00		SBRC Appendix C	Total

Client Sample ID: PMAK-DU24-A-T2

Lab Sample ID: HUH0072-06

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,6,7,8-HpCDD	4800		250	31	0.01	48	pg/g	50		8290	Total
Total HpCDD	7800		250	31			pg/g	50		8290	Total
OCDD	98000		500	83	0.0003	29	pg/g	50		8290	Total
Total HxCDF	1400		250	4.2			pg/g	50		8290	Total
1,2,3,4,6,7,8-HpCDF	1900		250	9.3	0.01	19	pg/g	50		8290	Total
Total HpCDF	6500		250	10			pg/g	50		8290	Total
OCDF	5200		500	13	0.0003	1.6	pg/g	50		8290	Total
Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Arsenic Bio-accessible	17.1			1.00			mg/kg	1.00		EPA 6010	Total
Arsenic Total	212			4.90			mg/kg	5.00		EPA 6010	Total
Arsenic Bio-accessible percent	8.07			0.200			% by Weight	1.00		SBRC Appendix C	Total

Client Sample ID: PMAK-DU18-A-P

Lab Sample ID: HUH0072-07

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	33		19	1.0			pg/g	18.86		8290	Total
1,2,3,6,7,8-HxCDD	110		94	1.2	0.1	11	pg/g	18.86		8290	Total
Total HxCDD	650		94	1.2			pg/g	18.86		8290	Total
1,2,3,4,6,7,8-HpCDD	3000		94	14	0.01	30	pg/g	18.86		8290	Total
Total HpCDD	4900		94	14			pg/g	18.86		8290	Total
OCDD	35000		190	32	0.0003	11	pg/g	18.86		8290	Total
Total HxCDF	1100		94	1.9			pg/g	18.86		8290	Total
1,2,3,4,6,7,8-HpCDF	1100		94	4.7	0.01	11	pg/g	18.86		8290	Total
1,2,3,4,7,8,9-HpCDF	97		94	5.4	0.01	0.97	pg/g	18.86		8290	Total
Total HpCDF	3800		94	5.0			pg/g	18.86		8290	Total
OCDF	2900		190	6.2	0.0003	0.87	pg/g	18.86		8290	Total
Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Arsenic Total	32.7			4.85			mg/kg	5.00		EPA 6010	Total
Arsenic Bio-accessible percent	1.94			0.200			% by Weight	1.00		SBRC Appendix C	Total

Client Sample ID: PMAK-DU18-A-T1

Lab Sample ID: HUH0072-08

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	23		20	1.0			pg/g	20		8290	Total
1,2,3,6,7,8-HxCDD	120		100	2.4	0.1	12	pg/g	20		8290	Total
Total HxCDD	680		100	2.5			pg/g	20		8290	Total

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU18-A-T1 (Continued)

Lab Sample ID: HUH0072-08

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,6,7,8-HpCDD	3000		100	21	0.01	30	pg/g	20		8290	Total
Total HpCDD	4900		100	21			pg/g	20		8290	Total
OCDD	35000		200	36	0.0003	11	pg/g	20		8290	Total
Total HxCDF	1100		100	2.7			pg/g	20		8290	Total
1,2,3,4,6,7,8-HpCDF	1100		100	6.1	0.01	11	pg/g	20		8290	Total
Total HpCDF	3700		100	6.5			pg/g	20		8290	Total
OCDF	2900		200	3.9	0.0003	0.87	pg/g	20		8290	Total
Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Arsenic Total	29.1			4.76			mg/kg	5.00		EPA 6010	Total
Arsenic Bio-accessible percent	2.88			0.200			% by Weight	1.00		SBRC Appendix C	Total

Client Sample ID: PMAK-DU18-A-T2

Lab Sample ID: HUH0072-09

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	25		20	1.2			pg/g	19.6		8290	Total
1,2,3,6,7,8-HxCDD	130		98	2.1	0.1	13	pg/g	19.6		8290	Total
Total HxCDD	680		98	2.2			pg/g	19.6		8290	Total
1,2,3,4,6,7,8-HpCDD	4200		98	8.0	0.01	42	pg/g	19.6		8290	Total
Total HpCDD	7000		98	8.0			pg/g	19.6		8290	Total
OCDD	54000		200	37	0.0003	16	pg/g	19.6		8290	Total
Total HxCDF	1500		98	1.7			pg/g	19.6		8290	Total
1,2,3,4,6,7,8-HpCDF	1700		98	6.1	0.01	17	pg/g	19.6		8290	Total
1,2,3,4,7,8,9-HpCDF	150		98	7.1	0.01	1.5	pg/g	19.6		8290	Total
Total HpCDF	6100		98	6.5			pg/g	19.6		8290	Total
OCDF	4500		200	7.1	0.0003	1.4	pg/g	19.6		8290	Total
Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Arsenic Total	29.7			4.95			mg/kg	5.00		EPA 6010	Total
Arsenic Bio-accessible percent	2.04			0.200			% by Weight	1.00		SBRC Appendix C	Total

Client Sample ID: PMAK-DU5-B

Lab Sample ID: HUH0072-11

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total HxCDD	84		83	1.7			pg/g	16.66		8290	Total
1,2,3,4,6,7,8-HpCDD	1800		83	11	0.01	18	pg/g	16.66		8290	Total
Total HpCDD	3200		83	11			pg/g	16.66		8290	Total
OCDD	27000		170	16	0.0003	8.1	pg/g	16.66		8290	Total
Total HxCDF	680		83	1.6			pg/g	16.66		8290	Total
1,2,3,4,6,7,8-HpCDF	660		83	4.3	0.01	6.6	pg/g	16.66		8290	Total
Total HpCDF	2700		83	4.7			pg/g	16.66		8290	Total
OCDF	2300		170	3.8	0.0003	0.69	pg/g	16.66		8290	Total
Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Arsenic Total	9.38			4.90			mg/kg	5.00		EPA 6010	Total

Client Sample ID: PMAK-DU5-C

Lab Sample ID: HUH0072-12

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Pentachlorophenol	0.362			0.326			mg/kg	1.00		EPA 8270	Total
Arsenic Bio-accessible	61.6			1.00			mg/kg	1.00		EPA 6010	Total
Arsenic Total	452			4.90			mg/kg	5.00		EPA 6010	Total
Arsenic Bio-accessible percent	13.6			0.200			% by Weight	1.00		SBRC Appendix C	Total

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU5-D

Lab Sample ID: HUH0072-13

No Detections

Client Sample ID: PMAK-DU5-E

Lab Sample ID: HUH0072-14

No Detections

Client Sample ID: PMAK-DU26

Lab Sample ID: HUH0072-15

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total HxCDD	160		60	1.2			pg/g	12.04		8290	Total
1,2,3,4,6,7,8-HpCDD	1400		60	2.4	0.01	14	pg/g	12.04		8290	Total
Total HpCDD	3000		60	2.4			pg/g	12.04		8290	Total
OCDD	21000		120	25	0.0003	6.3	pg/g	12.04		8290	Total
Total HxCDF	260		60	0.93			pg/g	12.04		8290	Total
1,2,3,4,6,7,8-HpCDF	370		60	3.5	0.01	3.7	pg/g	12.04		8290	Total
Total HpCDF	1400		60	3.8			pg/g	12.04		8290	Total
OCDF	1100		120	3.9	0.0003	0.33	pg/g	12.04		8290	Total
Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Benzo (a) anthracene	0.317			0.314			mg/kg	1.00		EPA 8270	Total
Benzo (a) pyrene	0.344			0.314			mg/kg	1.00		EPA 8270	Total
Benzo (b) fluoranthene	0.405			0.314			mg/kg	1.00		EPA 8270	Total
Chrysene	0.357			0.314			mg/kg	1.00		EPA 8270	Total
Fluoranthene	0.340			0.314			mg/kg	1.00		EPA 8270	Total
Pyrene	0.442			0.314			mg/kg	1.00		EPA 8270	Total
DRO	42.7			3.91			mg/kg	1.00		EPA 8015	Total
RRO	243			19.5			mg/kg	1.00		EPA 8015	Total

Client Sample ID: PMAK-DU19

Lab Sample ID: HUH0072-16

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	11		4.7	0.23			pg/g	4.67		8290	Total
1,2,3,6,7,8-HxCDD	26		23	0.50	0.1	2.6	pg/g	4.67		8290	Total
Total HxCDD	160		23	0.52			pg/g	4.67		8290	Total
1,2,3,4,6,7,8-HpCDD	680		23	3.9	0.01	6.8	pg/g	4.67		8290	Total
Total HpCDD	1100		23	3.9			pg/g	4.67		8290	Total
OCDD	7300		47	8.9	0.0003	2.2	pg/g	4.67		8290	Total
Total HxCDF	270		23	0.49			pg/g	4.67		8290	Total
1,2,3,4,6,7,8-HpCDF	290		23	1.7	0.01	2.9	pg/g	4.67		8290	Total
Total HpCDF	990		23	1.8			pg/g	4.67		8290	Total
OCDF	750		47	1.2	0.0003	0.23	pg/g	4.67		8290	Total
Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Arsenic Total	16.1			5.00			mg/kg	5.00		EPA 6010	Total

Client Sample ID: PMAK-DU25-A

Lab Sample ID: HUH0072-17

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total HxCDD	110		81	1.4			pg/g	16.12		8290	Total
1,2,3,4,6,7,8-HpCDD	2000		81	17	0.01	20	pg/g	16.12		8290	Total
Total HpCDD	3200		81	17			pg/g	16.12		8290	Total
OCDD	29000		160	32	0.0003	8.7	pg/g	16.12		8290	Total
Total HxCDF	620		81	1.2			pg/g	16.12		8290	Total
1,2,3,4,6,7,8-HpCDF	900		81	5.1	0.01	9.0	pg/g	16.12		8290	Total
Total HpCDF	2800		81	5.5			pg/g	16.12		8290	Total
OCDF	3000		160	3.0	0.0003	0.90	pg/g	16.12		8290	Total

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU25-A (Continued)

Lab Sample ID: HUH0072-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic Total	10.2		4.95		mg/kg	5.00		EPA 6010	Total

Client Sample ID: PMAK-Area 1,3,4-WC

Lab Sample ID: HUH0072-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.68		0.20		mg/l	1.0		EPA 6010B	TCLP
pH	7.14		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-Area 2-WC

Lab Sample ID: HUH0072-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.22		0.20		mg/l	1.0		EPA 6010B	TCLP
Barium	0.80		0.20		mg/l	1.0		EPA 6010B	TCLP
pH	7.47		1.00		pH Units	1.00		EPA 9045	Total

Client Sample ID: PMAK-Area 5-WC

Lab Sample ID: HUH0072-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.80		0.20		mg/l	1.0		EPA 6010B	TCLP
pH	7.40		1.00		pH Units	1.00		EPA 9045	Total

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU27

Lab Sample ID: HUH0072-01

Date Collected: 08/09/11 13:00

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
1,2,4-Trichlorobenzene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
1,2-Dichlorobenzene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
1,3-Dichlorobenzene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
1,4-Dichlorobenzene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
1-Chloronaphthalene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
1-Methylnaphthalene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
1-Naphthylamine	ND	C9	0.647		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
2,3,4,6-Tetrachlorophenol	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
2,4,5-Trichlorophenol	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
2,4,6-Trichlorophenol	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
2,4-Dichlorophenol	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
2,4-Dimethylphenol	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
2,4-Dinitrophenol	ND	C9	1.67		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
2,4-Dinitrotoluene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
2,6-Dichlorophenol	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
2,6-Dinitrotoluene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
2-Chloronaphthalene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
2-Chlorophenol	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
2-Methylnaphthalene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
2-Methylphenol (o-Cresol)	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
2-Naphthylamine	ND		0.647		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
2-Nitroaniline	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
2-Nitrophenol	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
2-Picoline	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
3,3'-Dichlorobenzidine	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
3,4-Methylphenol (m,p-Cresol)	ND	C9	0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
3-Methylcholanthrene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
3-Nitroaniline	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
4,6-Dinitro-2-methylphenol	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
4-Aminobiphenyl	ND		0.647		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
4-Bromophenyl phenyl ether	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
4-Chloro-3-methylphenol	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
4-Chloroaniline	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
4-Chlorophenyl phenyl ether	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
4-Nitroaniline	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
4-Nitrophenol	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
7,12-Dimethylbenz (a) anthracene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Acenaphthene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Acenaphthylene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Acetophenone	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Aniline	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Anthracene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Azobenzene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Benzidine	ND		1.67		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Benzo (a) anthracene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Benzo (a) pyrene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Benzo (b) fluoranthene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Benzo (g,h,i) perylene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Benzo (k) fluoranthene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU27

Lab Sample ID: HUH0072-01

Date Collected: 08/09/11 13:00

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzoic acid	ND	C9	0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Benzyl alcohol	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Bis(2-chloroethoxy)methane	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Bis(2-chloroethyl)ether	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Bis(2-chloroisopropyl) ether	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Bis(2-ethylhexyl)phthalate	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Butyl benzyl phthalate	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Chrysene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Dibenz (a,j) acridine	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Dibenzo (a,h) anthracene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Dibenzofuran	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Diethyl phthalate	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Dimethyl phthalate	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Dimethylaminoazobenzene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Di-n-butyl phthalate	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Di-n-octyl phthalate	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Ethyl Methanesulfonate	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Fluoranthene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Fluorene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Hexachlorobenzene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Hexachlorobutadiene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Hexachlorocyclopentadiene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Hexachloroethane	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Indeno (1,2,3-cd) pyrene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Isophorone	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Methyl Methanesulfonate	ND	C9	0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Naphthalene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Nitrobenzene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
N-Nitrosodimethylamine	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
N-Nitrosodi-n-butylamine	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
N-Nitrosodi-n-propylamine	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
N-Nitrosodiphenylamine	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
N-Nitrosopiperidine	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Pentachloronitrobenzene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Pentachlorophenol	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Phenacetin	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Phenanthrene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Phenol	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Pronamide	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Pyrene	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Pyridine	ND		0.324		mg/kg		08/18/11 11:17	09/13/11 15:42	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	66		40 - 120				08/18/11 11:17	09/13/11 15:42	1.00
2-Fluorobiphenyl	71		45 - 120				08/18/11 11:17	09/13/11 15:42	1.00
2-Fluorophenol	60		30 - 120				08/18/11 11:17	09/13/11 15:42	1.00
Nitrobenzene-d5	72		35 - 120				08/18/11 11:17	09/13/11 15:42	1.00
Phenol-d6	69		40 - 120				08/18/11 11:17	09/13/11 15:42	1.00
Terphenyl-d14	78		40 - 130				08/18/11 11:17	09/13/11 15:42	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU27

Lab Sample ID: HUH0072-01

Date Collected: 08/09/11 13:00

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	42.8		3.88		mg/kg		08/23/11 08:53	08/23/11 19:44	1.00
RRO	161		19.4		mg/kg		08/23/11 08:53	08/23/11 19:44	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	79		40 - 120				08/23/11 08:53	08/23/11 19:44	1.00

Method: EPA 8081 - Organochlorine Pesticides by EPA Method 8081

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.00769		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
4,4'-DDE	ND		0.00769		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
4,4'-DDT	ND		0.00769		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
Aldrin	ND		0.00769		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
alpha-BHC	ND		0.00769		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
beta-BHC	ND		0.00769		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
Chlordane	ND		0.0635		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
delta-BHC	0.0170		0.00769		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
Dieldrin	ND		0.00769		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
Endosulfan I	ND		0.00769		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
Endosulfan II	ND		0.00769		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
Endosulfan sulfate	ND		0.00769		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
Endrin	ND		0.00769		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
Endrin aldehyde	ND		0.00769		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
Endrin ketone	ND		0.00769		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
gamma-BHC (Lindane)	ND		0.00769		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
Heptachlor	ND		0.00769		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
Heptachlor epoxide	ND		0.00769		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
Methoxychlor	ND		0.0385		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
Toxaphene	ND		0.0962		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
alpha-Chlordane	ND		0.00769		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
gamma-Chlordane	ND		0.00769		mg/kg		08/19/11 12:33	08/30/11 17:37	2.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Decachlorobiphenyl</i>	60		45 - 120				08/19/11 12:33	08/30/11 17:37	2.00
<i>Tetrachloro-meta-xylene</i>	84		50 - 120				08/19/11 12:33	08/30/11 17:37	2.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		140	6.5	1		pg/g		09/08/11 17:00	09/17/11 11:25	142.85
Total TCDD	ND		140	6.5			pg/g		09/08/11 17:00	09/17/11 11:25	142.85
1,2,3,7,8-PeCDD	ND		710	9.4	1		pg/g		09/08/11 17:00	09/17/11 11:25	142.85
Total PeCDD	ND		710	9.4			pg/g		09/08/11 17:00	09/17/11 11:25	142.85
1,2,3,4,7,8-HxCDD	ND		710	14	0.1		pg/g		09/08/11 17:00	09/17/11 11:25	142.85
1,2,3,6,7,8-HxCDD	ND		710	12	0.1		pg/g		09/08/11 17:00	09/17/11 11:25	142.85
1,2,3,7,8,9-HxCDD	ND		710	12	0.1		pg/g		09/08/11 17:00	09/17/11 11:25	142.85
Total HxCDD	2000		710	13			pg/g		09/08/11 17:00	09/17/11 11:25	142.85
1,2,3,4,6,7,8-HpCDD	21000		710	67	0.01	210	pg/g		09/08/11 17:00	09/17/11 11:25	142.85
Total HpCDD	56000		710	67			pg/g		09/08/11 17:00	09/17/11 11:25	142.85
OCDD	360000		1400	250	0.0003	110	pg/g		09/08/11 17:00	09/17/11 11:25	142.85
2,3,7,8-TCDF	ND		140	6.5	0.1		pg/g		09/08/11 17:00	09/17/11 11:25	142.85
Total TCDF	ND		140	6.5			pg/g		09/08/11 17:00	09/17/11 11:25	142.85
1,2,3,7,8-PeCDF	ND		710	9.1	0.03		pg/g		09/08/11 17:00	09/17/11 11:25	142.85

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU27

Lab Sample ID: HUH0072-01

Date Collected: 08/09/11 13:00

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,7,8-PeCDF	ND		710	10	0.3		pg/g		09/08/11 17:00	09/17/11 11:25	142.85
Total PeCDF	ND		710	9.5			pg/g		09/08/11 17:00	09/17/11 11:25	142.85
1,2,3,4,7,8-HxCDF	ND		710	10	0.1		pg/g		09/08/11 17:00	09/17/11 11:25	142.85
1,2,3,6,7,8-HxCDF	ND		710	9.5	0.1		pg/g		09/08/11 17:00	09/17/11 11:25	142.85
2,3,4,6,7,8-HxCDF	ND		710	10	0.1		pg/g		09/08/11 17:00	09/17/11 11:25	142.85
1,2,3,7,8,9-HxCDF	ND		710	11	0.1		pg/g		09/08/11 17:00	09/17/11 11:25	142.85
Total HxCDF	2200		710	10			pg/g		09/08/11 17:00	09/17/11 11:25	142.85
1,2,3,4,6,7,8-HpCDF	4500		710	19	0.01	45	pg/g		09/08/11 17:00	09/17/11 11:25	142.85
1,2,3,4,7,8,9-HpCDF	ND		710	22	0.01		pg/g		09/08/11 17:00	09/17/11 11:25	142.85
Total HpCDF	22000		710	20			pg/g		09/08/11 17:00	09/17/11 11:25	142.85
OCDF	18000		1400	32	0.0003	5.4	pg/g		09/08/11 17:00	09/17/11 11:25	142.85
Total TEQ (WHO 2005)						370					

Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	94		40 - 135	09/08/11 17:00	09/17/11 11:25	142.85
13C-1,2,3,7,8-PeCDD	99		40 - 135	09/08/11 17:00	09/17/11 11:25	142.85
13C-1,2,3,6,7,8-HxCDD	88		40 - 135	09/08/11 17:00	09/17/11 11:25	142.85
13C-1,2,3,4,6,7,8-HpCDD	98		40 - 135	09/08/11 17:00	09/17/11 11:25	142.85
13C-OCDD	102		40 - 135	09/08/11 17:00	09/17/11 11:25	142.85
13C-2,3,7,8-TCDF	95		40 - 135	09/08/11 17:00	09/17/11 11:25	142.85
13C-1,2,3,7,8-PeCDF	95		40 - 135	09/08/11 17:00	09/17/11 11:25	142.85
13C-1,2,3,4,7,8-HxCDF	86		40 - 135	09/08/11 17:00	09/17/11 11:25	142.85
13C-1,2,3,4,6,7,8-HpCDF	95		40 - 135	09/08/11 17:00	09/17/11 11:25	142.85

Client Sample ID: PMAK-DU21-A

Lab Sample ID: HUH0072-02

Date Collected: 08/10/11 10:00

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.324		mg/kg		08/24/11 10:07	09/07/11 14:01	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	97		40 - 120				08/24/11 10:07	09/07/11 14:01	1.00

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	19.1		1.00		mg/kg		10/05/11 08:48	10/19/11 15:51	1.00
Arsenic Total	96.8		4.95		mg/kg		10/05/11 11:00	10/10/11 10:49	5.00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	19.7		0.200		% by Weight		10/05/11 08:48	10/19/11 15:51	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU23-A

Lab Sample ID: HUH0072-03

Date Collected: 08/10/11 11:45

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.329		mg/kg		08/24/11 10:07	09/07/11 14:39	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	97		40 - 120				08/24/11 10:07	09/07/11 14:39	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		11	0.60	1		pg/g		09/08/11 17:00	09/17/11 12:09	11.49
Total TCDD	ND		11	0.60			pg/g		09/08/11 17:00	09/17/11 12:09	11.49
1,2,3,7,8-PeCDD	ND		57	1.1	1		pg/g		09/08/11 17:00	09/17/11 12:09	11.49
Total PeCDD	ND		57	1.1			pg/g		09/08/11 17:00	09/17/11 12:09	11.49
1,2,3,4,7,8-HxCDD	ND		57	1.3	0.1		pg/g		09/08/11 17:00	09/17/11 12:09	11.49
1,2,3,6,7,8-HxCDD	63		57	1.1	0.1	6.3	pg/g		09/08/11 17:00	09/17/11 12:09	11.49
1,2,3,7,8,9-HxCDD	ND		57	1.1	0.1		pg/g		09/08/11 17:00	09/17/11 12:09	11.49
Total HxCDD	240		57	1.2			pg/g		09/08/11 17:00	09/17/11 12:09	11.49
1,2,3,4,6,7,8-HpCDD	2100		57	7.1	0.01	21	pg/g		09/08/11 17:00	09/17/11 12:09	11.49
Total HpCDD	3400		57	7.1			pg/g		09/08/11 17:00	09/17/11 12:09	11.49
OCDD	25000		110	23	0.0003	7.5	pg/g		09/08/11 17:00	09/17/11 12:09	11.49
2,3,7,8-TCDF	ND		11	0.58	0.1		pg/g		09/08/11 17:00	09/17/11 12:09	11.49
Total TCDF	ND		11	0.58			pg/g		09/08/11 17:00	09/17/11 12:09	11.49
1,2,3,7,8-PeCDF	ND		57	0.98	0.03		pg/g		09/08/11 17:00	09/17/11 12:09	11.49
2,3,4,7,8-PeCDF	ND		57	1.1	0.3		pg/g		09/08/11 17:00	09/17/11 12:09	11.49
Total PeCDF	ND		57	1.0			pg/g		09/08/11 17:00	09/17/11 12:09	11.49
1,2,3,4,7,8-HxCDF	ND		57	1.1	0.1		pg/g		09/08/11 17:00	09/17/11 12:09	11.49
1,2,3,6,7,8-HxCDF	ND		57	1.0	0.1		pg/g		09/08/11 17:00	09/17/11 12:09	11.49
2,3,4,6,7,8-HxCDF	ND		57	1.1	0.1		pg/g		09/08/11 17:00	09/17/11 12:09	11.49
1,2,3,7,8,9-HxCDF	ND		57	1.2	0.1		pg/g		09/08/11 17:00	09/17/11 12:09	11.49
Total HxCDF	770		57	1.1			pg/g		09/08/11 17:00	09/17/11 12:09	11.49
1,2,3,4,6,7,8-HpCDF	830		57	4.4	0.01	8.3	pg/g		09/08/11 17:00	09/17/11 12:09	11.49
1,2,3,4,7,8,9-HpCDF	81		57	5.1	0.01	0.81	pg/g		09/08/11 17:00	09/17/11 12:09	11.49
Total HpCDF	2900		57	4.7			pg/g		09/08/11 17:00	09/17/11 12:09	11.49
OCDF	2200		110	4.4	0.0003	0.66	pg/g		09/08/11 17:00	09/17/11 12:09	11.49
Total TEQ (WHO 2005)						45					

Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	92		40 - 135	09/08/11 17:00	09/17/11 12:09	11.49
13C-1,2,3,7,8-PeCDD	89		40 - 135	09/08/11 17:00	09/17/11 12:09	11.49
13C-1,2,3,6,7,8-HxCDD	96		40 - 135	09/08/11 17:00	09/17/11 12:09	11.49
13C-1,2,3,4,6,7,8-HpCDD	100		40 - 135	09/08/11 17:00	09/17/11 12:09	11.49
13C-OCDD	107		40 - 135	09/08/11 17:00	09/17/11 12:09	11.49
13C-2,3,7,8-TCDF	86		40 - 135	09/08/11 17:00	09/17/11 12:09	11.49
13C-1,2,3,7,8-PeCDF	87		40 - 135	09/08/11 17:00	09/17/11 12:09	11.49
13C-1,2,3,4,7,8-HxCDF	84		40 - 135	09/08/11 17:00	09/17/11 12:09	11.49
13C-1,2,3,4,6,7,8-HpCDF	89		40 - 135	09/08/11 17:00	09/17/11 12:09	11.49

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	ND		1.00		mg/kg		10/05/11 08:48	10/19/11 15:51	1.00
Arsenic Total	18.4		4.95		mg/kg		10/05/11 11:00	10/11/11 10:12	5.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU23-A

Date Collected: 08/10/11 11:45

Date Received: 08/11/11 16:00

Lab Sample ID: HUH0072-03

Matrix: Solid/Soil

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	ND		0.200		% by Weight		10/05/11 08:48	10/19/11 15:51	1.00

Client Sample ID: PMAK-DU24-A-P

Date Collected: 08/10/11 14:20

Date Received: 08/11/11 16:00

Lab Sample ID: HUH0072-04

Matrix: Solid/Soil

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.317		mg/kg		08/24/11 10:07	09/07/11 15:18	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	96		40 - 120	08/24/11 10:07	09/07/11 15:18	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		48	2.5	1		pg/g		09/08/11 17:00	09/17/11 12:54	47.61
2,3,7,8-TCDD	ND		48	2.1	1		pg/g		09/08/11 17:00	09/17/11 13:38	47.61
Total TCDD	ND		48	2.5			pg/g		09/08/11 17:00	09/17/11 12:54	47.61
Total TCDD	ND		48	2.1			pg/g		09/08/11 17:00	09/17/11 13:38	47.61
1,2,3,7,8-PeCDD	ND		240	2.7	1		pg/g		09/08/11 17:00	09/17/11 12:54	47.61
1,2,3,7,8-PeCDD	ND		240	3.8	1		pg/g		09/08/11 17:00	09/17/11 13:38	47.61
Total PeCDD	ND		240	2.7			pg/g		09/08/11 17:00	09/17/11 12:54	47.61
Total PeCDD	ND		240	3.8			pg/g		09/08/11 17:00	09/17/11 13:38	47.61
1,2,3,4,7,8-HxCDD	ND		240	3.8	0.1		pg/g		09/08/11 17:00	09/17/11 12:54	47.61
1,2,3,4,7,8-HxCDD	ND		240	3.7	0.1		pg/g		09/08/11 17:00	09/17/11 13:38	47.61
1,2,3,6,7,8-HxCDD	ND		240	3.3	0.1		pg/g		09/08/11 17:00	09/17/11 12:54	47.61
1,2,3,6,7,8-HxCDD	ND		240	3.2	0.1		pg/g		09/08/11 17:00	09/17/11 13:38	47.61
1,2,3,7,8,9-HxCDD	ND		240	3.3	0.1		pg/g		09/08/11 17:00	09/17/11 12:54	47.61
1,2,3,7,8,9-HxCDD	ND		240	3.2	0.1		pg/g		09/08/11 17:00	09/17/11 13:38	47.61
Total HxCDD	250		240	3.5			pg/g		09/08/11 17:00	09/17/11 12:54	47.61
Total HxCDD	240		240	3.3			pg/g		09/08/11 17:00	09/17/11 13:38	47.61
1,2,3,4,6,7,8-HpCDD	4500		240	25	0.01	45	pg/g		09/08/11 17:00	09/17/11 12:54	47.61
1,2,3,4,6,7,8-HpCDD	4500		240	19	0.01	45	pg/g		09/08/11 17:00	09/17/11 13:38	47.61
Total HpCDD	7200		240	25			pg/g		09/08/11 17:00	09/17/11 12:54	47.61
Total HpCDD	7300		240	19			pg/g		09/08/11 17:00	09/17/11 13:38	47.61
OCDD	90000		480	87	0.0003	27	pg/g		09/08/11 17:00	09/17/11 12:54	47.61
OCDD	91000		480	83	0.0003	27	pg/g		09/08/11 17:00	09/17/11 13:38	47.61
2,3,7,8-TCDF	ND		48	2.5	0.1		pg/g		09/08/11 17:00	09/17/11 12:54	47.61
2,3,7,8-TCDF	ND		48	2.3	0.1		pg/g		09/08/11 17:00	09/17/11 13:38	47.61
Total TCDF	ND		48	2.5			pg/g		09/08/11 17:00	09/17/11 12:54	47.61
Total TCDF	ND		48	2.3			pg/g		09/08/11 17:00	09/17/11 13:38	47.61
1,2,3,7,8-PeCDF	ND		240	3.3	0.03		pg/g		09/08/11 17:00	09/17/11 12:54	47.61
1,2,3,7,8-PeCDF	ND		240	3.7	0.03		pg/g		09/08/11 17:00	09/17/11 13:38	47.61
2,3,4,7,8-PeCDF	ND		240	3.6	0.3		pg/g		09/08/11 17:00	09/17/11 12:54	47.61
2,3,4,7,8-PeCDF	ND		240	4.1	0.3		pg/g		09/08/11 17:00	09/17/11 13:38	47.61
Total PeCDF	ND		240	3.4			pg/g		09/08/11 17:00	09/17/11 12:54	47.61
Total PeCDF	ND		240	3.9			pg/g		09/08/11 17:00	09/17/11 13:38	47.61
1,2,3,4,7,8-HxCDF	ND		240	4.7	0.1		pg/g		09/08/11 17:00	09/17/11 12:54	47.61
1,2,3,4,7,8-HxCDF	ND		240	3.5	0.1		pg/g		09/08/11 17:00	09/17/11 13:38	47.61

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU24-A-P

Lab Sample ID: HUH0072-04

Date Collected: 08/10/11 14:20

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,6,7,8-HxCDF	ND		240	4.3	0.1		pg/g		09/08/11 17:00	09/17/11 12:54	47.61
1,2,3,6,7,8-HxCDF	ND		240	3.2	0.1		pg/g		09/08/11 17:00	09/17/11 13:38	47.61
2,3,4,6,7,8-HxCDF	ND		240	4.6	0.1		pg/g		09/08/11 17:00	09/17/11 12:54	47.61
2,3,4,6,7,8-HxCDF	ND		240	3.4	0.1		pg/g		09/08/11 17:00	09/17/11 13:38	47.61
1,2,3,7,8,9-HxCDF	ND		240	5.2	0.1		pg/g		09/08/11 17:00	09/17/11 12:54	47.61
1,2,3,7,8,9-HxCDF	ND		240	3.9	0.1		pg/g		09/08/11 17:00	09/17/11 13:38	47.61
Total HxCDF	1400		240	4.7			pg/g		09/08/11 17:00	09/17/11 12:54	47.61
Total HxCDF	1400		240	3.5			pg/g		09/08/11 17:00	09/17/11 13:38	47.61
1,2,3,4,6,7,8-HpCDF	1800		240	14	0.01	18	pg/g		09/08/11 17:00	09/17/11 12:54	47.61
1,2,3,4,6,7,8-HpCDF	1800		240	8.4	0.01	18	pg/g		09/08/11 17:00	09/17/11 13:38	47.61
1,2,3,4,7,8,9-HpCDF	ND		240	16	0.01		pg/g		09/08/11 17:00	09/17/11 12:54	47.61
1,2,3,4,7,8,9-HpCDF	ND		240	9.7	0.01		pg/g		09/08/11 17:00	09/17/11 13:38	47.61
Total HpCDF	6200		240	15			pg/g		09/08/11 17:00	09/17/11 12:54	47.61
Total HpCDF	6100		240	9.0			pg/g		09/08/11 17:00	09/17/11 13:38	47.61
OCDF	5000		480	13	0.0003	1.5	pg/g		09/08/11 17:00	09/17/11 12:54	47.61
OCDF	5000		480	6.7	0.0003	1.5	pg/g		09/08/11 17:00	09/17/11 13:38	47.61
Total TEQ (WHO 2005)						180					

Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	96		40 - 135	09/08/11 17:00	09/17/11 12:54	47.61
13C-2,3,7,8-TCDD	93		40 - 135	09/08/11 17:00	09/17/11 13:38	47.61
13C-1,2,3,7,8-PeCDD	100		40 - 135	09/08/11 17:00	09/17/11 12:54	47.61
13C-1,2,3,7,8-PeCDD	97		40 - 135	09/08/11 17:00	09/17/11 13:38	47.61
13C-1,2,3,6,7,8-HxCDD	86		40 - 135	09/08/11 17:00	09/17/11 12:54	47.61
13C-1,2,3,6,7,8-HxCDD	90		40 - 135	09/08/11 17:00	09/17/11 13:38	47.61
13C-1,2,3,4,6,7,8-HpCDD	105		40 - 135	09/08/11 17:00	09/17/11 12:54	47.61
13C-1,2,3,4,6,7,8-HpCDD	102		40 - 135	09/08/11 17:00	09/17/11 13:38	47.61
13C-OCDD	115		40 - 135	09/08/11 17:00	09/17/11 12:54	47.61
13C-OCDD	115		40 - 135	09/08/11 17:00	09/17/11 13:38	47.61
13C-2,3,7,8-TCDF	97		40 - 135	09/08/11 17:00	09/17/11 12:54	47.61
13C-2,3,7,8-TCDF	94		40 - 135	09/08/11 17:00	09/17/11 13:38	47.61
13C-1,2,3,7,8-PeCDF	96		40 - 135	09/08/11 17:00	09/17/11 12:54	47.61
13C-1,2,3,7,8-PeCDF	94		40 - 135	09/08/11 17:00	09/17/11 13:38	47.61
13C-1,2,3,4,7,8-HxCDF	83		40 - 135	09/08/11 17:00	09/17/11 12:54	47.61
13C-1,2,3,4,7,8-HxCDF	89		40 - 135	09/08/11 17:00	09/17/11 13:38	47.61
13C-1,2,3,4,6,7,8-HpCDF	95		40 - 135	09/08/11 17:00	09/17/11 12:54	47.61
13C-1,2,3,4,6,7,8-HpCDF	95		40 - 135	09/08/11 17:00	09/17/11 13:38	47.61

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	16.8		1.00		mg/kg		10/05/11 08:48	10/19/11 15:51	1.00
Arsenic Total	242		4.81		mg/kg		10/05/11 11:00	10/11/11 10:17	5.00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	6.94		0.200		% by Weight		10/05/11 08:48	10/19/11 15:51	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU24-A-T1

Lab Sample ID: HUH0072-05

Date Collected: 08/10/11 14:25

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.317		mg/kg		08/24/11 10:07	09/07/11 15:56	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	100		40 - 120				08/24/11 10:07	09/07/11 15:56	1.00

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	16.1		1.00		mg/kg		10/05/11 08:48	10/19/11 15:51	1.00
Arsenic Total	198		4.81		mg/kg		10/05/11 11:00	10/11/11 10:22	5.00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	8.14		0.200		% by Weight		10/05/11 08:48	10/19/11 15:51	1.00

Client Sample ID: PMAK-DU24-A-T2

Lab Sample ID: HUH0072-06

Date Collected: 08/10/11 14:30

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.319		mg/kg		08/24/11 10:07	09/07/11 16:35	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	99		40 - 120				08/24/11 10:07	09/07/11 16:35	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		50	2.9	1		pg/g		09/08/11 17:00	09/17/11 14:23	50
Total TCDD	ND		50	2.9			pg/g		09/08/11 17:00	09/17/11 14:23	50
1,2,3,7,8-PeCDD	ND		250	2.7	1		pg/g		09/08/11 17:00	09/17/11 14:23	50
Total PeCDD	ND		250	2.7			pg/g		09/08/11 17:00	09/17/11 14:23	50
1,2,3,4,7,8-HxCDD	ND		250	4.5	0.1		pg/g		09/08/11 17:00	09/17/11 14:23	50
1,2,3,6,7,8-HxCDD	ND		250	3.8	0.1		pg/g		09/08/11 17:00	09/17/11 14:23	50
1,2,3,7,8,9-HxCDD	ND		250	3.8	0.1		pg/g		09/08/11 17:00	09/17/11 14:23	50
Total HxCDD	ND		250	4.0			pg/g		09/08/11 17:00	09/17/11 14:23	50
1,2,3,4,6,7,8-HpCDD	4800		250	31	0.01	48	pg/g		09/08/11 17:00	09/17/11 14:23	50
Total HpCDD	7800		250	31			pg/g		09/08/11 17:00	09/17/11 14:23	50
OCDD	98000		500	83	0.0003	29	pg/g		09/08/11 17:00	09/17/11 14:23	50
2,3,7,8-TCDF	ND		50	2.9	0.1		pg/g		09/08/11 17:00	09/17/11 14:23	50
Total TCDF	ND		50	2.9			pg/g		09/08/11 17:00	09/17/11 14:23	50
1,2,3,7,8-PeCDF	ND		250	3.1	0.03		pg/g		09/08/11 17:00	09/17/11 14:23	50
2,3,4,7,8-PeCDF	ND		250	3.4	0.3		pg/g		09/08/11 17:00	09/17/11 14:23	50
Total PeCDF	ND		250	3.2			pg/g		09/08/11 17:00	09/17/11 14:23	50
1,2,3,4,7,8-HxCDF	ND		250	4.2	0.1		pg/g		09/08/11 17:00	09/17/11 14:23	50
1,2,3,6,7,8-HxCDF	ND		250	3.8	0.1		pg/g		09/08/11 17:00	09/17/11 14:23	50
2,3,4,6,7,8-HxCDF	ND		250	4.1	0.1		pg/g		09/08/11 17:00	09/17/11 14:23	50
1,2,3,7,8,9-HxCDF	ND		250	4.7	0.1		pg/g		09/08/11 17:00	09/17/11 14:23	50
Total HxCDF	1400		250	4.2			pg/g		09/08/11 17:00	09/17/11 14:23	50
1,2,3,4,6,7,8-HpCDF	1900		250	9.3	0.01	19	pg/g		09/08/11 17:00	09/17/11 14:23	50
1,2,3,4,7,8,9-HpCDF	ND		250	11	0.01		pg/g		09/08/11 17:00	09/17/11 14:23	50

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU24-A-T2

Lab Sample ID: HUH0072-06

Date Collected: 08/10/11 14:30

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
Total HpCDF	6500		250	10			pg/g		09/08/11 17:00	09/17/11 14:23	50
OCDF	5200		500	13	0.0003	1.6	pg/g		09/08/11 17:00	09/17/11 14:23	50
Total TEQ (WHO 2005)						98					

Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	92		40 - 135	09/08/11 17:00	09/17/11 14:23	50
13C-1,2,3,7,8-PeCDD	97		40 - 135	09/08/11 17:00	09/17/11 14:23	50
13C-1,2,3,6,7,8-HxCDD	89		40 - 135	09/08/11 17:00	09/17/11 14:23	50
13C-1,2,3,4,6,7,8-HpCDD	101		40 - 135	09/08/11 17:00	09/17/11 14:23	50
13C-OCDD	115		40 - 135	09/08/11 17:00	09/17/11 14:23	50
13C-2,3,7,8-TCDF	95		40 - 135	09/08/11 17:00	09/17/11 14:23	50
13C-1,2,3,7,8-PeCDF	92		40 - 135	09/08/11 17:00	09/17/11 14:23	50
13C-1,2,3,4,7,8-HxCDF	88		40 - 135	09/08/11 17:00	09/17/11 14:23	50
13C-1,2,3,4,6,7,8-HpCDF	92		40 - 135	09/08/11 17:00	09/17/11 14:23	50

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	17.1		1.00		mg/kg		10/05/11 08:48	10/19/11 15:51	1.00
Arsenic Total	212		4.90		mg/kg		10/05/11 11:00	10/11/11 10:27	5.00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	8.07		0.200		% by Weight		10/05/11 08:48	10/19/11 15:51	1.00

Client Sample ID: PMAK-DU18-A-P

Lab Sample ID: HUH0072-07

Date Collected: 08/10/11 16:10

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	RL1	1.58		mg/kg		08/24/11 10:07	09/07/11 17:14	5.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	80		40 - 120				08/24/11 10:07	09/07/11 17:14	5.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		19	1.0	1		pg/g		09/08/11 17:00	09/17/11 15:07	18.86
Total TCDD	33		19	1.0			pg/g		09/08/11 17:00	09/17/11 15:07	18.86
1,2,3,7,8-PeCDD	ND		94	1.2	1		pg/g		09/08/11 17:00	09/17/11 15:07	18.86
Total PeCDD	ND		94	1.2			pg/g		09/08/11 17:00	09/17/11 15:07	18.86
1,2,3,4,7,8-HxCDD	ND		94	1.4	0.1		pg/g		09/08/11 17:00	09/17/11 15:07	18.86
1,2,3,6,7,8-HxCDD	110		94	1.2	0.1	11	pg/g		09/08/11 17:00	09/17/11 15:07	18.86
1,2,3,7,8,9-HxCDD	ND		94	1.2	0.1		pg/g		09/08/11 17:00	09/17/11 15:07	18.86
Total HxCDD	650		94	1.2			pg/g		09/08/11 17:00	09/17/11 15:07	18.86
1,2,3,4,6,7,8-HpCDD	3000		94	14	0.01	30	pg/g		09/08/11 17:00	09/17/11 15:07	18.86
Total HpCDD	4900		94	14			pg/g		09/08/11 17:00	09/17/11 15:07	18.86
OCDD	35000		190	32	0.0003	11	pg/g		09/08/11 17:00	09/17/11 15:07	18.86
2,3,7,8-TCDF	ND		19	1.3	0.1		pg/g		09/08/11 17:00	09/17/11 15:07	18.86

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU18-A-P

Lab Sample ID: HUH0072-07

Date Collected: 08/10/11 16:10

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
Total TCDF	ND		19	1.3			pg/g		09/08/11 17:00	09/17/11 15:07	18.86
1,2,3,7,8-PeCDF	ND		94	1.4	0.03		pg/g		09/08/11 17:00	09/17/11 15:07	18.86
2,3,4,7,8-PeCDF	ND		94	1.6	0.3		pg/g		09/08/11 17:00	09/17/11 15:07	18.86
Total PeCDF	ND		94	1.5			pg/g		09/08/11 17:00	09/17/11 15:07	18.86
1,2,3,4,7,8-HxCDF	ND		94	1.9	0.1		pg/g		09/08/11 17:00	09/17/11 15:07	18.86
1,2,3,6,7,8-HxCDF	ND		94	1.7	0.1		pg/g		09/08/11 17:00	09/17/11 15:07	18.86
2,3,4,6,7,8-HxCDF	ND		94	1.8	0.1		pg/g		09/08/11 17:00	09/17/11 15:07	18.86
1,2,3,7,8,9-HxCDF	ND		94	2.1	0.1		pg/g		09/08/11 17:00	09/17/11 15:07	18.86
Total HxCDF	1100		94	1.9			pg/g		09/08/11 17:00	09/17/11 15:07	18.86
1,2,3,4,6,7,8-HpCDF	1100		94	4.7	0.01	11	pg/g		09/08/11 17:00	09/17/11 15:07	18.86
1,2,3,4,7,8,9-HpCDF	97		94	5.4	0.01	0.97	pg/g		09/08/11 17:00	09/17/11 15:07	18.86
Total HpCDF	3800		94	5.0			pg/g		09/08/11 17:00	09/17/11 15:07	18.86
OCDF	2900		190	6.2	0.0003	0.87	pg/g		09/08/11 17:00	09/17/11 15:07	18.86
Total TEQ (WHO 2005)						64					

Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	96		40 - 135	09/08/11 17:00	09/17/11 15:07	18.86
13C-1,2,3,7,8-PeCDD	93		40 - 135	09/08/11 17:00	09/17/11 15:07	18.86
13C-1,2,3,6,7,8-HxCDD	93		40 - 135	09/08/11 17:00	09/17/11 15:07	18.86
13C-1,2,3,4,6,7,8-HpCDD	105		40 - 135	09/08/11 17:00	09/17/11 15:07	18.86
13C-OCDD	109		40 - 135	09/08/11 17:00	09/17/11 15:07	18.86
13C-2,3,7,8-TCDF	93		40 - 135	09/08/11 17:00	09/17/11 15:07	18.86
13C-1,2,3,7,8-PeCDF	90		40 - 135	09/08/11 17:00	09/17/11 15:07	18.86
13C-1,2,3,4,7,8-HxCDF	87		40 - 135	09/08/11 17:00	09/17/11 15:07	18.86
13C-1,2,3,4,6,7,8-HpCDF	93		40 - 135	09/08/11 17:00	09/17/11 15:07	18.86

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	ND		1.00		mg/kg		10/05/11 08:48	10/19/11 15:51	1.00
Arsenic Total	32.7		4.85		mg/kg		10/05/11 11:00	10/11/11 10:33	5.00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	1.94		0.200		% by Weight		10/05/11 08:48	10/19/11 15:51	1.00

Client Sample ID: PMAK-DU18-A-T1

Lab Sample ID: HUH0072-08

Date Collected: 08/10/11 16:15

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	RL1	1.62		mg/kg		08/24/11 10:07	09/07/11 17:52	5.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	91		40 - 120				08/24/11 10:07	09/07/11 17:52	5.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		20	1.0	1		pg/g		09/08/11 17:00	09/17/11 15:52	20

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU18-A-T1

Lab Sample ID: HUH0072-08

Date Collected: 08/10/11 16:15

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
Total TCDD	23		20	1.0			pg/g		09/08/11 17:00	09/17/11 15:52	20
1,2,3,7,8-PeCDD	ND		100	1.6	1		pg/g		09/08/11 17:00	09/17/11 15:52	20
Total PeCDD	ND		100	1.6			pg/g		09/08/11 17:00	09/17/11 15:52	20
1,2,3,4,7,8-HxCDD	ND		100	2.8	0.1		pg/g		09/08/11 17:00	09/17/11 15:52	20
1,2,3,6,7,8-HxCDD	120		100	2.4	0.1	12	pg/g		09/08/11 17:00	09/17/11 15:52	20
1,2,3,7,8,9-HxCDD	ND		100	2.4	0.1		pg/g		09/08/11 17:00	09/17/11 15:52	20
Total HxCDD	680		100	2.5			pg/g		09/08/11 17:00	09/17/11 15:52	20
1,2,3,4,6,7,8-HpCDD	3000		100	21	0.01	30	pg/g		09/08/11 17:00	09/17/11 15:52	20
Total HpCDD	4900		100	21			pg/g		09/08/11 17:00	09/17/11 15:52	20
OCDD	35000		200	36	0.0003	11	pg/g		09/08/11 17:00	09/17/11 15:52	20
2,3,7,8-TCDF	ND		20	1.2	0.1		pg/g		09/08/11 17:00	09/17/11 15:52	20
Total TCDF	ND		20	1.2			pg/g		09/08/11 17:00	09/17/11 15:52	20
1,2,3,7,8-PeCDF	ND		100	1.9	0.03		pg/g		09/08/11 17:00	09/17/11 15:52	20
2,3,4,7,8-PeCDF	ND		100	2.1	0.3		pg/g		09/08/11 17:00	09/17/11 15:52	20
Total PeCDF	ND		100	2.0			pg/g		09/08/11 17:00	09/17/11 15:52	20
1,2,3,4,7,8-HxCDF	ND		100	2.7	0.1		pg/g		09/08/11 17:00	09/17/11 15:52	20
1,2,3,6,7,8-HxCDF	ND		100	2.5	0.1		pg/g		09/08/11 17:00	09/17/11 15:52	20
2,3,4,6,7,8-HxCDF	ND		100	2.6	0.1		pg/g		09/08/11 17:00	09/17/11 15:52	20
1,2,3,7,8,9-HxCDF	ND		100	3.0	0.1		pg/g		09/08/11 17:00	09/17/11 15:52	20
Total HxCDF	1100		100	2.7			pg/g		09/08/11 17:00	09/17/11 15:52	20
1,2,3,4,6,7,8-HpCDF	1100		100	6.1	0.01	11	pg/g		09/08/11 17:00	09/17/11 15:52	20
1,2,3,4,7,8,9-HpCDF	ND		100	7.1	0.01		pg/g		09/08/11 17:00	09/17/11 15:52	20
Total HpCDF	3700		100	6.5			pg/g		09/08/11 17:00	09/17/11 15:52	20
OCDF	2900		200	3.9	0.0003	0.87	pg/g		09/08/11 17:00	09/17/11 15:52	20
Total TEQ (WHO 2005)						64					

Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	93		40 - 135	09/08/11 17:00	09/17/11 15:52	20
13C-1,2,3,7,8-PeCDD	91		40 - 135	09/08/11 17:00	09/17/11 15:52	20
13C-1,2,3,6,7,8-HxCDD	83		40 - 135	09/08/11 17:00	09/17/11 15:52	20
13C-1,2,3,4,6,7,8-HpCDD	101		40 - 135	09/08/11 17:00	09/17/11 15:52	20
13C-OCDD	106		40 - 135	09/08/11 17:00	09/17/11 15:52	20
13C-2,3,7,8-TCDF	89		40 - 135	09/08/11 17:00	09/17/11 15:52	20
13C-1,2,3,7,8-PeCDF	84		40 - 135	09/08/11 17:00	09/17/11 15:52	20
13C-1,2,3,4,7,8-HxCDF	78		40 - 135	09/08/11 17:00	09/17/11 15:52	20
13C-1,2,3,4,6,7,8-HpCDF	88		40 - 135	09/08/11 17:00	09/17/11 15:52	20

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	ND		1.00		mg/kg		10/05/11 08:48	10/19/11 15:51	1.00
Arsenic Total	29.1		4.76		mg/kg		10/05/11 11:00	10/11/11 10:38	5.00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	2.88		0.200		% by Weight		10/05/11 08:48	10/19/11 15:51	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU18-A-T2

Lab Sample ID: HUH0072-09

Date Collected: 08/10/11 16:20

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	RL1	1.59		mg/kg		08/24/11 10:07	09/07/11 18:32	5.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	74		40 - 120				08/24/11 10:07	09/07/11 18:32	5.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		20	1.2	1		pg/g		09/08/11 17:00	09/17/11 16:36	19.6
Total TCDD	25		20	1.2			pg/g		09/08/11 17:00	09/17/11 16:36	19.6
1,2,3,7,8-PeCDD	ND		98	2.6	1		pg/g		09/08/11 17:00	09/17/11 16:36	19.6
Total PeCDD	ND		98	2.6			pg/g		09/08/11 17:00	09/17/11 16:36	19.6
1,2,3,4,7,8-HxCDD	ND		98	2.4	0.1		pg/g		09/08/11 17:00	09/17/11 16:36	19.6
1,2,3,6,7,8-HxCDD	130		98	2.1	0.1	13	pg/g		09/08/11 17:00	09/17/11 16:36	19.6
1,2,3,7,8,9-HxCDD	ND		98	2.1	0.1		pg/g		09/08/11 17:00	09/17/11 16:36	19.6
Total HxCDD	680		98	2.2			pg/g		09/08/11 17:00	09/17/11 16:36	19.6
1,2,3,4,6,7,8-HpCDD	4200		98	8.0	0.01	42	pg/g		09/08/11 17:00	09/17/11 16:36	19.6
Total HpCDD	7000		98	8.0			pg/g		09/08/11 17:00	09/17/11 16:36	19.6
OCDD	54000		200	37	0.0003	16	pg/g		09/08/11 17:00	09/17/11 16:36	19.6
2,3,7,8-TCDF	ND		20	1.6	0.1		pg/g		09/08/11 17:00	09/17/11 16:36	19.6
Total TCDF	ND		20	1.6			pg/g		09/08/11 17:00	09/17/11 16:36	19.6
1,2,3,7,8-PeCDF	ND		98	1.5	0.03		pg/g		09/08/11 17:00	09/17/11 16:36	19.6
2,3,4,7,8-PeCDF	ND		98	1.7	0.3		pg/g		09/08/11 17:00	09/17/11 16:36	19.6
Total PeCDF	ND		98	1.6			pg/g		09/08/11 17:00	09/17/11 16:36	19.6
1,2,3,4,7,8-HxCDF	ND		98	1.7	0.1		pg/g		09/08/11 17:00	09/17/11 16:36	19.6
1,2,3,6,7,8-HxCDF	ND		98	1.6	0.1		pg/g		09/08/11 17:00	09/17/11 16:36	19.6
2,3,4,6,7,8-HxCDF	ND		98	1.7	0.1		pg/g		09/08/11 17:00	09/17/11 16:36	19.6
1,2,3,7,8,9-HxCDF	ND		98	1.9	0.1		pg/g		09/08/11 17:00	09/17/11 16:36	19.6
Total HxCDF	1500		98	1.7			pg/g		09/08/11 17:00	09/17/11 16:36	19.6
1,2,3,4,6,7,8-HpCDF	1700		98	6.1	0.01	17	pg/g		09/08/11 17:00	09/17/11 16:36	19.6
1,2,3,4,7,8,9-HpCDF	150		98	7.1	0.01	1.5	pg/g		09/08/11 17:00	09/17/11 16:36	19.6
Total HpCDF	6100		98	6.5			pg/g		09/08/11 17:00	09/17/11 16:36	19.6
OCDF	4500		200	7.1	0.0003	1.4	pg/g		09/08/11 17:00	09/17/11 16:36	19.6
Total TEQ (WHO 2005)						91					

Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	84		40 - 135	09/08/11 17:00	09/17/11 16:36	19.6
13C-1,2,3,7,8-PeCDD	74		40 - 135	09/08/11 17:00	09/17/11 16:36	19.6
13C-1,2,3,6,7,8-HxCDD	74		40 - 135	09/08/11 17:00	09/17/11 16:36	19.6
13C-1,2,3,4,6,7,8-HpCDD	69		40 - 135	09/08/11 17:00	09/17/11 16:36	19.6
13C-OCDD	68		40 - 135	09/08/11 17:00	09/17/11 16:36	19.6
13C-2,3,7,8-TCDF	78		40 - 135	09/08/11 17:00	09/17/11 16:36	19.6
13C-1,2,3,7,8-PeCDF	71		40 - 135	09/08/11 17:00	09/17/11 16:36	19.6
13C-1,2,3,4,7,8-HxCDF	59		40 - 135	09/08/11 17:00	09/17/11 16:36	19.6
13C-1,2,3,4,6,7,8-HpCDF	57		40 - 135	09/08/11 17:00	09/17/11 16:36	19.6

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	ND		1.00		mg/kg		10/05/11 08:48	10/19/11 15:51	1.00
Arsenic Total	29.7		4.95		mg/kg		10/05/11 11:00	10/11/11 10:43	5.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU18-A-T2

Lab Sample ID: HUH0072-09

Date Collected: 08/10/11 16:20

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	2.04		0.200		% by Weight		10/05/11 08:48	10/19/11 15:51	1.00

Client Sample ID: PMAK-DU5-B

Lab Sample ID: HUH0072-11

Date Collected: 08/10/11 16:25

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.324		mg/kg		08/24/11 10:07	09/07/11 19:11	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	73		40 - 120	08/24/11 10:07	09/07/11 19:11	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		17	1.0	1		pg/g		09/08/11 17:00	09/17/11 17:21	16.66
Total TCDD	ND		17	1.0			pg/g		09/08/11 17:00	09/17/11 17:21	16.66
1,2,3,7,8-PeCDD	ND		83	1.1	1		pg/g		09/08/11 17:00	09/17/11 17:21	16.66
Total PeCDD	ND		83	1.1			pg/g		09/08/11 17:00	09/17/11 17:21	16.66
1,2,3,4,7,8-HxCDD	ND		83	1.8	0.1		pg/g		09/08/11 17:00	09/17/11 17:21	16.66
1,2,3,6,7,8-HxCDD	ND		83	1.6	0.1		pg/g		09/08/11 17:00	09/17/11 17:21	16.66
1,2,3,7,8,9-HxCDD	ND		83	1.6	0.1		pg/g		09/08/11 17:00	09/17/11 17:21	16.66
Total HxCDD	84		83	1.7			pg/g		09/08/11 17:00	09/17/11 17:21	16.66
1,2,3,4,6,7,8-HpCDD	1800		83	11	0.01	18	pg/g		09/08/11 17:00	09/17/11 17:21	16.66
Total HpCDD	3200		83	11			pg/g		09/08/11 17:00	09/17/11 17:21	16.66
OCDD	27000		170	16	0.0003	8.1	pg/g		09/08/11 17:00	09/17/11 17:21	16.66
2,3,7,8-TCDF	ND		17	0.91	0.1		pg/g		09/08/11 17:00	09/17/11 17:21	16.66
Total TCDF	ND		17	0.91			pg/g		09/08/11 17:00	09/17/11 17:21	16.66
1,2,3,7,8-PeCDF	ND		83	1.1	0.03		pg/g		09/08/11 17:00	09/17/11 17:21	16.66
2,3,4,7,8-PeCDF	ND		83	1.3	0.3		pg/g		09/08/11 17:00	09/17/11 17:21	16.66
Total PeCDF	ND		83	1.2			pg/g		09/08/11 17:00	09/17/11 17:21	16.66
1,2,3,4,7,8-HxCDF	ND		83	1.6	0.1		pg/g		09/08/11 17:00	09/17/11 17:21	16.66
1,2,3,6,7,8-HxCDF	ND		83	1.5	0.1		pg/g		09/08/11 17:00	09/17/11 17:21	16.66
2,3,4,6,7,8-HxCDF	ND		83	1.6	0.1		pg/g		09/08/11 17:00	09/17/11 17:21	16.66
1,2,3,7,8,9-HxCDF	ND		83	1.8	0.1		pg/g		09/08/11 17:00	09/17/11 17:21	16.66
Total HxCDF	680		83	1.6			pg/g		09/08/11 17:00	09/17/11 17:21	16.66
1,2,3,4,6,7,8-HpCDF	660		83	4.3	0.01	6.6	pg/g		09/08/11 17:00	09/17/11 17:21	16.66
1,2,3,4,7,8,9-HpCDF	ND		83	5.0	0.01		pg/g		09/08/11 17:00	09/17/11 17:21	16.66
Total HpCDF	2700		83	4.7			pg/g		09/08/11 17:00	09/17/11 17:21	16.66
OCDF	2300		170	3.8	0.0003	0.69	pg/g		09/08/11 17:00	09/17/11 17:21	16.66
Total TEQ (WHO 2005)						33					

Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	95		40 - 135	09/08/11 17:00	09/17/11 17:21	16.66
13C-1,2,3,7,8-PeCDD	91		40 - 135	09/08/11 17:00	09/17/11 17:21	16.66
13C-1,2,3,6,7,8-HxCDD	87		40 - 135	09/08/11 17:00	09/17/11 17:21	16.66
13C-1,2,3,4,6,7,8-HpCDD	98		40 - 135	09/08/11 17:00	09/17/11 17:21	16.66
13C-OCDD	100		40 - 135	09/08/11 17:00	09/17/11 17:21	16.66
13C-2,3,7,8-TCDF	90		40 - 135	09/08/11 17:00	09/17/11 17:21	16.66

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU5-B

Date Collected: 08/10/11 16:25

Date Received: 08/11/11 16:00

Lab Sample ID: HUH0072-11

Matrix: Solid/Soil

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDF	88		40 - 135	09/08/11 17:00	09/17/11 17:21	16.66
13C-1,2,3,4,7,8-HxCDF	78		40 - 135	09/08/11 17:00	09/17/11 17:21	16.66
13C-1,2,3,4,6,7,8-HpCDF	87		40 - 135	09/08/11 17:00	09/17/11 17:21	16.66

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	ND		1.00		mg/kg		10/05/11 08:48	10/19/11 15:51	1.00
Arsenic Total	9.38		4.90		mg/kg		10/05/11 11:00	10/11/11 10:48	5.00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	ND		0.200		% by Weight		10/05/11 08:48	10/19/11 15:51	1.00

Client Sample ID: PMAK-DU5-C

Date Collected: 08/10/11 16:30

Date Received: 08/11/11 16:00

Lab Sample ID: HUH0072-12

Matrix: Solid/Soil

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	0.362		0.326		mg/kg		08/24/11 10:07	09/07/11 19:50	1.00
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
2,4,6-Tribromophenol	95		40 - 120	08/24/11 10:07	09/07/11 19:50	1.00			

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	61.6		1.00		mg/kg		10/05/11 08:48	10/19/11 15:51	1.00
Arsenic Total	452		4.90		mg/kg		10/05/11 11:00	10/11/11 11:04	5.00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	13.6		0.200		% by Weight		10/05/11 08:48	10/19/11 15:51	1.00

Client Sample ID: PMAK-DU5-D

Date Collected: 08/10/11 16:35

Date Received: 08/11/11 16:00

Lab Sample ID: HUH0072-13

Matrix: Solid/Soil

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.326		mg/kg		08/24/11 10:07	10/03/11 20:23	1.00
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
2,4,6-Tribromophenol	67		40 - 120	08/24/11 10:07	10/03/11 20:23	1.00			

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU26

Lab Sample ID: HUH0072-15

Date Collected: 08/10/11 16:45

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
1,2,4-Trichlorobenzene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
1,2-Dichlorobenzene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
1,3-Dichlorobenzene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
1,4-Dichlorobenzene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
1-Chloronaphthalene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
1-Methylnaphthalene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
1-Naphthylamine	ND	C9	0.629		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
2,3,4,6-Tetrachlorophenol	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
2,4,5-Trichlorophenol	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
2,4,6-Trichlorophenol	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
2,4-Dichlorophenol	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
2,4-Dimethylphenol	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
2,4-Dinitrophenol	ND	C9	1.62		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
2,4-Dinitrotoluene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
2,6-Dichlorophenol	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
2,6-Dinitrotoluene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
2-Chloronaphthalene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
2-Chlorophenol	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
2-Methylnaphthalene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
2-Methylphenol (o-Cresol)	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
2-Naphthylamine	ND		0.629		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
2-Nitroaniline	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
2-Nitrophenol	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
2-Picoline	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
3,3'-Dichlorobenzidine	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
3,4-Methylphenol (m,p-Cresol)	ND	C9	0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
3-Methylcholanthrene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
3-Nitroaniline	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
4,6-Dinitro-2-methylphenol	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
4-Aminobiphenyl	ND		0.629		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
4-Bromophenyl phenyl ether	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
4-Chloro-3-methylphenol	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
4-Chloroaniline	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
4-Chlorophenyl phenyl ether	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
4-Nitroaniline	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
4-Nitrophenol	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
7,12-Dimethylbenz (a) anthracene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Acenaphthene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Acenaphthylene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Acetophenone	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Aniline	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Anthracene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Azobenzene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Benzidine	ND		1.62		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Benzo (a) anthracene	0.317		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Benzo (a) pyrene	0.344		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Benzo (b) fluoranthene	0.405		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Benzo (g,h,i) perylene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Benzo (k) fluoranthene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU26

Lab Sample ID: HUH0072-15

Date Collected: 08/10/11 16:45

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzoic acid	ND	C9	0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Benzyl alcohol	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Bis(2-chloroethoxy)methane	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Bis(2-chloroethyl)ether	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Bis(2-chloroisopropyl) ether	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Bis(2-ethylhexyl)phthalate	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Butyl benzyl phthalate	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Chrysene	0.357		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Dibenz (a,j) acridine	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Dibenzo (a,h) anthracene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Dibenzofuran	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Diethyl phthalate	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Dimethyl phthalate	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Dimethylaminoazobenzene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Di-n-butyl phthalate	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Di-n-octyl phthalate	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Ethyl Methanesulfonate	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Fluoranthene	0.340		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Fluorene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Hexachlorobenzene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Hexachlorobutadiene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Hexachlorocyclopentadiene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Hexachloroethane	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Indeno (1,2,3-cd) pyrene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Isophorone	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Methyl Methanesulfonate	ND	C9	0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Naphthalene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Nitrobenzene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
N-Nitrosodimethylamine	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
N-Nitrosodi-n-butylamine	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
N-Nitrosodi-n-propylamine	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
N-Nitrosodiphenylamine	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
N-Nitrosopiperidine	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Pentachloronitrobenzene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Pentachlorophenol	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Phenacetin	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Phenanthrene	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Phenol	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Pronamide	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Pyrene	0.442		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Pyridine	ND		0.314		mg/kg		08/18/11 11:17	09/13/11 16:21	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	69		40 - 120				08/18/11 11:17	09/13/11 16:21	1.00
2-Fluorobiphenyl	68		45 - 120				08/18/11 11:17	09/13/11 16:21	1.00
2-Fluorophenol	52		30 - 120				08/18/11 11:17	09/13/11 16:21	1.00
Nitrobenzene-d5	60		35 - 120				08/18/11 11:17	09/13/11 16:21	1.00
Phenol-d6	63		40 - 120				08/18/11 11:17	09/13/11 16:21	1.00
Terphenyl-d14	78		40 - 130				08/18/11 11:17	09/13/11 16:21	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU26

Lab Sample ID: HUH0072-15

Date Collected: 08/10/11 16:45

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	42.7		3.91		mg/kg		08/23/11 08:53	08/24/11 22:05	1.00
RRO	243		19.5		mg/kg		08/23/11 08:53	08/24/11 22:05	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	80		40 - 120				08/23/11 08:53	08/24/11 22:05	1.00

Method: EPA 8081 - Organochlorine Pesticides by EPA Method 8081

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.00774		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
4,4'-DDE	ND		0.00774		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
4,4'-DDT	ND		0.00774		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
Aldrin	ND		0.00774		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
alpha-BHC	ND		0.00774		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
beta-BHC	ND		0.00774		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
Chlordane	ND		0.0639		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
delta-BHC	ND		0.00774		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
Dieldrin	ND		0.00774		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
Endosulfan I	ND		0.00774		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
Endosulfan II	ND		0.00774		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
Endosulfan sulfate	ND		0.00774		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
Endrin	ND		0.00774		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
Endrin aldehyde	ND		0.00774		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
Endrin ketone	ND		0.00774		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
gamma-BHC (Lindane)	ND		0.00774		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
Heptachlor	ND		0.00774		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
Heptachlor epoxide	ND		0.00774		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
Methoxychlor	ND		0.0387		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
Toxaphene	ND		0.0968		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
alpha-Chlordane	ND		0.00774		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
gamma-Chlordane	ND		0.00774		mg/kg		08/19/11 12:33	08/30/11 18:06	2.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Decachlorobiphenyl</i>	130	Z1	45 - 120				08/19/11 12:33	08/30/11 18:06	2.00
<i>Tetrachloro-meta-xylene</i>	146	Z1	50 - 120				08/19/11 12:33	08/30/11 18:06	2.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		12	0.58	1		pg/g		09/08/11 17:00	09/17/11 18:05	12.04
Total TCDD	ND		12	0.58			pg/g		09/08/11 17:00	09/17/11 18:05	12.04
1,2,3,7,8-PeCDD	ND		60	1.0	1		pg/g		09/08/11 17:00	09/17/11 18:05	12.04
Total PeCDD	ND		60	1.0			pg/g		09/08/11 17:00	09/17/11 18:05	12.04
1,2,3,4,7,8-HxCDD	ND		60	1.3	0.1		pg/g		09/08/11 17:00	09/17/11 18:05	12.04
1,2,3,6,7,8-HxCDD	ND		60	1.1	0.1		pg/g		09/08/11 17:00	09/17/11 18:05	12.04
1,2,3,7,8,9-HxCDD	ND		60	1.1	0.1		pg/g		09/08/11 17:00	09/17/11 18:05	12.04
Total HxCDD	160		60	1.2			pg/g		09/08/11 17:00	09/17/11 18:05	12.04
1,2,3,4,6,7,8-HpCDD	1400		60	2.4	0.01	14	pg/g		09/08/11 17:00	09/17/11 18:05	12.04
Total HpCDD	3000		60	2.4			pg/g		09/08/11 17:00	09/17/11 18:05	12.04
OCDD	21000		120	25	0.0003	6.3	pg/g		09/08/11 17:00	09/17/11 18:05	12.04
2,3,7,8-TCDF	ND		12	0.62	0.1		pg/g		09/08/11 17:00	09/17/11 18:05	12.04
Total TCDF	ND		12	0.62			pg/g		09/08/11 17:00	09/17/11 18:05	12.04
1,2,3,7,8-PeCDF	ND		60	0.96	0.03		pg/g		09/08/11 17:00	09/17/11 18:05	12.04

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU26

Lab Sample ID: HUH0072-15

Date Collected: 08/10/11 16:45

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,7,8-PeCDF	ND		60	1.1	0.3		pg/g		09/08/11 17:00	09/17/11 18:05	12.04
Total PeCDF	ND		60	1.0			pg/g		09/08/11 17:00	09/17/11 18:05	12.04
1,2,3,4,7,8-HxCDF	ND		60	0.93	0.1		pg/g		09/08/11 17:00	09/17/11 18:05	12.04
1,2,3,6,7,8-HxCDF	ND		60	0.86	0.1		pg/g		09/08/11 17:00	09/17/11 18:05	12.04
2,3,4,6,7,8-HxCDF	ND		60	0.91	0.1		pg/g		09/08/11 17:00	09/17/11 18:05	12.04
1,2,3,7,8,9-HxCDF	ND		60	1.0	0.1		pg/g		09/08/11 17:00	09/17/11 18:05	12.04
Total HxCDF	260		60	0.93			pg/g		09/08/11 17:00	09/17/11 18:05	12.04
1,2,3,4,6,7,8-HpCDF	370		60	3.5	0.01	3.7	pg/g		09/08/11 17:00	09/17/11 18:05	12.04
1,2,3,4,7,8,9-HpCDF	ND		60	4.1	0.01		pg/g		09/08/11 17:00	09/17/11 18:05	12.04
Total HpCDF	1400		60	3.8			pg/g		09/08/11 17:00	09/17/11 18:05	12.04
OCDF	1100		120	3.9	0.0003	0.33	pg/g		09/08/11 17:00	09/17/11 18:05	12.04
Total TEQ (WHO 2005)						24					

Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	94		40 - 135	09/08/11 17:00	09/17/11 18:05	12.04
13C-1,2,3,7,8-PeCDD	90		40 - 135	09/08/11 17:00	09/17/11 18:05	12.04
13C-1,2,3,6,7,8-HxCDD	92		40 - 135	09/08/11 17:00	09/17/11 18:05	12.04
13C-1,2,3,4,6,7,8-HpCDD	95		40 - 135	09/08/11 17:00	09/17/11 18:05	12.04
13C-OCDD	101		40 - 135	09/08/11 17:00	09/17/11 18:05	12.04
13C-2,3,7,8-TCDF	91		40 - 135	09/08/11 17:00	09/17/11 18:05	12.04
13C-1,2,3,7,8-PeCDF	86		40 - 135	09/08/11 17:00	09/17/11 18:05	12.04
13C-1,2,3,4,7,8-HxCDF	83		40 - 135	09/08/11 17:00	09/17/11 18:05	12.04
13C-1,2,3,4,6,7,8-HpCDF	84		40 - 135	09/08/11 17:00	09/17/11 18:05	12.04

Client Sample ID: PMAK-DU19

Lab Sample ID: HUH0072-16

Date Collected: 08/11/11 11:00

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.313		mg/kg		08/24/11 10:07	09/07/11 20:29	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	58		40 - 120				08/24/11 10:07	09/07/11 20:29	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		4.7	0.23	1		pg/g		09/08/11 17:00	09/17/11 23:26	4.67
Total TCDD	11		4.7	0.23			pg/g		09/08/11 17:00	09/17/11 23:26	4.67
1,2,3,7,8-PeCDD	ND		23	0.34	1		pg/g		09/08/11 17:00	09/17/11 23:26	4.67
Total PeCDD	ND		23	0.34			pg/g		09/08/11 17:00	09/17/11 23:26	4.67
1,2,3,4,7,8-HxCDD	ND		23	0.58	0.1		pg/g		09/08/11 17:00	09/17/11 23:26	4.67
1,2,3,6,7,8-HxCDD	26		23	0.50	0.1	2.6	pg/g		09/08/11 17:00	09/17/11 23:26	4.67
1,2,3,7,8,9-HxCDD	ND		23	0.50	0.1		pg/g		09/08/11 17:00	09/17/11 23:26	4.67
Total HxCDD	160		23	0.52			pg/g		09/08/11 17:00	09/17/11 23:26	4.67
1,2,3,4,6,7,8-HpCDD	680		23	3.9	0.01	6.8	pg/g		09/08/11 17:00	09/17/11 23:26	4.67
Total HpCDD	1100		23	3.9			pg/g		09/08/11 17:00	09/17/11 23:26	4.67
OCDD	7300		47	8.9	0.0003	2.2	pg/g		09/08/11 17:00	09/17/11 23:26	4.67
2,3,7,8-TCDF	ND		4.7	0.24	0.1		pg/g		09/08/11 17:00	09/17/11 23:26	4.67

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU19

Lab Sample ID: HUH0072-16

Date Collected: 08/11/11 11:00

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
Total TCDF	ND		4.7	0.24			pg/g		09/08/11 17:00	09/17/11 23:26	4.67
1,2,3,7,8-PeCDF	ND		23	0.33	0.03		pg/g		09/08/11 17:00	09/17/11 23:26	4.67
2,3,4,7,8-PeCDF	ND		23	0.37	0.3		pg/g		09/08/11 17:00	09/17/11 23:26	4.67
Total PeCDF	ND		23	0.35			pg/g		09/08/11 17:00	09/17/11 23:26	4.67
1,2,3,4,7,8-HxCDF	ND		23	0.48	0.1		pg/g		09/08/11 17:00	09/17/11 23:26	4.67
1,2,3,6,7,8-HxCDF	ND		23	0.45	0.1		pg/g		09/08/11 17:00	09/17/11 23:26	4.67
2,3,4,6,7,8-HxCDF	ND		23	0.47	0.1		pg/g		09/08/11 17:00	09/17/11 23:26	4.67
1,2,3,7,8,9-HxCDF	ND		23	0.54	0.1		pg/g		09/08/11 17:00	09/17/11 23:26	4.67
Total HxCDF	270		23	0.49			pg/g		09/08/11 17:00	09/17/11 23:26	4.67
1,2,3,4,6,7,8-HpCDF	290		23	1.7	0.01	2.9	pg/g		09/08/11 17:00	09/17/11 23:26	4.67
1,2,3,4,7,8,9-HpCDF	ND		23	2.0	0.01		pg/g		09/08/11 17:00	09/17/11 23:26	4.67
Total HpCDF	990		23	1.8			pg/g		09/08/11 17:00	09/17/11 23:26	4.67
OCDF	750		47	1.2	0.0003	0.23	pg/g		09/08/11 17:00	09/17/11 23:26	4.67
Total TEQ (WHO 2005)						15					

Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	91		40 - 135	09/08/11 17:00	09/17/11 23:26	4.67
13C-1,2,3,7,8-PeCDD	86		40 - 135	09/08/11 17:00	09/17/11 23:26	4.67
13C-1,2,3,6,7,8-HxCDD	83		40 - 135	09/08/11 17:00	09/17/11 23:26	4.67
13C-1,2,3,4,6,7,8-HpCDD	95		40 - 135	09/08/11 17:00	09/17/11 23:26	4.67
13C-OCDD	105		40 - 135	09/08/11 17:00	09/17/11 23:26	4.67
13C-2,3,7,8-TCDF	88		40 - 135	09/08/11 17:00	09/17/11 23:26	4.67
13C-1,2,3,7,8-PeCDF	85		40 - 135	09/08/11 17:00	09/17/11 23:26	4.67
13C-1,2,3,4,7,8-HxCDF	82		40 - 135	09/08/11 17:00	09/17/11 23:26	4.67
13C-1,2,3,4,6,7,8-HpCDF	87		40 - 135	09/08/11 17:00	09/17/11 23:26	4.67

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	ND		1.00		mg/kg		10/05/11 08:48	10/19/11 15:51	1.00
Arsenic Total	16.1		5.00		mg/kg		10/05/11 13:46	10/11/11 11:09	5.00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	ND		0.200		% by Weight		10/05/11 08:48	10/19/11 15:51	1.00

Client Sample ID: PMAK-DU25-A

Lab Sample ID: HUH0072-17

Date Collected: 08/11/11 13:00

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.318		mg/kg		08/24/11 10:07	09/07/11 21:08	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	100		40 - 120				08/24/11 10:07	09/07/11 21:08	1.00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		16	0.85	1		pg/g		09/08/11 17:00	09/18/11 00:11	16.12

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU25-A

Lab Sample ID: HUH0072-17

Date Collected: 08/11/11 13:00

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
Total TCDD	ND		16	0.85			pg/g		09/08/11 17:00	09/18/11 00:11	16.12
1,2,3,7,8-PeCDD	ND		81	1.0	1		pg/g		09/08/11 17:00	09/18/11 00:11	16.12
Total PeCDD	ND		81	1.0			pg/g		09/08/11 17:00	09/18/11 00:11	16.12
1,2,3,4,7,8-HxCDD	ND		81	1.6	0.1		pg/g		09/08/11 17:00	09/18/11 00:11	16.12
1,2,3,6,7,8-HxCDD	ND		81	1.4	0.1		pg/g		09/08/11 17:00	09/18/11 00:11	16.12
1,2,3,7,8,9-HxCDD	ND		81	1.4	0.1		pg/g		09/08/11 17:00	09/18/11 00:11	16.12
Total HxCDD	110		81	1.4			pg/g		09/08/11 17:00	09/18/11 00:11	16.12
1,2,3,4,6,7,8-HpCDD	2000		81	17	0.01	20	pg/g		09/08/11 17:00	09/18/11 00:11	16.12
Total HpCDD	3200		81	17			pg/g		09/08/11 17:00	09/18/11 00:11	16.12
OCDD	29000		160	32	0.0003	8.7	pg/g		09/08/11 17:00	09/18/11 00:11	16.12
2,3,7,8-TCDF	ND		16	1.0	0.1		pg/g		09/08/11 17:00	09/18/11 00:11	16.12
Total TCDF	ND		16	1.0			pg/g		09/08/11 17:00	09/18/11 00:11	16.12
1,2,3,7,8-PeCDF	ND		81	0.66	0.03		pg/g		09/08/11 17:00	09/18/11 00:11	16.12
2,3,4,7,8-PeCDF	ND		81	0.73	0.3		pg/g		09/08/11 17:00	09/18/11 00:11	16.12
Total PeCDF	ND		81	0.69			pg/g		09/08/11 17:00	09/18/11 00:11	16.12
1,2,3,4,7,8-HxCDF	ND		81	1.2	0.1		pg/g		09/08/11 17:00	09/18/11 00:11	16.12
1,2,3,6,7,8-HxCDF	ND		81	1.1	0.1		pg/g		09/08/11 17:00	09/18/11 00:11	16.12
2,3,4,6,7,8-HxCDF	ND		81	1.2	0.1		pg/g		09/08/11 17:00	09/18/11 00:11	16.12
1,2,3,7,8,9-HxCDF	ND		81	1.4	0.1		pg/g		09/08/11 17:00	09/18/11 00:11	16.12
Total HxCDF	620		81	1.2			pg/g		09/08/11 17:00	09/18/11 00:11	16.12
1,2,3,4,6,7,8-HpCDF	900		81	5.1	0.01	9.0	pg/g		09/08/11 17:00	09/18/11 00:11	16.12
1,2,3,4,7,8,9-HpCDF	ND		81	5.9	0.01		pg/g		09/08/11 17:00	09/18/11 00:11	16.12
Total HpCDF	2800		81	5.5			pg/g		09/08/11 17:00	09/18/11 00:11	16.12
OCDF	3000		160	3.0	0.0003	0.90	pg/g		09/08/11 17:00	09/18/11 00:11	16.12
Total TEQ (WHO 2005)						39					

Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	94		40 - 135	09/08/11 17:00	09/18/11 00:11	16.12
13C-1,2,3,7,8-PeCDD	89		40 - 135	09/08/11 17:00	09/18/11 00:11	16.12
13C-1,2,3,6,7,8-HxCDD	92		40 - 135	09/08/11 17:00	09/18/11 00:11	16.12
13C-1,2,3,4,6,7,8-HpCDD	101		40 - 135	09/08/11 17:00	09/18/11 00:11	16.12
13C-OCDD	102		40 - 135	09/08/11 17:00	09/18/11 00:11	16.12
13C-2,3,7,8-TCDF	89		40 - 135	09/08/11 17:00	09/18/11 00:11	16.12
13C-1,2,3,7,8-PeCDF	90		40 - 135	09/08/11 17:00	09/18/11 00:11	16.12
13C-1,2,3,4,7,8-HxCDF	83		40 - 135	09/08/11 17:00	09/18/11 00:11	16.12
13C-1,2,3,4,6,7,8-HpCDF	87		40 - 135	09/08/11 17:00	09/18/11 00:11	16.12

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	ND		1.00		mg/kg		10/05/11 08:48	10/19/11 15:51	1.00
Arsenic Total	10.2		4.95		mg/kg		10/05/11 11:00	10/11/11 11:15	5.00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	ND		0.200		% by Weight		10/05/11 08:48	10/19/11 15:51	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-Area 1,3,4-WC

Lab Sample ID: HUH0072-18

Date Collected: 08/11/11 11:20

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 8081A - TCLP ORGANOCHLORINE PESTICIDES (EPA 1311/3510/8081A) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	ND		0.00050		mg/l		08/29/11 09:05	08/29/11 15:23	1.0
gamma-BHC (Lindane)	ND		0.00050		mg/l		08/29/11 09:05	08/29/11 15:23	1.0
Heptachlor	ND		0.00050		mg/l		08/29/11 09:05	08/29/11 15:23	1.0
Heptachlor epoxide	ND		0.00050		mg/l		08/29/11 09:05	08/29/11 15:23	1.0
Methoxychlor	ND		0.00050		mg/l		08/29/11 09:05	08/29/11 15:23	1.0
Chlordane	ND		0.010		mg/l		08/29/11 09:05	08/29/11 15:23	1.0
Toxaphene	ND		0.020		mg/l		08/29/11 09:05	08/29/11 15:23	1.0
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Decachlorobiphenyl	85		45 - 120				08/29/11 09:05	08/29/11 15:23	1.0
Tetrachloro-m-xylene	66		35 - 115				08/29/11 09:05	08/29/11 15:23	1.0

Method: EPA 6010B - TCLP METALS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.20		mg/l		08/27/11 01:17	08/29/11 08:49	1.0
Barium	0.68		0.20		mg/l		08/27/11 01:17	08/29/11 08:49	1.0
Cadmium	ND		0.10		mg/l		08/27/11 01:17	08/29/11 08:49	1.0
Chromium	ND		0.10		mg/l		08/27/11 01:17	08/29/11 08:49	1.0
Lead	ND		0.10		mg/l		08/27/11 01:17	08/29/11 08:49	1.0
Selenium	ND		0.10		mg/l		08/27/11 01:17	08/29/11 08:49	1.0
Silver	ND		0.20		mg/l		08/27/11 01:17	08/29/11 08:49	1.0

Method: EPA 7470A - TCLP METALS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020		mg/l		08/28/11 13:48	08/29/11 14:16	1.0

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.14		1.00		pH Units		08/18/11 09:00	08/18/11 09:05	1.00

Method: SW846 7.1.2 - INORGANICS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ignitability	Not Ignitable		1.0		N/A		08/31/11 06:50	08/31/11 08:06	1.0

Client Sample ID: PMAK-Area 2-WC

Lab Sample ID: HUH0072-19

Date Collected: 08/11/11 11:40

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 8081A - TCLP ORGANOCHLORINE PESTICIDES (EPA 1311/3510/8081A) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	ND		0.00050		mg/l		08/29/11 09:05	08/29/11 15:38	1.0
gamma-BHC (Lindane)	ND		0.00050		mg/l		08/29/11 09:05	08/29/11 15:38	1.0
Heptachlor	ND		0.00050		mg/l		08/29/11 09:05	08/29/11 15:38	1.0
Heptachlor epoxide	ND		0.00050		mg/l		08/29/11 09:05	08/29/11 15:38	1.0
Methoxychlor	ND		0.00050		mg/l		08/29/11 09:05	08/29/11 15:38	1.0
Chlordane	ND		0.010		mg/l		08/29/11 09:05	08/29/11 15:38	1.0
Toxaphene	ND		0.020		mg/l		08/29/11 09:05	08/29/11 15:38	1.0
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Decachlorobiphenyl	72		45 - 120				08/29/11 09:05	08/29/11 15:38	1.0
Tetrachloro-m-xylene	57		35 - 115				08/29/11 09:05	08/29/11 15:38	1.0

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-Area 2-WC

Lab Sample ID: HUH0072-19

Date Collected: 08/11/11 11:40

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 6010B - TCLP METALS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.22		0.20		mg/l		08/27/11 01:17	08/29/11 09:03	1.0
Barium	0.80		0.20		mg/l		08/27/11 01:17	08/29/11 09:03	1.0
Cadmium	ND		0.10		mg/l		08/27/11 01:17	08/29/11 09:03	1.0
Chromium	ND		0.10		mg/l		08/27/11 01:17	08/29/11 09:03	1.0
Lead	ND		0.10		mg/l		08/27/11 01:17	08/29/11 09:03	1.0
Selenium	ND		0.10		mg/l		08/27/11 01:17	08/29/11 09:03	1.0
Silver	ND		0.20		mg/l		08/27/11 01:17	08/29/11 09:03	1.0

Method: EPA 7470A - TCLP METALS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020		mg/l		08/28/11 13:48	08/29/11 14:24	1.0

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.47		1.00		pH Units		08/18/11 09:00	08/18/11 09:05	1.00

Method: SW846 7.1.2 - INORGANICS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ignitability	Not Ignitable		1.0		N/A		08/31/11 06:50	08/31/11 08:06	1.0

Client Sample ID: PMAK-Area 5-WC

Lab Sample ID: HUH0072-20

Date Collected: 08/11/11 11:55

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 8081A - TCLP ORGANOCHLORINE PESTICIDES (EPA 1311/3510/8081A) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	ND		0.00050		mg/l		08/29/11 09:05	08/29/11 15:52	1.0
gamma-BHC (Lindane)	ND		0.00050		mg/l		08/29/11 09:05	08/29/11 15:52	1.0
Heptachlor	ND		0.00050		mg/l		08/29/11 09:05	08/29/11 15:52	1.0
Heptachlor epoxide	ND		0.00050		mg/l		08/29/11 09:05	08/29/11 15:52	1.0
Methoxychlor	ND		0.00050		mg/l		08/29/11 09:05	08/29/11 15:52	1.0
Chlordane	ND		0.010		mg/l		08/29/11 09:05	08/29/11 15:52	1.0
Toxaphene	ND		0.020		mg/l		08/29/11 09:05	08/29/11 15:52	1.0
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Decachlorobiphenyl	84		45 - 120				08/29/11 09:05	08/29/11 15:52	1.0
Tetrachloro-m-xylene	80		35 - 115				08/29/11 09:05	08/29/11 15:52	1.0

Method: EPA 6010B - TCLP METALS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.20		mg/l		08/27/11 01:17	08/29/11 08:57	1.0
Barium	0.80		0.20		mg/l		08/27/11 01:17	08/29/11 08:57	1.0
Cadmium	ND		0.10		mg/l		08/27/11 01:17	08/29/11 08:57	1.0
Chromium	ND		0.10		mg/l		08/27/11 01:17	08/29/11 08:57	1.0
Lead	ND		0.10		mg/l		08/27/11 01:17	08/29/11 08:57	1.0
Selenium	ND		0.10		mg/l		08/27/11 01:17	08/29/11 08:57	1.0
Silver	ND		0.20		mg/l		08/27/11 01:17	08/29/11 08:57	1.0

Method: EPA 7470A - TCLP METALS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020		mg/l		08/28/11 13:48	08/29/11 14:27	1.0

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-Area 5-WC

Lab Sample ID: HUH0072-20

Date Collected: 08/11/11 11:55

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Method: EPA 9045 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.40		1.00		pH Units		08/18/11 09:00	08/18/11 09:05	1.00

Method: SW846 7.1.2 - INORGANICS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ignitability	Not Ignitable		1.0		N/A		08/31/11 06:50	08/31/11 08:06	1.0

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Matrix: Solid/Soil

Prep Type: Total

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		2FP (30-120)	FBP (45-120)	NBZ (35-120)	PHL (40-120)	TBP (40-120)	TPH (40-130)
11H0087-BLK1	Method Blank					82	
11H0087-BS1	Lab Control Sample					103	
11H0087-MS1	PMAK-DU27					74	
11H0087-MSD1	PMAK-DU27					77	
11H0106-BLK1	Method Blank					89	
11H0106-BS1	Lab Control Sample					98	
11H0106-MS1	PMAK-DU21-A					92	
11H0106-MSD1	PMAK-DU21-A					97	
HUH0072-01	PMAK-DU27	60	71	72	69	66	78
HUH0072-02	PMAK-DU21-A					97	
HUH0072-03	PMAK-DU23-A					97	
HUH0072-04	PMAK-DU24-A-P					96	
HUH0072-05	PMAK-DU24-A-T1					100	
HUH0072-06	PMAK-DU24-A-T2					99	
HUH0072-07	PMAK-DU18-A-P					80	
HUH0072-08	PMAK-DU18-A-T1					91	
HUH0072-09	PMAK-DU18-A-T2					74	
HUH0072-11	PMAK-DU5-B					73	
HUH0072-12	PMAK-DU5-C					95	
HUH0072-13	PMAK-DU5-D					67	
HUH0072-15	PMAK-DU26	52	68	60	63	69	78
HUH0072-16	PMAK-DU19					58	
HUH0072-17	PMAK-DU25-A					100	

Surrogate Legend

- 2FP = 2-Fluorophenol
- FBP = 2-Fluorobiphenyl
- NBZ = Nitrobenzene-d5
- PHL = Phenol-d6
- TBP = 2,4,6-Tribromophenol
- TPH = Terphenyl-d14

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Matrix: Solid/Soil

Prep Type: Total

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		OTPH (40-120)
11H0103-BLK1	Method Blank	70
11H0103-BS1	Lab Control Sample	93
11H0103-MS1	Matrix Spike	Z3
11H0103-MSD1	Matrix Spike Duplicate	Z3
HUH0072-01	PMAK-DU27	79
HUH0072-15	PMAK-DU26	80

Surrogate Legend

- OTPH = o-Terphenyl

Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Method: EPA 8081 - Organochlorine Pesticides by EPA Method 8081

Matrix: Solid/Soil

Prep Type: Total

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		Decachlorobiph (45-120)	Decachloro-meta- (50-120)
11H0092-BLK1	Method Blank	83	77
11H0092-BS2	Lab Control Sample	91	75
11H0092-MS2	Matrix Spike	58	79
11H0092-MSD2	Matrix Spike Duplicate	50	75
HUH0072-01	PMAK-DU27	60	84
HUH0072-15	PMAK-DU26	130 Z1	146 Z1

Surrogate Legend
Decachlorobiphenyl = Decachlorobiphenyl
Tetrachloro-meta-xylene = Tetrachloro-meta-xylene

Method: EPA 8081A - TCLP ORGANOCHEMICAL PESTICIDES (EPA 1311/3510/8081A)

Matrix: Solid/Soil

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		Decachlorobiph (45-120)	TCX (35-115)
HUH0072-18	PMAK-Area 1,3,4-WC	85	66
HUH0072-19	PMAK-Area 2-WC	72	57
HUH0072-20	PMAK-Area 5-WC	84	80

Surrogate Legend
Decachlorobiphenyl = Decachlorobiphenyl
TCX = Tetrachloro-m-xylene

Method: EPA 8081A - TCLP ORGANOCHEMICAL PESTICIDES (EPA 1311/3510/8081A)

Matrix: Water

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		Decachlorobiph (45-120)	TCX (35-115)
11H3812-BLK1	Method Blank	85	84
11H3812-BS1	Lab Control Sample	86	81
11H3812-MS1	PMAK-Area 1,3,4-WC	77	58

Surrogate Legend
Decachlorobiphenyl = Decachlorobiphenyl
TCX = Tetrachloro-m-xylene

Internal Standards Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Matrix: Solid

Prep Type: Total

		Percent Internal Standard Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (40-135)	1,2,3,7,8-Pe (40-135)	,2,3,6,7,8-H (40-135)	2,3,4,6,7,8-I (40-135)	13C-OCDD (40-135)	TCDF (40-135)	1,2,3,7,8-Pe (40-135)	,2,3,4,7,8-H (40-135)
G11080000149B	Method Blank	91	93	89	78	80	94	90	83
G11080000149C	Lab Control Sample	101	99	110	124	108	102	109	109

		Percent Internal Standard Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	2,3,4,6,7,8-I (40-135)							
G11080000149B	Method Blank	82							
G11080000149C	Lab Control Sample	127							

Internal Standard Legend

- TCDD = 13C-2,3,7,8-TCDD
- 13C-1,2,3,7,8-PeCDD = 13C-1,2,3,7,8-PeCDD
- 13C-1,2,3,6,7,8-HxCDD = 13C-1,2,3,6,7,8-HxCDD
- 13C-1,2,3,4,6,7,8-HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
- 13C-OCDD = 13C-OCDD
- TCDF = 13C-2,3,7,8-TCDF
- 13C-1,2,3,7,8-PeCDF = 13C-1,2,3,7,8-PeCDF
- 13C-1,2,3,4,7,8-HxCDF = 13C-1,2,3,4,7,8-HxCDF
- 13C-1,2,3,4,6,7,8-HpCDF = 13C-1,2,3,4,6,7,8-HpCDF

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Matrix: Solid/Soil

Prep Type: Total

		Percent Internal Standard Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (40-135)	1,2,3,7,8-Pe (40-135)	,2,3,6,7,8-H (40-135)	2,3,4,6,7,8-I (40-135)	13C-OCDD (40-135)	TCDF (40-135)	1,2,3,7,8-Pe (40-135)	,2,3,4,7,8-H (40-135)
HUH0072-01	PMAK-DU27	94	99	88	98	102	95	95	86
HUH0072-03	PMAK-DU23-A	92	89	96	100	107	86	87	84
HUH0072-04	PMAK-DU24-A-P	96	100	86	105	115	97	96	83
HUH0072-04	PMAK-DU24-A-P	93	97	90	102	115	94	94	89
HUH0072-06	PMAK-DU24-A-T2	92	97	89	101	115	95	92	88
HUH0072-07	PMAK-DU18-A-P	96	93	93	105	109	93	90	87
HUH0072-08	PMAK-DU18-A-T1	93	91	83	101	106	89	84	78
HUH0072-09	PMAK-DU18-A-T2	84	74	74	69	68	78	71	59
HUH0072-11	PMAK-DU5-B	95	91	87	98	100	90	88	78
HUH0072-15	PMAK-DU26	94	90	92	95	101	91	86	83
HUH0072-16	PMAK-DU19	91	86	83	95	105	88	85	82
HUH0072-17	PMAK-DU25-A	94	89	92	101	102	89	90	83

		Percent Internal Standard Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	2,3,4,6,7,8-I (40-135)							
HUH0072-01	PMAK-DU27	95							
HUH0072-03	PMAK-DU23-A	89							
HUH0072-04	PMAK-DU24-A-P	95							
HUH0072-04	PMAK-DU24-A-P	95							
HUH0072-06	PMAK-DU24-A-T2	92							
HUH0072-07	PMAK-DU18-A-P	93							
HUH0072-08	PMAK-DU18-A-T1	88							
HUH0072-09	PMAK-DU18-A-T2	57							
HUH0072-11	PMAK-DU5-B	87							
HUH0072-15	PMAK-DU26	84							

Internal Standards Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Matrix: Solid/Soil

Prep Type: Total

Percent Internal Standard Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	2,3,4,6,7,8- (40-135)
HUH0072-16	PMAK-DU19	87
HUH0072-17	PMAK-DU25-A	87

Internal Standard Legend

TCDD = 13C-2,3,7,8-TCDD
13C-1,2,3,7,8-PeCDD = 13C-1,2,3,7,8-PeCDD
13C-1,2,3,6,7,8-HxCDD = 13C-1,2,3,6,7,8-HxCDD
13C-1,2,3,4,6,7,8-HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
13C-OCDD = 13C-OCDD
TCDF = 13C-2,3,7,8-TCDF
13C-1,2,3,7,8-PeCDF = 13C-1,2,3,7,8-PeCDF
13C-1,2,3,4,7,8-HxCDF = 13C-1,2,3,4,7,8-HxCDF
13C-1,2,3,4,6,7,8-HpCDF = 13C-1,2,3,4,6,7,8-HpCDF

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270

Lab Sample ID: 11H0087-BLK1
Matrix: Solid/Soil
Analysis Batch: 11H0087

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 11H0087_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.330		mg/kg		08/18/11 11:17	09/01/11 17:00	1.00
Surrogate	%Recovery	Blank Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	82		40 - 120				08/18/11 11:17	09/01/11 17:00	1.00

Lab Sample ID: 11H0087-BS1
Matrix: Solid/Soil
Analysis Batch: 11H0087

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 11H0087_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Pentachlorophenol	1.67	2.01		mg/kg		120	50 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
2,4,6-Tribromophenol	103		40 - 120				

Lab Sample ID: 11H0087-MS1
Matrix: Solid/Soil
Analysis Batch: 11H0087

Client Sample ID: PMAK-DU27
Prep Type: Total
Prep Batch: 11H0087_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Pentachlorophenol	ND		1.62	1.33		mg/kg		82	50 - 120
Surrogate	Matrix Spike %Recovery	Matrix Spike Qualifier	Limits						
2,4,6-Tribromophenol	74		40 - 120						

Lab Sample ID: 11H0087-MSD1
Matrix: Solid/Soil
Analysis Batch: 11H0087

Client Sample ID: PMAK-DU27
Prep Type: Total
Prep Batch: 11H0087_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Pentachlorophenol	ND		1.58	1.36		mg/kg		86	50 - 120	2	30
Surrogate	Matrix Spike Dup %Recovery	Matrix Spike Dup Qualifier	Limits								
2,4,6-Tribromophenol	77		40 - 120								

Lab Sample ID: 11H0106-BLK1
Matrix: Solid/Soil
Analysis Batch: 11H0106

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 11H0106_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.330		mg/kg		08/24/11 10:07	09/07/11 11:26	1.00
Surrogate	%Recovery	Blank Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	89		40 - 120				08/24/11 10:07	09/07/11 11:26	1.00

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Method: EPA 8270 - Semivolatile Organics Compounds by EPA 8270 (Continued)

Lab Sample ID: 11H0106-BS1
Matrix: Solid/Soil
Analysis Batch: 11H0106

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 11H0106_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Pentachlorophenol	1.67	1.63		mg/kg		98	50 - 120
Surrogate		LCS %Recovery	LCS Qualifier				Limits
2,4,6-Tribromophenol		98					40 - 120

Lab Sample ID: 11H0106-MS1
Matrix: Solid/Soil
Analysis Batch: 11H0106

Client Sample ID: PMAK-DU21-A
Prep Type: Total
Prep Batch: 11H0106_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	Limits
Pentachlorophenol	0.174		1.56	1.29		mg/kg		72	50 - 120
Surrogate		Matrix Spike %Recovery		Matrix Spike Qualifier					Limits
2,4,6-Tribromophenol		92							40 - 120

Lab Sample ID: 11H0106-MSD1
Matrix: Solid/Soil
Analysis Batch: 11H0106

Client Sample ID: PMAK-DU21-A
Prep Type: Total
Prep Batch: 11H0106_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Pentachlorophenol	0.174		1.64	1.47		mg/kg		79	50 - 120	13	30
Surrogate		Matrix Spike Dup %Recovery		Matrix Spike Dup Qualifier					Limits		
2,4,6-Tribromophenol		97							40 - 120		

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M

Lab Sample ID: 11H0103-BLK1
Matrix: Solid/Soil
Analysis Batch: 11H0103

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 11H0103_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO	ND		4.00		mg/kg		08/23/11 08:53	08/23/11 17:19	1.00
RRO	ND		20.0		mg/kg		08/23/11 08:53	08/23/11 17:19	1.00
Surrogate		Blank %Recovery		Blank Qualifier			Prepared	Analyzed	Dil Fac
o-Terphenyl		70					08/23/11 08:53	08/23/11 17:19	1.00

Lab Sample ID: 11H0103-BS1
Matrix: Solid/Soil
Analysis Batch: 11H0103

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 11H0103_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
DRO	167	171		mg/kg		103	55 - 125
Surrogate		LCS %Recovery	LCS Qualifier				Limits
o-Terphenyl		93					40 - 120

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Method: EPA 8015 - Extractable Petroleum Hydrocarbons by 8015M (Continued)

Lab Sample ID: 11H0103-MS1

Matrix: Solid/Soil

Analysis Batch: 11H0103

Client Sample ID: Matrix Spike

Prep Type: Total

Prep Batch: 11H0103_P

Analyte	Sample	Sample	Spike	Matrix Spike	Matrix Spike	Unit	D	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
DRO	17200		164	18000	MHA Q	mg/kg		487	55 - 125
Surrogate	%Recovery	Qualifier	Limits						
<i>o</i> -Terphenyl		Z3	40 - 120						

Lab Sample ID: 11H0103-MSD1

Matrix: Solid/Soil

Analysis Batch: 11H0103

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total

Prep Batch: 11H0103_P

Analyte	Sample	Sample	Spike	Matrix Spike Dup	Matrix Spike Dup	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
DRO	17200		162	17200	MHA Q	mg/kg		29	55 - 125	4	30
Surrogate	%Recovery	Qualifier	Limits								
<i>o</i> -Terphenyl		Z3	40 - 120								

Method: EPA 8081 - Organochlorine Pesticides by EPA Method 8081

Lab Sample ID: 11H0092-BLK1

Matrix: Solid/Soil

Analysis Batch: 11H0092

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 11H0092_P

Analyte	Blank	Blank	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
4,4'-DDD	ND		0.00400		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
4,4'-DDE	ND		0.00400		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
4,4'-DDT	ND		0.00400		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
Aldrin	ND		0.00400		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
alpha-BHC	ND		0.00400		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
beta-BHC	ND		0.00400		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
Chlordane	ND		0.0330		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
delta-BHC	ND		0.00400		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
Dieldrin	ND		0.00400		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
Endosulfan I	ND		0.00400		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
Endosulfan II	ND		0.00400		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
Endosulfan sulfate	ND		0.00400		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
Endrin	ND		0.00400		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
Endrin aldehyde	ND		0.00400		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
Endrin ketone	ND		0.00400		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
gamma-BHC (Lindane)	ND		0.00400		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
Heptachlor	ND		0.00400		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
Heptachlor epoxide	ND		0.00400		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
Methoxychlor	ND		0.0200		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
Toxaphene	ND		0.0500		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
alpha-Chlordane	ND		0.00400		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
gamma-Chlordane	ND		0.00400		mg/kg		08/19/11 08:11	08/29/11 16:20	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Decachlorobiphenyl	83		45 - 120				08/19/11 08:11	08/29/11 16:20	1.00
Tetrachloro-meta-xylene	77		50 - 120				08/19/11 08:11	08/29/11 16:20	1.00

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Method: EPA 8081 - Organochlorine Pesticides by EPA Method 8081 (Continued)

Lab Sample ID: 11H0092-BS2

Matrix: Solid/Soil

Analysis Batch: 11H0092

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 11H0092_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	
4,4'-DDD	0.0667	0.0675		mg/kg		101	35 - 140	
4,4'-DDE	0.0667	0.0664		mg/kg		100	55 - 125	
4,4'-DDT	0.0667	0.0621		mg/kg		93	55 - 135	
Aldrin	0.0667	0.0544		mg/kg		82	55 - 120	
alpha-BHC	0.0667	0.0617		mg/kg		92	55 - 125	
beta-BHC	0.0667	0.0624		mg/kg		94	55 - 125	
delta-BHC	0.0667	0.0650		mg/kg		98	50 - 135	
Dieldrin	0.0667	0.0631		mg/kg		95	60 - 125	
Endosulfan I	0.0667	0.0619		mg/kg		93	45 - 125	
Endosulfan II	0.0667	0.0664		mg/kg		100	55 - 120	
Endosulfan sulfate	0.0667	0.0577		mg/kg		87	50 - 120	
Endrin	0.0667	0.0715		mg/kg		107	60 - 125	
Endrin aldehyde	0.0667	0.0582		mg/kg		87	40 - 130	
Endrin ketone	0.0667	0.0633		mg/kg		95	55 - 125	
gamma-BHC (Lindane)	0.0667	0.0638		mg/kg		96	55 - 120	
Heptachlor	0.0667	0.0679		mg/kg		102	65 - 115	
Heptachlor epoxide	0.0667	0.0610		mg/kg		91	60 - 120	
Methoxychlor	0.0667	0.0622		mg/kg		93	55 - 135	
alpha-Chlordane	0.0667	0.0546		mg/kg		82	45 - 130	
gamma-Chlordane	0.0667	0.0565		mg/kg		85	55 - 120	
		LCS	LCS					
Surrogate		%Recovery	Qualifier				Limits	
Decachlorobiphenyl		91					45 - 120	
Tetrachloro-meta-xylene		75					50 - 120	

Lab Sample ID: 11H0092-MS2

Matrix: Solid/Soil

Analysis Batch: 11H0092

Client Sample ID: Matrix Spike

Prep Type: Total

Prep Batch: 11H0092_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec.	
									Limits	
4,4'-DDD	ND		0.0662	0.0605		mg/kg		91	35 - 140	
4,4'-DDE	ND		0.0662	0.0637		mg/kg		96	55 - 125	
4,4'-DDT	ND		0.0662	0.0522		mg/kg		79	55 - 135	
Aldrin	ND		0.0662	0.0552		mg/kg		83	55 - 120	
alpha-BHC	ND		0.0662	0.0623		mg/kg		94	55 - 125	
beta-BHC	ND		0.0662	0.0559		mg/kg		84	55 - 125	
delta-BHC	ND		0.0662	0.0591		mg/kg		89	50 - 135	
Dieldrin	ND		0.0662	0.0624		mg/kg		94	60 - 125	
Endosulfan I	ND		0.0662	0.0587		mg/kg		89	45 - 125	
Endosulfan II	ND		0.0662	0.0595		mg/kg		90	55 - 120	
Endosulfan sulfate	ND		0.0662	0.0558		mg/kg		84	50 - 120	
Endrin	ND		0.0662	0.0864	M1	mg/kg		130	60 - 125	
Endrin aldehyde	0.00218		0.0662	0.0563		mg/kg		82	40 - 130	
Endrin ketone	ND		0.0662	0.0597		mg/kg		90	55 - 125	
gamma-BHC (Lindane)	ND		0.0662	0.0641		mg/kg		97	55 - 120	
Heptachlor	ND		0.0662	0.0697		mg/kg		105	65 - 115	
Heptachlor epoxide	ND		0.0662	0.0610		mg/kg		92	60 - 120	
Methoxychlor	ND		0.0662	0.0674		mg/kg		102	55 - 135	
alpha-Chlordane	ND		0.0662	0.0567		mg/kg		86	45 - 130	

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Method: EPA 8081 - Organochlorine Pesticides by EPA Method 8081 (Continued)

Lab Sample ID: 11H0092-MS2

Matrix: Solid/Soil

Analysis Batch: 11H0092

Client Sample ID: Matrix Spike

Prep Type: Total

Prep Batch: 11H0092_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Matrix Spike Unit	D	%Rec	%Rec. Limits
gamma-Chlordane	0.00495		0.0662	0.0599		mg/kg		83	55 - 120
Surrogate	%Recovery	Qualifier	Limits						
Decachlorobiphenyl	58		45 - 120						
Tetrachloro-meta-xylene	79		50 - 120						

Lab Sample ID: 11H0092-MSD2

Matrix: Solid/Soil

Analysis Batch: 11H0092

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total

Prep Batch: 11H0092_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Matrix Spike Dup Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	ND		0.0649	0.0588		mg/kg		91	35 - 140	3	30
4,4'-DDE	ND		0.0649	0.0669		mg/kg		103	55 - 125	5	30
4,4'-DDT	ND		0.0649	0.0505		mg/kg		78	55 - 135	3	30
Aldrin	ND		0.0649	0.0550		mg/kg		85	55 - 120	0.4	30
alpha-BHC	ND		0.0649	0.0629		mg/kg		97	55 - 125	1	30
beta-BHC	ND		0.0649	0.0492		mg/kg		76	55 - 125	13	30
delta-BHC	ND		0.0649	0.0519		mg/kg		80	50 - 135	13	30
Dieldrin	ND		0.0649	0.0636		mg/kg		98	60 - 125	2	30
Endosulfan I	ND		0.0649	0.0553		mg/kg		85	45 - 125	6	30
Endosulfan II	ND		0.0649	0.0551		mg/kg		85	55 - 120	8	30
Endosulfan sulfate	ND		0.0649	0.0473		mg/kg		73	50 - 120	16	30
Endrin	ND		0.0649	0.0933	M1	mg/kg		144	60 - 125	8	30
Endrin aldehyde	0.00218		0.0649	0.0501		mg/kg		74	40 - 130	12	30
Endrin ketone	ND		0.0649	0.0503		mg/kg		77	55 - 125	17	30
gamma-BHC (Lindane)	ND		0.0649	0.0626		mg/kg		96	55 - 120	2	30
Heptachlor	ND		0.0649	0.0716		mg/kg		110	65 - 115	3	30
Heptachlor epoxide	ND		0.0649	0.0592		mg/kg		91	60 - 120	3	30
Methoxychlor	ND		0.0649	0.0569		mg/kg		88	55 - 135	17	30
alpha-Chlordane	ND		0.0649	0.0565		mg/kg		87	45 - 130	0.3	30
gamma-Chlordane	0.00495		0.0649	0.0598		mg/kg		84	55 - 120	0.2	30
Surrogate	%Recovery	Qualifier	Limits								
Decachlorobiphenyl	50		45 - 120								
Tetrachloro-meta-xylene	75		50 - 120								

Method: EPA 8081A - TCLP ORGANOCHLORINE PESTICIDES (EPA 1311/3510/8081A)

Lab Sample ID: 11H3812-BLK1

Matrix: Water

Analysis Batch: 11H3812

Client Sample ID: Method Blank

Prep Type: TCLP

Prep Batch: 11H3812_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	ND		0.00050		mg/l		08/29/11 09:05	08/29/11 14:40	1.00
gamma-BHC (Lindane)	ND		0.00050		mg/l		08/29/11 09:05	08/29/11 14:40	1.00
Heptachlor	ND		0.00050		mg/l		08/29/11 09:05	08/29/11 14:40	1.00
Heptachlor epoxide	ND		0.00050		mg/l		08/29/11 09:05	08/29/11 14:40	1.00
Methoxychlor	ND		0.00050		mg/l		08/29/11 09:05	08/29/11 14:40	1.00
Chlordane	ND		0.010		mg/l		08/29/11 09:05	08/29/11 14:40	1.00

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Method: EPA 8081A - TCLP ORGANOCHLORINE PESTICIDES (EPA 1311/3510/8081A) (Continued)

Lab Sample ID: 11H3812-BLK1
Matrix: Water
Analysis Batch: 11H3812

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 11H3812_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	ND		0.020		mg/l		08/29/11 09:05	08/29/11 14:40	1.00

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
Decachlorobiphenyl	85		45 - 120	08/29/11 09:05	08/29/11 14:40	1.00
Tetrachloro-m-xylene	84		35 - 115	08/29/11 09:05	08/29/11 14:40	1.00

Lab Sample ID: 11H3812-BS1
Matrix: Water
Analysis Batch: 11H3812

Client Sample ID: Lab Control Sample
Prep Type: TCLP
Prep Batch: 11H3812_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Endrin	0.00250	0.00227		mg/l		91	55 - 115
gamma-BHC (Lindane)	0.00250	0.00201		mg/l		80	45 - 115
Heptachlor	0.00250	0.00204		mg/l		82	45 - 115
Heptachlor epoxide	0.00250	0.00206		mg/l		82	55 - 115
Methoxychlor	0.00250	0.00239		mg/l		96	60 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Decachlorobiphenyl	86		45 - 120
Tetrachloro-m-xylene	81		35 - 115

Lab Sample ID: 11H3812-MS1
Matrix: Water
Analysis Batch: 11H3812

Client Sample ID: PMAK-Area 1,3,4-WC
Prep Type: TCLP
Prep Batch: 11H3812_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Endrin	ND		0.00250	0.00202		mg/l		81	50 - 120
gamma-BHC (Lindane)	ND		0.00250	0.00169		mg/l		67	40 - 120
Heptachlor	ND		0.00250	0.00169		mg/l		68	40 - 120
Heptachlor epoxide	ND		0.00250	0.00177		mg/l		71	50 - 120
Methoxychlor	ND		0.00250	0.00211		mg/l		84	55 - 125

Surrogate	Matrix Spike %Recovery	Matrix Spike Qualifier	Limits
Decachlorobiphenyl	77		45 - 120
Tetrachloro-m-xylene	58		35 - 115

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Lab Sample ID: G1I08000149B
Matrix: Solid
Analysis Batch: 1251149

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 1251149_P

Analyte	MB Result	MB Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		2.0	0.11	1		pg/g		09/08/11 17:00	09/17/11 10:40	2
Total TCDD	ND		2.0	0.11			pg/g		09/08/11 17:00	09/17/11 10:40	2
1,2,3,7,8-PeCDD	ND		10	0.17	1		pg/g		09/08/11 17:00	09/17/11 10:40	2
Total PeCDD	ND		10	0.17			pg/g		09/08/11 17:00	09/17/11 10:40	2
1,2,3,4,7,8-HxCDD	ND		10	0.16	0.1		pg/g		09/08/11 17:00	09/17/11 10:40	2
1,2,3,6,7,8-HxCDD	ND		10	0.14	0.1		pg/g		09/08/11 17:00	09/17/11 10:40	2

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Lab Sample ID: G1I080000149B

Matrix: Solid

Analysis Batch: 1251149

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 1251149_P

Analyte	MB MB		ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier									
1,2,3,7,8,9-HxCDD	ND		10	0.14	0.1	pg/g		09/08/11 17:00	09/17/11 10:40	2	
Total HxCDD	ND		10	0.14		pg/g		09/08/11 17:00	09/17/11 10:40	2	
1,2,3,4,6,7,8-HpCDD	ND		10	0.24	0.01	pg/g		09/08/11 17:00	09/17/11 10:40	2	
Total HpCDD	ND		10	0.24		pg/g		09/08/11 17:00	09/17/11 10:40	2	
OCDD	ND		20	0.31	0.0003	pg/g		09/08/11 17:00	09/17/11 10:40	2	
2,3,7,8-TCDF	ND		2.0	0.10	0.1	pg/g		09/08/11 17:00	09/17/11 10:40	2	
Total TCDF	ND		2.0	0.10		pg/g		09/08/11 17:00	09/17/11 10:40	2	
1,2,3,7,8-PeCDF	ND		10	0.14	0.03	pg/g		09/08/11 17:00	09/17/11 10:40	2	
2,3,4,7,8-PeCDF	ND		10	0.16	0.3	pg/g		09/08/11 17:00	09/17/11 10:40	2	
Total PeCDF	ND		10	0.15		pg/g		09/08/11 17:00	09/17/11 10:40	2	
1,2,3,4,7,8-HxCDF	ND		10	0.14	0.1	pg/g		09/08/11 17:00	09/17/11 10:40	2	
1,2,3,6,7,8-HxCDF	ND		10	0.13	0.1	pg/g		09/08/11 17:00	09/17/11 10:40	2	
2,3,4,6,7,8-HxCDF	ND		10	0.13	0.1	pg/g		09/08/11 17:00	09/17/11 10:40	2	
1,2,3,7,8,9-HxCDF	ND		10	0.15	0.1	pg/g		09/08/11 17:00	09/17/11 10:40	2	
Total HxCDF	ND		10	0.14		pg/g		09/08/11 17:00	09/17/11 10:40	2	
1,2,3,4,6,7,8-HpCDF	ND		10	0.20	0.01	pg/g		09/08/11 17:00	09/17/11 10:40	2	
1,2,3,4,7,8,9-HpCDF	ND		10	0.23	0.01	pg/g		09/08/11 17:00	09/17/11 10:40	2	
Total HpCDF	ND		10	0.21		pg/g		09/08/11 17:00	09/17/11 10:40	2	
OCDF	ND		20	0.27	0.0003	pg/g		09/08/11 17:00	09/17/11 10:40	2	
Total TEQ										0.00	

Internal Standard	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C-2,3,7,8-TCDD	91		40 - 135	09/08/11 17:00	09/17/11 10:40	2
13C-1,2,3,7,8-PeCDD	93		40 - 135	09/08/11 17:00	09/17/11 10:40	2
13C-1,2,3,6,7,8-HxCDD	89		40 - 135	09/08/11 17:00	09/17/11 10:40	2
13C-1,2,3,4,6,7,8-HpCDD	78		40 - 135	09/08/11 17:00	09/17/11 10:40	2
13C-OCDD	80		40 - 135	09/08/11 17:00	09/17/11 10:40	2
13C-2,3,7,8-TCDF	94		40 - 135	09/08/11 17:00	09/17/11 10:40	2
13C-1,2,3,7,8-PeCDF	90		40 - 135	09/08/11 17:00	09/17/11 10:40	2
13C-1,2,3,4,7,8-HxCDF	83		40 - 135	09/08/11 17:00	09/17/11 10:40	2
13C-1,2,3,4,6,7,8-HpCDF	82		40 - 135	09/08/11 17:00	09/17/11 10:40	2

Lab Sample ID: G1I080000149C

Matrix: Solid

Analysis Batch: 1251149

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 1251149_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	20.0	21.4		pg/g		107	60 - 138
1,2,3,7,8-PeCDD	100	124	a	pg/g		124	70 - 122
1,2,3,4,7,8-HxCDD	100	130		pg/g		130	60 - 138
1,2,3,6,7,8-HxCDD	100	132		pg/g		132	68 - 136
1,2,3,7,8,9-HxCDD	100	126		pg/g		126	68 - 138
1,2,3,4,6,7,8-HpCDD	100	113		pg/g		113	71 - 128
OCDD	200	224		pg/g		112	70 - 128
2,3,7,8-TCDF	20.0	25.2		pg/g		126	56 - 158
1,2,3,7,8-PeCDF	100	107		pg/g		107	69 - 134
2,3,4,7,8-PeCDF	100	111		pg/g		111	70 - 131
1,2,3,4,7,8-HxCDF	100	115		pg/g		115	74 - 128
1,2,3,6,7,8-HxCDF	100	119		pg/g		119	67 - 140

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Lab Sample ID: G1I080000149C
Matrix: Solid
Analysis Batch: 1251149

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 1251149_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,4,6,7,8-HxCDF	100	121		pg/g		121	71 - 137
1,2,3,7,8,9-HxCDF	100	113		pg/g		113	72 - 134
1,2,3,4,6,7,8-HpCDF	100	120		pg/g		120	71 - 134
1,2,3,4,7,8,9-HpCDF	100	125		pg/g		125	68 - 129
OCDF	200	247		pg/g		124	63 - 141

Internal Standard	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	101		40 - 135
13C-1,2,3,7,8-PeCDD	99		40 - 135
13C-1,2,3,6,7,8-HxCDD	110		40 - 135
13C-1,2,3,4,6,7,8-HpCDD	124		40 - 135
13C-OCDD	108		40 - 135
13C-2,3,7,8-TCDF	102		40 - 135
13C-1,2,3,7,8-PeCDF	109		40 - 135
13C-1,2,3,4,7,8-HxCDF	109		40 - 135
13C-1,2,3,4,6,7,8-HpCDF	127		40 - 135

Method: EPA 6010 - Bio-available Metals

Lab Sample ID: 11J0015-BLK1
Matrix: Solid/Soil
Analysis Batch: 11J0015

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 11J0015_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Total	ND		1.00		mg/kg		10/05/11 11:00	10/10/11 10:11	1.00

Lab Sample ID: 11J0015-BS1
Matrix: Solid/Soil
Analysis Batch: 11J0015

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 11J0015_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic Total	50.0	46.9		mg/kg		94	80 - 120

Lab Sample ID: 11J0015-MS1
Matrix: Solid/Soil
Analysis Batch: 11J0015

Client Sample ID: PMAK-DU23-A
Prep Type: Total
Prep Batch: 11J0015_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic Total	18.4		50.0	28.7	M1	mg/kg		21	80 - 120

Lab Sample ID: 11J0015-MSD1
Matrix: Solid/Soil
Analysis Batch: 11J0015

Client Sample ID: PMAK-DU23-A
Prep Type: Total
Prep Batch: 11J0015_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic Total	18.4		50.0	33.9	M1	mg/kg		31	80 - 120	17	20

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Method: EPA 6010B - TCLP METALS

Lab Sample ID: 11H3690-BLK1
Matrix: Soil
Analysis Batch: 11H3690

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 11H3690_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.20		mg/l		08/27/11 01:17	08/29/11 08:44	1.00
Barium	ND		0.20		mg/l		08/27/11 01:17	08/29/11 08:44	1.00
Cadmium	ND		0.10		mg/l		08/27/11 01:17	08/29/11 08:44	1.00
Chromium	ND		0.10		mg/l		08/27/11 01:17	08/29/11 08:44	1.00
Lead	ND		0.10		mg/l		08/27/11 01:17	08/29/11 08:44	1.00
Selenium	ND		0.10		mg/l		08/27/11 01:17	08/29/11 08:44	1.00
Silver	ND		0.20		mg/l		08/27/11 01:17	08/29/11 08:44	1.00

Lab Sample ID: 11H3690-BS1
Matrix: Soil
Analysis Batch: 11H3690

Client Sample ID: Lab Control Sample
Prep Type: TCLP
Prep Batch: 11H3690_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2.00	2.05		mg/l		102	80 - 120
Barium	2.00	2.12		mg/l		106	80 - 120
Cadmium	2.00	2.08		mg/l		104	80 - 120
Chromium	2.00	2.11		mg/l		105	80 - 120
Lead	2.00	2.09		mg/l		105	80 - 120
Selenium	2.00	1.86		mg/l		93	80 - 120
Silver	1.00	1.05		mg/l		105	80 - 120

Lab Sample ID: 11H3690-MS1
Matrix: Soil
Analysis Batch: 11H3690

Client Sample ID: PMAK-Area 1,3,4-WC
Prep Type: TCLP
Prep Batch: 11H3690_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		2.00	2.02		mg/l		101	75 - 125
Barium	0.677		2.00	2.75		mg/l		104	75 - 125
Cadmium	ND		2.00	1.97		mg/l		99	75 - 125
Chromium	ND		2.00	2.02		mg/l		101	75 - 125
Lead	ND		2.00	1.94		mg/l		97	75 - 125
Selenium	ND		2.00	1.86		mg/l		93	75 - 125
Silver	ND		1.00	1.02		mg/l		102	75 - 125

Method: EPA 7470A - TCLP METALS

Lab Sample ID: 11H3746-BLK1
Matrix: Liquid
Analysis Batch: 11H3746

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 11H3746_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020		mg/l		08/28/11 13:48	08/29/11 14:11	1.00

Lab Sample ID: 11H3746-BS1
Matrix: Liquid
Analysis Batch: 11H3746

Client Sample ID: Lab Control Sample
Prep Type: TCLP
Prep Batch: 11H3746_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0800	0.0784		mg/l		98	80 - 120

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Method: EPA 7470A - TCLP METALS (Continued)

Lab Sample ID: 11H3746-MS1

Matrix: Liquid

Analysis Batch: 11H3746

Client Sample ID: PMAK-Area 1,3,4-WC

Prep Type: TCLP

Prep Batch: 11H3746_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	Limits
Mercury	ND		0.0800	0.0787		mg/l		98	70 - 130

Lab Sample ID: 11H3746-MSD1

Matrix: Liquid

Analysis Batch: 11H3746

Client Sample ID: PMAK-Area 1,3,4-WC

Prep Type: TCLP

Prep Batch: 11H3746_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	ND		0.0800	0.0804		mg/l		101	70 - 130	2	20

Method: EPA 9045 - General Chemistry Parameters

Lab Sample ID: 11H0081-DUP1

Matrix: Solid/Soil

Analysis Batch: 11H0081

Client Sample ID: PMAK-Area 1,3,4-WC

Prep Type: Total

Prep Batch: 11H0081_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	Limit
pH	7.14		7.26		pH Units		2	20

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

GCMS Semivolatiles

Analysis Batch: 11H0087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0087-BLK1	Method Blank	Total	Solid/Soil	EPA 8270	11H0087_P
11H0087-BS1	Lab Control Sample	Total	Solid/Soil	EPA 8270	11H0087_P
11H0087-MS1	PMAK-DU27	Total	Solid/Soil	EPA 8270	11H0087_P
11H0087-MSD1	PMAK-DU27	Total	Solid/Soil	EPA 8270	11H0087_P
HUH0072-01	PMAK-DU27	Total	Solid/Soil	EPA 8270	11H0087_P
HUH0072-15	PMAK-DU26	Total	Solid/Soil	EPA 8270	11H0087_P

Analysis Batch: 11H0106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0106-BLK1	Method Blank	Total	Solid/Soil	EPA 8270	11H0106_P
11H0106-BS1	Lab Control Sample	Total	Solid/Soil	EPA 8270	11H0106_P
11H0106-MS1	PMAK-DU21-A	Total	Solid/Soil	EPA 8270	11H0106_P
11H0106-MSD1	PMAK-DU21-A	Total	Solid/Soil	EPA 8270	11H0106_P
HUH0072-02	PMAK-DU21-A	Total	Solid/Soil	EPA 8270	11H0106_P
HUH0072-03	PMAK-DU23-A	Total	Solid/Soil	EPA 8270	11H0106_P
HUH0072-04	PMAK-DU24-A-P	Total	Solid/Soil	EPA 8270	11H0106_P
HUH0072-05	PMAK-DU24-A-T1	Total	Solid/Soil	EPA 8270	11H0106_P
HUH0072-06	PMAK-DU24-A-T2	Total	Solid/Soil	EPA 8270	11H0106_P
HUH0072-07	PMAK-DU18-A-P	Total	Solid/Soil	EPA 8270	11H0106_P
HUH0072-08	PMAK-DU18-A-T1	Total	Solid/Soil	EPA 8270	11H0106_P
HUH0072-09	PMAK-DU18-A-T2	Total	Solid/Soil	EPA 8270	11H0106_P
HUH0072-11	PMAK-DU5-B	Total	Solid/Soil	EPA 8270	11H0106_P
HUH0072-12	PMAK-DU5-C	Total	Solid/Soil	EPA 8270	11H0106_P
HUH0072-13	PMAK-DU5-D	Total	Solid/Soil	EPA 8270	11H0106_P
HUH0072-16	PMAK-DU19	Total	Solid/Soil	EPA 8270	11H0106_P
HUH0072-17	PMAK-DU25-A	Total	Solid/Soil	EPA 8270	11H0106_P

Prep Batch: 11H0087_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0087-BLK1	Method Blank	Total	Solid/Soil	EPA 3550 MS	
11H0087-BS1	Lab Control Sample	Total	Solid/Soil	EPA 3550 MS	
11H0087-MS1	PMAK-DU27	Total	Solid/Soil	EPA 3550 MS	
11H0087-MSD1	PMAK-DU27	Total	Solid/Soil	EPA 3550 MS	
HUH0072-01	PMAK-DU27	Total	Solid/Soil	EPA 3550 MS	
HUH0072-15	PMAK-DU26	Total	Solid/Soil	EPA 3550 MS	

Prep Batch: 11H0106_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0106-BLK1	Method Blank	Total	Solid/Soil	EPA 3550 MS	
11H0106-BS1	Lab Control Sample	Total	Solid/Soil	EPA 3550 MS	
11H0106-MS1	PMAK-DU21-A	Total	Solid/Soil	EPA 3550 MS	
11H0106-MSD1	PMAK-DU21-A	Total	Solid/Soil	EPA 3550 MS	
HUH0072-02	PMAK-DU21-A	Total	Solid/Soil	EPA 3550 MS	
HUH0072-03	PMAK-DU23-A	Total	Solid/Soil	EPA 3550 MS	
HUH0072-04	PMAK-DU24-A-P	Total	Solid/Soil	EPA 3550 MS	
HUH0072-05	PMAK-DU24-A-T1	Total	Solid/Soil	EPA 3550 MS	
HUH0072-06	PMAK-DU24-A-T2	Total	Solid/Soil	EPA 3550 MS	
HUH0072-07	PMAK-DU18-A-P	Total	Solid/Soil	EPA 3550 MS	
HUH0072-08	PMAK-DU18-A-T1	Total	Solid/Soil	EPA 3550 MS	
HUH0072-09	PMAK-DU18-A-T2	Total	Solid/Soil	EPA 3550 MS	
HUH0072-11	PMAK-DU5-B	Total	Solid/Soil	EPA 3550 MS	
HUH0072-12	PMAK-DU5-C	Total	Solid/Soil	EPA 3550 MS	

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

GCMS Semivolatiles (Continued)

Prep Batch: 11H0106_P (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0072-13	PMAK-DU5-D	Total	Solid/Soil	EPA 3550 MS	
HUH0072-16	PMAK-DU19	Total	Solid/Soil	EPA 3550 MS	
HUH0072-17	PMAK-DU25-A	Total	Solid/Soil	EPA 3550 MS	

GC Semivolatiles

Analysis Batch: 11H0092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0092-BLK1	Method Blank	Total	Solid/Soil	EPA 8081	11H0092_P
11H0092-BS2	Lab Control Sample	Total	Solid/Soil	EPA 8081	11H0092_P
11H0092-MS2	Matrix Spike	Total	Solid/Soil	EPA 8081	11H0092_P
11H0092-MSD2	Matrix Spike Duplicate	Total	Solid/Soil	EPA 8081	11H0092_P
HUH0072-01	PMAK-DU27	Total	Solid/Soil	EPA 8081	11H0092_P
HUH0072-15	PMAK-DU26	Total	Solid/Soil	EPA 8081	11H0092_P

Analysis Batch: 11H0103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0103-BLK1	Method Blank	Total	Solid/Soil	EPA 8015	11H0103_P
11H0103-BS1	Lab Control Sample	Total	Solid/Soil	EPA 8015	11H0103_P
11H0103-MS1	Matrix Spike	Total	Solid/Soil	EPA 8015	11H0103_P
11H0103-MSD1	Matrix Spike Duplicate	Total	Solid/Soil	EPA 8015	11H0103_P
HUH0072-01	PMAK-DU27	Total	Solid/Soil	EPA 8015	11H0103_P
HUH0072-15	PMAK-DU26	Total	Solid/Soil	EPA 8015	11H0103_P

Prep Batch: 11H0092_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0092-BLK1	Method Blank	Total	Solid/Soil	EPA 3550 GC	
11H0092-BS2	Lab Control Sample	Total	Solid/Soil	EPA 3550 GC	
11H0092-MS2	Matrix Spike	Total	Solid/Soil	EPA 3550 GC	
11H0092-MSD2	Matrix Spike Duplicate	Total	Solid/Soil	EPA 3550 GC	
HUH0072-01	PMAK-DU27	Total	Solid/Soil	EPA 3550 GC	
HUH0072-15	PMAK-DU26	Total	Solid/Soil	EPA 3550 GC	

Prep Batch: 11H0103_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0103-BLK1	Method Blank	Total	Solid/Soil	EPA 3550 GC	
11H0103-BS1	Lab Control Sample	Total	Solid/Soil	EPA 3550 GC	
11H0103-MS1	Matrix Spike	Total	Solid/Soil	EPA 3550 GC	
11H0103-MSD1	Matrix Spike Duplicate	Total	Solid/Soil	EPA 3550 GC	
HUH0072-01	PMAK-DU27	Total	Solid/Soil	EPA 3550 GC	
HUH0072-15	PMAK-DU26	Total	Solid/Soil	EPA 3550 GC	

Pesticides

Analysis Batch: 11H3812

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H3812-BLK1	Method Blank	TCLP	Water	EPA 8081A	11H3812_P
11H3812-BS1	Lab Control Sample	TCLP	Water	EPA 8081A	11H3812_P
11H3812-MS1	PMAK-Area 1,3,4-WC	TCLP	Water	EPA 8081A	11H3812_P
HUH0072-18	PMAK-Area 1,3,4-WC	TCLP	Solid/Soil	EPA 8081A	11H3812_P
HUH0072-19	PMAK-Area 2-WC	TCLP	Solid/Soil	EPA 8081A	11H3812_P
HUH0072-20	PMAK-Area 5-WC	TCLP	Solid/Soil	EPA 8081A	11H3812_P

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Pesticides (Continued)

Prep Batch: 11H3812_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H3812-BLK1	Method Blank	TCLP	Water	EPA 1311/3510C	
11H3812-BS1	Lab Control Sample	TCLP	Water	EPA 1311/3510C	
11H3812-MS1	PMAK-Area 1,3,4-WC	TCLP	Water	EPA 1311/3510C	
HUH0072-18	PMAK-Area 1,3,4-WC	TCLP	Solid/Soil	EPA 1311/3510C	
HUH0072-19	PMAK-Area 2-WC	TCLP	Solid/Soil	EPA 1311/3510C	
HUH0072-20	PMAK-Area 5-WC	TCLP	Solid/Soil	EPA 1311/3510C	

Specialty Organics

Analysis Batch: 1251149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
G11080000149B	Method Blank	Total	Solid	8290	
G11080000149C	Lab Control Sample	Total	Solid	8290	
HUH0072-01	PMAK-DU27	Total	Solid/Soil	8290	
HUH0072-03	PMAK-DU23-A	Total	Solid/Soil	8290	
HUH0072-04	PMAK-DU24-A-P	Total	Solid/Soil	8290	
HUH0072-06	PMAK-DU24-A-T2	Total	Solid/Soil	8290	
HUH0072-07	PMAK-DU18-A-P	Total	Solid/Soil	8290	
HUH0072-08	PMAK-DU18-A-T1	Total	Solid/Soil	8290	
HUH0072-09	PMAK-DU18-A-T2	Total	Solid/Soil	8290	
HUH0072-11	PMAK-DU5-B	Total	Solid/Soil	8290	
HUH0072-15	PMAK-DU26	Total	Solid/Soil	8290	
HUH0072-16	PMAK-DU19	Total	Solid/Soil	8290	
HUH0072-17	PMAK-DU25-A	Total	Solid/Soil	8290	

Prep Batch: 1251149_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
G11080000149B	Method Blank	Total	Solid	8290	
G11080000149C	Lab Control Sample	Total	Solid	8290	
HUH0072-01	PMAK-DU27	Total	Solid/Soil	8290	
HUH0072-03	PMAK-DU23-A	Total	Solid/Soil	8290	
HUH0072-04	PMAK-DU24-A-P	Total	Solid/Soil	8290	
HUH0072-06	PMAK-DU24-A-T2	Total	Solid/Soil	8290	
HUH0072-07	PMAK-DU18-A-P	Total	Solid/Soil	8290	
HUH0072-08	PMAK-DU18-A-T1	Total	Solid/Soil	8290	
HUH0072-09	PMAK-DU18-A-T2	Total	Solid/Soil	8290	
HUH0072-11	PMAK-DU5-B	Total	Solid/Soil	8290	
HUH0072-15	PMAK-DU26	Total	Solid/Soil	8290	
HUH0072-16	PMAK-DU19	Total	Solid/Soil	8290	
HUH0072-17	PMAK-DU25-A	Total	Solid/Soil	8290	

Metals

Analysis Batch: 11H3690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H3690-BLK1	Method Blank	TCLP	Soil	EPA 6010B	11H3690_P
11H3690-BS1	Lab Control Sample	TCLP	Soil	EPA 6010B	11H3690_P

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Metals (Continued)

Analysis Batch: 11H3690 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H3690-MS1	PMAK-Area 1,3,4-WC	TCLP	Soil	EPA 6010B	11H3690_P
HUH0072-18	PMAK-Area 1,3,4-WC	TCLP	Solid/Soil	EPA 6010B	11H3690_P
HUH0072-19	PMAK-Area 2-WC	TCLP	Solid/Soil	EPA 6010B	11H3690_P
HUH0072-20	PMAK-Area 5-WC	TCLP	Solid/Soil	EPA 6010B	11H3690_P

Analysis Batch: 11H3746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H3746-BLK1	Method Blank	TCLP	Liquid	EPA 7470A	11H3746_P
11H3746-BS1	Lab Control Sample	TCLP	Liquid	EPA 7470A	11H3746_P
11H3746-MS1	PMAK-Area 1,3,4-WC	TCLP	Liquid	EPA 7470A	11H3746_P
11H3746-MSD1	PMAK-Area 1,3,4-WC	TCLP	Liquid	EPA 7470A	11H3746_P
HUH0072-18	PMAK-Area 1,3,4-WC	TCLP	Solid/Soil	EPA 7470A	11H3746_P
HUH0072-19	PMAK-Area 2-WC	TCLP	Solid/Soil	EPA 7470A	11H3746_P
HUH0072-20	PMAK-Area 5-WC	TCLP	Solid/Soil	EPA 7470A	11H3746_P

Analysis Batch: 11J0015

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11J0015-BLK1	Method Blank	Total	Solid/Soil	EPA 6010	11J0015_P
11J0015-BS1	Lab Control Sample	Total	Solid/Soil	EPA 6010	11J0015_P
11J0015-MS1	PMAK-DU23-A	Total	Solid/Soil	EPA 6010	11J0015_P
11J0015-MSD1	PMAK-DU23-A	Total	Solid/Soil	EPA 6010	11J0015_P
HUH0072-02	PMAK-DU21-A	Total	Solid/Soil	EPA 6010	11J0015_P
HUH0072-03	PMAK-DU23-A	Total	Solid/Soil	EPA 6010	11J0015_P
HUH0072-04	PMAK-DU24-A-P	Total	Solid/Soil	EPA 6010	11J0015_P
HUH0072-05	PMAK-DU24-A-T1	Total	Solid/Soil	EPA 6010	11J0015_P
HUH0072-06	PMAK-DU24-A-T2	Total	Solid/Soil	EPA 6010	11J0015_P
HUH0072-07	PMAK-DU18-A-P	Total	Solid/Soil	EPA 6010	11J0015_P
HUH0072-08	PMAK-DU18-A-T1	Total	Solid/Soil	EPA 6010	11J0015_P
HUH0072-09	PMAK-DU18-A-T2	Total	Solid/Soil	EPA 6010	11J0015_P
HUH0072-11	PMAK-DU5-B	Total	Solid/Soil	EPA 6010	11J0015_P
HUH0072-12	PMAK-DU5-C	Total	Solid/Soil	EPA 6010	11J0015_P
HUH0072-16	PMAK-DU19	Total	Solid/Soil	EPA 6010	11J0015_P
HUH0072-17	PMAK-DU25-A	Total	Solid/Soil	EPA 6010	11J0015_P

Pre prep Batch: 11J0017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0072-02	PMAK-DU21-A	Total	Solid/Soil	SBRC Appendix C Rev. #8	
HUH0072-03	PMAK-DU23-A	Total	Solid/Soil	SBRC Appendix C Rev. #8	
HUH0072-04	PMAK-DU24-A-P	Total	Solid/Soil	SBRC Appendix C Rev. #8	
HUH0072-05	PMAK-DU24-A-T1	Total	Solid/Soil	SBRC Appendix C Rev. #8	
HUH0072-06	PMAK-DU24-A-T2	Total	Solid/Soil	SBRC Appendix C Rev. #8	
HUH0072-07	PMAK-DU18-A-P	Total	Solid/Soil	SBRC Appendix C Rev. #8	
HUH0072-08	PMAK-DU18-A-T1	Total	Solid/Soil	SBRC Appendix C Rev. #8	
HUH0072-09	PMAK-DU18-A-T2	Total	Solid/Soil	SBRC Appendix C Rev. #8	
HUH0072-11	PMAK-DU5-B	Total	Solid/Soil	SBRC Appendix C Rev. #8	

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Metals (Continued)

Pre prep Batch: 11J0017 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0072-12	PMAK-DU5-C	Total	Solid/Soil	SBRC Appendix C Rev. #8	
HUH0072-16	PMAK-DU19	Total	Solid/Soil	SBRC Appendix C Rev. #8	
HUH0072-17	PMAK-DU25-A	Total	Solid/Soil	SBRC Appendix C Rev. #8	

Analysis Batch: 11J0019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0072-02	PMAK-DU21-A	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0019_P
HUH0072-02	PMAK-DU21-A	Total	Solid/Soil	EPA 6010	11J0019_P
HUH0072-03	PMAK-DU23-A	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0019_P
HUH0072-03	PMAK-DU23-A	Total	Solid/Soil	EPA 6010	11J0019_P
HUH0072-04	PMAK-DU24-A-P	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0019_P
HUH0072-04	PMAK-DU24-A-P	Total	Solid/Soil	EPA 6010	11J0019_P
HUH0072-05	PMAK-DU24-A-T1	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0019_P
HUH0072-05	PMAK-DU24-A-T1	Total	Solid/Soil	EPA 6010	11J0019_P
HUH0072-06	PMAK-DU24-A-T2	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0019_P
HUH0072-06	PMAK-DU24-A-T2	Total	Solid/Soil	EPA 6010	11J0019_P
HUH0072-07	PMAK-DU18-A-P	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0019_P
HUH0072-07	PMAK-DU18-A-P	Total	Solid/Soil	EPA 6010	11J0019_P
HUH0072-08	PMAK-DU18-A-T1	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0019_P
HUH0072-08	PMAK-DU18-A-T1	Total	Solid/Soil	EPA 6010	11J0019_P
HUH0072-09	PMAK-DU18-A-T2	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0019_P
HUH0072-09	PMAK-DU18-A-T2	Total	Solid/Soil	EPA 6010	11J0019_P
HUH0072-11	PMAK-DU5-B	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0019_P
HUH0072-11	PMAK-DU5-B	Total	Solid/Soil	EPA 6010	11J0019_P
HUH0072-12	PMAK-DU5-C	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0019_P
HUH0072-12	PMAK-DU5-C	Total	Solid/Soil	EPA 6010	11J0019_P
HUH0072-16	PMAK-DU19	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0019_P
HUH0072-16	PMAK-DU19	Total	Solid/Soil	EPA 6010	11J0019_P
HUH0072-17	PMAK-DU25-A	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0019_P
HUH0072-17	PMAK-DU25-A	Total	Solid/Soil	EPA 6010	11J0019_P

Prep Batch: 11H3690_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H3690-BLK1	Method Blank	TCLP	Soil	EPA 1311/3010A ICP	
11H3690-BS1	Lab Control Sample	TCLP	Soil	EPA 1311/3010A ICP	
11H3690-MS1	PMAK-Area 1,3,4-WC	TCLP	Soil	EPA 1311/3010A ICP	
HUH0072-18	PMAK-Area 1,3,4-WC	TCLP	Solid/Soil	EPA 1311/3010A ICP	

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Metals (Continued)

Prep Batch: 11H3690_P (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0072-19	PMAK-Area 2-WC	TCLP	Solid/Soil	EPA 1311/3010A ICP	
HUH0072-20	PMAK-Area 5-WC	TCLP	Solid/Soil	EPA 1311/3010A ICP	

Prep Batch: 11H3746_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H3746-BLK1	Method Blank	TCLP	Liquid	EPA 7470A Hg	
11H3746-BS1	Lab Control Sample	TCLP	Liquid	EPA 7470A Hg	
11H3746-MS1	PMAK-Area 1,3,4-WC	TCLP	Liquid	EPA 7470A Hg	
11H3746-MSD1	PMAK-Area 1,3,4-WC	TCLP	Liquid	EPA 7470A Hg	
HUH0072-18	PMAK-Area 1,3,4-WC	TCLP	Solid/Soil	EPA 7470A Hg	
HUH0072-19	PMAK-Area 2-WC	TCLP	Solid/Soil	EPA 7470A Hg	
HUH0072-20	PMAK-Area 5-WC	TCLP	Solid/Soil	EPA 7470A Hg	

Prep Batch: 11J0015_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11J0015-BLK1	Method Blank	Total	Solid/Soil	EPA 3050	
11J0015-BS1	Lab Control Sample	Total	Solid/Soil	EPA 3050	
11J0015-MS1	PMAK-DU23-A	Total	Solid/Soil	EPA 3050	
11J0015-MSD1	PMAK-DU23-A	Total	Solid/Soil	EPA 3050	
HUH0072-02	PMAK-DU21-A	Total	Solid/Soil	EPA 3050	
HUH0072-03	PMAK-DU23-A	Total	Solid/Soil	EPA 3050	
HUH0072-04	PMAK-DU24-A-P	Total	Solid/Soil	EPA 3050	
HUH0072-05	PMAK-DU24-A-T1	Total	Solid/Soil	EPA 3050	
HUH0072-06	PMAK-DU24-A-T2	Total	Solid/Soil	EPA 3050	
HUH0072-07	PMAK-DU18-A-P	Total	Solid/Soil	EPA 3050	
HUH0072-08	PMAK-DU18-A-T1	Total	Solid/Soil	EPA 3050	
HUH0072-09	PMAK-DU18-A-T2	Total	Solid/Soil	EPA 3050	
HUH0072-11	PMAK-DU5-B	Total	Solid/Soil	EPA 3050	
HUH0072-12	PMAK-DU5-C	Total	Solid/Soil	EPA 3050	
HUH0072-16	PMAK-DU19	Total	Solid/Soil	EPA 3050	
HUH0072-17	PMAK-DU25-A	Total	Solid/Soil	EPA 3050	

Prep Batch: 11J0019_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0072-02	PMAK-DU21-A	Total	Solid/Soil	EPA 3050	11J0017
HUH0072-03	PMAK-DU23-A	Total	Solid/Soil	EPA 3050	11J0017
HUH0072-04	PMAK-DU24-A-P	Total	Solid/Soil	EPA 3050	11J0017
HUH0072-05	PMAK-DU24-A-T1	Total	Solid/Soil	EPA 3050	11J0017
HUH0072-06	PMAK-DU24-A-T2	Total	Solid/Soil	EPA 3050	11J0017
HUH0072-07	PMAK-DU18-A-P	Total	Solid/Soil	EPA 3050	11J0017
HUH0072-08	PMAK-DU18-A-T1	Total	Solid/Soil	EPA 3050	11J0017
HUH0072-09	PMAK-DU18-A-T2	Total	Solid/Soil	EPA 3050	11J0017
HUH0072-11	PMAK-DU5-B	Total	Solid/Soil	EPA 3050	11J0017
HUH0072-12	PMAK-DU5-C	Total	Solid/Soil	EPA 3050	11J0017
HUH0072-16	PMAK-DU19	Total	Solid/Soil	EPA 3050	11J0017
HUH0072-17	PMAK-DU25-A	Total	Solid/Soil	EPA 3050	11J0017

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

WetChem

Analysis Batch: 11H0081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0081-DUP1	PMAK-Area 1,3,4-WC	Total	Solid/Soil	EPA 9045	11H0081_P
HUH0072-18	PMAK-Area 1,3,4-WC	Total	Solid/Soil	EPA 9045	11H0081_P
HUH0072-19	PMAK-Area 2-WC	Total	Solid/Soil	EPA 9045	11H0081_P
HUH0072-20	PMAK-Area 5-WC	Total	Solid/Soil	EPA 9045	11H0081_P

Prep Batch: 11H0081_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11H0081-DUP1	PMAK-Area 1,3,4-WC	Total	Solid/Soil	Default Prep GenChem	11H0081_P
HUH0072-18	PMAK-Area 1,3,4-WC	Total	Solid/Soil	Default Prep GenChem	11H0081_P
HUH0072-19	PMAK-Area 2-WC	Total	Solid/Soil	Default Prep GenChem	11H0081_P
HUH0072-20	PMAK-Area 5-WC	Total	Solid/Soil	Default Prep GenChem	11H0081_P

Inorganics Prep

Analysis Batch: 11H4096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0072-18	PMAK-Area 1,3,4-WC	Total	Solid/Soil	SW846 7.1.2	11H4096_P
HUH0072-19	PMAK-Area 2-WC	Total	Solid/Soil	SW846 7.1.2	11H4096_P
HUH0072-20	PMAK-Area 5-WC	Total	Solid/Soil	SW846 7.1.2	11H4096_P

Prep Batch: 11H4096_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUH0072-18	PMAK-Area 1,3,4-WC	Total	Solid/Soil	GEN PREP	11H4096_P
HUH0072-19	PMAK-Area 2-WC	Total	Solid/Soil	GEN PREP	11H4096_P
HUH0072-20	PMAK-Area 5-WC	Total	Solid/Soil	GEN PREP	11H4096_P

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU27

Lab Sample ID: HUH0072-01

Date Collected: 08/09/11 13:00

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.980	11H0087_P	08/18/11 11:17	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0087	09/13/11 15:42	VH	TAL HON
Total	Prep	EPA 3550 GC		0.971	11H0103_P	08/23/11 08:53	KR	TAL HON
Total	Analysis	EPA 8015		1.00	11H0103	08/23/11 19:44	VH	TAL HON
Total	Prep	EPA 3550 GC		0.962	11H0092_P	08/19/11 12:33	KR	TAL HON
Total	Analysis	EPA 8081		2.00	11H0092	08/30/11 17:37	BWN	TAL HON
Total	Prep	8290			1251149_P	09/08/11 17:00	CC	TAL WSC
Total	Analysis	8290		142.85	1251149	09/17/11 11:25	GSV	TAL WSC

Client Sample ID: PMAK-DU21-A

Lab Sample ID: HUH0072-02

Date Collected: 08/10/11 10:00

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.980	11H0106_P	08/24/11 10:07	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0106	09/07/11 14:01	VH	TAL HON
Total	Prep	EPA 3050		0.990	11J0015_P	10/05/11 11:00	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0015	10/10/11 10:49	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0019_P	10/05/11 08:48	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0017	10/06/11 11:27	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0019	10/19/11 15:51	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0019	10/19/11 15:51	HJM	TAL HON

Client Sample ID: PMAK-DU23-A

Lab Sample ID: HUH0072-03

Date Collected: 08/10/11 11:45

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.997	11H0106_P	08/24/11 10:07	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0106	09/07/11 14:39	VH	TAL HON
Total	Prep	8290			1251149_P	09/08/11 17:00	CC	TAL WSC
Total	Analysis	8290		11.49	1251149	09/17/11 12:09	GSV	TAL WSC
Total	Prep	EPA 3050		0.990	11J0015_P	10/05/11 11:00	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0015	10/11/11 10:12	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0019_P	10/05/11 08:48	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0017	10/06/11 11:28	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0019	10/19/11 15:51	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0019	10/19/11 15:51	HJM	TAL HON

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU24-A-P

Lab Sample ID: HUH0072-04

Date Collected: 08/10/11 14:20

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.962	11H0106_P	08/24/11 10:07	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0106	09/07/11 15:18	VH	TAL HON
Total	Prep	8290			1251149_P	09/08/11 17:00	CC	TAL WSC
Total	Analysis	8290		47.61	1251149	09/17/11 12:54	GSV	TAL WSC
Total	Analysis	8290		47.61	1251149	09/17/11 13:38	GSV	TAL WSC
Total	Prep	EPA 3050		0.962	11J0015_P	10/05/11 11:00	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0015	10/11/11 10:17	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0019_P	10/05/11 08:48	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0017	10/06/11 11:29	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0019	10/19/11 15:51	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0019	10/19/11 15:51	HJM	TAL HON

Client Sample ID: PMAK-DU24-A-T1

Lab Sample ID: HUH0072-05

Date Collected: 08/10/11 14:25

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.962	11H0106_P	08/24/11 10:07	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0106	09/07/11 15:56	VH	TAL HON
Total	Prep	EPA 3050		0.962	11J0015_P	10/05/11 11:00	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0015	10/11/11 10:22	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0019_P	10/05/11 08:48	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0017	10/06/11 11:30	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0019	10/19/11 15:51	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0019	10/19/11 15:51	HJM	TAL HON

Client Sample ID: PMAK-DU24-A-T2

Lab Sample ID: HUH0072-06

Date Collected: 08/10/11 14:30

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.968	11H0106_P	08/24/11 10:07	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0106	09/07/11 16:35	VH	TAL HON
Total	Prep	8290			1251149_P	09/08/11 17:00	CC	TAL WSC
Total	Analysis	8290		50	1251149	09/17/11 14:23	GSV	TAL WSC
Total	Prep	EPA 3050		0.980	11J0015_P	10/05/11 11:00	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0015	10/11/11 10:27	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0019_P	10/05/11 08:48	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0017	10/06/11 11:32	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0019	10/19/11 15:51	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0019	10/19/11 15:51	HJM	TAL HON

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU18-A-P

Lab Sample ID: HUH0072-07

Date Collected: 08/10/11 16:10

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.955	11H0106_P	08/24/11 10:07	KR	TAL HON
Total	Analysis	EPA 8270		5.00	11H0106	09/07/11 17:14	VH	TAL HON
Total	Prep	8290			1251149_P	09/08/11 17:00	CC	TAL WSC
Total	Analysis	8290		18.86	1251149	09/17/11 15:07	GSV	TAL WSC
Total	Prep	EPA 3050		0.971	11J0015_P	10/05/11 11:00	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0015	10/11/11 10:33	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0019_P	10/05/11 08:48	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0017	10/06/11 11:32	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0019	10/19/11 15:51	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0019	10/19/11 15:51	HJM	TAL HON

Client Sample ID: PMAK-DU18-A-T1

Lab Sample ID: HUH0072-08

Date Collected: 08/10/11 16:15

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.980	11H0106_P	08/24/11 10:07	KR	TAL HON
Total	Analysis	EPA 8270		5.00	11H0106	09/07/11 17:52	VH	TAL HON
Total	Prep	8290			1251149_P	09/08/11 17:00	CC	TAL WSC
Total	Analysis	8290		20	1251149	09/17/11 15:52	GSV	TAL WSC
Total	Prep	EPA 3050		0.952	11J0015_P	10/05/11 11:00	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0015	10/11/11 10:38	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0019_P	10/05/11 08:48	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0017	10/06/11 11:33	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0019	10/19/11 15:51	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0019	10/19/11 15:51	HJM	TAL HON

Client Sample ID: PMAK-DU18-A-T2

Lab Sample ID: HUH0072-09

Date Collected: 08/10/11 16:20

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.965	11H0106_P	08/24/11 10:07	KR	TAL HON
Total	Analysis	EPA 8270		5.00	11H0106	09/07/11 18:32	VH	TAL HON
Total	Prep	8290			1251149_P	09/08/11 17:00	CC	TAL WSC
Total	Analysis	8290		19.6	1251149	09/17/11 16:36	GSV	TAL WSC
Total	Prep	EPA 3050		0.990	11J0015_P	10/05/11 11:00	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0015	10/11/11 10:43	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0019_P	10/05/11 08:48	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0017	10/06/11 11:35	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0019	10/19/11 15:51	HJM	TAL HON

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU18-A-T2

Lab Sample ID: HUH0072-09

Date Collected: 08/10/11 16:20

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Analysis	EPA 6010		1.00	11J0019	10/19/11 15:51	HJM	TAL HON

Client Sample ID: PMAK-DU5-B

Lab Sample ID: HUH0072-11

Date Collected: 08/10/11 16:25

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.980	11H0106_P	08/24/11 10:07	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0106	09/07/11 19:11	VH	TAL HON
Total	Prep	8290			1251149_P	09/08/11 17:00	CC	TAL WSC
Total	Analysis	8290		16.66	1251149	09/17/11 17:21	GSV	TAL WSC
Total	Prep	EPA 3050		0.980	11J0015_P	10/05/11 11:00	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0015	10/11/11 10:48	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0019_P	10/05/11 08:48	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0017	10/06/11 11:36	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0019	10/19/11 15:51	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0019	10/19/11 15:51	HJM	TAL HON

Client Sample ID: PMAK-DU5-C

Lab Sample ID: HUH0072-12

Date Collected: 08/10/11 16:30

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.987	11H0106_P	08/24/11 10:07	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0106	09/07/11 19:50	VH	TAL HON
Total	Prep	EPA 3050		0.980	11J0015_P	10/05/11 11:00	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0015	10/11/11 11:04	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0019_P	10/05/11 08:48	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0017	10/06/11 11:37	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0019	10/19/11 15:51	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0019	10/19/11 15:51	HJM	TAL HON

Client Sample ID: PMAK-DU5-D

Lab Sample ID: HUH0072-13

Date Collected: 08/10/11 16:35

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.987	11H0106_P	08/24/11 10:07	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0106	10/03/11 20:23	VH	TAL HON

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-DU26

Lab Sample ID: HUH0072-15

Date Collected: 08/10/11 16:45

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.952	11H0087_P	08/18/11 11:17	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0087	09/13/11 16:21	VH	TAL HON
Total	Prep	EPA 3550 GC		0.977	11H0103_P	08/23/11 08:53	KR	TAL HON
Total	Analysis	EPA 8015		1.00	11H0103	08/24/11 22:05	VH	TAL HON
Total	Prep	EPA 3550 GC		0.968	11H0092_P	08/19/11 12:33	KR	TAL HON
Total	Analysis	EPA 8081		2.00	11H0092	08/30/11 18:06	BWN	TAL HON
Total	Prep	8290			1251149_P	09/08/11 17:00	CC	TAL WSC
Total	Analysis	8290		12.04	1251149	09/17/11 18:05	GSV	TAL WSC

Client Sample ID: PMAK-DU19

Lab Sample ID: HUH0072-16

Date Collected: 08/11/11 11:00

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.949	11H0106_P	08/24/11 10:07	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0106	09/07/11 20:29	VH	TAL HON
Total	Prep	8290			1251149_P	09/08/11 17:00	CC	TAL WSC
Total	Analysis	8290		4.67	1251149	09/17/11 23:26	GSV	TAL WSC
Total	Prep	EPA 3050		1.00	11J0015_P	10/05/11 13:46	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0015	10/11/11 11:09	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0019_P	10/05/11 08:48	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0017	10/06/11 11:37	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0019	10/19/11 15:51	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0019	10/19/11 15:51	HJM	TAL HON

Client Sample ID: PMAK-DU25-A

Lab Sample ID: HUH0072-17

Date Collected: 08/11/11 13:00

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	EPA 3550 MS		0.965	11H0106_P	08/24/11 10:07	KR	TAL HON
Total	Analysis	EPA 8270		1.00	11H0106	09/07/11 21:08	VH	TAL HON
Total	Prep	8290			1251149_P	09/08/11 17:00	CC	TAL WSC
Total	Analysis	8290		16.12	1251149	09/18/11 00:11	GSV	TAL WSC
Total	Prep	EPA 3050		0.990	11J0015_P	10/05/11 11:00	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0015	10/11/11 11:15	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0019_P	10/05/11 08:48	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0017	10/06/11 11:38	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0019	10/19/11 15:51	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0019	10/19/11 15:51	HJM	TAL HON

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Client Sample ID: PMAK-Area 1,3,4-WC

Lab Sample ID: HUH0072-18

Date Collected: 08/11/11 11:20

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Prep	EPA 1311/3510C		1.0	11H3812_P	08/29/11 09:05	BLP	TAL IRV
TCLP	Analysis	EPA 8081A		1.0	11H3812	08/29/11 15:23	DXD	TAL IRV
TCLP	Prep	EPA 1311/3010A ICP		1.0	11H3690_P	08/27/11 01:17	CH	TAL IRV
TCLP	Analysis	EPA 6010B		1.0	11H3690	08/29/11 08:49	NH	TAL IRV
TCLP	Prep	EPA 7470A Hg		1.0	11H3746_P	08/28/11 13:48	SN	TAL IRV
TCLP	Analysis	EPA 7470A		1.0	11H3746	08/29/11 14:16	DB	TAL IRV
Total	Prep	Default Prep GenChem		1.00	11H0081_P	08/18/11 09:00	HJM	TAL HON
Total	Analysis	EPA 9045		1.00	11H0081	08/18/11 09:05	HJM	TAL HON
Total	Prep	GEN PREP		1.0	11H4096_P	08/31/11 06:50	DA	TAL IRV
Total	Analysis	SW846 7.1.2		1.0	11H4096	08/31/11 08:06	DA	TAL IRV

Client Sample ID: PMAK-Area 2-WC

Lab Sample ID: HUH0072-19

Date Collected: 08/11/11 11:40

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Prep	EPA 1311/3510C		1.0	11H3812_P	08/29/11 09:05	BLP	TAL IRV
TCLP	Analysis	EPA 8081A		1.0	11H3812	08/29/11 15:38	DXD	TAL IRV
TCLP	Prep	EPA 1311/3010A ICP		1.0	11H3690_P	08/27/11 01:17	CH	TAL IRV
TCLP	Analysis	EPA 6010B		1.0	11H3690	08/29/11 09:03	NH	TAL IRV
TCLP	Prep	EPA 7470A Hg		1.0	11H3746_P	08/28/11 13:48	SN	TAL IRV
TCLP	Analysis	EPA 7470A		1.0	11H3746	08/29/11 14:24	DB	TAL IRV
Total	Prep	Default Prep GenChem		1.00	11H0081_P	08/18/11 09:00	HJM	TAL HON
Total	Analysis	EPA 9045		1.00	11H0081	08/18/11 09:05	HJM	TAL HON
Total	Prep	GEN PREP		1.0	11H4096_P	08/31/11 06:50	DA	TAL IRV
Total	Analysis	SW846 7.1.2		1.0	11H4096	08/31/11 08:06	DA	TAL IRV

Client Sample ID: PMAK-Area 5-WC

Lab Sample ID: HUH0072-20

Date Collected: 08/11/11 11:55

Matrix: Solid/Soil

Date Received: 08/11/11 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Prep	EPA 1311/3510C		1.0	11H3812_P	08/29/11 09:05	BLP	TAL IRV
TCLP	Analysis	EPA 8081A		1.0	11H3812	08/29/11 15:52	DXD	TAL IRV
TCLP	Prep	EPA 1311/3010A ICP		1.0	11H3690_P	08/27/11 01:17	CH	TAL IRV
TCLP	Analysis	EPA 6010B		1.0	11H3690	08/29/11 08:57	NH	TAL IRV
TCLP	Prep	EPA 7470A Hg		1.0	11H3746_P	08/28/11 13:48	SN	TAL IRV
TCLP	Analysis	EPA 7470A		1.0	11H3746	08/29/11 14:27	DB	TAL IRV
Total	Prep	Default Prep GenChem		1.00	11H0081_P	08/18/11 09:00	HJM	TAL HON
Total	Analysis	EPA 9045		1.00	11H0081	08/18/11 09:05	HJM	TAL HON
Total	Prep	GEN PREP		1.0	11H4096_P	08/31/11 06:50	DA	TAL IRV
Total	Analysis	SW846 7.1.2		1.0	11H4096	08/31/11 08:06	DA	TAL IRV

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Laboratory References:

ANATE = Anatek Labs., 1282 Alturas Dr., Moscow, ID 83843, TEL (208) 883-2839

TAL HON = TestAmerica Honolulu, 99-193 Aiea Heights Drive, Suite 121, Aiea, HI 96701, TEL 808-486-5227

TAL IRV = TestAmerica Irvine, 17461 Derian Avenue Suite 100, Irvine, CA 92614, TEL (949) 261-1022

TAL WSC = TestAmerica West Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

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Certification Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Honolulu	Alaska	Alaska UST	10	
TestAmerica Honolulu	Florida	NELAC	4	E87907
TestAmerica Honolulu	Hawaii	State Program	9	
TestAmerica Honolulu	L-A-B	DoD ELAP		L2250
TestAmerica Honolulu	L-A-B	ISO/IEC 17025		L2250
TestAmerica Honolulu	USDA	USDA		HON-S-206
TestAmerica Irvine	Arizona	State Program	9	AZ0671
TestAmerica Irvine	California	LA Cty Sanitation Districts	9	10256
TestAmerica Irvine	California	NELAC	9	1108CA
TestAmerica Irvine	California	State Program	9	2706
TestAmerica Irvine	Guam	State Program	9	Cert. No. 10.001r
TestAmerica Irvine	Hawaii	State Program	9	N/A
TestAmerica Irvine	Nevada	State Program	9	CA015312007A
TestAmerica Irvine	New Mexico	State Program	6	N/A
TestAmerica Irvine	Northern Mariana Islands	State Program	9	MP0002
TestAmerica Irvine	Oregon	NELAC	10	4005
TestAmerica Irvine	USDA	USDA		P330-09-00080
TestAmerica West Sacramento		USEPA UCMR		CA00044
TestAmerica West Sacramento	A2LA	DoD ELAP		2928-01
TestAmerica West Sacramento	Alaska	Alaska UST	10	UST-055
TestAmerica West Sacramento	Arizona	State Program	9	AZ0708
TestAmerica West Sacramento	Arkansas	State Program	6	88-0691
TestAmerica West Sacramento	California	NELAC	9	1119CA
TestAmerica West Sacramento	Colorado	State Program	8	N/A
TestAmerica West Sacramento	Connecticut	State Program	1	PH-0691
TestAmerica West Sacramento	Florida	NELAC	4	E87570
TestAmerica West Sacramento	Georgia	State Program	4	960
TestAmerica West Sacramento	Guam	State Program	9	N/A
TestAmerica West Sacramento	Hawaii	State Program	9	N/A
TestAmerica West Sacramento	Illinois	NELAC	5	200060
TestAmerica West Sacramento	Kansas	NELAC	7	E-10375
TestAmerica West Sacramento	Louisiana	NELAC	6	30612
TestAmerica West Sacramento	Michigan	State Program	5	9947
TestAmerica West Sacramento	Nevada	State Program	9	CA44
TestAmerica West Sacramento	New Jersey	NELAC	2	CA005
TestAmerica West Sacramento	New Mexico	State Program	6	N/A
TestAmerica West Sacramento	New York	NELAC	2	11666
TestAmerica West Sacramento	Oregon	NELAC	10	CA200005
TestAmerica West Sacramento	Pennsylvania	NELAC	3	68-01272
TestAmerica West Sacramento	South Carolina	State Program	4	87014
TestAmerica West Sacramento	Texas	NELAC	6	T104704399-08-TX
TestAmerica West Sacramento	US Fish & Wildlife	US Fish & Wildlife		LE148388-0
TestAmerica West Sacramento	USDA	USDA		P330-09-00055
TestAmerica West Sacramento	Utah	NELAC	8	QUAN1
TestAmerica West Sacramento	Virginia	State Program	3	178
TestAmerica West Sacramento	Washington	State Program	10	C581
TestAmerica West Sacramento	West Virginia	West Virginia DEP	3	334
TestAmerica West Sacramento	West Virginia	West Virginia DHHR (DW)	3	9930C
TestAmerica West Sacramento	Wisconsin	State Program	5	998204680
TestAmerica West Sacramento	Wyoming	State Program	8	8TMS-Q

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: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA

TestAmerica Job ID: HUH0072

Method	Method Description	Protocol	Laboratory
SW846 7.1.2	INORGANICS		TAL IRV
EPA 8270	Semivolatile Organics Compounds by EPA 8270		TAL HON
EPA 8015	Extractable Petroleum Hydrocarbons by 8015M		TAL HON
EPA 8081	Organochlorine Pesticides by EPA Method 8081		TAL HON
EPA 8081A	TCLP ORGANOCHLORINE PESTICIDES (EPA 1311/3510/8081A)		TAL IRV
8290	Dioxins/Furans, HRGC/HRMS (8290)	SW846	TAL WSC
EPA 6010	Bio-available Metals		TAL HON
EPA 6010B	TCLP METALS		TAL IRV
EPA 7470A	TCLP METALS		TAL IRV
SBRC Appendix C Rev. #8	Bio-available Metals		TAL HON
EPA 9045	General Chemistry Parameters		TAL HON
EPA 8151	Herbicides		ANATE
EPA 8270	Semivolatile Organics Compounds by EPA 8270		ANATE
EPA 8321	Herbicides		ANATE

Protocol References:

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

Laboratory References:

ANATE = Anatek Labs., 1282 Alturas Dr., Moscow, ID 83843, TEL (208) 883-2839
 TAL HON = TestAmerica Honolulu, 99-193 Aiea Heights Drive, Suite 121, Aiea, HI 96701, TEL 808-486-5227
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 TAL WSC = TestAmerica West Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



CASE NARRATIVE

September 1, 2011

Lab Name: Anatek Labs, Inc. 1282 Alturas Drive, Moscow, ID 83843 www.anateklabs.com FL NELAP E87893, NV ID13-2004-31, WA DOE C126, OR ELAP ID200001, MT 0028, ID, CO, NM

Project Tracking No.: HUH0072**Anatek Batch:** 110822024

Project Summary: Two (2) soil samples were received on 8/22/2011 custom herbicide and pesticide analysis. The samples were received with the appropriate chain of custody at 3.3C

<u>Client Sample ID</u>	<u>Anatek Sample ID</u>	<u>Method/Prep Method</u>
HUH0072-01 (PMAK-DU27-Solid/Soil)	110822024-001	EPA 8151A/8321A/8270Cm
HUH0072-02 (PMAK-DU26-Solid/Soil)	110822024-002	EPA 8151A/8321A/8270Cm

QA/QC Checks

<u>Parameters</u>	<u>Yes / No</u>	<u>Exceptions / Deviations</u>
Sample Holding Time Valid?	Y	NA
Surrogate Recoveries Valid?	Y	NA
QC Sample(s) Recoveries Valid?	N	See Note
Method Blank(s) Valid?	Y	NA
Tune(s) Valid?	Y	NA
Internal Standard Responses Valid?	Y	NA
Initial Calibration Curve(s) Valid?	Y	NA
Continuing Calibration(s) Valid?	Y	NA
Comments:	Y	NA

1. Holding Time Requirements

No problems encountered.

2. GC/MS Tune Requirements

No problems encountered.

3. Calibration Requirements

No problems encountered.

4. Surrogate Recovery Requirements

No problems encountered.

5. QC Sample (LCS/MS/MSD) Recovery Requirements

Pentachlorophenol MS recovery was below laboratory acceptance limits. LCS recovery was acceptable. Potential matrix effect.

6. Method Blank Requirements

The method blanks were non-detect (<MDL) for all analytes. No problems encountered.

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7. Internal Standard(s) Response Requirements

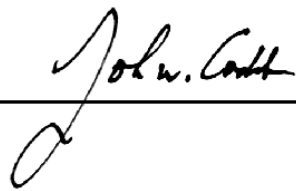
No problems encountered.

8. Comments

N/A

I certify that this data package is in compliance with the terms and conditions of the contract. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee.

Approved by:



Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: TEST AMERICA - HONOLULU, HI **Batch #:** 110822024
Address: 99-193 AIEA HEIGHTS DRIVE **Project Name:** HUH0072
AIEA, HI 96701-3900
Attn: MARGIE PASCUA THACH

Analytical Results Report

Sample Number	110822024-001	Sampling Date	8/9/2011	Date/Time Received	8/22/2011 10:45 AM
Client Sample ID	HUH0072-01 (PMAK-DU27 - SOL/SOIL)			Extraction Date	8/23/2011
Matrix	Soil	Sampling Time	1:00 PM		
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
2,4,5-T	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
2,4,5-TP (Silvex)	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
2,4-D	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
2,4-DB	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
Dacthal	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
Dalapon	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
Dicamba	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
Dichloroprop	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
Dinoseb	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
MCPA	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
Pentachlorophenol	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
Picloram	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	

Surrogate Data

Sample Number	110822024-001	Method	Percent Recovery	Control Limits
Surrogate Standard				
2,4-Dichlorophenylacetic acid	EPA 8151A	96.9	30-145	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

Anatek Labs, Inc.

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Client: TEST AMERICA - HONOLULU, HI
Address: 99-193 AIEA HEIGHTS DRIVE
AIEA, HI 96701-3900
Attn: MARGIE PASCUA THACH

Batch #: 110822024
Project Name: HUH0072

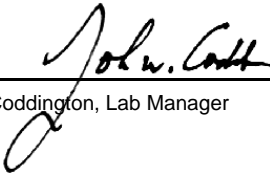
Analytical Results Report

Sample Number	110822024-002	Sampling Date	8/10/2011	Date/Time Received	8/22/2011 10:45 AM			
Client Sample ID	HUH0072-15 (PMAK-DU26 - SOL/SOIL)			Extraction Date	8/23/2011			
Matrix	Soil	Sampling Time	4:45 PM					
Comments								
Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
2,4,5-T	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
2,4,5-TP (Silvex)	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
2,4-D	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
2,4-DB	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
Dacthal	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
Dalapon	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
Dicamba	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
Dichloroprop	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
Dinoseb	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
MCPA	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
Pentachlorophenol	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	
Picloram	ND	mg/Kg	0.005	0.01	8/26/2011	EMP	EPA 8151A	

Surrogate Data

Sample Number	110822024-002		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4-Dichlorophenylacetic acid	EPA 8151A	95.0	30-145

Authorized Signature


John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:CERT0095

Thursday, September 01, 2011

Page 2 of 2

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: TEST AMERICA - HONOLULU, HI **Batch #:** 110822024
Address: 99-193 AIEA HEIGHTS DRIVE **Project Name:** HUH0072
AIEA, HI 96701-3900
Attn: MARGIE PASCUA THACH

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Picloram	0.094	mg/kg	0.1	94.0	49-168	8/23/2011	8/26/2011
Pentachlorophenol	0.082	mg/kg	0.1	82.0	6-122	8/23/2011	8/26/2011
Dinoseb	0.077	mg/kg	0.1	77.0	41-141	8/23/2011	8/26/2011
Dicamba	0.084	mg/kg	0.1	84.0	28-151	8/23/2011	8/26/2011
Dalapon	0.027	mg/kg	0.1	27.0	8-102	8/23/2011	8/26/2011
Dacthal	0.062	mg/kg	0.1	62.0	11-133	8/23/2011	8/26/2011
2,4-D	0.082	mg/kg	0.1	82.0	28-154	8/23/2011	8/26/2011
2,4,5-TP (Silvex)	0.157	mg/kg	0.1	157.0	33-167	8/23/2011	8/26/2011
2,4,5-T	0.089	mg/kg	0.1	89.0	31-142	8/23/2011	8/26/2011

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
110822024-002	Picloram	ND	0.062	mg/kg	0.1	62.0	49-168	8/23/2011	8/26/2011
110822024-002	Pentachlorophenol	ND	0.017	mg/kg	0.1	17.0	6-122	8/23/2011	8/26/2011
110822024-002	Dinoseb	ND	0.050	mg/kg	0.1	50.0	41-141	8/23/2011	8/26/2011
110822024-002	Dicamba	ND	0.079	mg/kg	0.1	79.0	28-151	8/23/2011	8/26/2011
110822024-002	Dalapon	ND	0.026	mg/kg	0.1	26.0	8-102	8/23/2011	8/26/2011
110822024-002	Dacthal	ND	0.048	mg/kg	0.1	48.0	11-133	8/23/2011	8/26/2011
110822024-002	2,4-D	ND	0.047	mg/kg	0.1	47.0	28-154	8/23/2011	8/26/2011
110822024-002	2,4,5-TP (Silvex)	ND	0.090	mg/kg	0.1	90.0	33-167	8/23/2011	8/26/2011
110822024-002	2,4,5-T	ND	0.036	mg/kg	0.1	36.0	31-142	8/23/2011	8/26/2011

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Picloram	0.081	mg/kg	0.1	81.0	26.6	0-50	8/23/2011	8/26/2011
Pentachlorophenol	0.023	mg/kg	0.1	23.0	30.0	0-50	8/23/2011	8/26/2011
Dinoseb	0.031	mg/kg	0.1	31.0	43.1	0-50	8/23/2011	8/26/2011
Dicamba	0.093	mg/kg	0.1	93.0	16.3	0-50	8/23/2011	8/26/2011
Dalapon	0.023	mg/kg	0.1	23.0	12.2	0-50	8/23/2011	8/26/2011
Dacthal	0.064	mg/kg	0.1	64.0	28.6	0-50	8/23/2011	8/26/2011
2,4-D	0.062	mg/kg	0.1	62.0	27.5	0-50	8/23/2011	8/26/2011
2,4,5-TP (Silvex)	0.108	mg/kg	0.1	108.0	18.2	0-50	8/23/2011	8/26/2011

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

Anatek Labs, Inc.

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Client: TEST AMERICA - HONOLULU, HI
Address: 99-193 AIEA HEIGHTS DRIVE
AIEA, HI 96701-3900
Attn: MARGIE PASCUA THACH

Batch #: 110822024
Project Name: HUH0072

Analytical Results Report Quality Control Data

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
2,4,5-T	0.041	mg/kg	0.1	41.0	44.8	0-50	8/23/2011	8/26/2011

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
2,4,5-T	ND	mg/Kg	0.01	8/23/2011	8/26/2011
2,4,5-TP (Silvex)	ND	mg/Kg	0.01	8/23/2011	8/26/2011
2,4-D	ND	mg/Kg	0.01	8/23/2011	8/26/2011
2,4-DB	ND	mg/Kg	0.01	8/23/2011	8/26/2011
Dacthal	ND	mg/Kg	0.01	8/23/2011	8/26/2011
Dalapon	ND	mg/Kg	0.01	8/23/2011	8/26/2011
Dicamba	ND	mg/Kg	0.01	8/23/2011	8/26/2011
Dichloroprop	ND	mg/Kg	0.01	8/23/2011	8/26/2011
Dinoseb	ND	mg/Kg	0.01	8/23/2011	8/26/2011
MCPA	ND	mg/Kg	0.01	8/23/2011	8/26/2011
Pentachlorophenol	ND	mg/Kg	0.01	8/23/2011	8/26/2011
Picloram	ND	mg/Kg	0.01	8/23/2011	8/26/2011

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client: TEST AMERICA - HONOLULU, HI
Address: 99-193 AIEA HEIGHTS DRIVE
AIEA, HI 96701-3900
Attn: MARGIE PASCUA THACH

Batch #: 110822024
Project Name: HUH0072

Analytical Results Report

Sample Number 110822024-001 **Sampling Date** 8/9/2011 **Date/Time Received** 8/22/2011 10:45 AM
Client Sample ID HUH0072-01 (PMAK-DU27 - SOL/SOIL) **Extraction Date** 8/23/2011
Matrix Soil **Sampling Time** 1:00 PM
Comments

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
2,3,4,6-Tetrachlorophenol	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Ametryne	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Atraton	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Atrazine	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Azinphos-methyl	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Bolstar	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Bromacil	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Carbophenothion	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Chlorpyrifos	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Coumaphos	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Demeton	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Diazinon	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Dichlorvos	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Dimethenamid	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Dimethoate	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Disulfoton	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
EPN	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Ethoprop	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Ethyl parathion	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Fensulfothion	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Fenthion	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Hexachlorophene	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Hexazinone	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Malathion	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Merphos	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Methyl parathion	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Mevinphos	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Naled	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Pentachlorophenol	0.19	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	M2
Phorate	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Phosmet	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Prometon	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Prometryn	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Propazine	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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Address: 99-193 AIEA HEIGHTS DRIVE
AIEA, HI 96701-3900
Attn: MARGIE PASCUA THACH

Batch #: 110822024
Project Name: HUH0072

Analytical Results Report

Sample Number	110822024-001	Sampling Date	8/9/2011	Date/Time Received	8/22/2011 10:45 AM			
Client Sample ID	HUH0072-01 (PMAK-DU27 - SOL/SOIL)			Extraction Date	8/23/2011			
Matrix	Soil	Sampling Time	1:00 PM					
Comments								
Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Ronnel	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Secbumeton	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Simazine	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Simetryn	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Stirophos	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Sulfotep	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Terbutylazine	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Terbutryn	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Tokuthion	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Trichloronate	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Trifluralin	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	

Surrogate Data

Sample Number	110822024-001	Method	Percent Recovery	Control Limits
Surrogate Standard				
Terphenyl-d14	EPA 8270CMOD	103.1	30-140	

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Address: 99-193 AIEA HEIGHTS DRIVE
AIEA, HI 96701-3900
Attn: MARGIE PASCUA THACH

Batch #: 110822024
Project Name: HUH0072

Analytical Results Report

Sample Number	110822024-002	Sampling Date	8/10/2011	Date/Time Received	8/22/2011 10:45 AM
Client Sample ID	HUH0072-15 (PMAK-DU26 - SOL/SOIL)			Extraction Date	8/23/2011
Matrix	Soil	Sampling Time	4:45 PM		
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
2,3,4,6-Tetrachlorophenol	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Ametryne	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Atraton	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Atrazine	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Azinphos-methyl	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Bolstar	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Bromacil	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Carbophenothion	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Chlorpyrifos	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Coumaphos	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Demeton	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Diazinon	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Dichlorvos	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Dimethenamid	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Dimethoate	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Disulfoton	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
EPN	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Ethoprop	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Ethyl parathion	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Fensulfothion	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Fenthion	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Hexachlorophene	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Hexazinone	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Malathion	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Merphos	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Methyl parathion	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Mevinphos	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Naled	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Pentachlorophenol	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	M2
Phorate	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Phosmet	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Prometon	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Prometryn	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Propazine	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Ronnel	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
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Attn: MARGIE PASCUA THACH

Batch #: 110822024
Project Name: HUH0072

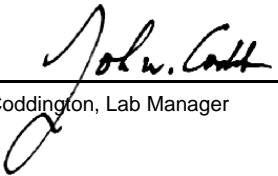
Analytical Results Report

Sample Number	110822024-002	Sampling Date	8/10/2011	Date/Time Received	8/22/2011 10:45 AM			
Client Sample ID	HUH0072-15 (PMAK-DU26 - SOL/SOIL)			Extraction Date	8/23/2011			
Matrix	Soil	Sampling Time	4:45 PM					
Comments								
Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Secbumeton	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Simazine	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Simetryn	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Stiropfos	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Sulfotep	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Terbutylazine	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Terbutryn	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Tokuthion	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Trichloronate	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	
Trifluralin	ND	mg/kg	0.05	0.1	8/25/2011	EMP	EPA 8270CMOD	

Surrogate Data

Sample Number	110822024-002		
Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270CMOD	100.7	30-140

Authorized Signature


John Coddington, Lab Manager

M2 Matrix spike recovery was low; the associated blank spike recovery was acceptable. Potential matrix effect
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Thursday, September 01, 2011

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Client: TEST AMERICA - HONOLULU, HI **Batch #:** 110822024
Address: 99-193 AIEA HEIGHTS DRIVE **Project Name:** HUH0072
AIEA, HI 96701-3900
Attn: MARGIE PASCUA THACH

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Terbutryn	0.96	mg/kg	1	96.0	40-150	8/23/2011	8/25/2011
Terbutylazine	1.03	mg/kg	1	103.0	40-150	8/23/2011	8/25/2011
Simetryn	0.93	mg/kg	1	93.0	40-150	8/23/2011	8/25/2011
Simazine	0.94	mg/kg	1	94.0	40-150	8/23/2011	8/25/2011
Secbumeton	1.01	mg/kg	1	101.0	40-150	8/23/2011	8/25/2011
Propazine	1.00	mg/kg	1	100.0	40-150	8/23/2011	8/25/2011
Prometon	1.02	mg/kg	1	102.0	40-150	8/23/2011	8/25/2011
Pentachlorophenol	0.84	mg/kg	1	84.0	20-150	8/23/2011	8/25/2011
Diazinon	1.04	mg/kg	1	104.0	20-120	8/23/2011	8/25/2011
Bromacil	0.22	mg/kg	1	22.0	20-120	8/23/2011	8/25/2011
Atrazine	1.08	mg/kg	1	108.0	40-150	8/23/2011	8/25/2011
Atraton	0.98	mg/kg	1	98.0	40-150	8/23/2011	8/25/2011
Ametryne	0.99	mg/kg	1	99.0	20-120	8/23/2011	8/25/2011

Matrix Spike

Sample Number	Parameter	Sample	MS	MS	AR	Prep Date	Analysis Date		
		Result	Result	Units	Spike			%Rec	%Rec
110822024-001	Terbutryn	ND	0.92	mg/kg	1	92.0	40-150	8/23/2011	8/25/2011
110822024-001	Terbutylazine	ND	0.99	mg/kg	1	99.0	40-150	8/23/2011	8/25/2011
110822024-001	Simetryn	ND	0.88	mg/kg	1	88.0	40-150	8/23/2011	8/25/2011
110822024-001	Simazine	ND	0.91	mg/kg	1	91.0	40-150	8/23/2011	8/25/2011
110822024-001	Secbumeton	ND	0.94	mg/kg	1	94.0	40-150	8/23/2011	8/25/2011
110822024-001	Propazine	ND	0.94	mg/kg	1	94.0	40-150	8/23/2011	8/25/2011
110822024-001	Prometon	ND	0.95	mg/kg	1	95.0	40-150	8/23/2011	8/25/2011
110822024-001	Pentachlorophenol	0.19	0.07	mg/kg	1	12.0	20-150	8/23/2011	8/25/2011
110822024-001	Diazinon	ND	1.00	mg/kg	1	100.0	20-120	8/23/2011	8/25/2011
110822024-001	Bromacil	ND	0.20	mg/kg	1	20.0	20-120	8/23/2011	8/25/2011
110822024-001	Atrazine	ND	1.03	mg/kg	1	103.0	40-150	8/23/2011	8/25/2011
110822024-001	Atraton	ND	0.89	mg/kg	1	89.0	40-150	8/23/2011	8/25/2011
110822024-001	Ametryne	ND	0.92	mg/kg	1	92.0	20-120	8/23/2011	8/25/2011

Comments:

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Attn: MARGIE PASCUA THACH

Batch #: 110822024
Project Name: HUH0072

Analytical Results Report Quality Control Data

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Terbutryn	0.95	mg/kg	1	95.0	3.2	0-50	8/23/2011	8/25/2011
Terbutylazine	1.03	mg/kg	1	103.0	4.0	0-50	8/23/2011	8/25/2011
Simetryn	0.88	mg/kg	1	88.0	0.0	0-50	8/23/2011	8/25/2011
Simazine	0.93	mg/kg	1	93.0	2.2	0-50	8/23/2011	8/25/2011
Secbumeton	0.98	mg/kg	1	98.0	4.2	0-50	8/23/2011	8/25/2011
Propazine	0.98	mg/kg	1	98.0	4.2	0-50	8/23/2011	8/25/2011
Prometon	1.01	mg/kg	1	101.0	6.1	0-50	8/23/2011	8/25/2011
Pentachlorophenol	0.04	mg/kg	1	15.0	54.5	0-50	8/23/2011	8/25/2011
Diazinon	1.00	mg/kg	1	100.0	0.0	0-50	8/23/2011	8/25/2011
Bromacil	0.20	mg/kg	1	20.0	0.0	0-50	8/23/2011	8/25/2011
Atrazine	1.06	mg/kg	1	106.0	2.9	0-50	8/23/2011	8/25/2011
Atraton	0.94	mg/kg	1	94.0	5.5	0-50	8/23/2011	8/25/2011
Ametryne	0.98	mg/kg	1	98.0	6.3	0-50	8/23/2011	8/25/2011

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
2,3,4,6-Tetrachlorophenol	ND	mg/kg	0.1	8/23/2011	8/25/2011
Ametryne	ND	mg/kg	0.1	8/23/2011	8/25/2011
Atraton	ND	mg/kg	0.1	8/23/2011	8/25/2011
Atrazine	ND	mg/kg	0.1	8/23/2011	8/25/2011
Azinphos-methyl	ND	mg/kg	0.1	8/23/2011	8/25/2011
Bolstar	ND	mg/kg	0.1	8/23/2011	8/25/2011
Bromacil	ND	mg/kg	0.1	8/23/2011	8/25/2011
Carbophenothion	ND	mg/kg	0.1	8/23/2011	8/25/2011
Chlorpyrifos	ND	mg/kg	0.1	8/23/2011	8/25/2011
Coumaphos	ND	mg/kg	0.1	8/23/2011	8/25/2011
Demeton	ND	mg/kg	0.1	8/23/2011	8/25/2011
Diazinon	ND	mg/kg	0.1	8/23/2011	8/25/2011
Dichlorvos	ND	mg/kg	0.1	8/23/2011	8/25/2011
Dimethenamid	ND	mg/kg	0.1	8/23/2011	8/25/2011
Dimethoate	ND	mg/kg	0.1	8/23/2011	8/25/2011
Disulfoton	ND	mg/kg	0.1	8/23/2011	8/25/2011
EPN	ND	mg/kg	0.1	8/23/2011	8/25/2011
Ethoprop	ND	mg/kg	0.1	8/23/2011	8/25/2011

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: TEST AMERICA - HONOLULU, HI
Address: 99-193 AIEA HEIGHTS DRIVE
AIEA, HI 96701-3900
Attn: MARGIE PASCUA THACH

Batch #: 110822024
Project Name: HUH0072

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Ethyl parathion	ND	mg/kg	0.1	8/23/2011	8/25/2011
Fensulfothion	ND	mg/kg	0.1	8/23/2011	8/25/2011
Fenthion	ND	mg/kg	0.1	8/23/2011	8/25/2011
Hexachlorophene	ND	mg/kg	0.1	8/23/2011	8/25/2011
Hexazinone	ND	mg/kg	0.1	8/23/2011	8/25/2011
Malathion	ND	mg/kg	0.1	8/23/2011	8/25/2011
Merphos	ND	mg/kg	0.1	8/23/2011	8/25/2011
Methyl parathion	ND	mg/kg	0.1	8/23/2011	8/25/2011
Mevinphos	ND	mg/kg	0.1	8/23/2011	8/25/2011
Naled	ND	mg/kg	0.1	8/23/2011	8/25/2011
Pentachlorophenol	ND	mg/kg	0.1	8/23/2011	8/25/2011
Phorate	ND	mg/kg	0.1	8/23/2011	8/25/2011
Phosmet	ND	mg/kg	0.1	8/23/2011	8/25/2011
Prometon	ND	mg/kg	0.1	8/23/2011	8/25/2011
Prometryn	ND	mg/kg	0.1	8/23/2011	8/25/2011
Propazine	ND	mg/kg	0.1	8/23/2011	8/25/2011
Ronnel	ND	mg/kg	0.1	8/23/2011	8/25/2011
Secbumeton	ND	mg/kg	0.1	8/23/2011	8/25/2011
Simazine	ND	mg/kg	0.1	8/23/2011	8/25/2011
Simetryn	ND	mg/kg	0.1	8/23/2011	8/25/2011
Stirophos	ND	mg/kg	0.1	8/23/2011	8/25/2011
Sulfotep	ND	mg/kg	0.1	8/23/2011	8/25/2011
Terbuthylazine	ND	mg/kg	0.1	8/23/2011	8/25/2011
Terbutryn	ND	mg/kg	0.1	8/23/2011	8/25/2011
Tokuthion	ND	mg/kg	0.1	8/23/2011	8/25/2011
Trichloronate	ND	mg/kg	0.1	8/23/2011	8/25/2011
Trifluralin	ND	mg/kg	0.1	8/23/2011	8/25/2011

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT: CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA: Cert2632; ID:WA00169; WA:C585; MT: Cert0095

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Client: TEST AMERICA - HONOLULU, HI
Address: 99-193 AIEA HEIGHTS DRIVE
AIEA, HI 96701-3900
Attn: MARGIE PASCUA THACH

Batch #: 110822024
Project Name: HUH0072

Analytical Results Report

Sample Number 110822024-001 **Sampling Date** 8/9/2011 **Date/Time Received** 8/22/2011 10:45 AM
Client Sample ID HUH0072-01 (PMAK-DU27 - SOL/SOIL) **Extraction Date** 8/23/2011
Matrix Soil **Sampling Time** 1:00 PM
Comments

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Bromacil	ND	mg/kg	0.05	0.1	8/23/2011	TGT	EPA 8321A	
Diuron	ND	mg/kg	0.05	0.1	8/23/2011	TGT	EPA 8321A	
Fenuron	ND	mg/kg	0.05	0.1	8/23/2011	TGT	EPA 8321A	
Linuron	ND	mg/kg	0.05	0.1	8/23/2011	TGT	EPA 8321A	
Monuron	ND	mg/kg	0.05	0.1	8/23/2011	TGT	EPA 8321A	
Neburon	ND	mg/kg	0.05	0.1	8/23/2011	TGT	EPA 8321A	
Propiconazole	ND	mg/kg	0.01	0.05	8/23/2011	TGT	EPA 8321A	

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Client: TEST AMERICA - HONOLULU, HI
Address: 99-193 AIEA HEIGHTS DRIVE
AIEA, HI 96701-3900
Attn: MARGIE PASCUA THACH

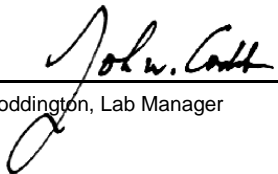
Batch #: 110822024
Project Name: HUH0072

Analytical Results Report

Sample Number	110822024-002	Sampling Date	8/10/2011	Date/Time Received	8/22/2011 10:45 AM
Client Sample ID	HUH0072-15 (PMAK-DU26 - SOL/SOIL)			Extraction Date	8/23/2011
Matrix	Soil	Sampling Time	4:45 PM		
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Bromacil	ND	mg/kg	0.05	0.1	8/23/2011	TGT	EPA 8321A	
Diuron	ND	mg/kg	0.05	0.1	8/23/2011	TGT	EPA 8321A	
Fenuron	ND	mg/kg	0.05	0.1	8/23/2011	TGT	EPA 8321A	
Linuron	ND	mg/kg	0.05	0.1	8/23/2011	TGT	EPA 8321A	
Monuron	ND	mg/kg	0.05	0.1	8/23/2011	TGT	EPA 8321A	
Neburon	ND	mg/kg	0.05	0.1	8/23/2011	TGT	EPA 8321A	
Propiconazole	ND	mg/kg	0.01	0.05	8/23/2011	TGT	EPA 8321A	

Authorized Signature


John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client: TEST AMERICA - HONOLULU, HI **Batch #:** 110822024
Address: 99-193 AIEA HEIGHTS DRIVE **Project Name:** HUH0072
AIEA, HI 96701-3900
Attn: MARGIE PASCUA THACH

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Propiconazole	0.0936	mg/L	0.1	93.6	60-140	8/23/2011	8/23/2011
Neburon	0.0977	mg/L	0.1	97.7	60-140	8/23/2011	8/23/2011
Monuron	0.0995	mg/L	0.1	99.5	60-140	8/23/2011	8/23/2011
Linuron	0.0884	mg/L	0.1	88.4	60-140	8/23/2011	8/23/2011
Fenuron	0.104	mg/L	0.1	104.0	60-140	8/23/2011	8/23/2011
Diuron	0.0942	mg/L	0.1	94.2	60-140	8/23/2011	8/23/2011
Bromacil	0.0925	mg/L	0.1	92.5	60-140	8/23/2011	8/23/2011

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
110822024-001	Propiconazole	ND	0.0870	mg/kg	0.1	87.0	50-150	8/23/2011	8/23/2011
110822024-001	Neburon	ND	0.0911	mg/kg	0.1	91.1	50-150	8/23/2011	8/23/2011
110822024-001	Monuron	ND	0.0786	mg/kg	0.1	78.6	50-150	8/23/2011	8/23/2011
110822024-001	Linuron	ND	0.0858	mg/kg	0.1	85.8	50-150	8/23/2011	8/23/2011
110822024-001	Fenuron	ND	0.0917	mg/kg	0.1	91.7	50-150	8/23/2011	8/23/2011
110822024-001	Diuron	ND	0.0811	mg/kg	0.1	81.1	50-150	8/23/2011	8/23/2011
110822024-001	Bromacil	ND	0.0853	mg/kg	0.1	85.3	50-150	8/23/2011	8/23/2011

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Propiconazole	0.0811	mg/kg	0.1	81.1	7.0	0-25	8/23/2011	8/23/2011
Neburon	0.0907	mg/kg	0.1	90.7	0.4	0-25	8/23/2011	8/23/2011
Monuron	0.0833	mg/kg	0.1	83.3	5.8	0-25	8/23/2011	8/23/2011
Linuron	0.0833	mg/kg	0.1	83.3	3.0	0-25	8/23/2011	8/23/2011
Fenuron	0.0852	mg/kg	0.1	85.2	7.3	0-25	8/23/2011	8/23/2011
Diuron	0.0839	mg/kg	0.1	83.9	3.4	0-25	8/23/2011	8/23/2011
Bromacil	0.0822	mg/kg	0.1	82.2	3.7	0-25	8/23/2011	8/23/2011

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Bromacil	ND	mg/kg	0.1	8/23/2011	8/23/2011

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:CERT0095

Thursday, September 01, 2011

Page 1 of 2

Anatek Labs, Inc.

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Client: TEST AMERICA - HONOLULU, HI
Address: 99-193 AIEA HEIGHTS DRIVE
AIEA, HI 96701-3900
Attn: MARGIE PASCUA THACH

Batch #: 110822024
Project Name: HUH0072

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diuron	ND	mg/kg	0.1	8/23/2011	8/23/2011
Fenuron	ND	mg/kg	0.1	8/23/2011	8/23/2011
Linuron	ND	mg/kg	0.1	8/23/2011	8/23/2011
Monuron	ND	mg/kg	0.1	8/23/2011	8/23/2011
Neburon	ND	mg/kg	0.1	8/23/2011	8/23/2011
Propiconazole	ND	mg/kg	0.05	8/23/2011	8/23/2011

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Login Report

Customer Name: TEST AMERICA - HONOLULU, HI
99-193 AIEA HEIGHTS DRIVE
AIEA HI 96701-3900

Order ID: 110822024
Order Date: 8/22/2011

Contact Name: MARGIE PASCUA THACH
Project Name: HUH0072

Comment:

Sample #: 110822024-001 **Customer Sample #:** HUH0072-01 (PMAK-DU27 - SOL/SOIL)

Recv'd: **Collector:** **Date Collected:** 8/9/2011
Quantity: 6 **Matrix:** Soil **Date Received:** 8/22/2011 10:45:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	9/1/2011	<u>Normal (6-10 Days)</u>
HERBICIDES	M	EPA 8151A	9/1/2011	<u>Normal (6-10 Days)</u>
PEST SCREEN TAHH 8270	M	EPA 8270CMOD	9/1/2011	<u>Normal (6-10 Days)</u>
SEMIVOLATILES MISC LC/MS/MS	M	EPA 8321A	9/1/2011	<u>Normal (6-10 Days)</u>

Sample #: 110822024-002 **Customer Sample #:** HUH0072-15 (PMAK-DU26 - SOL/SOIL)

Recv'd: **Collector:** **Date Collected:** 8/10/2011
Quantity: 6 **Matrix:** Soil **Date Received:** 8/22/2011 10:45:00 A
Comment:

Test	Lab	Method	Due Date	Priority
%Moisture	M	%moisture	9/1/2011	<u>Normal (6-10 Days)</u>
HERBICIDES	M	EPA 8151A	9/1/2011	<u>Normal (6-10 Days)</u>
PEST SCREEN TAHH 8270	M	EPA 8270CMOD	9/1/2011	<u>Normal (6-10 Days)</u>
SEMIVOLATILES MISC LC/MS/MS	M	EPA 8321A	9/1/2011	<u>Normal (6-10 Days)</u>

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Customer Name: TEST AMERICA - HONOLULU, HI
99-193 AIEA HEIGHTS DRIVE
AIEA HI 96701-3900

Order ID: 110822024
Order Date: 8/22/2011

Contact Name: MARGIE PASCUA THACH

Project Name: HUH0072

Comment:

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	3.3
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

Subcontract Order - TestAmerica Honolulu (HUH0072)

SENDING LABORATORY:

TestAmerica Honolulu
 99-193 Aiea Heights Drive, Suite 121
 Aiea, HI 96701
 Phone: 808-486-5227
 Fax: 808-486-2456
 Project Manager: Margie Pascua Thach

RECEIVING LABORATORY:

Anatek Labs.
 1282 Alturas Dr.
 Moscow, ID 83843
 Phone : (208) 883-2839
 Fax: 208
 Project Location: Hawaii
 Receipt Temperature: _____ °C Ice: Y / N

8290 Dioxin: 38 samples for COPC, 2 samples for combined PMA COPC. 8015 DRO/RRO: 10 samples for COPC, 2 samples for combined PMA COPC. For total Metals, first metal is \$22.50, succeeding metals is \$10, except for Mercury is \$35.

Standard TAT is requested unless specific due date is requested. => Due Date: 09/01/11 Initials: MPT

Analysis	Units	Expires	Comments
----------	-------	---------	----------

Sample ID: HUH0072-01 (PMAK-DU27 - Solid/Soil)

Sampled: **08/09/11 13:00**

8151 Herbicides	mg/kg	08/23/11 13:00	
8270 Modified Pest. Screen	mg/kg	08/23/11 13:00	Triazine Pesticides and 8141 list
8321 HERBICIDES	ug/kg	08/23/11 13:00	

Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (E)

-01

Sample ID: HUH0072-15 (PMAK-DU26 - Solid/Soil)

Sampled: **08/10/11 16:45**

8151 Herbicides	mg/kg	08/24/11 16:45	
8270 Modified Pest. Screen	mg/kg	08/24/11 16:45	Triazine Pesticides and 8141 list
8321 HERBICIDES	ug/kg	08/24/11 16:45	

Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (E)

-02

MWBS

Released By: [Signature] Date/Time: 8/19/11 1230

Released By: _____ Date/Time: _____

ANATEK LABS RECEIVING LIST

RECEIVED INTACT TEMP: 3.3 °C
 LABELS & CHAINS AGREE
 NO HEADSPACE
 ICE / ICE-PACKS PRESENT: Y
 CUSTODY SEALS PRESENT: N
 PRESERVATIVES: _____
 NUMBER OF CONTAINERS: 12 SHIPPED VIA: F
 DATE & TIME: 8/22/11 10:45 INSPECTED BY: BT

110822 024 TAHH Last Due 9/1/2011
 1st SAMPL 8/9/2011 1st RCVD 8/22/2011
 HUH0072

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Denver

4955 Yarrow Street

Arvada, CO 80002

Tel: (303)736-0100

TestAmerica Job ID: 280-19611-1

TestAmerica Sample Delivery Group: HUH0072

Client Project/Site: Kilauea, Kauai, PMA

For:


TestAmerica Laboratories, Inc

99-193 Aiea Heights Drive

Suite 121

Aiea, Hawaii 96701

Attn: Margie F Pascua



Authorized for release by:

09/01/2011 05:06:50 PM

DiLea Griego

Project Manager I

dilea.griego@testamericainc.com

LINKS

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results through

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www.testamericainc.com

Results relate only to the items tested and the sample(s) as received by the laboratory. The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Preliminary Data



Case Narrative

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Job ID: 280-19611-1

Laboratory: TestAmerica Denver

Narrative

Job Narrative
280-19611-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

Metals

Method(s) 6010B: The serial dilution performed for the following samples in prep batch 83360 was outside control limits for Cr in analytical batch 83796: HUH0072-01 (280-19611-1), HUH0072-15 (280-19611-14)

Method(s) 6010B: The following samples in prep batch 83360 were diluted due to the abundance of the non-target analyte Ti in analytical batch 84000: (280-19611-1 MS), (280-19611-1 MSD), (280-19611-1 SD), HUH0072-01 (280-19611-1), HUH0072-02 (280-19611-2), HUH0072-03 (280-19611-3), HUH0072-04 (280-19611-4), HUH0072-05 (280-19611-5), HUH0072-06 (280-19611-6), HUH0072-07 (280-19611-7), HUH0072-08 (280-19611-8), HUH0072-09 (280-19611-9), HUH0072-11 (280-19611-10), HUH0072-12 (280-19611-11), HUH0072-15 (280-19611-14), HUH0072-16 (280-19611-15), HUH0072-17 (280-19611-16). Elevated reporting limits (RLs) are provided for the affected analyte Pb.

Method(s) 7471A: The following samples in batch 84032 was diluted due to the abundance of target analytes, Hg: (280-19611-1 MS), (280-19611-1 MSD), HUH0072-01 (280-19611-1), HUH0072-12 (280-19611-11). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

Preliminary Data

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Definitions/Glossary

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
F	MS or MSD exceeds the control limits
F	RPD of the MS and 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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit (Dioxin)
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or method detection limit if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Client Sample ID: HUH0072-01

Lab Sample ID: 280-19611-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	170		2.0	0.65	mg/Kg	1		6010B	Total/NA
Barium	210	B	0.99	0.075	mg/Kg	1		6010B	Total/NA
Cadmium	1.3		0.50	0.041	mg/Kg	1		6010B	Total/NA
Chromium	470		1.5	0.057	mg/Kg	1		6010B	Total/NA
Lead	3300		4.0		mg/Kg	5		6010B	Total/NA
Silver	1.0		0.99	0.16	mg/Kg	1		6010B	Total/NA
Mercury	1900		170		ug/Kg	10		7471A	Total/NA

Client Sample ID: HUH0072-02

Lab Sample ID: 280-19611-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	130		1.9	0.62	mg/Kg	1		6010B	Total/NA
Lead	180		3.8		mg/Kg	5		6010B	Total/NA
Mercury	380		17		ug/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-03

Lab Sample ID: 280-19611-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	38		2.0	0.65	mg/Kg	1		6010B	Total/NA
Lead	200		4.0		mg/Kg	5		6010B	Total/NA
Mercury	390		15		ug/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-04

Lab Sample ID: 280-19611-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	290		2.0	0.66	mg/Kg	1		6010B	Total/NA
Lead	160		4.0		mg/Kg	5		6010B	Total/NA
Mercury	680		17		ug/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-05

Lab Sample ID: 280-19611-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	230		1.9	0.63	mg/Kg	1		6010B	Total/NA
Lead	130		3.8		mg/Kg	5		6010B	Total/NA
Mercury	620		16		ug/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-06

Lab Sample ID: 280-19611-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	230		1.9	0.64	mg/Kg	1		6010B	Total/NA
Lead	130		3.9		mg/Kg	5		6010B	Total/NA
Mercury	680		15		ug/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-07

Lab Sample ID: 280-19611-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	50		1.8	0.59	mg/Kg	1		6010B	Total/NA
Lead	55		3.6		mg/Kg	5		6010B	Total/NA
Mercury	600		16		ug/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-08

Lab Sample ID: 280-19611-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	47		1.7	0.57	mg/Kg	1		6010B	Total/NA

Detection Summary

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Client Sample ID: HUH0072-08 (Continued)

Lab Sample ID: 280-19611-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	55		3.5		mg/Kg	5		6010B	Total/NA
Mercury	520		16		ug/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-09

Lab Sample ID: 280-19611-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	49		1.8	0.59	mg/Kg	1		6010B	Total/NA
Lead	56		3.6		mg/Kg	5		6010B	Total/NA
Mercury	390		15		ug/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-11

Lab Sample ID: 280-19611-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	28		1.9	0.64	mg/Kg	1		6010B	Total/NA
Lead	14		3.9		mg/Kg	5		6010B	Total/NA
Mercury	340		17		ug/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-12

Lab Sample ID: 280-19611-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	880		2.0	0.65	mg/Kg	1		6010B	Total/NA
Lead	170		3.9		mg/Kg	5		6010B	Total/NA
Mercury	3700		160		ug/Kg	10		7471A	Total/NA

Client Sample ID: HUH0072-15

Lab Sample ID: 280-19611-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	380		1.9	0.64	mg/Kg	1		6010B	Total/NA
Barium	170	B	0.97	0.074	mg/Kg	1		6010B	Total/NA
Cadmium	1.8		0.49	0.040	mg/Kg	1		6010B	Total/NA
Chromium	410		1.5	0.056	mg/Kg	1		6010B	Total/NA
Lead	340		3.9		mg/Kg	5		6010B	Total/NA
Silver	0.33	J	0.97	0.16	mg/Kg	1		6010B	Total/NA
Mercury	550		16		ug/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-16

Lab Sample ID: 280-19611-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	24		1.9	0.62	mg/Kg	1		6010B	Total/NA
Lead	16		3.7		mg/Kg	5		6010B	Total/NA
Mercury	600		15		ug/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-17

Lab Sample ID: 280-19611-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	25		1.9	0.61	mg/Kg	1		6010B	Total/NA
Lead	71		3.7		mg/Kg	5		6010B	Total/NA
Mercury	330		16		ug/Kg	1		7471A	Total/NA

Method Summary

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Method	Method Description	Protocol	Laboratory
6010B	RCRA Metals	SW846	TAL DEN
6010B	Metals (ICP)	SW846	TAL DEN
7471A	Mercury (CVAA)	SW846	TAL DEN

Protocol References:

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Preliminary Data



Sample Summary

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-19611-1	HUH0072-01	Solid	08/09/11 13:00	08/26/11 09:30
280-19611-2	HUH0072-02	Solid	08/10/11 10:00	08/26/11 09:30
280-19611-3	HUH0072-03	Solid	08/10/11 11:45	08/26/11 09:30
280-19611-4	HUH0072-04	Solid	08/10/11 14:20	08/26/11 09:30
280-19611-5	HUH0072-05	Solid	08/10/11 14:25	08/26/11 09:30
280-19611-6	HUH0072-06	Solid	08/10/11 14:30	08/26/11 09:30
280-19611-7	HUH0072-07	Solid	08/10/11 16:10	08/26/11 09:30
280-19611-8	HUH0072-08	Solid	08/10/11 16:15	08/26/11 09:30
280-19611-9	HUH0072-09	Solid	08/10/11 16:20	08/26/11 09:30
280-19611-10	HUH0072-11	Solid	08/10/11 16:25	08/26/11 09:30
280-19611-11	HUH0072-12	Solid	08/10/11 16:30	08/26/11 09:30
280-19611-14	HUH0072-15	Solid	08/10/11 16:45	08/26/11 09:30
280-19611-15	HUH0072-16	Solid	08/11/11 11:00	08/26/11 09:30
280-19611-16	HUH0072-17	Solid	08/11/11 13:00	08/26/11 09:30

Preliminary Data

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Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
 SDG: HUH0072

Method: 6010B - Metals (ICP)

Client Sample ID: HUH0072-02
Date Collected: 08/10/11 10:00
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	130		1.9	0.62	mg/Kg		08/29/11 14:00	08/30/11 22:06	1
Lead	180		3.8		mg/Kg		08/29/11 14:00	08/31/11 13:14	5

Client Sample ID: HUH0072-03
Date Collected: 08/10/11 11:45
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	38		2.0	0.65	mg/Kg		08/29/11 14:00	08/30/11 22:09	1
Lead	200		4.0		mg/Kg		08/29/11 14:00	08/31/11 13:17	5

Client Sample ID: HUH0072-04
Date Collected: 08/10/11 14:20
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-4
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	290		2.0	0.66	mg/Kg		08/29/11 14:00	08/30/11 22:20	1
Lead	160		4.0		mg/Kg		08/29/11 14:00	08/31/11 13:19	5

Client Sample ID: HUH0072-05
Date Collected: 08/10/11 14:25
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-5
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	230		1.9	0.63	mg/Kg		08/29/11 14:00	08/30/11 22:23	1
Lead	130		3.8		mg/Kg		08/29/11 14:00	08/31/11 13:30	5

Client Sample ID: HUH0072-06
Date Collected: 08/10/11 14:30
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-6
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	230		1.9	0.64	mg/Kg		08/29/11 14:00	08/30/11 22:25	1
Lead	130		3.9		mg/Kg		08/29/11 14:00	08/31/11 13:33	5

Client Sample ID: HUH0072-07
Date Collected: 08/10/11 16:10
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-7
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	50		1.8	0.59	mg/Kg		08/29/11 14:00	08/30/11 22:28	1
Lead	55		3.6		mg/Kg		08/29/11 14:00	08/31/11 13:35	5

Client Sample ID: HUH0072-08
Date Collected: 08/10/11 16:15
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-8
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	47		1.7	0.57	mg/Kg		08/29/11 14:00	08/30/11 22:30	1

Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
 SDG: HUH0072

Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: HUH0072-08
Date Collected: 08/10/11 16:15
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-8
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	55		3.5		mg/Kg		08/29/11 14:00	08/31/11 13:38	5

Client Sample ID: HUH0072-09
Date Collected: 08/10/11 16:20
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-9
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	49		1.8	0.59	mg/Kg		08/29/11 14:00	08/30/11 22:32	1
Lead	56		3.6		mg/Kg		08/29/11 14:00	08/31/11 13:40	5

Client Sample ID: HUH0072-11
Date Collected: 08/10/11 16:25
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-10
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	28		1.9	0.64	mg/Kg		08/29/11 14:00	08/30/11 22:35	1
Lead	14		3.9		mg/Kg		08/29/11 14:00	08/31/11 13:43	5

Client Sample ID: HUH0072-12
Date Collected: 08/10/11 16:30
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-11
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	880		2.0	0.65	mg/Kg		08/29/11 14:00	08/30/11 22:47	1
Lead	170		3.9		mg/Kg		08/29/11 14:00	08/31/11 13:45	5

Client Sample ID: HUH0072-16
Date Collected: 08/11/11 11:00
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-15
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	24		1.9	0.62	mg/Kg		08/29/11 14:00	08/30/11 22:52	1
Lead	16		3.7		mg/Kg		08/29/11 14:00	08/31/11 13:50	5

Client Sample ID: HUH0072-17
Date Collected: 08/11/11 13:00
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-16
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	25		1.9	0.61	mg/Kg		08/29/11 14:00	08/30/11 22:54	1
Lead	71		3.7		mg/Kg		08/29/11 14:00	08/31/11 13:52	5

Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
 SDG: HUH0072

Method: 6010B - RCRA Metals

Client Sample ID: HUH0072-01
Date Collected: 08/09/11 13:00
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	170		2.0	0.65	mg/Kg		08/29/11 14:00	08/30/11 21:56	1
Barium	210	B	0.99	0.075	mg/Kg		08/29/11 14:00	08/30/11 21:56	1
Cadmium	1.3		0.50	0.041	mg/Kg		08/29/11 14:00	08/30/11 21:56	1
Chromium	470		1.5	0.057	mg/Kg		08/29/11 14:00	08/30/11 21:56	1
Lead	3300		4.0		mg/Kg		08/29/11 14:00	08/31/11 13:05	5
Selenium	ND		1.3	0.85	mg/Kg		08/29/11 14:00	08/30/11 21:56	1
Silver	1.0		0.99	0.16	mg/Kg		08/29/11 14:00	08/30/11 21:56	1

Client Sample ID: HUH0072-15
Date Collected: 08/10/11 16:45
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-14
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	380		1.9	0.64	mg/Kg		08/29/11 14:00	08/30/11 22:49	1
Barium	170	B	0.97	0.074	mg/Kg		08/29/11 14:00	08/30/11 22:49	1
Cadmium	1.8		0.49	0.040	mg/Kg		08/29/11 14:00	08/30/11 22:49	1
Chromium	410		1.5	0.056	mg/Kg		08/29/11 14:00	08/30/11 22:49	1
Lead	340		3.9		mg/Kg		08/29/11 14:00	08/31/11 13:47	5
Selenium	ND		1.3	0.83	mg/Kg		08/29/11 14:00	08/30/11 22:49	1
Silver	0.33	J	0.97	0.16	mg/Kg		08/29/11 14:00	08/30/11 22:49	1

Method: 7471A - Mercury (CVAA)

Client Sample ID: HUH0072-01
Date Collected: 08/09/11 13:00
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1900		170		ug/Kg		08/31/11 13:45	08/31/11 20:09	10

Client Sample ID: HUH0072-02
Date Collected: 08/10/11 10:00
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	380		17		ug/Kg		08/31/11 13:45	08/31/11 18:21	1

Client Sample ID: HUH0072-03
Date Collected: 08/10/11 11:45
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	390		15		ug/Kg		08/31/11 13:45	08/31/11 18:23	1

Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
 SDG: HUH0072

Method: 7471A - Mercury (CVAA)

Client Sample ID: HUH0072-04
Date Collected: 08/10/11 14:20
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-4
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	680		17		ug/Kg		08/31/11 13:45	08/31/11 18:25	1

Client Sample ID: HUH0072-05
Date Collected: 08/10/11 14:25
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-5
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	620		16		ug/Kg		08/31/11 13:45	08/31/11 18:35	1

Client Sample ID: HUH0072-06
Date Collected: 08/10/11 14:30
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-6
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	680		15		ug/Kg		08/31/11 13:45	08/31/11 18:39	1

Client Sample ID: HUH0072-07
Date Collected: 08/10/11 16:10
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-7
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	600		16		ug/Kg		08/31/11 13:45	08/31/11 18:44	1

Client Sample ID: HUH0072-08
Date Collected: 08/10/11 16:15
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-8
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	520		16		ug/Kg		08/31/11 13:45	08/31/11 18:47	1

Client Sample ID: HUH0072-09
Date Collected: 08/10/11 16:20
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-9
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	390		15		ug/Kg		08/31/11 13:45	08/31/11 18:49	1

Client Sample ID: HUH0072-11
Date Collected: 08/10/11 16:25
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-10
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	340		17		ug/Kg		08/31/11 13:45	08/31/11 18:51	1

Client Sample ID: HUH0072-12
Date Collected: 08/10/11 16:30
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-11
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	3700		160		ug/Kg		08/31/11 13:45	08/31/11 20:16	10

Client Sample Results

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Client Sample ID: HUH0072-15
Date Collected: 08/10/11 16:45
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-14
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	550		16		ug/Kg		08/31/11 13:45	08/31/11 19:00	1

Client Sample ID: HUH0072-16
Date Collected: 08/11/11 11:00
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-15
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	600		15		ug/Kg		08/31/11 13:45	08/31/11 19:02	1

Client Sample ID: HUH0072-17
Date Collected: 08/11/11 13:00
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-16
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	330		16		ug/Kg		08/31/11 13:45	08/31/11 19:07	1

Preliminary Data

QC Sample Results

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 280-83360/1-A
Matrix: Solid
Analysis Batch: 83796

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 83360

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		2.0	0.66	mg/Kg		08/29/11 14:00	08/30/11 21:52	1
Barium	0.0910	J	1.0	0.076	mg/Kg		08/29/11 14:00	08/30/11 21:52	1
Cadmium	ND		0.50	0.041	mg/Kg		08/29/11 14:00	08/30/11 21:52	1
Chromium	ND		1.5	0.058	mg/Kg		08/29/11 14:00	08/30/11 21:52	1
Selenium	ND		1.3	0.86	mg/Kg		08/29/11 14:00	08/30/11 21:52	1
Silver	ND		1.0	0.16	mg/Kg		08/29/11 14:00	08/30/11 21:52	1

Lab Sample ID: MB 280-83360/1-A
Matrix: Solid
Analysis Batch: 84000

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 83360

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Lead	ND		0.80		mg/Kg		08/29/11 14:00	08/31/11 13:00	1

Lab Sample ID: LCS 280-83360/2-A
Matrix: Solid
Analysis Batch: 83796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 83360

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec Limits
		Result	Qualifier				
Arsenic	100	101		mg/Kg		101	85 - 110
Barium	200	213		mg/Kg		107	87 - 112
Cadmium	10.0	10.7		mg/Kg		107	87 - 110
Chromium	20.0	20.6		mg/Kg		103	84 - 114
Selenium	200	207		mg/Kg		104	83 - 110
Silver	5.00	5.34		mg/Kg		107	87 - 114

Lab Sample ID: LCS 280-83360/2-A
Matrix: Solid
Analysis Batch: 84000

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 83360

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec Limits
		Result	Qualifier				
Lead	50.0	51.8		mg/Kg		104	86 - 110

Lab Sample ID: 280-19611-1 MS
Matrix: Solid
Analysis Batch: 83796

Client Sample ID: HUH0072-01
Prep Type: Total/NA
Prep Batch: 83360

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	% Rec	% Rec Limits
				Result	Qualifier				
Arsenic	170		100	289	F	mg/Kg		120	76 - 111
Barium	210	B	200	378		mg/Kg		85	52 - 159
Cadmium	1.3		10.0	10.9		mg/Kg		96	40 - 130
Chromium	470		20.0	456	4	mg/Kg		-68	70 - 200
Selenium	ND		200	152		mg/Kg		76	76 - 104
Silver	1.0		5.00	5.99		mg/Kg		99	75 - 141

Lab Sample ID: 280-19611-1 MS
Matrix: Solid
Analysis Batch: 84000

Client Sample ID: HUH0072-01
Prep Type: Total/NA
Prep Batch: 83360

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	% Rec	% Rec Limits
				Result	Qualifier				
Lead	3300		50.0	9980	4	mg/Kg		13421	70 - 200

QC Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
 SDG: HUH0072

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 280-19611-1 MSD
Matrix: Solid
Analysis Batch: 83796

Client Sample ID: HUH0072-01
Prep Type: Total/NA
Prep Batch: 83360

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Arsenic	170		100	240	F	mg/Kg		71	76 - 111	18	20	
Barium	210	B	200	392		mg/Kg		92	52 - 159	4	20	
Cadmium	1.3		10.0	10.6		mg/Kg		93	40 - 130	2	20	
Chromium	470		20.0	430	4	mg/Kg		-197	70 - 200	6	20	
Selenium	ND		200	150	F	mg/Kg		75	76 - 104	1	20	
Silver	1.0		5.00	5.86		mg/Kg		97	75 - 141	2	20	

Lab Sample ID: 280-19611-1 MSD
Matrix: Solid
Analysis Batch: 84000

Client Sample ID: HUH0072-01
Prep Type: Total/NA
Prep Batch: 83360

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Lead	3300		50.0	1580	4 F	mg/Kg		-3387	70 - 200	145	20	

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 280-83474/1-A
Matrix: Solid
Analysis Batch: 84032

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 83474

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		17		ug/Kg		08/31/11 13:45	08/31/11 17:59	1

Lab Sample ID: LCS 280-83474/2-A
Matrix: Solid
Analysis Batch: 84032

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 83474

Analyte	Spike	LCS	LCS	Unit	D	% Rec	% Rec.	
							Result	Qualifier
Mercury	417	400		ug/Kg		96	87 - 111	

Lab Sample ID: 280-19611-1 MS
Matrix: Solid
Analysis Batch: 84032

Client Sample ID: HUH0072-01
Prep Type: Total/NA
Prep Batch: 83474

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD
Mercury	1900		417	2610	4	ug/Kg		180	87 - 111	

Lab Sample ID: 280-19611-1 MSD
Matrix: Solid
Analysis Batch: 84032

Client Sample ID: HUH0072-01
Prep Type: Total/NA
Prep Batch: 83474

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Mercury	1900		379	2180	4	ug/Kg		84	87 - 111	18	20	

QC Association Summary

Client: TestAmerica Laboratories, Inc
 Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
 SDG: HUH0072

Metals

Prep Batch: 83360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19611-1	HUH0072-01	Total/NA	Solid	3050B	
280-19611-1 MS	HUH0072-01	Total/NA	Solid	3050B	
280-19611-1 MSD	HUH0072-01	Total/NA	Solid	3050B	
280-19611-2	HUH0072-02	Total/NA	Solid	3050B	
280-19611-3	HUH0072-03	Total/NA	Solid	3050B	
280-19611-4	HUH0072-04	Total/NA	Solid	3050B	
280-19611-5	HUH0072-05	Total/NA	Solid	3050B	
280-19611-6	HUH0072-06	Total/NA	Solid	3050B	
280-19611-7	HUH0072-07	Total/NA	Solid	3050B	
280-19611-8	HUH0072-08	Total/NA	Solid	3050B	
280-19611-9	HUH0072-09	Total/NA	Solid	3050B	
280-19611-10	HUH0072-11	Total/NA	Solid	3050B	
280-19611-11	HUH0072-12	Total/NA	Solid	3050B	
280-19611-14	HUH0072-15	Total/NA	Solid	3050B	
280-19611-15	HUH0072-16	Total/NA	Solid	3050B	
280-19611-16	HUH0072-17	Total/NA	Solid	3050B	
LCS 280-83360/2-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 280-83360/1-A	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 83474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19611-1	HUH0072-01	Total/NA	Solid	7471A	
280-19611-1 MS	HUH0072-01	Total/NA	Solid	7471A	
280-19611-1 MSD	HUH0072-01	Total/NA	Solid	7471A	
280-19611-2	HUH0072-02	Total/NA	Solid	7471A	
280-19611-3	HUH0072-03	Total/NA	Solid	7471A	
280-19611-4	HUH0072-04	Total/NA	Solid	7471A	
280-19611-5	HUH0072-05	Total/NA	Solid	7471A	
280-19611-6	HUH0072-06	Total/NA	Solid	7471A	
280-19611-7	HUH0072-07	Total/NA	Solid	7471A	
280-19611-8	HUH0072-08	Total/NA	Solid	7471A	
280-19611-9	HUH0072-09	Total/NA	Solid	7471A	
280-19611-10	HUH0072-11	Total/NA	Solid	7471A	
280-19611-11	HUH0072-12	Total/NA	Solid	7471A	
280-19611-14	HUH0072-15	Total/NA	Solid	7471A	
280-19611-15	HUH0072-16	Total/NA	Solid	7471A	
280-19611-16	HUH0072-17	Total/NA	Solid	7471A	
LCS 280-83474/2-A	Lab Control Sample	Total/NA	Solid	7471A	
MB 280-83474/1-A	Method Blank	Total/NA	Solid	7471A	

Analysis Batch: 83796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19611-1	HUH0072-01	Total/NA	Solid	6010B	83360
280-19611-1 MS	HUH0072-01	Total/NA	Solid	6010B	83360
280-19611-1 MSD	HUH0072-01	Total/NA	Solid	6010B	83360
280-19611-2	HUH0072-02	Total/NA	Solid	6010B	83360
280-19611-3	HUH0072-03	Total/NA	Solid	6010B	83360
280-19611-4	HUH0072-04	Total/NA	Solid	6010B	83360
280-19611-5	HUH0072-05	Total/NA	Solid	6010B	83360
280-19611-6	HUH0072-06	Total/NA	Solid	6010B	83360
280-19611-7	HUH0072-07	Total/NA	Solid	6010B	83360
280-19611-8	HUH0072-08	Total/NA	Solid	6010B	83360

QC Association Summary

Client: TestAmerica Laboratories, Inc
 Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
 SDG: HUH0072

Metals (Continued)

Analysis Batch: 83796 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19611-9	HUH0072-09	Total/NA	Solid	6010B	83360
280-19611-10	HUH0072-11	Total/NA	Solid	6010B	83360
280-19611-11	HUH0072-12	Total/NA	Solid	6010B	83360
280-19611-14	HUH0072-15	Total/NA	Solid	6010B	83360
280-19611-15	HUH0072-16	Total/NA	Solid	6010B	83360
280-19611-16	HUH0072-17	Total/NA	Solid	6010B	83360
LCS 280-83360/2-A	Lab Control Sample	Total/NA	Solid	6010B	83360
MB 280-83360/1-A	Method Blank	Total/NA	Solid	6010B	83360

Analysis Batch: 84000

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19611-1	HUH0072-01	Total/NA	Solid	6010B	83360
280-19611-1 MS	HUH0072-01	Total/NA	Solid	6010B	83360
280-19611-1 MSD	HUH0072-01	Total/NA	Solid	6010B	83360
280-19611-2	HUH0072-02	Total/NA	Solid	6010B	83360
280-19611-3	HUH0072-03	Total/NA	Solid	6010B	83360
280-19611-4	HUH0072-04	Total/NA	Solid	6010B	83360
280-19611-5	HUH0072-05	Total/NA	Solid	6010B	83360
280-19611-6	HUH0072-06	Total/NA	Solid	6010B	83360
280-19611-7	HUH0072-07	Total/NA	Solid	6010B	83360
280-19611-8	HUH0072-08	Total/NA	Solid	6010B	83360
280-19611-9	HUH0072-09	Total/NA	Solid	6010B	83360
280-19611-10	HUH0072-11	Total/NA	Solid	6010B	83360
280-19611-11	HUH0072-12	Total/NA	Solid	6010B	83360
280-19611-14	HUH0072-15	Total/NA	Solid	6010B	83360
280-19611-15	HUH0072-16	Total/NA	Solid	6010B	83360
280-19611-16	HUH0072-17	Total/NA	Solid	6010B	83360
LCS 280-83360/2-A	Lab Control Sample	Total/NA	Solid	6010B	83360
MB 280-83360/1-A	Method Blank	Total/NA	Solid	6010B	83360

Analysis Batch: 84032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19611-1	HUH0072-01	Total/NA	Solid	7471A	83474
280-19611-1 MS	HUH0072-01	Total/NA	Solid	7471A	83474
280-19611-1 MSD	HUH0072-01	Total/NA	Solid	7471A	83474
280-19611-2	HUH0072-02	Total/NA	Solid	7471A	83474
280-19611-3	HUH0072-03	Total/NA	Solid	7471A	83474
280-19611-4	HUH0072-04	Total/NA	Solid	7471A	83474
280-19611-5	HUH0072-05	Total/NA	Solid	7471A	83474
280-19611-6	HUH0072-06	Total/NA	Solid	7471A	83474
280-19611-7	HUH0072-07	Total/NA	Solid	7471A	83474
280-19611-8	HUH0072-08	Total/NA	Solid	7471A	83474
280-19611-9	HUH0072-09	Total/NA	Solid	7471A	83474
280-19611-10	HUH0072-11	Total/NA	Solid	7471A	83474
280-19611-11	HUH0072-12	Total/NA	Solid	7471A	83474
280-19611-14	HUH0072-15	Total/NA	Solid	7471A	83474
280-19611-15	HUH0072-16	Total/NA	Solid	7471A	83474
280-19611-16	HUH0072-17	Total/NA	Solid	7471A	83474
LCS 280-83474/2-A	Lab Control Sample	Total/NA	Solid	7471A	83474
MB 280-83474/1-A	Method Blank	Total/NA	Solid	7471A	83474

Lab Chronicle

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Client Sample ID: HUH0072-01

Date Collected: 08/09/11 13:00

Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.01 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 21:56	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:05	JKH	TAL DEN
Total/NA	Prep	7471A			0.60 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		10			84032	08/31/11 20:09	HEB	TAL DEN

Client Sample ID: HUH0072-02

Date Collected: 08/10/11 10:00

Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.06 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:06	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:14	JKH	TAL DEN
Total/NA	Prep	7471A			0.61 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 18:21	HEB	TAL DEN

Client Sample ID: HUH0072-03

Date Collected: 08/10/11 11:45

Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.01 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:09	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:17	JKH	TAL DEN
Total/NA	Prep	7471A			0.66 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 18:23	HEB	TAL DEN

Client Sample ID: HUH0072-04

Date Collected: 08/10/11 14:20

Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.00 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:20	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:19	JKH	TAL DEN
Total/NA	Prep	7471A			0.61 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 18:25	HEB	TAL DEN

Lab Chronicle

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Client Sample ID: HUH0072-05

Lab Sample ID: 280-19611-5

Date Collected: 08/10/11 14:25

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.04 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:23	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:30	JKH	TAL DEN
Total/NA	Prep	7471A			0.65 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 18:35	HEB	TAL DEN

Client Sample ID: HUH0072-06

Lab Sample ID: 280-19611-6

Date Collected: 08/10/11 14:30

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.03 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:25	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:33	JKH	TAL DEN
Total/NA	Prep	7471A			0.67 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 18:39	HEB	TAL DEN

Client Sample ID: HUH0072-07

Lab Sample ID: 280-19611-7

Date Collected: 08/10/11 16:10

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.12 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:28	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:35	JKH	TAL DEN
Total/NA	Prep	7471A			0.62 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 18:44	HEB	TAL DEN

Client Sample ID: HUH0072-08

Lab Sample ID: 280-19611-8

Date Collected: 08/10/11 16:15

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.15 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:30	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:38	JKH	TAL DEN
Total/NA	Prep	7471A			0.64 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 18:47	HEB	TAL DEN

Lab Chronicle

Client: TestAmerica Laboratories, Inc
 Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
 SDG: HUH0072

Client Sample ID: HUH0072-09

Lab Sample ID: 280-19611-9

Date Collected: 08/10/11 16:20

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.11 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:32	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:40	JKH	TAL DEN
Total/NA	Prep	7471A			0.69 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 18:49	HEB	TAL DEN

Client Sample ID: HUH0072-11

Lab Sample ID: 280-19611-10

Date Collected: 08/10/11 16:25

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.03 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:35	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:43	JKH	TAL DEN
Total/NA	Prep	7471A			0.60 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 18:51	HEB	TAL DEN

Client Sample ID: HUH0072-12

Lab Sample ID: 280-19611-11

Date Collected: 08/10/11 16:30

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.02 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:47	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:45	JKH	TAL DEN
Total/NA	Prep	7471A			0.62 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		10			84032	08/31/11 20:16	HEB	TAL DEN

Client Sample ID: HUH0072-15

Lab Sample ID: 280-19611-14

Date Collected: 08/10/11 16:45

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.03 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:49	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:47	JKH	TAL DEN
Total/NA	Prep	7471A			0.62 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 19:00	HEB	TAL DEN

Lab Chronicle

Client: TestAmerica Laboratories, Inc
 Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
 SDG: HUH0072

Client Sample ID: HUH0072-16

Lab Sample ID: 280-19611-15

Date Collected: 08/11/11 11:00

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.07 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:52	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:50	JKH	TAL DEN
Total/NA	Prep	7471A			0.66 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 19:02	HEB	TAL DEN

Client Sample ID: HUH0072-17

Lab Sample ID: 280-19611-16

Date Collected: 08/11/11 13:00

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.08 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:54	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:52	JKH	TAL DEN
Total/NA	Prep	7471A			0.62 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 19:07	HEB	TAL DEN

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Preliminary Data

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- 16

Login Sample Receipt Checklist

Client: TestAmerica Laboratories, Inc

Job Number: 280-19611-1

SDG Number: HUH0072

Login Number: 19611

List Number: 1

Creator: Cofoid, Stephen T

List Source: TestAmerica Denver

Question	Answer	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	
Is the Field Sampler's name present on COC?	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	
Sample Preservation Verified.	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	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

4.0 501 m 8/26

Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub: HON: HUH0072**

SENDING LABORATORY:

TestAmerica Honolulu
 99-193 Aiea Heights Drive, Suite 121
 Aiea, HI 96701
 Phone: 808-486-5227
 Fax: 808-486-2456
 Project Manager: Margie Pascua Thach
 Client: Tetra Tech EM Inc.

RECEIVING LABORATORY:

TestAmerica Denver
 4955 Yarrow Street
 Arvada, CO 80002
 Phone: (303) 736-0100
 Fax: (303) 431-7171
 Project Location: Hawaii
 Receipt Temperature: _____ °C Ice: Y / N

8290 Dioxin: 38 samples for COPC, 2 samples for combined PMA COPC. 8015 DRO/RRO: 10 samples for COPC, 2 samples for combined PMA COPC. For total Metals, first metal is \$22.50, succeeding metals is \$10, except for Mercury is \$35.

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
----------	-------	-----	---------	----------------	-------	----------

Sample ID: HUH0072-01 (PMAK-DU27 - Solid/Soil)

Sampled: 08/09/11 13:00

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$12.19	0%	
Barium 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$12.19	0%	
Cadmium 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$12.19	0%	
Chromium 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$12.19	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$12.19	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/06/11 13:00	\$12.19	0%	
Selenium 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$12.19	0%	
Silver 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$12.19	0%	

Containers Supplied:

Incremental sub-sample (analyze entire content) (A)

Sample ID: HUH0072-02 (PMAK-DU21-A - Solid/Soil)

Sampled: 08/10/11 10:00

As pbet pending total results

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 10:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 10:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 10:00	\$35.00	0%	

Containers Supplied:

Incremental Sub-sample (analyze entire content) (C)

Sample ID: HUH0072-03 (PMAK-DU23-A - Solid/Soil)

Sampled: 08/10/11 11:45

As pbet pending total results

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 11:45	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 11:45	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 11:45	\$35.00	0%	

Containers Supplied:

Incremental Sub-sample (analyze entire content) (C)

Released By: [Signature] Date/Time: 08/24/11 1235 Received By: [Signature] Date/Time: 8/26/11 930

Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0072-04 (PMAK-DU24-A-P - Solid/Soil)						
			Sampled: 08/10/11 14:20	As pbet pending total results		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 14:20	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 14:20	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 14:20	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-05 (PMAK-DU24-A-T1 - Solid/Soil)						
			Sampled: 08/10/11 14:25	As pbet pending total results		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 14:25	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 14:25	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 14:25	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-06 (PMAK-DU24-A-T2 - Solid/Soil)						
			Sampled: 08/10/11 14:30	As pbet pending total results		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 14:30	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 14:30	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 14:30	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-07 (PMAK-DU18-A-P - Solid/Soil)						
			Sampled: 08/10/11 16:10	As pbet pending total results		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:10	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:10	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:10	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0072-08 (PMAK-DU18-A-T1 - Solid/Soil)						
			Sampled: 08/10/11 16:15	As pbet pending total results		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:15	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:15	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:15	\$35.00	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-09 (PMAK-DU18-A-T2 - Solid/Soil)						
			Sampled: 08/10/11 16:20	As pbet pending total results		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:20	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:20	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:20	\$35.00	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-11 (PMAK-DU5-B - Solid/Soil)						
			Sampled: 08/10/11 16:25			
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:25	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:25	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:25	\$35.00	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-12 (PMAK-DU5-C - Solid/Soil)						
			Sampled: 08/10/11 16:30			
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:30	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:30	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:30	\$35.00	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (C)						

Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0072-13 (PMAK-DU5-D - Solid/Soil)						
			Sampled: 08/10/11 16:35	HOLD pending results of layers B,C		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:35	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:35	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:35	\$35.00	0%	HOLD
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-14 (PMAK-DU5-E - Solid/Soil)						
			Sampled: 08/10/11 16:40	HOLD pending results of layers B,C		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:40	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:40	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:40	\$35.00	0%	HOLD
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-15 (PMAK-DU26 - Solid/Soil)						
			Sampled: 08/10/11 16:45			
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
Barium 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
Cadmium 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
Chromium 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:45	\$12.19	0%	
Selenium 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
Silver 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
<i>Containers Supplied:</i>						
Sample ID: HUH0072-16 (PMAK-DU19 - Solid/Soil)						
			Sampled: 08/11/11 11:00	As pbet pending total results		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/07/12 11:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/07/12 11:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/08/11 11:00	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0072-17 (PMAK-DU25-A - Solid/Soil)				Sampled: 08/11/11 13:00		As pbet pending total results
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/07/12 13:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/07/12 13:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/08/11 13:00	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Denver

4955 Yarrow Street

Arvada, CO 80002

Tel: (303)736-0100

TestAmerica Job ID: 280-19611-1

TestAmerica Sample Delivery Group: HUH0072

Client Project/Site: Kilauea, Kauai, PMA

Revision: 1

For:

TestAmerica Laboratories, Inc

99-193 Aiea Heights Drive

Suite 121

Aiea, Hawaii 96701

Attn: Margie F Pascua



Authorized for release by:

09/30/2011 10:01:54 AM

DiLea Griego

Project Manager I

dilea.griego@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.



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Case Narrative

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Job ID: 280-19611-1

Laboratory: TestAmerica Denver

Narrative

CASE NARRATIVE

Client: TestAmerica Laboratories, Inc

Project: Kilauea, Kauai, PMA

Report Number: 280-19611-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 08/26/2011; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 4.9 C.

Per client instructions, samples HUH0074-13 and HUH0074-14 were extracted and held. Client will provide instructions if metals analysis is required for these samples.

No other issues were noted.

TOTAL METALS - METHOD 6010B/7471A

The serial dilution performed for the following samples in analysis batch 280-83796 were outside control limits for Chromium: HUH0072-01 (280-19611-1), HUH0072-15 (280-19611-14)

Samples HUH0072-01 (280-19611-1)[5X], HUH0072-02 (280-19611-2)[5X], HUH0072-03 (280-19611-3)[5X], HUH0072-04 (280-19611-4)[5X], HUH0072-05 (280-19611-5)[5X], HUH0072-06 (280-19611-6)[5X], HUH0072-07 (280-19611-7)[5X], HUH0072-08 (280-19611-8)[5X], HUH0072-09 (280-19611-9)[5X], HUH0072-11 (280-19611-10)[5X], HUH0072-12 (280-19611-11)[5X], HUH0072-15 (280-19611-14)[5X], HUH0072-16 (280-19611-15)[5X] and HUH0072-17 (280-19611-16)[5X] required dilution prior to analysis due to the abundance of non-target analytes. The reporting limits have been adjusted accordingly for Lead.

Samples HUH0072-01 (280-19611-1)[10X] and HUH0072-12 (280-19611-11)[10X] required dilution prior to analysis for Mercury. The reporting limits have been adjusted accordingly.

Barium was detected in method blank MB 280-83360/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Refer to the QC report for details.

The matrix spike / matrix spike duplicate (MS/MSD) samples associated with analysis batch 280-84000 were performed on HUH0072-01 (280-19611-1) and exhibited recoveries outside control limits for Lead. The MS/MSD exhibited RPD values outside control limits for Lead. The presence of the '4' qualifier in the report indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The matrix spike / matrix spike duplicate (MS/MSD) samples associated with analysis batch 280-83796 were performed on HUH0072-01 (280-19611-1) and exhibited recoveries outside control limits for Arsenic and Chromium. The MSD also exhibited recoveries outside

Case Narrative

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Job ID: 280-19611-1 (Continued)

Laboratory: TestAmerica Denver (Continued)

control limits for Selenium. The presence of the '4' qualifier in the report indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The matrix spike / matrix spike duplicate (MS/MSD) samples associated with batch 280-84032 were performed on HUH0072-01 (280-19611-1) and exhibited recoveries outside control limits for Mercury. The presence of the '4' qualifier in the report indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No other difficulties were encountered.

REVISION

Per client request, the Mercury units were changed to mg/kg.

No other changes were made.



Definitions/Glossary

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
F	MS or MSD exceeds the control limits
F	RPD of the MS and 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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Client Sample ID: HUH0072-01

Lab Sample ID: 280-19611-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	170		2.0	0.65	mg/Kg	1		6010B	Total/NA
Barium	210	B	0.99	0.075	mg/Kg	1		6010B	Total/NA
Cadmium	1.3		0.50	0.041	mg/Kg	1		6010B	Total/NA
Chromium	470		1.5	0.057	mg/Kg	1		6010B	Total/NA
Lead	3300		4.0		mg/Kg	5		6010B	Total/NA
Silver	1.0		0.99	0.16	mg/Kg	1		6010B	Total/NA
Mercury	1.9		0.17		mg/Kg	10		7471A	Total/NA

Client Sample ID: HUH0072-02

Lab Sample ID: 280-19611-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	130		1.9	0.62	mg/Kg	1		6010B	Total/NA
Lead	180		3.8		mg/Kg	5		6010B	Total/NA
Mercury	0.38		0.017		mg/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-03

Lab Sample ID: 280-19611-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	38		2.0	0.65	mg/Kg	1		6010B	Total/NA
Lead	200		4.0		mg/Kg	5		6010B	Total/NA
Mercury	0.39		0.015		mg/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-04

Lab Sample ID: 280-19611-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	290		2.0	0.66	mg/Kg	1		6010B	Total/NA
Lead	160		4.0		mg/Kg	5		6010B	Total/NA
Mercury	0.68		0.017		mg/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-05

Lab Sample ID: 280-19611-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	230		1.9	0.63	mg/Kg	1		6010B	Total/NA
Lead	130		3.8		mg/Kg	5		6010B	Total/NA
Mercury	0.62		0.016		mg/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-06

Lab Sample ID: 280-19611-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	230		1.9	0.64	mg/Kg	1		6010B	Total/NA
Lead	130		3.9		mg/Kg	5		6010B	Total/NA
Mercury	0.68		0.015		mg/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-07

Lab Sample ID: 280-19611-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	50		1.8	0.59	mg/Kg	1		6010B	Total/NA
Lead	55		3.6		mg/Kg	5		6010B	Total/NA
Mercury	0.60		0.016		mg/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-08

Lab Sample ID: 280-19611-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	47		1.7	0.57	mg/Kg	1		6010B	Total/NA

Detection Summary

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Client Sample ID: HUH0072-08 (Continued)

Lab Sample ID: 280-19611-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	55		3.5		mg/Kg	5		6010B	Total/NA
Mercury	0.52		0.016		mg/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-09

Lab Sample ID: 280-19611-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	49		1.8	0.59	mg/Kg	1		6010B	Total/NA
Lead	56		3.6		mg/Kg	5		6010B	Total/NA
Mercury	0.39		0.015		mg/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-11

Lab Sample ID: 280-19611-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	28		1.9	0.64	mg/Kg	1		6010B	Total/NA
Lead	14		3.9		mg/Kg	5		6010B	Total/NA
Mercury	0.34		0.017		mg/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-12

Lab Sample ID: 280-19611-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	880		2.0	0.65	mg/Kg	1		6010B	Total/NA
Lead	170		3.9		mg/Kg	5		6010B	Total/NA
Mercury	3.7		0.16		mg/Kg	10		7471A	Total/NA

Client Sample ID: HUH0072-15

Lab Sample ID: 280-19611-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	380		1.9	0.64	mg/Kg	1		6010B	Total/NA
Barium	170	B	0.97	0.074	mg/Kg	1		6010B	Total/NA
Cadmium	1.8		0.49	0.040	mg/Kg	1		6010B	Total/NA
Chromium	410		1.5	0.056	mg/Kg	1		6010B	Total/NA
Lead	340		3.9		mg/Kg	5		6010B	Total/NA
Silver	0.33	J	0.97	0.16	mg/Kg	1		6010B	Total/NA
Mercury	0.55		0.016		mg/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-16

Lab Sample ID: 280-19611-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	24		1.9	0.62	mg/Kg	1		6010B	Total/NA
Lead	16		3.7		mg/Kg	5		6010B	Total/NA
Mercury	0.60		0.015		mg/Kg	1		7471A	Total/NA

Client Sample ID: HUH0072-17

Lab Sample ID: 280-19611-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	25		1.9	0.61	mg/Kg	1		6010B	Total/NA
Lead	71		3.7		mg/Kg	5		6010B	Total/NA
Mercury	0.33		0.016		mg/Kg	1		7471A	Total/NA

Method Summary

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Method	Method Description	Protocol	Laboratory
6010B	RCRA Metals	SW846	TAL DEN
6010B	Metals (ICP)	SW846	TAL DEN
7471A	Mercury (CVAA)	SW846	TAL DEN

Protocol References:

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



Sample Summary

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-19611-1	HUH0072-01	Solid	08/09/11 13:00	08/26/11 09:30
280-19611-2	HUH0072-02	Solid	08/10/11 10:00	08/26/11 09:30
280-19611-3	HUH0072-03	Solid	08/10/11 11:45	08/26/11 09:30
280-19611-4	HUH0072-04	Solid	08/10/11 14:20	08/26/11 09:30
280-19611-5	HUH0072-05	Solid	08/10/11 14:25	08/26/11 09:30
280-19611-6	HUH0072-06	Solid	08/10/11 14:30	08/26/11 09:30
280-19611-7	HUH0072-07	Solid	08/10/11 16:10	08/26/11 09:30
280-19611-8	HUH0072-08	Solid	08/10/11 16:15	08/26/11 09:30
280-19611-9	HUH0072-09	Solid	08/10/11 16:20	08/26/11 09:30
280-19611-10	HUH0072-11	Solid	08/10/11 16:25	08/26/11 09:30
280-19611-11	HUH0072-12	Solid	08/10/11 16:30	08/26/11 09:30
280-19611-14	HUH0072-15	Solid	08/10/11 16:45	08/26/11 09:30
280-19611-15	HUH0072-16	Solid	08/11/11 11:00	08/26/11 09:30
280-19611-16	HUH0072-17	Solid	08/11/11 13:00	08/26/11 09:30



Client Sample Results

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Method: 6010B - Metals (ICP)

Client Sample ID: HUH0072-02
Date Collected: 08/10/11 10:00
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	130		1.9	0.62	mg/Kg		08/29/11 14:00	08/30/11 22:06	1
Lead	180		3.8		mg/Kg		08/29/11 14:00	08/31/11 13:14	5

Client Sample ID: HUH0072-03
Date Collected: 08/10/11 11:45
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	38		2.0	0.65	mg/Kg		08/29/11 14:00	08/30/11 22:09	1
Lead	200		4.0		mg/Kg		08/29/11 14:00	08/31/11 13:17	5

Client Sample ID: HUH0072-04
Date Collected: 08/10/11 14:20
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-4
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	290		2.0	0.66	mg/Kg		08/29/11 14:00	08/30/11 22:20	1
Lead	160		4.0		mg/Kg		08/29/11 14:00	08/31/11 13:19	5

Client Sample ID: HUH0072-05
Date Collected: 08/10/11 14:25
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-5
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	230		1.9	0.63	mg/Kg		08/29/11 14:00	08/30/11 22:23	1
Lead	130		3.8		mg/Kg		08/29/11 14:00	08/31/11 13:30	5

Client Sample ID: HUH0072-06
Date Collected: 08/10/11 14:30
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-6
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	230		1.9	0.64	mg/Kg		08/29/11 14:00	08/30/11 22:25	1
Lead	130		3.9		mg/Kg		08/29/11 14:00	08/31/11 13:33	5

Client Sample ID: HUH0072-07
Date Collected: 08/10/11 16:10
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-7
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	50		1.8	0.59	mg/Kg		08/29/11 14:00	08/30/11 22:28	1
Lead	55		3.6		mg/Kg		08/29/11 14:00	08/31/11 13:35	5

Client Sample ID: HUH0072-08
Date Collected: 08/10/11 16:15
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-8
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	47		1.7	0.57	mg/Kg		08/29/11 14:00	08/30/11 22:30	1

Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
 SDG: HUH0072

Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: HUH0072-08
Date Collected: 08/10/11 16:15
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-8
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	55		3.5		mg/Kg		08/29/11 14:00	08/31/11 13:38	5

Client Sample ID: HUH0072-09
Date Collected: 08/10/11 16:20
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-9
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	49		1.8	0.59	mg/Kg		08/29/11 14:00	08/30/11 22:32	1
Lead	56		3.6		mg/Kg		08/29/11 14:00	08/31/11 13:40	5

Client Sample ID: HUH0072-11
Date Collected: 08/10/11 16:25
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-10
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	28		1.9	0.64	mg/Kg		08/29/11 14:00	08/30/11 22:35	1
Lead	14		3.9		mg/Kg		08/29/11 14:00	08/31/11 13:43	5

Client Sample ID: HUH0072-12
Date Collected: 08/10/11 16:30
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-11
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	880		2.0	0.65	mg/Kg		08/29/11 14:00	08/30/11 22:47	1
Lead	170		3.9		mg/Kg		08/29/11 14:00	08/31/11 13:45	5

Client Sample ID: HUH0072-16
Date Collected: 08/11/11 11:00
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-15
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	24		1.9	0.62	mg/Kg		08/29/11 14:00	08/30/11 22:52	1
Lead	16		3.7		mg/Kg		08/29/11 14:00	08/31/11 13:50	5

Client Sample ID: HUH0072-17
Date Collected: 08/11/11 13:00
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-16
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	25		1.9	0.61	mg/Kg		08/29/11 14:00	08/30/11 22:54	1
Lead	71		3.7		mg/Kg		08/29/11 14:00	08/31/11 13:52	5

Client Sample Results

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Method: 6010B - RCRA Metals

Client Sample ID: HUH0072-01
Date Collected: 08/09/11 13:00
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	170		2.0	0.65	mg/Kg		08/29/11 14:00	08/30/11 21:56	1
Barium	210	B	0.99	0.075	mg/Kg		08/29/11 14:00	08/30/11 21:56	1
Cadmium	1.3		0.50	0.041	mg/Kg		08/29/11 14:00	08/30/11 21:56	1
Chromium	470		1.5	0.057	mg/Kg		08/29/11 14:00	08/30/11 21:56	1
Lead	3300		4.0		mg/Kg		08/29/11 14:00	08/31/11 13:05	5
Selenium	ND		1.3	0.85	mg/Kg		08/29/11 14:00	08/30/11 21:56	1
Silver	1.0		0.99	0.16	mg/Kg		08/29/11 14:00	08/30/11 21:56	1

Client Sample ID: HUH0072-15
Date Collected: 08/10/11 16:45
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-14
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	380		1.9	0.64	mg/Kg		08/29/11 14:00	08/30/11 22:49	1
Barium	170	B	0.97	0.074	mg/Kg		08/29/11 14:00	08/30/11 22:49	1
Cadmium	1.8		0.49	0.040	mg/Kg		08/29/11 14:00	08/30/11 22:49	1
Chromium	410		1.5	0.056	mg/Kg		08/29/11 14:00	08/30/11 22:49	1
Lead	340		3.9		mg/Kg		08/29/11 14:00	08/31/11 13:47	5
Selenium	ND		1.3	0.83	mg/Kg		08/29/11 14:00	08/30/11 22:49	1
Silver	0.33	J	0.97	0.16	mg/Kg		08/29/11 14:00	08/30/11 22:49	1

Method: 7471A - Mercury (CVAA)

Client Sample ID: HUH0072-01
Date Collected: 08/09/11 13:00
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.9		0.17		mg/Kg		08/31/11 13:45	08/31/11 20:09	10

Client Sample ID: HUH0072-02
Date Collected: 08/10/11 10:00
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.38		0.017		mg/Kg		08/31/11 13:45	08/31/11 18:21	1

Client Sample ID: HUH0072-03
Date Collected: 08/10/11 11:45
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.39		0.015		mg/Kg		08/31/11 13:45	08/31/11 18:23	1

Client Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
 SDG: HUH0072

Method: 7471A - Mercury (CVAA)

Client Sample ID: HUH0072-04
Date Collected: 08/10/11 14:20
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-4
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.68		0.017		mg/Kg		08/31/11 13:45	08/31/11 18:25	1

Client Sample ID: HUH0072-05
Date Collected: 08/10/11 14:25
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-5
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.62		0.016		mg/Kg		08/31/11 13:45	08/31/11 18:35	1

Client Sample ID: HUH0072-06
Date Collected: 08/10/11 14:30
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-6
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.68		0.015		mg/Kg		08/31/11 13:45	08/31/11 18:39	1

Client Sample ID: HUH0072-07
Date Collected: 08/10/11 16:10
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-7
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.60		0.016		mg/Kg		08/31/11 13:45	08/31/11 18:44	1

Client Sample ID: HUH0072-08
Date Collected: 08/10/11 16:15
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-8
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.52		0.016		mg/Kg		08/31/11 13:45	08/31/11 18:47	1

Client Sample ID: HUH0072-09
Date Collected: 08/10/11 16:20
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-9
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.39		0.015		mg/Kg		08/31/11 13:45	08/31/11 18:49	1

Client Sample ID: HUH0072-11
Date Collected: 08/10/11 16:25
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-10
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.34		0.017		mg/Kg		08/31/11 13:45	08/31/11 18:51	1

Client Sample ID: HUH0072-12
Date Collected: 08/10/11 16:30
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-11
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	3.7		0.16		mg/Kg		08/31/11 13:45	08/31/11 20:16	10

Client Sample Results

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Client Sample ID: HUH0072-15
Date Collected: 08/10/11 16:45
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-14
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.55		0.016		mg/Kg		08/31/11 13:45	08/31/11 19:00	1

Client Sample ID: HUH0072-16
Date Collected: 08/11/11 11:00
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-15
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.60		0.015		mg/Kg		08/31/11 13:45	08/31/11 19:02	1

Client Sample ID: HUH0072-17
Date Collected: 08/11/11 13:00
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-16
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.33		0.016		mg/Kg		08/31/11 13:45	08/31/11 19:07	1

QC Sample Results

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 280-83360/1-A
Matrix: Solid
Analysis Batch: 83796

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 83360

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		2.0	0.66	mg/Kg		08/29/11 14:00	08/30/11 21:52	1
Barium	0.0910	J	1.0	0.076	mg/Kg		08/29/11 14:00	08/30/11 21:52	1
Cadmium	ND		0.50	0.041	mg/Kg		08/29/11 14:00	08/30/11 21:52	1
Chromium	ND		1.5	0.058	mg/Kg		08/29/11 14:00	08/30/11 21:52	1
Selenium	ND		1.3	0.86	mg/Kg		08/29/11 14:00	08/30/11 21:52	1
Silver	ND		1.0	0.16	mg/Kg		08/29/11 14:00	08/30/11 21:52	1

Lab Sample ID: MB 280-83360/1-A
Matrix: Solid
Analysis Batch: 84000

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 83360

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Lead	ND		0.80		mg/Kg		08/29/11 14:00	08/31/11 13:00	1

Lab Sample ID: LCS 280-83360/2-A
Matrix: Solid
Analysis Batch: 83796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 83360

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
Arsenic	100	101		mg/Kg		101	85 - 110	
Barium	200	213		mg/Kg		107	87 - 112	
Cadmium	10.0	10.7		mg/Kg		107	87 - 110	
Chromium	20.0	20.6		mg/Kg		103	84 - 114	
Selenium	200	207		mg/Kg		104	83 - 110	
Silver	5.00	5.34		mg/Kg		107	87 - 114	

Lab Sample ID: LCS 280-83360/2-A
Matrix: Solid
Analysis Batch: 84000

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 83360

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
Lead	50.0	51.8		mg/Kg		104	86 - 110	

Lab Sample ID: 280-19611-1 MS
Matrix: Solid
Analysis Batch: 83796

Client Sample ID: HUH0072-01
Prep Type: Total/NA
Prep Batch: 83360

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	% Rec	% Rec.	
				Result	Qualifier				Limits	
Arsenic	170		100	289	F	mg/Kg		120	76 - 111	
Barium	210	B	200	378		mg/Kg		85	52 - 159	
Cadmium	1.3		10.0	10.9		mg/Kg		96	40 - 130	
Chromium	470		20.0	456	4	mg/Kg		-68	70 - 200	
Selenium	ND		200	152		mg/Kg		76	76 - 104	
Silver	1.0		5.00	5.99		mg/Kg		99	75 - 141	

Lab Sample ID: 280-19611-1 MS
Matrix: Solid
Analysis Batch: 84000

Client Sample ID: HUH0072-01
Prep Type: Total/NA
Prep Batch: 83360

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	% Rec	% Rec.	
				Result	Qualifier				Limits	
Lead	3300		50.0	9980	4	mg/Kg		13421	70 - 200	

QC Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
 SDG: HUH0072

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 280-19611-1 MSD
Matrix: Solid
Analysis Batch: 83796

Client Sample ID: HUH0072-01
Prep Type: Total/NA
Prep Batch: 83360

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Arsenic	170		100	240	F	mg/Kg		71	76 - 111	18	20	
Barium	210	B	200	392		mg/Kg		92	52 - 159	4	20	
Cadmium	1.3		10.0	10.6		mg/Kg		93	40 - 130	2	20	
Chromium	470		20.0	430	4	mg/Kg		-197	70 - 200	6	20	
Selenium	ND		200	150	F	mg/Kg		75	76 - 104	1	20	
Silver	1.0		5.00	5.86		mg/Kg		97	75 - 141	2	20	

Lab Sample ID: 280-19611-1 MSD
Matrix: Solid
Analysis Batch: 84000

Client Sample ID: HUH0072-01
Prep Type: Total/NA
Prep Batch: 83360

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Lead	3300		50.0	1580	4 F	mg/Kg		-3387	70 - 200	145	20	

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 280-83474/1-A
Matrix: Solid
Analysis Batch: 84032

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 83474

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.017		mg/Kg		08/31/11 13:45	08/31/11 17:59	1

Lab Sample ID: LCS 280-83474/2-A
Matrix: Solid
Analysis Batch: 84032

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 83474

Analyte	Spike	LCS	LCS	Unit	D	% Rec	Limits
Mercury	0.417	0.400		mg/Kg		96	87 - 111

Lab Sample ID: 280-19611-1 MS
Matrix: Solid
Analysis Batch: 84032

Client Sample ID: HUH0072-01
Prep Type: Total/NA
Prep Batch: 83474

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD
Mercury	1.9		0.417	2.61	4	mg/Kg		180	87 - 111	

Lab Sample ID: 280-19611-1 MSD
Matrix: Solid
Analysis Batch: 84032

Client Sample ID: HUH0072-01
Prep Type: Total/NA
Prep Batch: 83474

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Mercury	1.9		0.379	2.18	4	mg/Kg		84	87 - 111	18	20	

QC Association Summary

Client: TestAmerica Laboratories, Inc
 Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
 SDG: HUH0072

Metals

Prep Batch: 83360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19611-1	HUH0072-01	Total/NA	Solid	3050B	
280-19611-1 MS	HUH0072-01	Total/NA	Solid	3050B	
280-19611-1 MSD	HUH0072-01	Total/NA	Solid	3050B	
280-19611-2	HUH0072-02	Total/NA	Solid	3050B	
280-19611-3	HUH0072-03	Total/NA	Solid	3050B	
280-19611-4	HUH0072-04	Total/NA	Solid	3050B	
280-19611-5	HUH0072-05	Total/NA	Solid	3050B	
280-19611-6	HUH0072-06	Total/NA	Solid	3050B	
280-19611-7	HUH0072-07	Total/NA	Solid	3050B	
280-19611-8	HUH0072-08	Total/NA	Solid	3050B	
280-19611-9	HUH0072-09	Total/NA	Solid	3050B	
280-19611-10	HUH0072-11	Total/NA	Solid	3050B	
280-19611-11	HUH0072-12	Total/NA	Solid	3050B	
280-19611-14	HUH0072-15	Total/NA	Solid	3050B	
280-19611-15	HUH0072-16	Total/NA	Solid	3050B	
280-19611-16	HUH0072-17	Total/NA	Solid	3050B	
LCS 280-83360/2-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 280-83360/1-A	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 83474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19611-1	HUH0072-01	Total/NA	Solid	7471A	
280-19611-1 MS	HUH0072-01	Total/NA	Solid	7471A	
280-19611-1 MSD	HUH0072-01	Total/NA	Solid	7471A	
280-19611-2	HUH0072-02	Total/NA	Solid	7471A	
280-19611-3	HUH0072-03	Total/NA	Solid	7471A	
280-19611-4	HUH0072-04	Total/NA	Solid	7471A	
280-19611-5	HUH0072-05	Total/NA	Solid	7471A	
280-19611-6	HUH0072-06	Total/NA	Solid	7471A	
280-19611-7	HUH0072-07	Total/NA	Solid	7471A	
280-19611-8	HUH0072-08	Total/NA	Solid	7471A	
280-19611-9	HUH0072-09	Total/NA	Solid	7471A	
280-19611-10	HUH0072-11	Total/NA	Solid	7471A	
280-19611-11	HUH0072-12	Total/NA	Solid	7471A	
280-19611-14	HUH0072-15	Total/NA	Solid	7471A	
280-19611-15	HUH0072-16	Total/NA	Solid	7471A	
280-19611-16	HUH0072-17	Total/NA	Solid	7471A	
LCS 280-83474/2-A	Lab Control Sample	Total/NA	Solid	7471A	
MB 280-83474/1-A	Method Blank	Total/NA	Solid	7471A	

Analysis Batch: 83796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19611-1	HUH0072-01	Total/NA	Solid	6010B	83360
280-19611-1 MS	HUH0072-01	Total/NA	Solid	6010B	83360
280-19611-1 MSD	HUH0072-01	Total/NA	Solid	6010B	83360
280-19611-2	HUH0072-02	Total/NA	Solid	6010B	83360
280-19611-3	HUH0072-03	Total/NA	Solid	6010B	83360
280-19611-4	HUH0072-04	Total/NA	Solid	6010B	83360
280-19611-5	HUH0072-05	Total/NA	Solid	6010B	83360
280-19611-6	HUH0072-06	Total/NA	Solid	6010B	83360
280-19611-7	HUH0072-07	Total/NA	Solid	6010B	83360
280-19611-8	HUH0072-08	Total/NA	Solid	6010B	83360

QC Association Summary

Client: TestAmerica Laboratories, Inc
 Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
 SDG: HUH0072

Metals (Continued)

Analysis Batch: 83796 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19611-9	HUH0072-09	Total/NA	Solid	6010B	83360
280-19611-10	HUH0072-11	Total/NA	Solid	6010B	83360
280-19611-11	HUH0072-12	Total/NA	Solid	6010B	83360
280-19611-14	HUH0072-15	Total/NA	Solid	6010B	83360
280-19611-15	HUH0072-16	Total/NA	Solid	6010B	83360
280-19611-16	HUH0072-17	Total/NA	Solid	6010B	83360
LCS 280-83360/2-A	Lab Control Sample	Total/NA	Solid	6010B	83360
MB 280-83360/1-A	Method Blank	Total/NA	Solid	6010B	83360

Analysis Batch: 84000

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19611-1	HUH0072-01	Total/NA	Solid	6010B	83360
280-19611-1 MS	HUH0072-01	Total/NA	Solid	6010B	83360
280-19611-1 MSD	HUH0072-01	Total/NA	Solid	6010B	83360
280-19611-2	HUH0072-02	Total/NA	Solid	6010B	83360
280-19611-3	HUH0072-03	Total/NA	Solid	6010B	83360
280-19611-4	HUH0072-04	Total/NA	Solid	6010B	83360
280-19611-5	HUH0072-05	Total/NA	Solid	6010B	83360
280-19611-6	HUH0072-06	Total/NA	Solid	6010B	83360
280-19611-7	HUH0072-07	Total/NA	Solid	6010B	83360
280-19611-8	HUH0072-08	Total/NA	Solid	6010B	83360
280-19611-9	HUH0072-09	Total/NA	Solid	6010B	83360
280-19611-10	HUH0072-11	Total/NA	Solid	6010B	83360
280-19611-11	HUH0072-12	Total/NA	Solid	6010B	83360
280-19611-14	HUH0072-15	Total/NA	Solid	6010B	83360
280-19611-15	HUH0072-16	Total/NA	Solid	6010B	83360
280-19611-16	HUH0072-17	Total/NA	Solid	6010B	83360
LCS 280-83360/2-A	Lab Control Sample	Total/NA	Solid	6010B	83360
MB 280-83360/1-A	Method Blank	Total/NA	Solid	6010B	83360

Analysis Batch: 84032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19611-1	HUH0072-01	Total/NA	Solid	7471A	83474
280-19611-1 MS	HUH0072-01	Total/NA	Solid	7471A	83474
280-19611-1 MSD	HUH0072-01	Total/NA	Solid	7471A	83474
280-19611-2	HUH0072-02	Total/NA	Solid	7471A	83474
280-19611-3	HUH0072-03	Total/NA	Solid	7471A	83474
280-19611-4	HUH0072-04	Total/NA	Solid	7471A	83474
280-19611-5	HUH0072-05	Total/NA	Solid	7471A	83474
280-19611-6	HUH0072-06	Total/NA	Solid	7471A	83474
280-19611-7	HUH0072-07	Total/NA	Solid	7471A	83474
280-19611-8	HUH0072-08	Total/NA	Solid	7471A	83474
280-19611-9	HUH0072-09	Total/NA	Solid	7471A	83474
280-19611-10	HUH0072-11	Total/NA	Solid	7471A	83474
280-19611-11	HUH0072-12	Total/NA	Solid	7471A	83474
280-19611-14	HUH0072-15	Total/NA	Solid	7471A	83474
280-19611-15	HUH0072-16	Total/NA	Solid	7471A	83474
280-19611-16	HUH0072-17	Total/NA	Solid	7471A	83474
LCS 280-83474/2-A	Lab Control Sample	Total/NA	Solid	7471A	83474
MB 280-83474/1-A	Method Blank	Total/NA	Solid	7471A	83474



Lab Chronicle

Client: TestAmerica Laboratories, Inc
 Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
 SDG: HUH0072

Client Sample ID: HUH0072-01

Lab Sample ID: 280-19611-1

Date Collected: 08/09/11 13:00

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.01 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 21:56	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:05	JKH	TAL DEN
Total/NA	Prep	7471A			0.60 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		10			84032	08/31/11 20:09	HEB	TAL DEN

Client Sample ID: HUH0072-02

Lab Sample ID: 280-19611-2

Date Collected: 08/10/11 10:00

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.06 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:06	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:14	JKH	TAL DEN
Total/NA	Prep	7471A			0.61 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 18:21	HEB	TAL DEN

Client Sample ID: HUH0072-03

Lab Sample ID: 280-19611-3

Date Collected: 08/10/11 11:45

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.01 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:09	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:17	JKH	TAL DEN
Total/NA	Prep	7471A			0.66 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 18:23	HEB	TAL DEN

Client Sample ID: HUH0072-04

Lab Sample ID: 280-19611-4

Date Collected: 08/10/11 14:20

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.00 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:20	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:19	JKH	TAL DEN
Total/NA	Prep	7471A			0.61 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 18:25	HEB	TAL DEN

Lab Chronicle

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
SDG: HUH0072

Client Sample ID: HUH0072-05

Lab Sample ID: 280-19611-5

Date Collected: 08/10/11 14:25

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.04 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:23	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:30	JKH	TAL DEN
Total/NA	Prep	7471A			0.65 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 18:35	HEB	TAL DEN

Client Sample ID: HUH0072-06

Lab Sample ID: 280-19611-6

Date Collected: 08/10/11 14:30

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.03 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:25	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:33	JKH	TAL DEN
Total/NA	Prep	7471A			0.67 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 18:39	HEB	TAL DEN

Client Sample ID: HUH0072-07

Lab Sample ID: 280-19611-7

Date Collected: 08/10/11 16:10

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.12 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:28	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:35	JKH	TAL DEN
Total/NA	Prep	7471A			0.62 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 18:44	HEB	TAL DEN

Client Sample ID: HUH0072-08

Lab Sample ID: 280-19611-8

Date Collected: 08/10/11 16:15

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.15 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:30	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:38	JKH	TAL DEN
Total/NA	Prep	7471A			0.64 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 18:47	HEB	TAL DEN

Lab Chronicle

Client: TestAmerica Laboratories, Inc
 Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
 SDG: HUH0072

Client Sample ID: HUH0072-09

Lab Sample ID: 280-19611-9

Date Collected: 08/10/11 16:20

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.11 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:32	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:40	JKH	TAL DEN
Total/NA	Prep	7471A			0.69 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 18:49	HEB	TAL DEN

Client Sample ID: HUH0072-11

Lab Sample ID: 280-19611-10

Date Collected: 08/10/11 16:25

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.03 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:35	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:43	JKH	TAL DEN
Total/NA	Prep	7471A			0.60 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 18:51	HEB	TAL DEN

Client Sample ID: HUH0072-12

Lab Sample ID: 280-19611-11

Date Collected: 08/10/11 16:30

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.02 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:47	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:45	JKH	TAL DEN
Total/NA	Prep	7471A			0.62 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		10			84032	08/31/11 20:16	HEB	TAL DEN

Client Sample ID: HUH0072-15

Lab Sample ID: 280-19611-14

Date Collected: 08/10/11 16:45

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.03 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:49	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:47	JKH	TAL DEN
Total/NA	Prep	7471A			0.62 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 19:00	HEB	TAL DEN

Lab Chronicle

Client: TestAmerica Laboratories, Inc
 Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-1
 SDG: HUH0072

Client Sample ID: HUH0072-16

Lab Sample ID: 280-19611-15

Date Collected: 08/11/11 11:00

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.07 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:52	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:50	JKH	TAL DEN
Total/NA	Prep	7471A			0.66 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 19:02	HEB	TAL DEN

Client Sample ID: HUH0072-17

Lab Sample ID: 280-19611-16

Date Collected: 08/11/11 13:00

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.08 g	100 mL	83360	08/29/11 14:00	JM	TAL DEN
Total/NA	Analysis	6010B		1			83796	08/30/11 22:54	JKH	TAL DEN
Total/NA	Analysis	6010B		5			84000	08/31/11 13:52	JKH	TAL DEN
Total/NA	Prep	7471A			0.62 g	50 mL	83474	08/31/11 13:45	HEB	TAL DEN
Total/NA	Analysis	7471A		1			84032	08/31/11 19:07	HEB	TAL DEN

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Login Sample Receipt Checklist

Client: TestAmerica Laboratories, Inc

Job Number: 280-19611-1

SDG Number: HUH0072

Login Number: 19611

List Number: 1

Creator: Cofoid, Stephen T

List Source: TestAmerica Denver

Question	Answer	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	
Is the Field Sampler's name present on COC?	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	
Sample Preservation Verified.	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	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



4.0 Jan 8/26

Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub: HON: HUH0072**

SENDING LABORATORY:

TestAmerica Honolulu
 99-193 Aiea Heights Drive, Suite 121
 Aiea, HI 96701
 Phone: 808-486-5227
 Fax: 808-486-2456
 Project Manager: Margie Pascua Thach
 Client: Tetra Tech EM Inc.

RECEIVING LABORATORY:

TestAmerica Denver
 4955 Yarrow Street
 Arvada, CO 80002
 Phone: (303) 736-0100
 Fax: (303) 431-7171
 Project Location: Hawaii
 Receipt Temperature: _____ °C Ice: Y / N

8290 Dioxin: 38 samples for COPC, 2 samples for combined PMA COPC. 8015 DRO/RRO: 10 samples for COPC, 2 samples for combined PMA COPC. For total Metals, first metal is \$22.50, succeeding metals is \$10, except for Mercury is \$35.

Analysis	Units	Due	Expires	Interlab	Price	Surch	Comments
----------	-------	-----	---------	----------	-------	-------	----------

Sample ID: HUH0072-01 (PMAK-DU27 - Solid/Soil)

Sampled: 08/09/11 13:00

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/05/12 13:00		\$12.19	0%	
Barium 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00		\$12.19	0%	
Cadmium 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00		\$12.19	0%	
Chromium 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00		\$12.19	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00		\$12.19	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/06/11 13:00		\$12.19	0%	
Selenium 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00		\$12.19	0%	
Silver 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00		\$12.19	0%	

Containers Supplied:

Incremental sub-sample (analyze entire content) (A)

Sample ID: HUH0072-02 (PMAK-DU21-A - Solid/Soil)

Sampled: 08/10/11 10:00

As pbet pending total results

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 10:00		\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 10:00		\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 10:00		\$35.00	0%	

Containers Supplied:

Incremental Sub-sample (analyze entire content) (C)

Sample ID: HUH0072-03 (PMAK-DU23-A - Solid/Soil)

Sampled: 08/10/11 11:45

As pbet pending total results

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 11:45		\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 11:45		\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 11:45		\$35.00	0%	

Containers Supplied:

Incremental Sub-sample (analyze entire content) (C)

Released By: [Signature] Date/Time: 08/24/11 1235 Received By: [Signature] Date/Time: 8/26/11 930

Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0072-04 (PMAK-DU24-A-P - Solid/Soil)						
			Sampled: 08/10/11 14:20	As pbet pending total results		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 14:20	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 14:20	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 14:20	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-05 (PMAK-DU24-A-T1 - Solid/Soil)						
			Sampled: 08/10/11 14:25	As pbet pending total results		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 14:25	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 14:25	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 14:25	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-06 (PMAK-DU24-A-T2 - Solid/Soil)						
			Sampled: 08/10/11 14:30	As pbet pending total results		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 14:30	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 14:30	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 14:30	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-07 (PMAK-DU18-A-P - Solid/Soil)						
			Sampled: 08/10/11 16:10	As pbet pending total results		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:10	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:10	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:10	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0072-08 (PMAK-DU18-A-T1 - Solid/Soil)						
			Sampled: 08/10/11 16:15	As pbet pending total results		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:15	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:15	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:15	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-09 (PMAK-DU18-A-T2 - Solid/Soil)						
			Sampled: 08/10/11 16:20	As pbet pending total results		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:20	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:20	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:20	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-11 (PMAK-DU5-B - Solid/Soil)						
			Sampled: 08/10/11 16:25			
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:25	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:25	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:25	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-12 (PMAK-DU5-C - Solid/Soil)						
			Sampled: 08/10/11 16:30			
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:30	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:30	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:30	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0072-13 (PMAK-DU5-D - Solid/Soil)						
			Sampled: 08/10/11 16:35	HOLD pending results of layers B,C		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:35	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:35	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:35	\$35.00	0%	HOLD
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-14 (PMAK-DU5-E - Solid/Soil)						
			Sampled: 08/10/11 16:40	HOLD pending results of layers B,C		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:40	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:40	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:40	\$35.00	0%	HOLD
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-15 (PMAK-DU26 - Solid/Soil)						
			Sampled: 08/10/11 16:45			
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
Barium 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
Cadmium 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
Chromium 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:45	\$12.19	0%	
Selenium 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
Silver 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
<i>Containers Supplied:</i>						
Sample ID: HUH0072-16 (PMAK-DU19 - Solid/Soil)						
			Sampled: 08/11/11 11:00	As pbet pending total results		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/07/12 11:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/07/12 11:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/08/11 11:00	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0072-17 (PMAK-DU25-A - Solid/Soil)						
			Sampled: 08/11/11 13:00	As pbet pending total results		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/07/12 13:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/07/12 13:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/08/11 13:00	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Denver

4955 Yarrow Street

Arvada, CO 80002

Tel: (303)736-0100

TestAmerica Job ID: 280-19611-2

TestAmerica Sample Delivery Group: HUH0072

Client Project/Site: Kilauea, Kauai, PMA

For:

TestAmerica Laboratories, Inc

99-193 Aiea Heights Drive

Suite 121

Aiea, Hawaii 96701

Attn: Margie F Pascua



Authorized for release by:

10/10/2011 03:40:22 PM

DiLea Griego

Project Manager I

dilea.griego@testamericainc.com

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www.testamericainc.com

Results relate only to the items tested and the sample(s) as received by the laboratory. The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.



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Case Narrative

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-2
SDG: HUH0072

Job ID: 280-19611-2

Laboratory: TestAmerica Denver

Narrative

CASE NARRATIVE

Client: TestAmerica Laboratories, Inc

Project: Kilauea, Kauai, PMA

Report Number: 280-19611-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 08/26/2011; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 4.9 C.

TOTAL METALS -METHOD 6010B/7471A

Sample HUH0072-13 (280-19611-12) was prepared and analyzed outside the method defined holding time for Mercury because the request for the test was made after the holding time for the sample expired.

No other difficulties were encountered.

Definitions/Glossary

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-2
SDG: HUH0072

Qualifiers

Metals

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-2
SDG: HUH0072

Client Sample ID: HUH0072-13

Lab Sample ID: 280-19611-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	500		1.9		mg/Kg	1		6010B	Total/NA
Lead	84		0.74		mg/Kg	1		6010B	Total/NA
Mercury	0.62	H	0.016		mg/Kg	1		7471A	Total/NA

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Method Summary

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-2
SDG: HUH0072

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL DEN
7471A	Mercury (CVAA)	SW846	TAL DEN

Protocol References:

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



Sample Summary

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-2
SDG: HUH0072

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-19611-12	HUH0072-13	Solid	08/10/11 16:35	08/26/11 09:30



Client Sample Results

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-2
SDG: HUH0072

Method: 6010B - Metals (ICP)

Client Sample ID: HUH0072-13
Date Collected: 08/10/11 16:35
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-12
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	500		1.9		mg/Kg		10/05/11 05:30	10/05/11 13:26	1
Lead	84		0.74		mg/Kg		10/05/11 05:30	10/05/11 13:26	1

Method: 7471A - Mercury (CVAA)

Client Sample ID: HUH0072-13
Date Collected: 08/10/11 16:35
Date Received: 08/26/11 09:30

Lab Sample ID: 280-19611-12
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.62	H	0.016		mg/Kg		10/03/11 15:20	10/03/11 20:43	1

QC Sample Results

Client: TestAmerica Laboratories, Inc
 Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-2
 SDG: HUH0072

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 280-88605/1-A
Matrix: Solid
Analysis Batch: 89527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 88605

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		2.0		mg/Kg		10/05/11 05:30	10/05/11 12:27	1
Lead	ND		0.80		mg/Kg		10/05/11 05:30	10/05/11 12:27	1

Lab Sample ID: LCS 280-88605/2-A
Matrix: Solid
Analysis Batch: 89527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 88605

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec	Limits
		Result	Qualifier					
Arsenic	100	101		mg/Kg		101		85 - 110
Lead	50.0	50.8		mg/Kg		102		86 - 110

Lab Sample ID: 280-20901-A-11-B MS
Matrix: Solid
Analysis Batch: 89527

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 88605

Analyte	Sample Sample		Spike Added	MS MS		Unit	D	% Rec	% Rec	Limits
	Result	Qualifier		Result	Qualifier					
Arsenic	4.8		99.0	97.6		mg/Kg		94		76 - 111
Lead	11		49.5	56.3		mg/Kg		91		70 - 200

Lab Sample ID: 280-20901-A-11-C MSD
Matrix: Solid
Analysis Batch: 89527

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 88605

Analyte	Sample Sample		Spike Added	MSD MSD		Unit	D	% Rec	% Rec	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier							
Arsenic	4.8		93.5	92.1		mg/Kg		93		76 - 111	6	20
Lead	11		46.7	54.6		mg/Kg		93		70 - 200	3	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 280-88671/1-A
Matrix: Solid
Analysis Batch: 89098

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 88671

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.017		mg/Kg		10/03/11 15:20	10/03/11 20:11	1

Lab Sample ID: LCS 280-88671/2-A
Matrix: Solid
Analysis Batch: 89098

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 88671

Analyte	Spike Added	LCS LCS		Unit	D	% Rec	% Rec	Limits
		Result	Qualifier					
Mercury	0.417	0.460		mg/Kg		110		87 - 111

Lab Sample ID: 280-20901-A-11-E MS
Matrix: Solid
Analysis Batch: 89098

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 88671

Analyte	Sample Sample		Spike Added	MS MS		Unit	D	% Rec	% Rec	Limits
	Result	Qualifier		Result	Qualifier					
Mercury	ND		0.397	0.444		mg/Kg		109		87 - 111

QC Sample Results

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-2
SDG: HUH0072

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: 280-20901-A-11-F MSD

Matrix: Solid

Analysis Batch: 89098

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 88671

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Mercury	ND		0.403	0.453		mg/Kg		110	87 - 111	2	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

QC Association Summary

Client: TestAmerica Laboratories, Inc
 Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-2
 SDG: HUH0072

Metals

Prep Batch: 88605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19611-12	HUH0072-13	Total/NA	Solid	3050B	
280-20901-A-11-B MS	Matrix Spike	Total/NA	Solid	3050B	
280-20901-A-11-C MSD	Matrix Spike Duplicate	Total/NA	Solid	3050B	
LCS 280-88605/2-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 280-88605/1-A	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 88671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19611-12	HUH0072-13	Total/NA	Solid	7471A	
280-20901-A-11-E MS	Matrix Spike	Total/NA	Solid	7471A	
280-20901-A-11-F MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	
LCS 280-88671/2-A	Lab Control Sample	Total/NA	Solid	7471A	
MB 280-88671/1-A	Method Blank	Total/NA	Solid	7471A	

Analysis Batch: 89098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19611-12	HUH0072-13	Total/NA	Solid	7471A	88671
280-20901-A-11-E MS	Matrix Spike	Total/NA	Solid	7471A	88671
280-20901-A-11-F MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	88671
LCS 280-88671/2-A	Lab Control Sample	Total/NA	Solid	7471A	88671
MB 280-88671/1-A	Method Blank	Total/NA	Solid	7471A	88671

Analysis Batch: 89527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-19611-12	HUH0072-13	Total/NA	Solid	6010B	88605
280-20901-A-11-B MS	Matrix Spike	Total/NA	Solid	6010B	88605
280-20901-A-11-C MSD	Matrix Spike Duplicate	Total/NA	Solid	6010B	88605
LCS 280-88605/2-A	Lab Control Sample	Total/NA	Solid	6010B	88605
MB 280-88605/1-A	Method Blank	Total/NA	Solid	6010B	88605

Lab Chronicle

Client: TestAmerica Laboratories, Inc
Project/Site: Kilauea, Kauai, PMA

TestAmerica Job ID: 280-19611-2
SDG: HUH0072

Client Sample ID: HUH0072-13

Lab Sample ID: 280-19611-12

Date Collected: 08/10/11 16:35

Matrix: Solid

Date Received: 08/26/11 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			0.64 g	50 mL	88671	10/03/11 15:20	HEB	TAL DEN
Total/NA	Analysis	7471A		1			89098	10/03/11 20:43	HEB	TAL DEN
Total/NA	Prep	3050B			1.08 g	100 mL	88605	10/05/11 05:30	CLI	TAL DEN
Total/NA	Analysis	6010B		1			89527	10/05/11 13:26	HEB	TAL DEN

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



Login Sample Receipt Checklist

Client: TestAmerica Laboratories, Inc

Job Number: 280-19611-2

SDG Number: HUH0072

Login Number: 19611

List Number: 1

Creator: Cofoid, Stephen T

List Source: TestAmerica Denver

Question	Answer	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	
Is the Field Sampler's name present on COC?	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	
Sample Preservation Verified.	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	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

SENDING LABORATORY:

TestAmerica Honolulu
 99-193 Aiea Heights Drive, Suite 121
 Aiea, HI 96701
 Phone: 808-486-5227
 Fax: 808-486-2456
 Project Manager: Margie Pascua Thach
 Client: Tetra Tech EM Inc.

RECEIVING LABORATORY:

TestAmerica Denver
 4955 Yarrow Street
 Arvada, CO 80002
 Phone : (303) 736-0100
 Fax: (303) 431-7171
 Project Location: Hawaii
 Receipt Temperature: _____ °C Ice: Y / N

added 09/29/11 *MPT 9/29/11*

8290 Dioxin: 38 samples for COPC, 2 samples for combined PMA COPC. 8015 DRO/RRO: 10 samples for COPC, 2 samples for combined PMA COPC. For total Metals, first metal is \$22.50, succeeding metals is \$10, except for Mercury is \$35.

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
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~~Sample ID: HUH0072-01 (PMAK-DU27 - Solid/Soil) Sampled: 08/09/11 13:00~~

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$10.50	0%	
Barium 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$10.50	0%	
Cadmium 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$10.50	0%	
Chromium 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$10.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$10.50	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/06/11 13:00	\$10.50	0%	
Selenium 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$10.50	0%	
Silver 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$10.50	0%	

Containers Supplied:

Sample ID: HUH0072-02 (PMAK-DU21-A - Solid/Soil) Sampled: 08/10/11 10:00 As pbet added 09/29/11

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 10:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 10:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 10:00	\$35.00	0%	

Containers Supplied:

Incremental
 Sub-sample (analyze entire content) (C)

Sample ID: HUH0072-03 (PMAK-DU23-A - Solid/Soil) Sampled: 08/10/11 11:45 As pbet added 09/29/11

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 11:45	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 11:45	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 11:45	\$35.00	0%	

Containers Supplied:

Incremental
 Sub-sample (analyze entire content) (C)

MPT 09/29/11

Released By	Date/Time	Received By	Date/Time
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Released By	Date/Time	Received By	Date/Time
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Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0072-04 (PMAK-DU24-A-P - Solid/Soil)						
			Sampled: 08/10/11 14:20	As pbet added 09/29/11		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 14:20	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 14:20	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 14:20	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-05 (PMAK-DU24-A-T1 - Solid/Soil)						
			Sampled: 08/10/11 14:25	As pbet added 09/29/11		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 14:25	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 14:25	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 14:25	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-06 (PMAK-DU24-A-T2 - Solid/Soil)						
			Sampled: 08/10/11 14:30	As pbet added 09/29/11		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 14:30	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 14:30	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 14:30	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-07 (PMAK-DU18-A-P - Solid/Soil)						
			Sampled: 08/10/11 16:10	As pbet added 09/29/11		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:10	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:10	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:10	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

MAT 09/20/11

Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0072-08 (PMAK-DU18-A-T1 - Solid/Soil)						
			Sampled: 08/10/11 16:15	As pbet added 09/29/11		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:15	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:15	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:15	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-09 (PMAK-DU18-A-T2 - Solid/Soil)						
			Sampled: 08/10/11 16:20	As pbet added 09/29/11		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:20	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:20	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:20	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-11 (PMAK-DU5-B - Solid/Soil)						
			Sampled: 08/10/11 16:25			
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:25	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:25	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:25	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-12 (PMAK-DU5-C - Solid/Soil)						
			Sampled: 08/10/11 16:30			
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:30	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:30	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:30	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

WRT 09/29/11



Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
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Sample ID: HUH0072-13 (PMAK-DU5-D - Solid/Soil) Sampled: 08/10/11 16:35 proceed w/ analysis 09/29/11 ✍

Arsenic Total 10g SW 6010B	mg/kg	10/11/11	02/06/12 16:35	\$22.50	0%	proceed w/ analysis 09/29/11
Lead 10g Total SW 6010B	mg/kg	10/11/11	02/06/12 16:35	\$10.00	0%	proceed w/ analysis 09/29/11
Mercury Total 5 gram	mg/kg	10/11/11	09/07/11 16:35	\$35.00	0%	proceed w/ analysis 09/29/11

Containers Supplied:
Incremental
Sub-sample (analyze entire content) (C)

~~**Sample ID: HUH0072-14 (PMAK-DU5-E - Solid/Soil)** Sampled: 08/10/11 16:40 HOLD pending results of layers B,C~~

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:40	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:40	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:40	\$35.00	0%	HOLD

~~Containers Supplied:
Incremental
Sub-sample (analyze entire content) (C)~~

~~**Sample ID: HUH0072-15 (PMAK-DU26 - Solid/Soil)** Sampled: 08/10/11 16:45~~

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$10.50	0%	
Barium 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$10.50	0%	
Cadmium 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$10.50	0%	
Chromium 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$10.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$10.50	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:45	\$10.50	0%	
Selenium 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$10.50	0%	
Silver 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$10.50	0%	

~~Containers Supplied:~~

Sample ID: HUH0072-16 (PMAK-DU19 - Solid/Soil) Sampled: 08/11/11 11:00 As pbet added 09/29/11

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/07/12 11:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/07/12 11:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/08/11 11:00	\$35.00	0%	

Containers Supplied:
Incremental
Sub-sample (analyze entire content) (C)

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Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0072-17 (PMAK-DU25-A - Solid/Soil)						
			Sampled: 08/11/11 13:00	As pbet added 09/29/11		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/07/12 13:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/07/12 13:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/08/11 13:00	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

WPT 08/10/11





Rush TAT Confirmation (Initial/Date) _____

Sample Receipt Checklist

Client Name: Terra Tech Date/ Time Received: 8/26/11 1550

Received By: sc

Matrices: Soil

Carrier: Aldex

Airbill# :

- Shipping container/cooler in good condition? Yes No Not Present
- Chain of Custody present? Yes No
- Chain of Custody Signed when relinquished and received? Yes No
- Chain of Custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sample containers on ice? Yes No Type: Wet/Iced
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Water - VOA Vials have Zero Headspace? Yes No No VOA vials present:
- Water - pH acceptable upon receipt? Yes No Not Checked:
- pH Adjusted? Yes No Final pH: _____
- Encores / MI-VOC / 5035 Vials Present? Yes No Location: _____
- Sample Filtration Needed? Yes No Filtered in Field:
- Dry Weight Corrected Results? Yes No Take Action:
- DODQSM / QAPP Project? Yes No Type: _____

Temperature Blank Present? Yes No

Sample Container Temperature: -2 °C

Comments/ Sampling Handling Notes:

Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

SENDING LABORATORY:

TestAmerica Honolulu
 99-193 Aiea Heights Drive, Suite 121
 Aiea, HI 96701
 Phone: 808-486-5227
 Fax: 808-486-2456
 Project Manager: Margie Pascua Thach
 Client: Tetra Tech EM Inc.

RECEIVING LABORATORY:

TestAmerica Denver
 4955 Yarrow Street
 Arvada, CO 80002
 Phone :(303) 736-0100
 Fax: (303) 431-7171
 Project Location: Hawaii
 Receipt Temperature: _____ °C Ice: Y / N

added 09/29/11 *MPT 09/20/11*

8290 Dioxin: 38 samples for COPC, 2 samples for combined PMA COPC. 8015 DRO/RRO: 10 samples for COPC, 2 samples for combined PMA COPC. For total Metals, first metal is \$22.50, succeeding metals is \$10, except for Mercury is \$35.

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
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~~Sample ID: HUH0072-01 (PMAK-DU27 - Solid/Soil)~~

~~Sampled: 08/09/11 13:00~~

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$10.50	0%	
Barium 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$10.50	0%	
Cadmium 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$10.50	0%	
Chromium 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$10.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$10.50	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/06/11 13:00	\$10.50	0%	
Selenium 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$10.50	0%	
Silver 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$10.50	0%	

~~Containers Supplied:~~

Sample ID: HUH0072-02 (PMAK-DU21-A - Solid/Soil)

Sampled: 08/10/11 10:00

As pbet added 09/29/11

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 10:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 10:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 10:00	\$35.00	0%	

Containers Supplied:

Incremental
 Sub-sample (analyze entire content) (C)

Sample ID: HUH0072-03 (PMAK-DU23-A - Solid/Soil)

Sampled: 08/10/11 11:45

As pbet added 09/29/11

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 11:45	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 11:45	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 11:45	\$35.00	0%	

Containers Supplied:

Incremental
 Sub-sample (analyze entire content) (C)

MPT 09/20/11

Released By _____ Date/Time _____

Received By _____ Date/Time _____

Released By _____ Date/Time _____

Received By _____ Date/Time _____

Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0072-04 (PMAK-DU24-A-P - Solid/Soil)						
			Sampled: 08/10/11 14:20	As pbet added 09/29/11		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 14:20	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 14:20	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 14:20	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-05 (PMAK-DU24-A-T1 - Solid/Soil)						
			Sampled: 08/10/11 14:25	As pbet added 09/29/11		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 14:25	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 14:25	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 14:25	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-06 (PMAK-DU24-A-T2 - Solid/Soil)						
			Sampled: 08/10/11 14:30	As pbet added 09/29/11		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 14:30	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 14:30	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 14:30	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-07 (PMAK-DU18-A-P - Solid/Soil)						
			Sampled: 08/10/11 16:10	As pbet added 09/29/11		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:10	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:10	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:10	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

MAT 09/20/11



Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0072-08 (PMAK-DU18-A-T1 - Solid/Soil)						
			Sampled: 08/10/11 16:15		As pbet added 09/29/11	
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:15	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:15	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:15	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-09 (PMAK-DU18-A-T2 - Solid/Soil)						
			Sampled: 08/10/11 16:20		As pbet added 09/29/11	
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:20	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:20	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:20	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-11 (PMAK-DU5-B - Solid/Soil)						
			Sampled: 08/10/11 16:25			
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:25	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:25	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:25	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-12 (PMAK-DU5-C - Solid/Soil)						
			Sampled: 08/10/11 16:30			
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:30	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:30	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:30	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

MRT 08/20/11

Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0072-13 (PMAK-DU5-D - Solid/Soil)						
			Sampled: 08/10/11 16:35	proceed w/ analysis 09/29/11		
Arsenic Total 10g SW 6010B	mg/kg	10/11/11	02/06/12 16:35	\$22.50	0%	proceed w/ analysis 09/29/11
Lead 10g Total SW 6010B	mg/kg	10/11/11	02/06/12 16:35	\$10.00	0%	proceed w/ analysis 09/29/11
Mercury Total 5 gram	mg/kg	10/11/11	09/07/11 16:35	\$35.00	0%	proceed w/ analysis 09/29/11
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

Sample ID: HUH0072-14 (PMAK-DU5-E - Solid/Soil)						
			Sampled: 08/10/11 16:40	HOLD pending results of layers B,C		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:40	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:40	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:40	\$35.00	0%	HOLD
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

Sample ID: HUH0072-15 (PMAK-DU26 - Solid/Soil)						
			Sampled: 08/10/11 16:45			
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$10.50	0%	
Barium 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$10.50	0%	
Cadmium 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$10.50	0%	
Chromium 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$10.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$10.50	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:45	\$10.50	0%	
Selenium 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$10.50	0%	
Silver 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$10.50	0%	
<i>Containers Supplied:</i>						

Sample ID: HUH0072-16 (PMAK-DU19 - Solid/Soil)						
			Sampled: 08/11/11 11:00	As pbet added 09/29/11		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/07/12 11:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/07/12 11:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/08/11 11:00	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

Not signed

Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0072-17 (PMAK-DU25-A - Solid/Soil)						
			Sampled: 08/11/11 13:00	As pbet added 09/29/11		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/07/12 13:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/07/12 13:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/08/11 13:00	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

Just added

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

4.0 Job # 8/26

Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub:HON:HUH0072**

SENDING LABORATORY:

TestAmerica Honolulu
99-193 Aiea Heights Drive, Suite 121
Aiea, HI 96701
Phone: 808-486-5227
Fax: 808-486-2456
Project Manager: Margie Pascua Thach
Client: Tetra Tech EM Inc.

RECEIVING LABORATORY:

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone : (303) 736-0100
Fax: (303) 431-7171
Project Location: Hawaii
Receipt Temperature: _____ °C Ice: Y / N

8290 Dioxin: 38 samples for COPC, 2 samples for combined PMA COPC. 8015 DRO/RRO: 10 samples for COPC, 2 samples for combined PMA COPC. For total Metals, first metal is \$22.50, succeeding metals is \$10, except for Mercury is \$35.

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
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Sample ID: HUH0072-01 (PMAK-DU27 - Solid/Soil)

Sampled: 08/09/11 13:00

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$12.19	0%
Barium 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$12.19	0%
Cadmium 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$12.19	0%
Chromium 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$12.19	0%
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$12.19	0%
Mercury Total 5 gram	mg/kg	09/01/11	09/06/11 13:00	\$12.19	0%
Selenium 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$12.19	0%
Silver 10g Total SW 6010B	mg/kg	09/01/11	02/05/12 13:00	\$12.19	0%

Containers Supplied:

Incremental subsample (analyze entire content) (A)

Sample ID: HUH0072-02 (PMAK-DU21-A - Solid/Soil)

Sampled: 08/10/11 10:00

As pbet pending total results

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 10:00	\$22.50	0%
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 10:00	\$10.00	0%
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 10:00	\$35.00	0%

Containers Supplied:

Incremental
Sub-sample (analyze entire content) (C)

Sample ID: HUH0072-03 (PMAK-DU23-A - Solid/Soil)

Sampled: 08/10/11 11:45

As pbet pending total results

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 11:45	\$22.50	0%
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 11:45	\$10.00	0%
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 11:45	\$35.00	0%

Containers Supplied:

Incremental
Sub-sample (analyze entire content) (C)

	08/24/11 1235		8/26/11 930
Released By	Date/Time	Received By	Date/Time

Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0072-04 (PMAK-DU24-A-P - Solid/Soil)						
			Sampled: 08/10/11 14:20	As pbet pending total results		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 14:20	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 14:20	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 14:20	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-05 (PMAK-DU24-A-T1 - Solid/Soil)						
			Sampled: 08/10/11 14:25	As pbet pending total results		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 14:25	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 14:25	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 14:25	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-06 (PMAK-DU24-A-T2 - Solid/Soil)						
			Sampled: 08/10/11 14:30	As pbet pending total results		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 14:30	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 14:30	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 14:30	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-07 (PMAK-DU18-A-P - Solid/Soil)						
			Sampled: 08/10/11 16:10	As pbet pending total results		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:10	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:10	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:10	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub-HON-HUH0072**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
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Sample ID: HUH0072-08 (PMAK-DU18-A-T1 - Solid/Soil) Sampled: 08/10/11 16:15 As pbet pending total results

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:15	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:15	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:15	\$35.00	0%	

Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (C)

Sample ID: HUH0072-09 (PMAK-DU18-A-T2 - Solid/Soil) Sampled: 08/10/11 16:20 As pbet pending total results

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:20	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:20	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:20	\$35.00	0%	

Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (C)

Sample ID: HUH0072-11 (PMAK-DU5-B - Solid/Soil) Sampled: 08/10/11 16:25

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:25	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:25	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:25	\$35.00	0%	

Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (C)

Sample ID: HUH0072-12 (PMAK-DU5-C - Solid/Soil) Sampled: 08/10/11 16:30

Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:30	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:30	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:30	\$35.00	0%	

Containers Supplied:
 Incremental
 Sub-sample (analyze entire content) (C)

Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0072-13 (PMAK-DU5-D - Solid/Soil)						
			Sampled: 08/10/11 16:35	HOLD pending results of layers B,C		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:35	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:35	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:35	\$35.00	0%	HOLD
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-14 (PMAK-DU5-E - Solid/Soil)						
			Sampled: 08/10/11 16:40	HOLD pending results of layers B,C		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:40	\$22.50	0%	HOLD
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:40	\$10.00	0%	HOLD
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:40	\$35.00	0%	HOLD
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						
Sample ID: HUH0072-15 (PMAK-DU26 - Solid/Soil)						
			Sampled: 08/10/11 16:45			
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
Barium 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
Cadmium 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
Chromium 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/07/11 16:45	\$12.19	0%	
Selenium 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
Silver 10g Total SW 6010B	mg/kg	09/01/11	02/06/12 16:45	\$12.19	0%	
<i>Containers Supplied:</i>						
Sample ID: HUH0072-16 (PMAK-DU19 - Solid/Soil)						
			Sampled: 08/11/11 11:00	As pbet pending total results		
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/07/12 11:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/07/12 11:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/08/11 11:00	\$35.00	0%	
<i>Containers Supplied:</i>						
Incremental						
Sub-sample (analyze entire content) (C)						

Subcontract Order - TestAmerica Honolulu (HUH0072)

Please enter the following code into the Job PO Number field for automated UDZ transfer files: **Sub HON HUH0072**

Analysis	Units	Due	Expires	Interlab Price	Surch	Comments
Sample ID: HUH0072-17 (PMAK-DU25-A - Solid/Soil)			Sampled: 08/11/11 13:00		As pbet pending total results	
Arsenic Total 10g SW 6010B	mg/kg	09/01/11	02/07/12 13:00	\$22.50	0%	
Lead 10g Total SW 6010B	mg/kg	09/01/11	02/07/12 13:00	\$10.00	0%	
Mercury Total 5 gram	mg/kg	09/01/11	09/08/11 13:00	\$35.00	0%	
<i>Containers Supplied:</i> Incremental Sub-sample (analyze entire content) (C)						

Sample Login Acknowledgement

Job 280-19611-1

Client Job Description:	Kilauea, Kauai, PMA	Report To:	TestAmerica Laboratories, Inc
Purchase Order #:	HUH0072		Margie Pascua
Work Order #:			99-193 Aiea Heights Drive
Project Manager:	DiLea Griego		Suite 121
Job Due Date:	9/12/2011		Aiea, HI 96701
Job TAT:	10 Days		
Max Deliverable Level:	II	Bill To:	TestAmerica Laboratories, Inc
			Margie Pascua
Earliest Deliverable Due:	9/12/2011		99-193 Aiea Heights Drive
			Suite 121
			Aiea, HI 96701

Login 280-19611

Sample Receipt:	8/26/2011 9:30:00 AM	Number of Coolers:	1
Method of Delivery:	FedEx Priority Overnight	Cooler Temperature(s) (C°):	4.9;

Lab Sample #	Client Sample ID	Date Sampled	Matrix	Rpt Basis	Dry / Wet **
280-19611-1	HUH0072-01	8/9/2011 1:00:00 PM	Solid		
6010B	Total RCRA Analytes / In-Lab			Total	Wet
	Analytes: Ag, As, Ba, Cd, Cr, Pb, Se				
7471A	Mercury (CVAA) / In-Lab			Total	Wet
	Analytes: Hg				
280-19611-2	HUH0072-02	8/10/2011 10:00:00 AM	Solid		
6010B	Total As, Pb / In-Lab			Total	Wet
	Analytes: As, Pb				
7471A	Mercury (CVAA) / In-Lab			Total	Wet
	Analytes: Hg				
280-19611-3	HUH0072-03	8/10/2011 11:45:00 AM	Solid		
6010B	Total As, Pb / In-Lab			Total	Wet
	Analytes: As, Pb				
7471A	Mercury (CVAA) / In-Lab			Total	Wet
	Analytes: Hg				
280-19611-4	HUH0072-04	8/10/2011 2:20:00 PM	Solid		
6010B	Total As, Pb / In-Lab			Total	Wet
	Analytes: As, Pb				
7471A	Mercury (CVAA) / In-Lab			Total	Wet
	Analytes: Hg				
280-19611-5	HUH0072-05	8/10/2011 2:25:00 PM	Solid		
6010B	Total As, Pb / In-Lab			Total	Wet
	Analytes: As, Pb				
7471A	Mercury (CVAA) / In-Lab			Total	Wet
	Analytes: Hg				
280-19611-6	HUH0072-06	8/10/2011 2:30:00 PM	Solid		
6010B	Total As, Pb / In-Lab			Total	Wet

* Method on-hold

** Wet/Dry indicates whether the reported results will be corrected for moisture content, and based on sample Wet weight or Dry weight.

Sample Login Acknowledgement

Lab Sample #	Client Sample ID	Date Sampled	Matrix	Rpt Basis	Dry / Wet **
Method	Method Description / Work Location				
	Analytes: As, Pb				
7471A	Mercury (CVAA) / In-Lab			Total	Wet
	Analytes: Hg				
280-19611-7	HUH0072-07	8/10/2011 4:10:00 PM	Solid		
6010B	Total As, Pb / In-Lab			Total	Wet
	Analytes: As, Pb				
7471A	Mercury (CVAA) / In-Lab			Total	Wet
	Analytes: Hg				
280-19611-8	HUH0072-08	8/10/2011 4:15:00 PM	Solid		
6010B	Total As, Pb / In-Lab			Total	Wet
	Analytes: As, Pb				
7471A	Mercury (CVAA) / In-Lab			Total	Wet
	Analytes: Hg				
280-19611-9	HUH0072-09	8/10/2011 4:20:00 PM	Solid		
6010B	Total As, Pb / In-Lab			Total	Wet
	Analytes: As, Pb				
7471A	Mercury (CVAA) / In-Lab			Total	Wet
	Analytes: Hg				
280-19611-10	HUH0072-11	8/10/2011 4:25:00 PM	Solid		
6010B	Total As, Pb / In-Lab			Total	Wet
	Analytes: As, Pb				
7471A	Mercury (CVAA) / In-Lab			Total	Wet
	Analytes: Hg				
280-19611-11	HUH0072-12	8/10/2011 4:30:00 PM	Solid		
6010B	Total As, Pb / In-Lab			Total	Wet
	Analytes: As, Pb				
7471A	Mercury (CVAA) / In-Lab			Total	Wet
	Analytes: Hg				
280-19611-12	HUH0072-13	8/10/2011 4:35:00 PM	Solid		
6010B*	Total As, Pb / In-Lab			Total	Wet
	Analytes: As, Pb				
7471A*	Mercury (CVAA) / In-Lab			Total	Wet
	Analytes: Hg				
280-19611-13	HUH0072-14	8/10/2011 4:40:00 PM	Solid		
6010B*	Total As, Pb / In-Lab			Total	Wet
	Analytes: As, Pb				
7471A*	Mercury (CVAA) / In-Lab			Total	Wet
	Analytes: Hg				
280-19611-14	HUH0072-15	8/10/2011 4:45:00 PM	Solid		

* Method on-hold

** Wet/Dry indicates whether the reported results will be corrected for moisture content, and based on sample Wet weight or Dry weight.

Sample Login Acknowledgement

Lab Sample #	Client Sample ID	Date Sampled	Matrix	Rpt Basis	Dry / Wet **
6010B	Total RCRA Analytes / In-Lab			Total	Wet
	Analytes: Ag, As, Ba, Cd, Cr, Pb, Se				
7471A	Mercury (CVAA) / In-Lab			Total	Wet
	Analytes: Hg				
280-19611-15	HUH0072-16	8/11/2011 11:00:00 AM	Solid		
6010B	Total As, Pb / In-Lab			Total	Wet
	Analytes: As, Pb				
7471A	Mercury (CVAA) / In-Lab			Total	Wet
	Analytes: Hg				
280-19611-16	HUH0072-17	8/11/2011 1:00:00 PM	Solid		
6010B	Total As, Pb / In-Lab			Total	Wet
	Analytes: As, Pb				
7471A	Mercury (CVAA) / In-Lab			Total	Wet
	Analytes: Hg				

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* Method on-hold

** Wet/Dry indicates whether the reported results will be corrected for moisture content, and based on sample Wet weight or Dry weight.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Honolulu

99-193 Aiea Heights Drive, Suite 121

Aiea, HI 96701

Tel: 808-486-5227

TestAmerica Job ID: HUI0095

Client Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

Client Project Description: Kilauea, Kauai PMA

For:

Tetra Tech EM Inc.

737 Bishop Street, Suite 3010

Honolulu, HI 96813

Attn: Scott Duzan



Authorized for release by:

10/20/2011 04:44:00 PM

Margie Pascua Thach

Project Manager

margie.pascua@testamericainc.com

LINKS

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.



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Definitions/Glossary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUI0095

Qualifiers

Metals

Qualifier	Qualifier Description
A-01	Arsenic detected in blank is well below action level of 20mg/Kg
B	Analyte was detected in the associated Method Blank.
M1	The MS and/or MSD were outside the acceptance limits due to sample matrix interference. See Blank Spike (LCS).

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUI0095

Job ID: HUI0095

Laboratory: TestAmerica Honolulu

Narrative

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory unless otherwise stated in the report. 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 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

LABORATORY REPORT

At sample receipt, the cooler/sample was 6 degrees 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.

Samples were prepared in accordance with the State of Hawai'i Department of Health Office of Hazard Evaluation and Emergency Response's Technical Guidance Manual for the Implementation of the Hawai'i State Contingency Plan 2009 edition Laboratory Preparation of Multi-Increment Samples.

Bioaccessible Arsenic by 6010:

HUI0095 is a relog of HUH0012. Bioaccessible arsenic analysis added on 09/26/11 per Rosiland Selbach on samples HUI0095-01/HUH0012-02 (PMAK-DU1-B), HUI0095-02/HUH0012-07 (PMAK-DU2-B), and HUI0095-03/HUH0012-08 (PMAK-DU2-C).

Bioaccessible arsenic for PMAK-DU1-A was reported as HUH0012-01 on 09/30/11.

Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUI0095

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
HUI0095-01	PMAK-DU1-B	Solid/Soil	08/01/11 15:05	08/02/11 11:50
HUI0095-02	PMAK-DU2-B	Solid/Soil	08/01/11 16:30	08/02/11 11:50
HUI0095-03	PMAK-DU2-C	Solid/Soil	08/01/11 16:35	08/02/11 11:50

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Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUI0095

Client Sample ID: PMAK-DU1-B

Lab Sample ID: HUI0095-01

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic Bio-accessible	6.11		1.00		mg/kg	1.00		EPA 6010	Total
Arsenic Total	85.3	B	4.95		mg/kg	5.00		EPA 6010	Total
Arsenic Bio-accessible percent	7.16		0.200		% by Weight	1.00		SBRC Appendix C	Total

Client Sample ID: PMAK-DU2-B

Lab Sample ID: HUI0095-02

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic Bio-accessible	15.1		1.00		mg/kg	1.00		EPA 6010	Total
Arsenic Total	131	B	4.95		mg/kg	5.00		EPA 6010	Total
Arsenic Bio-accessible percent	11.5		0.200		% by Weight	1.00		SBRC Appendix C	Total

Client Sample ID: PMAK-DU2-C

Lab Sample ID: HUI0095-03

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic Bio-accessible	49.6		1.00		mg/kg	1.00		EPA 6010	Total
Arsenic Total	276	B	5.00		mg/kg	5.00		EPA 6010	Total
Arsenic Bio-accessible percent	18.0		0.200		% by Weight	1.00		SBRC Appendix C	Total

Client Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUI0095

Client Sample ID: PMAK-DU1-B

Lab Sample ID: HUI0095-01

Date Collected: 08/01/11 15:05

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	6.11		1.00		mg/kg		10/05/11 08:51	10/19/11 15:55	1.00
Arsenic Total	85.3	B	4.95		mg/kg		10/06/11 09:32	10/10/11 13:22	5.00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	7.16		0.200		% by Weight		10/05/11 08:51	10/19/11 15:55	1.00

Client Sample ID: PMAK-DU2-B

Lab Sample ID: HUI0095-02

Date Collected: 08/01/11 16:30

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	15.1		1.00		mg/kg		10/05/11 08:51	10/19/11 15:55	1.00
Arsenic Total	131	B	4.95		mg/kg		10/06/11 09:33	10/11/11 11:30	5.00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	11.5		0.200		% by Weight		10/05/11 08:51	10/19/11 15:55	1.00

Client Sample ID: PMAK-DU2-C

Lab Sample ID: HUI0095-03

Date Collected: 08/01/11 16:35

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	49.6		1.00		mg/kg		10/05/11 08:51	10/19/11 15:55	1.00
Arsenic Total	276	B	5.00		mg/kg		10/06/11 09:34	10/11/11 11:35	5.00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	18.0		0.200		% by Weight		10/05/11 08:51	10/19/11 15:55	1.00

QC Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUI0095

Method: EPA 6010 - Bio-available Metals

Lab Sample ID: 11J0016-BLK1
Matrix: Solid/Soil
Analysis Batch: 11J0016

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 11J0016_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Total	1.32	A-01	1.00		mg/kg		10/06/11 09:30	10/10/11 12:54	1.00

Lab Sample ID: 11J0016-BS1
Matrix: Solid/Soil
Analysis Batch: 11J0016

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 11J0016_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic Total	50.0	47.2	B	mg/kg		94	80 - 120

Lab Sample ID: 11J0016-MS1
Matrix: Solid/Soil
Analysis Batch: 11J0016

Client Sample ID: Matrix Spike
Prep Type: Total
Prep Batch: 11J0016_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic Total	129		47.6	154	M1 B	mg/kg		53	80 - 120

Lab Sample ID: 11J0016-MSD1
Matrix: Solid/Soil
Analysis Batch: 11J0016

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total
Prep Batch: 11J0016_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Arsenic Total	129		48.1	158	M1 B	mg/kg		60	80 - 120	3	20

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUI0095

Metals

Analysis Batch: 11J0016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11J0016-BLK1	Method Blank	Total	Solid/Soil	EPA 6010	11J0016_P
11J0016-BS1	Lab Control Sample	Total	Solid/Soil	EPA 6010	11J0016_P
11J0016-MS1	Matrix Spike	Total	Solid/Soil	EPA 6010	11J0016_P
11J0016-MSD1	Matrix Spike Duplicate	Total	Solid/Soil	EPA 6010	11J0016_P
HUI0095-01	PMAK-DU1-B	Total	Solid/Soil	EPA 6010	11J0016_P
HUI0095-02	PMAK-DU2-B	Total	Solid/Soil	EPA 6010	11J0016_P
HUI0095-03	PMAK-DU2-C	Total	Solid/Soil	EPA 6010	11J0016_P

Pre prep Batch: 11J0018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUI0095-01	PMAK-DU1-B	Total	Solid/Soil	SBRC Appendix C Rev. #8	
HUI0095-02	PMAK-DU2-B	Total	Solid/Soil	SBRC Appendix C Rev. #8	
HUI0095-03	PMAK-DU2-C	Total	Solid/Soil	SBRC Appendix C Rev. #8	

Analysis Batch: 11J0020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUI0095-01	PMAK-DU1-B	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0020_P
HUI0095-01	PMAK-DU1-B	Total	Solid/Soil	EPA 6010	11J0020_P
HUI0095-02	PMAK-DU2-B	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0020_P
HUI0095-02	PMAK-DU2-B	Total	Solid/Soil	EPA 6010	11J0020_P
HUI0095-03	PMAK-DU2-C	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0020_P
HUI0095-03	PMAK-DU2-C	Total	Solid/Soil	EPA 6010	11J0020_P

Prep Batch: 11J0016_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11J0016-BLK1	Method Blank	Total	Solid/Soil	EPA 3050	
11J0016-BS1	Lab Control Sample	Total	Solid/Soil	EPA 3050	
11J0016-MS1	Matrix Spike	Total	Solid/Soil	EPA 3050	
11J0016-MSD1	Matrix Spike Duplicate	Total	Solid/Soil	EPA 3050	
HUI0095-01	PMAK-DU1-B	Total	Solid/Soil	EPA 3050	
HUI0095-02	PMAK-DU2-B	Total	Solid/Soil	EPA 3050	
HUI0095-03	PMAK-DU2-C	Total	Solid/Soil	EPA 3050	

Prep Batch: 11J0020_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUI0095-01	PMAK-DU1-B	Total	Solid/Soil	EPA 3050	11J0018
HUI0095-02	PMAK-DU2-B	Total	Solid/Soil	EPA 3050	11J0018
HUI0095-03	PMAK-DU2-C	Total	Solid/Soil	EPA 3050	11J0018

Lab Chronicle

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUI0095

Client Sample ID: PMAK-DU1-B

Lab Sample ID: HUI0095-01

Date Collected: 08/01/11 15:05

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3050		0.990	11J0016_P	10/06/11 09:32	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0016	10/10/11 13:22	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0020_P	10/05/11 08:51	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0018	10/06/11 10:50	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0020	10/19/11 15:55	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0020	10/19/11 15:55	HJM	TAL HON

Client Sample ID: PMAK-DU2-B

Lab Sample ID: HUI0095-02

Date Collected: 08/01/11 16:30

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3050		0.990	11J0016_P	10/06/11 09:33	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0016	10/11/11 11:30	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0020_P	10/05/11 08:51	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0018	10/06/11 10:51	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0020	10/19/11 15:55	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0020	10/19/11 15:55	HJM	TAL HON

Client Sample ID: PMAK-DU2-C

Lab Sample ID: HUI0095-03

Date Collected: 08/01/11 16:35

Matrix: Solid/Soil

Date Received: 08/02/11 11:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3050		1.00	11J0016_P	10/06/11 09:34	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0016	10/11/11 11:35	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0020_P	10/05/11 08:51	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0018	10/06/11 10:52	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0020	10/19/11 15:55	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0020	10/19/11 15:55	HJM	TAL HON

Laboratory References:

TAL HON = TestAmerica Honolulu, 99-193 Aiea Heights Drive, Suite 121, Aiea, HI 96701, TEL 808-486-5227

Certification Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUI0095

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Honolulu	Alaska	Alaska UST	10	
TestAmerica Honolulu	Florida	NELAC	4	E87907
TestAmerica Honolulu	Hawaii	State Program	9	
TestAmerica Honolulu	L-A-B	DoD ELAP		L2250
TestAmerica Honolulu	USDA	USDA		HON-S-206

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.

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Method Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUI0095

Method	Method Description	Protocol	Laboratory
EPA 6010	Bio-available Metals		TAL HON
SBRC Appendix C Rev. #8	Bio-available Metals		TAL HON

Protocol References:

Laboratory References:

TAL HON = TestAmerica Honolulu, 99-193 Aiea Heights Drive, Suite 121, Aiea, HI 96701, TEL 808-486-5227

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New (Relogged) Workorder Number: HUH0096 HUH0095
MR
mpol

REQUEST TO RELOG SAMPLES

(Please submit to sample control with a copy of the COC)

CLIENT: Tetra Tech EM Inc MATRIX: Soil

PREVIOUSLY LOGGED SAMPLES

TAT Change status to: Available
Change status as of Day: 9/30/2011 Time: 10:48 AM

CHANGE ANALYSES

Add Analyses Cancel Analyses

Project Work Order #: HUH0012

Sample Number	Analyses	New Sample Number
<u>-02 (DU1 B)</u>	<u>Arsenic PBET</u>	<u>HUH0095-01</u>
<u>-07 (DU2 B)</u>	<u>Arsenic PBET</u>	<u>-02</u>
<u>-08 (DU2C)</u>	<u>Arsenic PBET</u>	<u>-03</u>
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	

SAMPLES ON HOLD

Sample Description	Analyses	New Sample Number
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	

Client Authorization (Person/Date/Time): Tetra Tech EM Inc Rosiland Selbach 9/29/2011 5:27 PM

Project Manager: Margie Pascua Thach

Honolulu
99-193 Aiea Heights Drive Suite 121 • Aiea, HI 96701-3900
808-486-LABS (5227) • Fax 808-486-2456

LABORATORY USE ONLY
LAB JOB NO. MU10012
LOCATION
CONTAINERS

Chain of Custody / Analysis Request Form

Item no.	Client sample ID	MIS	GRAB	Matrix							Delivery method	Released by (print / sign)	Date / time released	Received by (print / sign)	Date / time received	Company / Agency affiliation	Condition noted
				Water	Soil	Water	Drinking water	Sludge	Liquid	Solid							
1	PMAX-DU1-A	X	X	X													
2	PMAX-DU1-B	X	X	X													
3	PMAX-DU1-C	X	X	X													
4	PMAX-DU1-D	X	X	X													
5	PMAX-DU1-E	X	X	X													
6	PMAX-DU2-A	X	X	X													
7	PMAX-DU2-B	X	X	X													
8	PMAX-DU2-C	X	X	X													
9	PMAX-DU2-D	X	X	X													
10	PMAX-DU2-E	X	X	X													

Indicate analyses requested	TPH-DRO and TPH-RRO 8015	Pentachlorophenol 8270	Organochlorine Pesticides 8081	Chlorinated Herbicides 8151	SVOC 8270	Modified Pesticide Screen 8270	Carbamate Herbicides 8321	Total Metals 6010 and 7471	TCLP Metals 6010 and 7471	pH 9015	Flammability ASTM D4986	Laboratory ID no.
X	X	X	X	X	X	X	X	X	X	X	X	MU-MOD12-01

Report to: Scott Duzan, scott.duzan@tetratech.com
 Company name: Tetra Tech EMI
 Address: 737 Bishop Street, Suite 3010
 City: Honolulu State: HI ZIP: 96813
 Phone: 808.441.6645 Fax:
 Sampler: SD # samples in shipment: 14

Project identification
 Job name: Kilauea PMA
 Job number: 103S1902014.H003
 Contact email address: scott.duzan@tetratech.com

Released by (print / sign): Rosland Salbach Date / time released: 6/11/18 4:5
 Delivery method: Air
 Received by (print / sign): [Signature] Date / time received: 6/11/18 1:15:0
 Company / Agency affiliation: TestAmerica

Comments: Provide data in PDF and MS Excel format.
 Run bioaccessibile arsenic only if the total arsenic arsenic concentration in soil is greater than 80ppm Run indicated analysis for layers A, B, C only. Pending results of A, B & C layers D & E. Pending results of A, B & C layers D & E.
 Tetra Tech will instruct Test America whether or not to conduct analysis on layers D & E.

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 OOS REV 04/2008 Distribution: White - TestAmerica Yellow - TestAmerica Pink - Client

Please check one:
 Dispose by lab
 Return to client
 Archive
 Page 1 of 1




687 - 0524 3232

FREIGHT

687 LIH 0524 3232

Shipper: TESTAMERICA LABORATORIES, INC 45132
 4101 SHUFFEL ST., NW
 NORTH CANTON, OH 44720
 330, 497-9396

Consignee: TESTAMERICA LABORATORIES, INC. 45132
 99-193 AIEA HT DRIVE SUITE 121
 AIEA, HI 96701-3900
 808, 4865227

	ALOHA AIR CARGO P.O. BOX 30910 HONOLULU, HI 96820
It is agreed that the good described herein are accepted in apparent good order and condition (except as noted) for carriage SUBJECT TO THE CONDITIONS OF CONTRACT ON THE REVERSE HEREOF. THE SHIPPER'S ATTENTION IS DRAWN TO THE NOTICE CONCERNING CARRIER'S LIMITATION OF LIABILITY. Shipper may increase such limitation of liability by declaring a higher value for carriage and paying a supplemental charge if required.	
Accounting Information GENERAL FREIGHT	

Origin	LIH	Currency	USD
Destination	HNL	Charge Code	PX
Handling Information	CHILL	Declared Value for Carriage	0
		Declared Value for Customs	

Pieces	Gross Weight	Nature of Goods	Chargeable Weight	Rate/Charge	Total	Length	Width	Height	Dim Weight
3		SAMPLES				24	13	14	68

3 182 182 68

Fee	Prepaid	Collect	Other Charges			
Weight Charge	141.96		FSC Fee	45.50	SSC Fee	0.00
Valuation Charge	0.00		DOC Fees	0.00	DG Fee	0.00
Tax	0.00		Oth Fees	0.00	P/U Fee	0.00
Total Other Charges Due Agent	0.00		DEL Fees	0.00		
Total Other Charges Due Carrier	45.50		The shipper certifies that the particulars on the face hereof are correct, and that the shipment does not contain dangerous goods and that all ITEMS ARE ACCEPTED AT SHIPPERS RISK			
Total	187.46		The consignee certifies that the shipment is received in good order except where noted below			
Signature of Issuing Carrier or its Agent	WB Date	WB Time				
GLEN L706	01-AUG-11	1840				

Sample Receipt Checklist

Client Name: Tetra Tech Date/ Time Received: 8/26/11 11:50

Received By: 2

Matrices: Soil

Carrier: Alpha

Airbill# :

- Shipping container/cooler in good condition? Yes No Not Present
- Chain of Custody present? Yes No
- Chain of Custody Signed when relinquished and received? Yes No
- Chain of Custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sample containers on ice? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Water - VOA Vials have Zero Headspace? Yes No
- Water - pH acceptable upon receipt? Yes No
- Encores / MI-VOC / 5035 Vials Present? Yes No
- Sample Filtration Needed? Yes No
- Dry Weight Corrected Results? Yes No
- DODQSM / QAPP Project? Yes No
- pH Adjusted? Yes No
- Final pH: _____
- Location: _____
- Filtered in Field:
- Take Action:
- Type: Wet / wet
- No VOA vials present:
- Not Checked:
- Temperature Blank Present? Yes No
- Sample Container Temperature: 6 °C

Comments/ Sampling Handling Notes:



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Honolulu

99-193 Aiea Heights Drive, Suite 121

Aiea, HI 96701

Tel: 808-486-5227

TestAmerica Job ID: HUI0096

Client Project/Site: Kilauea, PMA; 103S1902014.H003

Client Project Description: Kilauea, Kauai PMA

For:

Tetra Tech EM Inc.

737 Bishop Street, Suite 3010

Honolulu, HI 96813

Attn: Scott Duzan



Authorized for release by:

10/20/2011 04:58:33 PM

Margie Pascua Thach

Project Manager

margie.pascua@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.



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Definitions/Glossary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUI0096

Qualifiers

Metals

Qualifier	Qualifier Description
A-01	Arsenic detected in blank is well below action level of 20mg/Kg
B	Analyte was detected in the associated Method Blank.
M1	The MS and/or MSD were outside the acceptance limits due to sample matrix interference. See Blank Spike (LCS).

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUI0096

Job ID: HUI0096

Laboratory: TestAmerica Honolulu

Narrative

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory unless otherwise stated in the report. 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 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

LABORATORY REPORT

At sample receipt, the cooler/sample was 2 degrees 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.

Samples were prepared in accordance with the State of Hawai'i Department of Health Office of Hazard Evaluation and Emergency Response's Technical Guidance Manual for the Implementation of the Hawai'i State Contingency Plan 2009 edition Laboratory Preparation of Multi-Increment Samples.

Bioaccessible Arsenic by 6010:

HUI0096 is a relog of HUH0028. Bioaccessible arsenic analysis added on 09/26/11 per Rosiland Selbach on samples HUI0096-01/HUH0028-02 (PMAK-DU3-B), HUI0096-02/HUH0028-17 (PMAK-DU16-B), HUI0096-03/HUH0028-18 (PMAK-DU16-C), HUI0096-04/HUH0028-29 (PMAK-DU4-B-P), HUI0096-05/HUH0028-30 (PMAK-DU4-B-T1), and HUI0096-06/HUH0028-31 (PMAK-DU4-B-T2).

Bioaccessible arsenic for PMAK-DU8-A was reported as HUH0028-06 on 09/30/11.

Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUI0096

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
HUI0096-01	PMAK-DU3-B	Solid/Soil	08/02/11 10:50	08/05/11 13:42
HUI0096-02	PMAK-DU16-B	Solid/Soil	08/03/11 09:55	08/05/11 13:42
HUI0096-03	PMAK-DU16-C	Solid/Soil	08/03/11 10:00	08/05/11 13:42
HUI0096-04	PMAK-DU4-B-P	Solid/Soil	08/03/11 15:05	08/05/11 13:42
HUI0096-05	PMAK-DU4-B-T1	Solid/Soil	08/03/11 15:05	08/05/11 13:42
HUI0096-06	PMAK-DU4-B-T2	Solid/Soil	08/03/11 15:05	08/05/11 13:42

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

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUI0096

Client Sample ID: PMAK-DU3-B

Lab Sample ID: HUI0096-01

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic Bio-accessible	4.04		1.00		mg/kg	1.00		EPA 6010	Total
Arsenic Total	129	B	4.95		mg/kg	5.00		EPA 6010	Total
Arsenic Bio-accessible percent	3.15		0.200		% by Weight	1.00		SBRC Appendix C	Total

Client Sample ID: PMAK-DU16-B

Lab Sample ID: HUI0096-02

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic Bio-accessible	2.54		1.00		mg/kg	1.00		EPA 6010	Total
Arsenic Total	84.8	B	5.00		mg/kg	5.00		EPA 6010	Total
Arsenic Bio-accessible percent	3.00		0.200		% by Weight	1.00		SBRC Appendix C	Total

Client Sample ID: PMAK-DU16-C

Lab Sample ID: HUI0096-03

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic Bio-accessible	28.1		1.00		mg/kg	1.00		EPA 6010	Total
Arsenic Total	132	B	4.95		mg/kg	5.00		EPA 6010	Total
Arsenic Bio-accessible percent	21.2		0.200		% by Weight	1.00		SBRC Appendix C	Total

Client Sample ID: PMAK-DU4-B-P

Lab Sample ID: HUI0096-04

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic Bio-accessible	18.8		1.00		mg/kg	1.00		EPA 6010	Total
Arsenic Total	85.9	B	4.76		mg/kg	5.00		EPA 6010	Total
Arsenic Bio-accessible percent	21.9		0.200		% by Weight	1.00		SBRC Appendix C	Total

Client Sample ID: PMAK-DU4-B-T1

Lab Sample ID: HUI0096-05

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic Bio-accessible	17.3		1.00		mg/kg	1.00		EPA 6010	Total
Arsenic Total	97.9	B	4.90		mg/kg	5.00		EPA 6010	Total
Arsenic Bio-accessible percent	17.7		0.200		% by Weight	1.00		SBRC Appendix C	Total

Client Sample ID: PMAK-DU4-B-T2

Lab Sample ID: HUI0096-06

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic Bio-accessible	23.8		1.00		mg/kg	1.00		EPA 6010	Total
Arsenic Total	108	B	4.76		mg/kg	5.00		EPA 6010	Total
Arsenic Bio-accessible percent	21.9		0.200		% by Weight	1.00		SBRC Appendix C	Total

Client Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUI0096

Client Sample ID: PMAK-DU3-B

Lab Sample ID: HUI0096-01

Date Collected: 08/02/11 10:50
 Date Received: 08/05/11 13:42

Matrix: Solid/Soil

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	4.04		1.00		mg/kg		10/05/11 08:51	10/19/11 15:55	1.00
Arsenic Total	129	B	4.95		mg/kg		10/06/11 09:34	10/11/11 11:41	5.00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	3.15		0.200		% by Weight		10/05/11 08:51	10/19/11 15:55	1.00

Client Sample ID: PMAK-DU16-B

Lab Sample ID: HUI0096-02

Date Collected: 08/03/11 09:55
 Date Received: 08/05/11 13:42

Matrix: Solid/Soil

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	2.54		1.00		mg/kg		10/05/11 08:51	10/19/11 15:55	1.00
Arsenic Total	84.8	B	5.00		mg/kg		10/06/11 09:35	10/11/11 11:46	5.00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	3.00		0.200		% by Weight		10/05/11 08:51	10/19/11 15:55	1.00

Client Sample ID: PMAK-DU16-C

Lab Sample ID: HUI0096-03

Date Collected: 08/03/11 10:00
 Date Received: 08/05/11 13:42

Matrix: Solid/Soil

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	28.1		1.00		mg/kg		10/05/11 08:51	10/19/11 15:55	1.00
Arsenic Total	132	B	4.95		mg/kg		10/06/11 09:36	10/11/11 11:51	5.00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	21.2		0.200		% by Weight		10/05/11 08:51	10/19/11 15:55	1.00

Client Sample ID: PMAK-DU4-B-P

Lab Sample ID: HUI0096-04

Date Collected: 08/03/11 15:05
 Date Received: 08/05/11 13:42

Matrix: Solid/Soil

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	18.8		1.00		mg/kg		10/05/11 08:51	10/19/11 15:55	1.00
Arsenic Total	85.9	B	4.76		mg/kg		10/06/11 09:07	10/11/11 12:07	5.00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	21.9		0.200		% by Weight		10/05/11 08:51	10/19/11 15:55	1.00

Client Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUI0096

Client Sample ID: PMAK-DU4-B-T1

Lab Sample ID: HUI0096-05

Date Collected: 08/03/11 15:05

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	17.3		1.00		mg/kg		10/05/11 08:51	10/19/11 15:55	1.00
Arsenic Total	97.9	B	4.90		mg/kg		10/06/11 09:08	10/11/11 12:12	5.00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	17.7		0.200		% by Weight		10/05/11 08:51	10/19/11 15:55	1.00

Client Sample ID: PMAK-DU4-B-T2

Lab Sample ID: HUI0096-06

Date Collected: 08/03/11 15:05

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Method: EPA 6010 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible	23.8		1.00		mg/kg		10/05/11 08:51	10/19/11 15:55	1.00
Arsenic Total	108	B	4.76		mg/kg		10/06/11 09:40	10/11/11 12:17	5.00

Method: SBRC Appendix C Rev. #8 - Bio-available Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Bio-accessible percent	21.9		0.200		% by Weight		10/05/11 08:51	10/19/11 15:55	1.00

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUI0096

Method: EPA 6010 - Bio-available Metals

Lab Sample ID: 11J0016-BLK1

Matrix: Solid/Soil

Analysis Batch: 11J0016

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 11J0016_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic Total	1.32	A-01	1.00		mg/kg		10/06/11 09:30	10/10/11 12:54	1.00

Lab Sample ID: 11J0016-BS1

Matrix: Solid/Soil

Analysis Batch: 11J0016

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 11J0016_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic Total	50.0	47.2	B	mg/kg		94	80 - 120

Lab Sample ID: 11J0016-MS1

Matrix: Solid/Soil

Analysis Batch: 11J0016

Client Sample ID: PMAK-DU3-B

Prep Type: Total

Prep Batch: 11J0016_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic Total	129	B	47.6	154	M1 B	mg/kg		53	80 - 120

Lab Sample ID: 11J0016-MSD1

Matrix: Solid/Soil

Analysis Batch: 11J0016

Client Sample ID: PMAK-DU3-B

Prep Type: Total

Prep Batch: 11J0016_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Arsenic Total	129	B	48.1	158	M1 B	mg/kg		60	80 - 120	3	20

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUI0096

Metals

Analysis Batch: 11J0016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11J0016-BLK1	Method Blank	Total	Solid/Soil	EPA 6010	11J0016_P
11J0016-BS1	Lab Control Sample	Total	Solid/Soil	EPA 6010	11J0016_P
11J0016-MS1	PMAK-DU3-B	Total	Solid/Soil	EPA 6010	11J0016_P
11J0016-MSD1	PMAK-DU3-B	Total	Solid/Soil	EPA 6010	11J0016_P
HUI0096-01	PMAK-DU3-B	Total	Solid/Soil	EPA 6010	11J0016_P
HUI0096-02	PMAK-DU16-B	Total	Solid/Soil	EPA 6010	11J0016_P
HUI0096-03	PMAK-DU16-C	Total	Solid/Soil	EPA 6010	11J0016_P
HUI0096-04	PMAK-DU4-B-P	Total	Solid/Soil	EPA 6010	11J0016_P
HUI0096-05	PMAK-DU4-B-T1	Total	Solid/Soil	EPA 6010	11J0016_P
HUI0096-06	PMAK-DU4-B-T2	Total	Solid/Soil	EPA 6010	11J0016_P

Pre prep Batch: 11J0018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUI0096-01	PMAK-DU3-B	Total	Solid/Soil	SBRC Appendix C Rev. #8	
HUI0096-02	PMAK-DU16-B	Total	Solid/Soil	SBRC Appendix C Rev. #8	
HUI0096-03	PMAK-DU16-C	Total	Solid/Soil	SBRC Appendix C Rev. #8	
HUI0096-04	PMAK-DU4-B-P	Total	Solid/Soil	SBRC Appendix C Rev. #8	
HUI0096-05	PMAK-DU4-B-T1	Total	Solid/Soil	SBRC Appendix C Rev. #8	
HUI0096-06	PMAK-DU4-B-T2	Total	Solid/Soil	SBRC Appendix C Rev. #8	

Analysis Batch: 11J0020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUI0096-01	PMAK-DU3-B	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0020_P
HUI0096-01	PMAK-DU3-B	Total	Solid/Soil	EPA 6010	11J0020_P
HUI0096-02	PMAK-DU16-B	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0020_P
HUI0096-02	PMAK-DU16-B	Total	Solid/Soil	EPA 6010	11J0020_P
HUI0096-03	PMAK-DU16-C	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0020_P
HUI0096-03	PMAK-DU16-C	Total	Solid/Soil	EPA 6010	11J0020_P
HUI0096-04	PMAK-DU4-B-P	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0020_P
HUI0096-04	PMAK-DU4-B-P	Total	Solid/Soil	EPA 6010	11J0020_P
HUI0096-05	PMAK-DU4-B-T1	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0020_P
HUI0096-05	PMAK-DU4-B-T1	Total	Solid/Soil	EPA 6010	11J0020_P
HUI0096-06	PMAK-DU4-B-T2	Total	Solid/Soil	SBRC Appendix C Rev. #8	11J0020_P
HUI0096-06	PMAK-DU4-B-T2	Total	Solid/Soil	EPA 6010	11J0020_P

Prep Batch: 11J0016_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11J0016-BLK1	Method Blank	Total	Solid/Soil	EPA 3050	
11J0016-BS1	Lab Control Sample	Total	Solid/Soil	EPA 3050	
11J0016-MS1	PMAK-DU3-B	Total	Solid/Soil	EPA 3050	
11J0016-MSD1	PMAK-DU3-B	Total	Solid/Soil	EPA 3050	
HUI0096-01	PMAK-DU3-B	Total	Solid/Soil	EPA 3050	
HUI0096-02	PMAK-DU16-B	Total	Solid/Soil	EPA 3050	

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUI0096

Metals (Continued)

Prep Batch: 11J0016_P (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUI0096-03	PMAK-DU16-C	Total	Solid/Soil	EPA 3050	
HUI0096-04	PMAK-DU4-B-P	Total	Solid/Soil	EPA 3050	
HUI0096-05	PMAK-DU4-B-T1	Total	Solid/Soil	EPA 3050	
HUI0096-06	PMAK-DU4-B-T2	Total	Solid/Soil	EPA 3050	

Prep Batch: 11J0020_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUI0096-01	PMAK-DU3-B	Total	Solid/Soil	EPA 3050	11J0018
HUI0096-02	PMAK-DU16-B	Total	Solid/Soil	EPA 3050	11J0018
HUI0096-03	PMAK-DU16-C	Total	Solid/Soil	EPA 3050	11J0018
HUI0096-04	PMAK-DU4-B-P	Total	Solid/Soil	EPA 3050	11J0018
HUI0096-05	PMAK-DU4-B-T1	Total	Solid/Soil	EPA 3050	11J0018
HUI0096-06	PMAK-DU4-B-T2	Total	Solid/Soil	EPA 3050	11J0018

Lab Chronicle

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUI0096

Client Sample ID: PMAK-DU3-B

Lab Sample ID: HUI0096-01

Date Collected: 08/02/11 10:50

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3050		0.990	11J0016_P	10/06/11 09:34	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0016	10/11/11 11:41	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0020_P	10/05/11 08:51	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0018	10/06/11 10:52	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0020	10/19/11 15:55	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0020	10/19/11 15:55	HJM	TAL HON

Client Sample ID: PMAK-DU16-B

Lab Sample ID: HUI0096-02

Date Collected: 08/03/11 09:55

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3050		1.00	11J0016_P	10/06/11 09:35	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0016	10/11/11 11:46	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0020_P	10/05/11 08:51	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0018	10/06/11 10:53	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0020	10/19/11 15:55	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0020	10/19/11 15:55	HJM	TAL HON

Client Sample ID: PMAK-DU16-C

Lab Sample ID: HUI0096-03

Date Collected: 08/03/11 10:00

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3050		0.990	11J0016_P	10/06/11 09:36	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0016	10/11/11 11:51	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0020_P	10/05/11 08:51	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0018	10/06/11 10:54	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0020	10/19/11 15:55	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0020	10/19/11 15:55	HJM	TAL HON

Client Sample ID: PMAK-DU4-B-P

Lab Sample ID: HUI0096-04

Date Collected: 08/03/11 15:05

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3050		0.952	11J0016_P	10/06/11 09:07	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0016	10/11/11 12:07	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0020_P	10/05/11 08:51	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0018	10/06/11 10:54	HJM	TAL HON

Lab Chronicle

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUI0096

Client Sample ID: PMAK-DU4-B-P

Lab Sample ID: HUI0096-04

Date Collected: 08/03/11 15:05

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0020	10/19/11 15:55	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0020	10/19/11 15:55	HJM	TAL HON

Client Sample ID: PMAK-DU4-B-T1

Lab Sample ID: HUI0096-05

Date Collected: 08/03/11 15:05

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3050		0.980	11J0016_P	10/06/11 09:08	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0016	10/11/11 12:12	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0020_P	10/05/11 08:51	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0018	10/06/11 11:11	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0020	10/19/11 15:55	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0020	10/19/11 15:55	HJM	TAL HON

Client Sample ID: PMAK-DU4-B-T2

Lab Sample ID: HUI0096-06

Date Collected: 08/03/11 15:05

Matrix: Solid/Soil

Date Received: 08/05/11 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total	Prep	EPA 3050		0.952	11J0016_P	10/06/11 09:40	HJM	TAL HON
Total	Analysis	EPA 6010		5.00	11J0016	10/11/11 12:17	HM	TAL HON
Total	Prep	EPA 3050		1.00	11J0020_P	10/05/11 08:51	HJM	TAL HON
Total	Pre prep	SBRC Appendix C Rev. #8		1.00	11J0018	10/06/11 11:12	HJM	TAL HON
Total	Analysis	SBRC Appendix C Rev. #8		1.00	11J0020	10/19/11 15:55	HJM	TAL HON
Total	Analysis	EPA 6010		1.00	11J0020	10/19/11 15:55	HJM	TAL HON

Laboratory References:

TAL HON = TestAmerica Honolulu, 99-193 Aiea Heights Drive, Suite 121, Aiea, HI 96701, TEL 808-486-5227

Certification Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUI0096

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Honolulu	Alaska	Alaska UST	10	
TestAmerica Honolulu	Florida	NELAC	4	E87907
TestAmerica Honolulu	Hawaii	State Program	9	
TestAmerica Honolulu	L-A-B	DoD ELAP		L2250
TestAmerica Honolulu	USDA	USDA		HON-S-206

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.

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Method Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, PMA; 103S1902014.H003

TestAmerica Job ID: HUI0096

Method	Method Description	Protocol	Laboratory
EPA 6010	Bio-available Metals		TAL HON
SBRC Appendix C Rev. #8	Bio-available Metals		TAL HON

Protocol References:

Laboratory References:

TAL HON = TestAmerica Honolulu, 99-193 Aiea Heights Drive, Suite 121, Aiea, HI 96701, TEL 808-486-5227



REQUEST TO RELOG SAMPLES

(Please submit to sample control with a copy of the COC)

CLIENT: Tetra Tech EM Inc

MATRIX: Soil

PREVIOUSLY LOGGED SAMPLES

TAT Change status to: Available
 Change status as of Day: 9/30/2011 Time: 10:35 AM

CHANGE ANALYSES

Add Analyses Cancel Analyses

Project Work Order #: HUH0028

Sample Number	Analyses	New Sample Number
<u>-02 (DU3 B)</u>	<u>Arsenic PBET</u>	<u>HUI0096-01</u>
<u>-17 (DU16 B)</u>	<u>Arsenic PBET</u>	<u>-02</u>
<u>-18 (DU16 C)</u>	<u>Arsenic PBET</u>	<u>-03</u>
<u>-29 (DU4 B-P)</u>	<u>Arsenic PBET</u>	<u>-04</u>
<u>-30 (DU4 B-T1)</u>	<u>Arsenic PBET</u>	<u>-05</u>
<u>-31 (DU4 B-T2)</u>	<u>Arsenic PBET</u>	<u>-00</u>
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	

SAMPLES ON HOLD

Sample Description	Analyses	New Sample Number
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	
<u>NA</u>	<u>NA</u>	

Client Authorization (Person/Date/Time): Tetra Tech EM Inc Rosiland Selbach 9/29/2011 5:27 PM
 Project Manager: Margie Pascua Thach

Honolulu
99-193 Aiea Heights Drive Suite 121 • Aiea, HI 96701-3900
808-486-LABS (5227) • Fax 808-486-2456

LABORATORY USE ONLY
LAB JOB NO. HMH0072
LOCATION
CONTAINERS

Chain of Custody / Analysis Request Form

Report to: Scott Duzan, scott.duzan@tetratech.com
Company name: Tetra Tech EMI
Address: 737 Bishop Street, Suite 3010
City: Honolulu State: HI Zip: 96813
Phone: 808.441.6645
Sample: SD # samples in shipment: 40
Contact email address: scott.duzan@tetratech.com
Job name: Kilauea PMA
Job number: 10351902014.H003
Contact email address: scott.duzan@tetratech.com

Item no.	Client sample ID	Delivery method		Date / time released	Released by (print / sign)	Received by (print / sign)	Company / Agency affiliation	Date / time received	Condition noted
		MIS	GRAB						
1	PMAC-DU3-A	X		8/2/11 10:45	NA	NA	X	X	
2	PMAC-DU3-B	X		10:50	NA	NA	X	X	
3	PMAC-DU3-C	X		10:55	NA	NA	X	X	
4	PMAC-DU3-D	X		11:00	NA	NA	X	X	
5	PMAC-DU3-E	X		11:05	NA	NA	X	X	
6	PMAC-DU8-A	X		12:10	NA	NA	X	X	
7	PMAC-DU8-B	X		12:15	NA	NA	X	X	
8	PMAC-DU8-C	X		12:20	NA	NA	X	X	
9	PMAC-DU8-D	X		12:25	NA	NA	X	X	
10	PMAC-DU8-E	X		12:30	NA	NA	X	X	

Released by (print / sign) Rox and Selbach Date / time released 8/4/11 1:00 PM
Received by (print / sign) M. Hallett Date / time received 8/5/11 10:15
Company / Agency affiliation: TestAmerica

Comments: Provide data in PDF and MS Excel format.
is greater than the Tier 1 EAL (20 mg/kg). Only analyze layers A-C and hold layers D and E.
For bioaccessible As only analyze if concentration of total As is greater than the Tier 1 EAL (20 mg/kg). Only analyze layers A-C and hold layers D and E.
This is pH analysis. Hold time for pH is 7 days. ~~Do not~~ Analyze all layers for pH.
Distribution: White - TestAmerica Yellow - TestAmerica Pink - Client
Please check one:
 Dispose by lab
 Return to client
 Archive
Page 1 of 4




687 - 0524 4024

FREIGHT

687 LIH 0524 4024

Shipper: TESTAMERICA LABORATORIES, INC 45132
 4101 SHUFFEL ST., NW
 NORTH CANTON, OH 44720
 330, 497-9396

Consignee: TESTAMERICA LABS 0
 99-193 AIEA HEIGHTS DR
 AIEA, HI 96701-3900
 808, 4865227

	ALOHA AIR CARGO P.O. BOX 30910 HONOLULU, HI 96820
It is agreed that the good described herein are accepted in apparent good order and condition (except as noted) for carriage SUBJECT TO THE CONDITIONS OF CONTRACT ON THE REVERSE HEREOF. THE SHIPPER'S ATTENTION IS DRAWN TO THE NOTICE CONCERNING CARRIER'S LIMITATION OF LIABILITY. Shipper may increase such limitation of liability by declaring a higher value for carriage and paying a supplemental charge if required.	
Accounting Information GENERAL FREIGHT	

Origin	LIH	Currency	USD
Destination	HNL	Charge Code	PX
Handling Information	FROZEN - 7 COOLERS		
	Declared Value for Carriage	0	
	Declared Value for Customs		

Pieces	Gross Weight	Nature of Goods	Chargeable Weight	Rate/Charge	Total	Length	Width	Height	Dim Weight
7		SOIL SAMPLES				24	13	14	158

7 496 496 158

Fee	Prepaid	Collect	Other Charges	
Weight Charge	386.88		FSC Fee	124.00
Valuation Charge	0.00		SSC Fee	0.00
Tax	0.00		DOC Fees	0.00
Total Other Charges Due Agent	0.00		Oth Fees	0.00
Total Other Charges Due Carrier	124.00		DEL Fees	0.00
			The shipper certifies that the particulars on the face hereof are correct, and that the shipment does not contain dangerous goods and that all ITEMS ARE ACCEPTED AT SHIPPERS RISK	
Total	510.88			
			The consignee certifies that the shipment is received in good order except where noted below	
Signature of Issuing Carrier or its Agent	WB Date	WB Time		
RYAN L144	04-AUG-11	0855		



Rush TAT Confirmation (Initial/Date) _____

Sample Receipt Checklist

Client Name: Tetrat ech Date/ Time Received: 08/05/11 1015

Received By: MDH

Matrices: soil

Carrier: Aloha Air Cargo Airbill#: 687 0524 4024

- Shipping container/cooler in good condition? Yes No Not Present
- Chain of Custody present? Yes No
- Chain of Custody Signed when relinquished and received? Yes No
- Chain of Custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sample containers on ice? Yes No Type: apl
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Water - VOA Vials have Zero Headspace? Yes No No VOA vials present
- Water - pH acceptable upon receipt? Yes No Not Checked:
- pH Adjusted? Yes No Final pH: _____
- Encores / MI-VOC / 5035 Vials Present? Yes No Location: _____
- Sample Filtration Needed? Yes No Filtered in Field:
- Dry Weight Corrected Results? Yes No Take Action:
- DODQSM / QAPP Project? Yes No Type: _____
- Temperature Blank Present? Yes No
- Sample Container Temperature: 2 °C

Comments/ Sampling Handling Notes:



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Honolulu

99-193 Aiea Heights Drive, Suite 121

Aiea, HI 96701

Tel: 808-486-5227

TestAmerica Job ID: HUL0004

Client Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

Client Project Description: Kilauea, Kauai PMA

For:

Tetra Tech EM Inc.

737 Bishop Street, Suite 3010

Honolulu, HI 96813

Attn: Scott Duzan



Authorized for release by:

1/12/2012 3:49:15 PM

Marvin D. Heskett III

Laboratory Director

marvin.heskett@testamericainc.com

Designee for

Margie Pascua Thach

Project Manager

margie.pascua@testamericainc.com

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results through

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time

GC Semi VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time

DIOXIN

Qualifier	Qualifier Description
E	Estimated result. Result concentration exceeds the calibration range.
CON	Confirmation analysis.

Metals

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Job ID: HUL0004

Laboratory: TestAmerica Honolulu

Narrative

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory unless otherwise stated in the report. 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 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

LABORATORY REPORT

At sample receipt, the cooler/sample was -2 degrees 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.

Samples were prepared in accordance with the State of Hawai'i Department of Health Office of Hazard Evaluation and Emergency Response's Technical Guidance Manual for the Implementation of the Hawai'i State Contingency Plan 2009 edition Laboratory Preparation of Multi-Increment Samples.

Laboratory: TestAmerica Seattle

Narrative

Receipt

The following samples were prepared and/or analyzed outside the method defined holding time because the request for the test was made after the holding time for the sample expired: HUL0004-01 (580-30220-1), HUL0004-02 (580-30220-2), HUL0004-03 (580-30220-3), HUL0004-05 (580-30220-4), HUL0004-06 (580-30220-5), HUL0004-07 (580-30220-6), HUL0004-08 (580-30220-7), HUL0004-09 (580-30220-8), HUL0004-12 (580-30220-9), HUL0004-13 (580-30220-10) and HUL0004-14 (580-30220-11).

All other samples were received in good condition within temperature requirements.

GC/MS Semi VOA - Method 8081A

The following samples were prepared and/or analyzed outside the method defined holding time because the request for the test was made after the holding time for the sample expired: HUL0004-01 (580-30220-1), HUL0004-02 (580-30220-2), HUL0004-03 (580-30220-3), HUL0004-05 (580-30220-4), HUL0004-06 (580-30220-5), HUL0004-07 (580-30220-6), HUL0004-08 (580-30220-7), HUL0004-09 (580-30220-8), HUL0004-12 (580-30220-9), HUL0004-13 (580-30220-10) and HUL0004-14 (580-30220-11).

No other analytical or quality issues were noted.

GC/MS Semi VOA - Method 8270C

The following sample was prepared and/or analyzed outside the method defined holding time because the request for the test was made after the holding time for the sample expired: HUL0004-12 (580-30220-9).

No other analytical or quality issues were noted.

Metals

Case Narrative

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Job ID: HUL0004 (Continued)

Laboratory: TestAmerica Seattle (Continued)

No analytical or quality issues were noted.

Metals - Method 7471A:

The following samples were prepared and/or analyzed outside the method defined holding time because the request for the test was made after the holding time for the sample expired: HUL0004-01 (580-30220-1), HUL0004-02 (580-30220-2), HUL0004-03 (580-30220-3), HUL0004-05 (580-30220-4), HUL0004-06 (580-30220-5), HUL0004-07 (580-30220-6), HUL0004-08 (580-30220-7), HUL0004-09 (580-30220-8), HUL0004-12 (580-30220-9), HUL0004-13 (580-30220-10) and HUL0004-14 (580-30220-11).

No other analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.

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Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
HUL0004-01	PMAK-DU12-B	Solid/Soil	08/04/11 12:25	11/21/11 12:21
HUL0004-02	PMAK-DU14-B	Solid/Soil	08/04/11 13:40	11/21/11 12:21
HUL0004-03	PMAK-DU15-B	Solid/Soil	08/04/11 15:55	11/21/11 12:21
HUL0004-04	PMAK-DU22-A	Solid/Soil	08/05/11 14:00	11/21/11 12:21
HUL0004-05	PMAK-DU17-B	Solid/Soil	08/05/11 14:25	11/21/11 12:21
HUL0004-06	PMAK-DU10-B	Solid/Soil	08/08/11 13:20	11/21/11 12:21
HUL0004-07	PMAK-DU10-C	Solid/Soil	08/08/11 13:25	11/21/11 12:21
HUL0004-08	PMAK-DU10-D	Solid/Soil	08/08/11 13:30	11/21/11 12:21
HUL0004-09	PMAK-DU10-E	Solid/Soil	08/08/11 13:35	11/21/11 12:21
HUL0004-10	PMAK-DU2-C	Solid/Soil	08/01/11 16:35	11/21/11 12:21
HUL0004-11	PMAK-DU5-C	Solid/Soil	08/10/11 16:30	11/21/11 12:21
HUL0004-12	PMAK-DU5-E	Solid/Soil	08/10/11 16:40	11/21/11 12:21
HUL0004-13	PMAK-DU13-B	Solid/Soil	08/03/11 10:50	11/21/11 12:21
HUL0004-14	PMAK-DU16-B	Solid/Soil	08/03/11 09:55	11/21/11 12:21

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Client Sample ID: PMAK-DU12-B

Lab Sample ID: HUL0004-01

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>212				Degrees F	1		1020A	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.27		0.010		mg/L	1		6010B	TCLP

Client Sample ID: PMAK-DU14-B

Lab Sample ID: HUL0004-02

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>212				Degrees F	1		1020A	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	1.6		0.060		mg/L	1		6010B	TCLP
Barium	0.22		0.010		mg/L	1		6010B	TCLP
Chromium	0.074		0.025		mg/L	1		6010B	TCLP

Client Sample ID: PMAK-DU15-B

Lab Sample ID: HUL0004-03

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>212				Degrees F	1		1020A	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.54		0.060		mg/L	1		6010B	TCLP
Barium	0.33		0.010		mg/L	1		6010B	TCLP
Mercury	0.0079	H	0.0020		mg/L	1		7470A	TCLP

Client Sample ID: PMAK-DU22-A

Lab Sample ID: HUL0004-04

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	18		3.7	0.080			pg/g	3.69		8290	Total
1,2,3,7,8-PeCDD	21		18	0.31	1	21	pg/g	3.69		8290	Total
Total PeCDD	64		18	0.31			pg/g	3.69		8290	Total
1,2,3,4,7,8-HxCDD	45		18	0.41	0.1	4.5	pg/g	3.69		8290	Total
1,2,3,6,7,8-HxCDD	150		18	0.35	0.1	15	pg/g	3.69		8290	Total
1,2,3,7,8,9-HxCDD	98		18	0.35	0.1	9.8	pg/g	3.69		8290	Total
Total HxCDD	880		18	0.37			pg/g	3.69		8290	Total
1,2,3,4,6,7,8-HpCDD	4500		18	3.0	0.01	45	pg/g	3.69		8290	Total
Total HpCDD	7600		18	3.0			pg/g	3.69		8290	Total
OCDD	64000	E	37	4.8	0.0003	19	pg/g	3.69		8290	Total
Total TCDF	11		3.7	0.15			pg/g	3.69		8290	Total
Total PeCDF	130		18	0.27			pg/g	3.69		8290	Total
1,2,3,4,7,8-HxCDF	67		18	0.89	0.1	6.7	pg/g	3.69		8290	Total
1,2,3,6,7,8-HxCDF	32		18	0.82	0.1	3.2	pg/g	3.69		8290	Total
2,3,4,6,7,8-HxCDF	25		18	0.87	0.1	2.5	pg/g	3.69		8290	Total
Total HxCDF	1500		18	0.89			pg/g	3.69		8290	Total
1,2,3,4,6,7,8-HpCDF	1500		18	2.0	0.01	15	pg/g	3.69		8290	Total
1,2,3,4,7,8,9-HpCDF	130		18	2.3	0.01	1.3	pg/g	3.69		8290	Total
Total HpCDF	5400		18	2.1			pg/g	3.69		8290	Total
OCDF	4600		37	0.41	0.0003	1.4	pg/g	3.69		8290	Total

Client Sample ID: PMAK-DU17-B

Lab Sample ID: HUL0004-05

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>212				Degrees F	1		1020A	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.6		0.060		mg/L	1		6010B	TCLP

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Client Sample ID: PMAK-DU17-B (Continued)

Lab Sample ID: HUL0004-05

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.41		0.010		mg/L	1		6010B	TCLP
Chromium	0.46		0.025		mg/L	1		6010B	TCLP
Lead	0.064		0.030		mg/L	1		6010B	TCLP
Mercury	0.028	H	0.0020		mg/L	1		7470A	TCLP

Client Sample ID: PMAK-DU10-B

Lab Sample ID: HUL0004-06

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>212				Degrees F	1		1020A	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.3		0.060		mg/L	1		6010B	TCLP
Barium	0.015		0.010		mg/L	1		6010B	TCLP

Client Sample ID: PMAK-DU10-C

Lab Sample ID: HUL0004-07

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>212				Degrees F	1		1020A	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.9		0.060		mg/L	1		6010B	TCLP
Barium	0.039		0.010		mg/L	1		6010B	TCLP
Chromium	0.10		0.025		mg/L	1		6010B	TCLP

Client Sample ID: PMAK-DU10-D

Lab Sample ID: HUL0004-08

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>212				Degrees F	1		1020A	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.30		0.010		mg/L	1		6010B	TCLP

Client Sample ID: PMAK-DU10-E

Lab Sample ID: HUL0004-09

Analyte	Result	Qualifier	NONE	NONE	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>212				Degrees F	1		1020A	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	12		0.060		mg/L	1		6010B	TCLP
Barium	1.2		0.010		mg/L	1		6010B	TCLP

Client Sample ID: PMAK-DU2-C

Lab Sample ID: HUL0004-10

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	240		0.88	0.031			pg/g	0.88		8290	Total
Total PeCDD	28		4.4	0.071			pg/g	0.88		8290	Total
1,2,3,4,7,8-HxCDD	5.2		4.4	0.054	0.1	0.52	pg/g	0.88		8290	Total
1,2,3,6,7,8-HxCDD	16		4.4	0.046	0.1	1.6	pg/g	0.88		8290	Total
1,2,3,7,8,9-HxCDD	13		4.4	0.046	0.1	1.3	pg/g	0.88		8290	Total
Total HxCDD	130		4.4	0.048			pg/g	0.88		8290	Total
1,2,3,4,6,7,8-HpCDD	430		4.4	0.45	0.01	4.3	pg/g	0.88		8290	Total
Total HpCDD	800		4.4	0.45			pg/g	0.88		8290	Total
OCDD	4200	E	8.8	0.48	0.0003	1.3	pg/g	0.88		8290	Total
2,3,7,8-TCDF	0.88	CON	0.88	0.21	0.1	0.088	pg/g	0.88		8290	Total
Total TCDF	9.2		0.88	0.052			pg/g	0.88		8290	Total
Total PeCDF	21		4.4	0.042			pg/g	0.88		8290	Total

Detection Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Client Sample ID: PMAK-DU2-C (Continued)

Lab Sample ID: HUL0004-10

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDF	6.1		4.4	0.055	0.1	0.61	pg/g	0.88		8290	Total
Total HxCDF	160		4.4	0.055			pg/g	0.88		8290	Total
1,2,3,4,6,7,8-HpCDF	130		4.4	0.14	0.01	1.3	pg/g	0.88		8290	Total
1,2,3,4,7,8,9-HpCDF	8.1		4.4	0.16	0.01	0.081	pg/g	0.88		8290	Total
Total HpCDF	410		4.4	0.15			pg/g	0.88		8290	Total
OCDF	270		8.8	0.048	0.0003	0.081	pg/g	0.88		8290	Total

Client Sample ID: PMAK-DU5-C

Lab Sample ID: HUL0004-11

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	130		48	1.2			pg/g	48.03		8290	Total
1,2,3,6,7,8-HxCDD	640		240	5.1	0.1	64	pg/g	48.03		8290	Total
1,2,3,7,8,9-HxCDD	340		240	5.0	0.1	34	pg/g	48.03		8290	Total
Total HxCDD	4300		240	5.3			pg/g	48.03		8290	Total
1,2,3,4,6,7,8-HpCDD	23000		240	47	0.01	230	pg/g	48.03		8290	Total
Total HpCDD	57000		240	47			pg/g	48.03		8290	Total
OCDD	510000	E	480	47	0.0003	150	pg/g	48.03		8290	Total
Total PeCDF	260		240	3.3			pg/g	48.03		8290	Total
Total HxCDF	3500		240	3.2			pg/g	48.03		8290	Total
1,2,3,4,6,7,8-HpCDF	4600		240	7.4	0.01	46	pg/g	48.03		8290	Total
1,2,3,4,7,8,9-HpCDF	340		240	8.6	0.01	3.4	pg/g	48.03		8290	Total
Total HpCDF	19000		240	8.0			pg/g	48.03		8290	Total
OCDF	14000		480	5.0	0.0003	4.2	pg/g	48.03		8290	Total

Client Sample ID: PMAK-DU5-E

Lab Sample ID: HUL0004-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.1		5.5		mg/Kg	10		6010B	Total/NA
Lead	6.3		2.8		mg/Kg	10		6010B	Total/NA
Mercury	0.20	H	0.019		mg/Kg	10		7471A	Total/NA

Client Sample ID: PMAK-DU13-B

Lab Sample ID: HUL0004-13

Analyte	Result	Qualifier	NONE	MDL	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>212				Degrees F	1		1020A	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.65		0.010		mg/L	1		6010B	TCLP

Client Sample ID: PMAK-DU16-B

Lab Sample ID: HUL0004-14

Analyte	Result	Qualifier	NONE	MDL	Unit	Dil Fac	D	Method	Prep Type
Flashpoint	>212				Degrees F	1		1020A	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.42		0.010		mg/L	1		6010B	TCLP

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Client Sample ID: PMAK-DU12-B

Lab Sample ID: HUL0004-01

Date Collected: 08/04/11 12:25

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 11:21	1
Chlordane (technical)	ND	H	0.0010		mg/L		12/18/11 11:58	12/22/11 11:21	1
Endrin	ND	H	0.00020		mg/L		12/18/11 11:58	12/22/11 11:21	1
Heptachlor	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 11:21	1
Heptachlor epoxide	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 11:21	1
Methoxychlor	ND	H	0.0010		mg/L		12/18/11 11:58	12/22/11 11:21	1
Toxaphene	ND	H	0.010		mg/L		12/18/11 11:58	12/22/11 11:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	67		43 - 129				12/18/11 11:58	12/22/11 11:21	1
Tetrachloro-m-xylene	64		43 - 129				12/18/11 11:58	12/22/11 11:21	1
DCB Decachlorobiphenyl	69		19 - 157				12/18/11 11:58	12/22/11 11:21	1
DCB Decachlorobiphenyl	69		19 - 157				12/18/11 11:58	12/22/11 11:21	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.060		mg/L		12/12/11 16:50	12/13/11 15:00	1
Barium	0.27		0.010		mg/L		12/12/11 16:50	12/13/11 15:00	1
Cadmium	ND		0.010		mg/L		12/12/11 16:50	12/13/11 15:00	1
Chromium	ND		0.025		mg/L		12/12/11 16:50	12/13/11 15:00	1
Lead	ND		0.030		mg/L		12/12/11 16:50	12/13/11 15:00	1
Selenium	ND		0.10		mg/L		12/12/11 16:50	12/13/11 15:00	1
Silver	ND		0.020		mg/L		12/12/11 16:50	12/13/11 15:00	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.0020		mg/L		12/12/11 16:58	12/13/11 12:23	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>212				Degrees F			12/19/11 13:53	1

Client Sample ID: PMAK-DU14-B

Lab Sample ID: HUL0004-02

Date Collected: 08/04/11 13:40

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 11:40	1
Chlordane (technical)	ND	H	0.0010		mg/L		12/18/11 11:58	12/22/11 11:40	1
Endrin	ND	H	0.00020		mg/L		12/18/11 11:58	12/22/11 11:40	1
Heptachlor	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 11:40	1
Heptachlor epoxide	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 11:40	1
Methoxychlor	ND	H	0.0010		mg/L		12/18/11 11:58	12/22/11 11:40	1
Toxaphene	ND	H	0.010		mg/L		12/18/11 11:58	12/22/11 11:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	63		43 - 129				12/18/11 11:58	12/22/11 11:40	1
DCB Decachlorobiphenyl	73		19 - 157				12/18/11 11:58	12/22/11 11:40	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Client Sample ID: PMAK-DU14-B

Lab Sample ID: HUL0004-02

Date Collected: 08/04/11 13:40

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.6		0.060		mg/L		12/12/11 16:50	12/13/11 15:07	1
Barium	0.22		0.010		mg/L		12/12/11 16:50	12/13/11 15:07	1
Cadmium	ND		0.010		mg/L		12/12/11 16:50	12/13/11 15:07	1
Chromium	0.074		0.025		mg/L		12/12/11 16:50	12/13/11 15:07	1
Lead	ND		0.030		mg/L		12/12/11 16:50	12/13/11 15:07	1
Selenium	ND		0.10		mg/L		12/12/11 16:50	12/13/11 15:07	1
Silver	ND		0.020		mg/L		12/12/11 16:50	12/13/11 15:07	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.0020		mg/L		12/12/11 16:58	12/13/11 12:25	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>212				Degrees F			12/19/11 13:53	1

Client Sample ID: PMAK-DU15-B

Lab Sample ID: HUL0004-03

Date Collected: 08/04/11 15:55

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 11:59	1
Chlordane (technical)	ND	H	0.0010		mg/L		12/18/11 11:58	12/22/11 11:59	1
Endrin	ND	H	0.00020		mg/L		12/18/11 11:58	12/22/11 11:59	1
Heptachlor	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 11:59	1
Heptachlor epoxide	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 11:59	1
Methoxychlor	ND	H	0.0010		mg/L		12/18/11 11:58	12/22/11 11:59	1
Toxaphene	ND	H	0.010		mg/L		12/18/11 11:58	12/22/11 11:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	75		43 - 129	12/18/11 11:58	12/22/11 11:59	1
DCB Decachlorobiphenyl	73		19 - 157	12/18/11 11:58	12/22/11 11:59	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.54		0.060		mg/L		12/12/11 16:50	12/13/11 15:15	1
Barium	0.33		0.010		mg/L		12/12/11 16:50	12/13/11 15:15	1
Cadmium	ND		0.010		mg/L		12/12/11 16:50	12/13/11 15:15	1
Chromium	ND		0.025		mg/L		12/12/11 16:50	12/13/11 15:15	1
Lead	ND		0.030		mg/L		12/12/11 16:50	12/13/11 15:15	1
Selenium	ND		0.10		mg/L		12/12/11 16:50	12/13/11 15:15	1
Silver	ND		0.020		mg/L		12/12/11 16:50	12/13/11 15:15	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0079	H	0.0020		mg/L		12/12/11 16:58	12/13/11 12:32	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>212				Degrees F			12/19/11 13:53	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Client Sample ID: PMAK-DU22-A

Lab Sample ID: HUL0004-04

Date Collected: 08/05/11 14:00

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		3.7	0.080	1		pg/g		12/13/11 15:30	12/16/11 12:03	3.69
Total TCDD	18		3.7	0.080			pg/g		12/13/11 15:30	12/16/11 12:03	3.69
1,2,3,7,8-PeCDD	21		18	0.31	1	21	pg/g		12/13/11 15:30	12/16/11 12:03	3.69
Total PeCDD	64		18	0.31			pg/g		12/13/11 15:30	12/16/11 12:03	3.69
1,2,3,4,7,8-HxCDD	45		18	0.41	0.1	4.5	pg/g		12/13/11 15:30	12/16/11 12:03	3.69
1,2,3,6,7,8-HxCDD	150		18	0.35	0.1	15	pg/g		12/13/11 15:30	12/16/11 12:03	3.69
1,2,3,7,8,9-HxCDD	98		18	0.35	0.1	9.8	pg/g		12/13/11 15:30	12/16/11 12:03	3.69
Total HxCDD	880		18	0.37			pg/g		12/13/11 15:30	12/16/11 12:03	3.69
1,2,3,4,6,7,8-HpCDD	4500		18	3.0	0.01	45	pg/g		12/13/11 15:30	12/16/11 12:03	3.69
Total HpCDD	7600		18	3.0			pg/g		12/13/11 15:30	12/16/11 12:03	3.69
OCDD	64000	E	37	4.8	0.0003	19	pg/g		12/13/11 15:30	12/16/11 12:03	3.69
2,3,7,8-TCDF	ND		3.7	0.15	0.1		pg/g		12/13/11 15:30	12/16/11 12:03	3.69
Total TCDF	11		3.7	0.15			pg/g		12/13/11 15:30	12/16/11 12:03	3.69
1,2,3,7,8-PeCDF	ND		18	0.25	0.03		pg/g		12/13/11 15:30	12/16/11 12:03	3.69
2,3,4,7,8-PeCDF	ND		18	0.28	0.3		pg/g		12/13/11 15:30	12/16/11 12:03	3.69
Total PeCDF	130		18	0.27			pg/g		12/13/11 15:30	12/16/11 12:03	3.69
1,2,3,4,7,8-HxCDF	67		18	0.89	0.1	6.7	pg/g		12/13/11 15:30	12/16/11 12:03	3.69
1,2,3,6,7,8-HxCDF	32		18	0.82	0.1	3.2	pg/g		12/13/11 15:30	12/16/11 12:03	3.69
2,3,4,6,7,8-HxCDF	25		18	0.87	0.1	2.5	pg/g		12/13/11 15:30	12/16/11 12:03	3.69
1,2,3,7,8,9-HxCDF	ND		18	0.99	0.1		pg/g		12/13/11 15:30	12/16/11 12:03	3.69
Total HxCDF	1500		18	0.89			pg/g		12/13/11 15:30	12/16/11 12:03	3.69
1,2,3,4,6,7,8-HpCDF	1500		18	2.0	0.01	15	pg/g		12/13/11 15:30	12/16/11 12:03	3.69
1,2,3,4,7,8,9-HpCDF	130		18	2.3	0.01	1.3	pg/g		12/13/11 15:30	12/16/11 12:03	3.69
Total HpCDF	5400		18	2.1			pg/g		12/13/11 15:30	12/16/11 12:03	3.69
OCDF	4600		37	0.41	0.0003	1.4	pg/g		12/13/11 15:30	12/16/11 12:03	3.69
Total TEQ (WHO 2005)						140					

Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	81		40 - 135	12/13/11 15:30	12/16/11 12:03	3.69
13C-1,2,3,7,8-PeCDD	73		40 - 135	12/13/11 15:30	12/16/11 12:03	3.69
13C-1,2,3,6,7,8-HxCDD	81		40 - 135	12/13/11 15:30	12/16/11 12:03	3.69
13C-1,2,3,4,6,7,8-HpCDD	91		40 - 135	12/13/11 15:30	12/16/11 12:03	3.69
13C-OCDD	92		40 - 135	12/13/11 15:30	12/16/11 12:03	3.69
13C-2,3,7,8-TCDF	77		40 - 135	12/13/11 15:30	12/16/11 12:03	3.69
13C-1,2,3,7,8-PeCDF	73		40 - 135	12/13/11 15:30	12/16/11 12:03	3.69
13C-1,2,3,4,7,8-HxCDF	81		40 - 135	12/13/11 15:30	12/16/11 12:03	3.69
13C-1,2,3,4,6,7,8-HpCDF	89		40 - 135	12/13/11 15:30	12/16/11 12:03	3.69

Client Sample ID: PMAK-DU17-B

Lab Sample ID: HUL0004-05

Date Collected: 08/05/11 14:25

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 12:18	1
Chlordane (technical)	ND	H	0.0010		mg/L		12/18/11 11:58	12/22/11 12:18	1
Endrin	ND	H	0.00020		mg/L		12/18/11 11:58	12/22/11 12:18	1
Heptachlor	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 12:18	1
Heptachlor epoxide	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 12:18	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Client Sample ID: PMAK-DU17-B

Lab Sample ID: HUL0004-05

Date Collected: 08/05/11 14:25

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	ND	H	0.0010		mg/L		12/18/11 11:58	12/22/11 12:18	1
Toxaphene	ND	H	0.010		mg/L		12/18/11 11:58	12/22/11 12:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	72		43 - 129				12/18/11 11:58	12/22/11 12:18	1
DCB Decachlorobiphenyl	78		19 - 157				12/18/11 11:58	12/22/11 12:18	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.6		0.060		mg/L		12/12/11 16:50	12/13/11 15:22	1
Barium	0.41		0.010		mg/L		12/12/11 16:50	12/13/11 15:22	1
Cadmium	ND		0.010		mg/L		12/12/11 16:50	12/13/11 15:22	1
Chromium	0.46		0.025		mg/L		12/12/11 16:50	12/13/11 15:22	1
Lead	0.064		0.030		mg/L		12/12/11 16:50	12/13/11 15:22	1
Selenium	ND		0.10		mg/L		12/12/11 16:50	12/13/11 15:22	1
Silver	ND		0.020		mg/L		12/12/11 16:50	12/13/11 15:22	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.028	H	0.0020		mg/L		12/12/11 16:58	12/13/11 12:34	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>212				Degrees F			12/19/11 13:53	1

Client Sample ID: PMAK-DU10-B

Lab Sample ID: HUL0004-06

Date Collected: 08/08/11 13:20

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 12:38	1
Chlordane (technical)	ND	H	0.0010		mg/L		12/18/11 11:58	12/22/11 12:38	1
Endrin	ND	H	0.00020		mg/L		12/18/11 11:58	12/22/11 12:38	1
Heptachlor	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 12:38	1
Heptachlor epoxide	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 12:38	1
Methoxychlor	ND	H	0.0010		mg/L		12/18/11 11:58	12/22/11 12:38	1
Toxaphene	ND	H	0.010		mg/L		12/18/11 11:58	12/22/11 12:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	72		43 - 129				12/18/11 11:58	12/22/11 12:38	1
DCB Decachlorobiphenyl	72		19 - 157				12/18/11 11:58	12/22/11 12:38	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.3		0.060		mg/L		12/12/11 16:50	12/13/11 15:29	1
Barium	0.015		0.010		mg/L		12/12/11 16:50	12/13/11 15:29	1
Cadmium	ND		0.010		mg/L		12/12/11 16:50	12/13/11 15:29	1
Chromium	ND		0.025		mg/L		12/12/11 16:50	12/13/11 15:29	1
Lead	ND		0.030		mg/L		12/12/11 16:50	12/13/11 15:29	1
Selenium	ND		0.10		mg/L		12/12/11 16:50	12/13/11 15:29	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Client Sample ID: PMAK-DU10-B

Lab Sample ID: HUL0004-06

Date Collected: 08/08/11 13:20

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.020		mg/L		12/12/11 16:50	12/13/11 15:29	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.0020		mg/L		12/12/11 16:58	12/13/11 12:36	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>212				Degrees F			12/19/11 13:53	1

Client Sample ID: PMAK-DU10-C

Lab Sample ID: HUL0004-07

Date Collected: 08/08/11 13:25

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 12:57	1
Chlordane (technical)	ND	H	0.0010		mg/L		12/18/11 11:58	12/22/11 12:57	1
Endrin	ND	H	0.00020		mg/L		12/18/11 11:58	12/22/11 12:57	1
Heptachlor	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 12:57	1
Heptachlor epoxide	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 12:57	1
Methoxychlor	ND	H	0.0010		mg/L		12/18/11 11:58	12/22/11 12:57	1
Toxaphene	ND	H	0.010		mg/L		12/18/11 11:58	12/22/11 12:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	74		43 - 129	12/18/11 11:58	12/22/11 12:57	1
DCB Decachlorobiphenyl	88		19 - 157	12/18/11 11:58	12/22/11 12:57	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.9		0.060		mg/L		12/12/11 16:50	12/13/11 15:36	1
Barium	0.039		0.010		mg/L		12/12/11 16:50	12/13/11 15:36	1
Cadmium	ND		0.010		mg/L		12/12/11 16:50	12/13/11 15:36	1
Chromium	0.10		0.025		mg/L		12/12/11 16:50	12/13/11 15:36	1
Lead	ND		0.030		mg/L		12/12/11 16:50	12/13/11 15:36	1
Selenium	ND		0.10		mg/L		12/12/11 16:50	12/13/11 15:36	1
Silver	ND		0.020		mg/L		12/12/11 16:50	12/13/11 15:36	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.0020		mg/L		12/12/11 16:58	12/13/11 12:39	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>212				Degrees F			12/19/11 13:53	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Client Sample ID: PMAK-DU10-D

Lab Sample ID: HUL0004-08

Date Collected: 08/08/11 13:30

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 13:16	1
Chlordane (technical)	ND	H	0.0010		mg/L		12/18/11 11:58	12/22/11 13:16	1
Endrin	ND	H	0.00020		mg/L		12/18/11 11:58	12/22/11 13:16	1
Heptachlor	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 13:16	1
Heptachlor epoxide	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 13:16	1
Methoxychlor	ND	H	0.0010		mg/L		12/18/11 11:58	12/22/11 13:16	1
Toxaphene	ND	H	0.010		mg/L		12/18/11 11:58	12/22/11 13:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	77		43 - 129				12/18/11 11:58	12/22/11 13:16	1
DCB Decachlorobiphenyl	87		19 - 157				12/18/11 11:58	12/22/11 13:16	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.060		mg/L		12/12/11 16:50	12/13/11 15:43	1
Barium	0.30		0.010		mg/L		12/12/11 16:50	12/13/11 15:43	1
Cadmium	ND		0.010		mg/L		12/12/11 16:50	12/13/11 15:43	1
Chromium	ND		0.025		mg/L		12/12/11 16:50	12/13/11 15:43	1
Lead	ND		0.030		mg/L		12/12/11 16:50	12/13/11 15:43	1
Selenium	ND		0.10		mg/L		12/12/11 16:50	12/13/11 15:43	1
Silver	ND		0.020		mg/L		12/12/11 16:50	12/13/11 15:43	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.0020		mg/L		12/12/11 16:58	12/13/11 12:41	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>212				Degrees F			12/19/11 13:53	1

Client Sample ID: PMAK-DU10-E

Lab Sample ID: HUL0004-09

Date Collected: 08/08/11 13:35

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 13:35	1
Chlordane (technical)	ND	H	0.0010		mg/L		12/18/11 11:58	12/22/11 13:35	1
Endrin	ND	H	0.00020		mg/L		12/18/11 11:58	12/22/11 13:35	1
Heptachlor	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 13:35	1
Heptachlor epoxide	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 13:35	1
Methoxychlor	ND	H	0.0010		mg/L		12/18/11 11:58	12/22/11 13:35	1
Toxaphene	ND	H	0.010		mg/L		12/18/11 11:58	12/22/11 13:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	62		43 - 129				12/18/11 11:58	12/22/11 13:35	1
DCB Decachlorobiphenyl	76		19 - 157				12/18/11 11:58	12/22/11 13:35	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12		0.060		mg/L		12/12/11 16:50	12/13/11 15:49	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Client Sample ID: PMAK-DU10-E

Lab Sample ID: HUL0004-09

Date Collected: 08/08/11 13:35

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	1.2		0.010		mg/L		12/12/11 16:50	12/13/11 15:49	1
Cadmium	ND		0.010		mg/L		12/12/11 16:50	12/13/11 15:49	1
Chromium	ND		0.025		mg/L		12/12/11 16:50	12/13/11 15:49	1
Lead	ND		0.030		mg/L		12/12/11 16:50	12/13/11 15:49	1
Selenium	ND		0.10		mg/L		12/12/11 16:50	12/13/11 15:49	1
Silver	ND		0.020		mg/L		12/12/11 16:50	12/13/11 15:49	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.0020		mg/L		12/12/11 16:58	12/13/11 12:43	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>212				Degrees F			12/19/11 13:53	1

Client Sample ID: PMAK-DU2-C

Lab Sample ID: HUL0004-10

Date Collected: 08/01/11 16:35

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.88	0.031	1		pg/g		12/13/11 15:30	12/16/11 10:34	0.88
Total TCDD	240		0.88	0.031			pg/g		12/13/11 15:30	12/16/11 10:34	0.88
1,2,3,7,8-PeCDD	ND		4.4	0.071	1		pg/g		12/13/11 15:30	12/16/11 10:34	0.88
Total PeCDD	28		4.4	0.071			pg/g		12/13/11 15:30	12/16/11 10:34	0.88
1,2,3,4,7,8-HxCDD	5.2		4.4	0.054	0.1	0.52	pg/g		12/13/11 15:30	12/16/11 10:34	0.88
1,2,3,6,7,8-HxCDD	16		4.4	0.046	0.1	1.6	pg/g		12/13/11 15:30	12/16/11 10:34	0.88
1,2,3,7,8,9-HxCDD	13		4.4	0.046	0.1	1.3	pg/g		12/13/11 15:30	12/16/11 10:34	0.88
Total HxCDD	130		4.4	0.048			pg/g		12/13/11 15:30	12/16/11 10:34	0.88
1,2,3,4,6,7,8-HpCDD	430		4.4	0.45	0.01	4.3	pg/g		12/13/11 15:30	12/16/11 10:34	0.88
Total HpCDD	800		4.4	0.45			pg/g		12/13/11 15:30	12/16/11 10:34	0.88
OCDD	4200	E	8.8	0.48	0.0003	1.3	pg/g		12/13/11 15:30	12/16/11 10:34	0.88
2,3,7,8-TCDF	0.88	CON	0.88	0.21	0.1	0.088	pg/g		12/13/11 15:30	12/16/11 10:34	0.88
Total TCDF	9.2		0.88	0.052			pg/g		12/13/11 15:30	12/16/11 10:34	0.88
1,2,3,7,8-PeCDF	ND		4.4	0.040	0.03		pg/g		12/13/11 15:30	12/16/11 10:34	0.88
2,3,4,7,8-PeCDF	ND		4.4	0.044	0.3		pg/g		12/13/11 15:30	12/16/11 10:34	0.88
Total PeCDF	21		4.4	0.042			pg/g		12/13/11 15:30	12/16/11 10:34	0.88
1,2,3,4,7,8-HxCDF	6.1		4.4	0.055	0.1	0.61	pg/g		12/13/11 15:30	12/16/11 10:34	0.88
1,2,3,6,7,8-HxCDF	ND		4.4	0.051	0.1		pg/g		12/13/11 15:30	12/16/11 10:34	0.88
2,3,4,6,7,8-HxCDF	ND		4.4	0.054	0.1		pg/g		12/13/11 15:30	12/16/11 10:34	0.88
1,2,3,7,8,9-HxCDF	ND		4.4	0.062	0.1		pg/g		12/13/11 15:30	12/16/11 10:34	0.88
Total HxCDF	160		4.4	0.055			pg/g		12/13/11 15:30	12/16/11 10:34	0.88
1,2,3,4,6,7,8-HpCDF	130		4.4	0.14	0.01	1.3	pg/g		12/13/11 15:30	12/16/11 10:34	0.88
1,2,3,4,7,8,9-HpCDF	8.1		4.4	0.16	0.01	0.081	pg/g		12/13/11 15:30	12/16/11 10:34	0.88
Total HpCDF	410		4.4	0.15			pg/g		12/13/11 15:30	12/16/11 10:34	0.88
OCDF	270		8.8	0.048	0.0003	0.081	pg/g		12/13/11 15:30	12/16/11 10:34	0.88

Total TEQ (WHO 2005)

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Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Client Sample ID: PMAK-DU2-C

Lab Sample ID: HUL0004-10

Date Collected: 08/01/11 16:35

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	95		40 - 135	12/13/11 15:30	12/16/11 10:34	0.88
13C-1,2,3,7,8-PeCDD	87		40 - 135	12/13/11 15:30	12/16/11 10:34	0.88
13C-1,2,3,6,7,8-HxCDD	89		40 - 135	12/13/11 15:30	12/16/11 10:34	0.88
13C-1,2,3,4,6,7,8-HpCDD	89		40 - 135	12/13/11 15:30	12/16/11 10:34	0.88
13C-OCDD	85		40 - 135	12/13/11 15:30	12/16/11 10:34	0.88
13C-2,3,7,8-TCDF	87		40 - 135	12/13/11 15:30	12/16/11 10:34	0.88
13C-1,2,3,7,8-PeCDF	88		40 - 135	12/13/11 15:30	12/16/11 10:34	0.88
13C-1,2,3,4,7,8-HxCDF	95		40 - 135	12/13/11 15:30	12/16/11 10:34	0.88
13C-1,2,3,4,6,7,8-HpCDF	95		40 - 135	12/13/11 15:30	12/16/11 10:34	0.88

Client Sample ID: PMAK-DU5-C

Lab Sample ID: HUL0004-11

Date Collected: 08/10/11 16:30

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Analyte	Result	Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		48	1.2	1		pg/g		12/13/11 15:30	12/16/11 11:19	48.03
Total TCDD	130		48	1.2			pg/g		12/13/11 15:30	12/16/11 11:19	48.03
1,2,3,7,8-PeCDD	ND		240	2.9	1		pg/g		12/13/11 15:30	12/16/11 11:19	48.03
Total PeCDD	ND		240	2.9			pg/g		12/13/11 15:30	12/16/11 11:19	48.03
1,2,3,4,7,8-HxCDD	ND		240	5.9	0.1		pg/g		12/13/11 15:30	12/16/11 11:19	48.03
1,2,3,6,7,8-HxCDD	640		240	5.1	0.1	64	pg/g		12/13/11 15:30	12/16/11 11:19	48.03
1,2,3,7,8,9-HxCDD	340		240	5.0	0.1	34	pg/g		12/13/11 15:30	12/16/11 11:19	48.03
Total HxCDD	4300		240	5.3			pg/g		12/13/11 15:30	12/16/11 11:19	48.03
1,2,3,4,6,7,8-HpCDD	23000		240	47	0.01	230	pg/g		12/13/11 15:30	12/16/11 11:19	48.03
Total HpCDD	57000		240	47			pg/g		12/13/11 15:30	12/16/11 11:19	48.03
OCDD	510000	E	480	47	0.0003	150	pg/g		12/13/11 15:30	12/16/11 11:19	48.03
2,3,7,8-TCDF	ND		48	2.3	0.1		pg/g		12/13/11 15:30	12/16/11 11:19	48.03
Total TCDF	ND		48	2.3			pg/g		12/13/11 15:30	12/16/11 11:19	48.03
1,2,3,7,8-PeCDF	ND		240	3.1	0.03		pg/g		12/13/11 15:30	12/16/11 11:19	48.03
2,3,4,7,8-PeCDF	ND		240	3.4	0.3		pg/g		12/13/11 15:30	12/16/11 11:19	48.03
Total PeCDF	260		240	3.3			pg/g		12/13/11 15:30	12/16/11 11:19	48.03
1,2,3,4,7,8-HxCDF	ND		240	3.2	0.1		pg/g		12/13/11 15:30	12/16/11 11:19	48.03
1,2,3,6,7,8-HxCDF	ND		240	2.9	0.1		pg/g		12/13/11 15:30	12/16/11 11:19	48.03
2,3,4,6,7,8-HxCDF	ND		240	3.1	0.1		pg/g		12/13/11 15:30	12/16/11 11:19	48.03
1,2,3,7,8,9-HxCDF	ND		240	3.6	0.1		pg/g		12/13/11 15:30	12/16/11 11:19	48.03
Total HxCDF	3500		240	3.2			pg/g		12/13/11 15:30	12/16/11 11:19	48.03
1,2,3,4,6,7,8-HpCDF	4600		240	7.4	0.01	46	pg/g		12/13/11 15:30	12/16/11 11:19	48.03
1,2,3,4,7,8,9-HpCDF	340		240	8.6	0.01	3.4	pg/g		12/13/11 15:30	12/16/11 11:19	48.03
Total HpCDF	19000		240	8.0			pg/g		12/13/11 15:30	12/16/11 11:19	48.03
OCDF	14000		480	5.0	0.0003	4.2	pg/g		12/13/11 15:30	12/16/11 11:19	48.03
Total TEQ (WHO 2005)						530					

Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	96		40 - 135	12/13/11 15:30	12/16/11 11:19	48.03
13C-1,2,3,7,8-PeCDD	83		40 - 135	12/13/11 15:30	12/16/11 11:19	48.03
13C-1,2,3,6,7,8-HxCDD	87		40 - 135	12/13/11 15:30	12/16/11 11:19	48.03
13C-1,2,3,4,6,7,8-HpCDD	96		40 - 135	12/13/11 15:30	12/16/11 11:19	48.03
13C-OCDD	89		40 - 135	12/13/11 15:30	12/16/11 11:19	48.03

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Client Sample ID: PMAK-DU5-C

Lab Sample ID: HUL0004-11

Date Collected: 08/10/11 16:30

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Internal Standard	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF	89		40 - 135	12/13/11 15:30	12/16/11 11:19	48.03
13C-1,2,3,7,8-PeCDF	86		40 - 135	12/13/11 15:30	12/16/11 11:19	48.03
13C-1,2,3,4,7,8-HxCDF	99		40 - 135	12/13/11 15:30	12/16/11 11:19	48.03
13C-1,2,3,4,6,7,8-HpCDF	103		40 - 135	12/13/11 15:30	12/16/11 11:19	48.03

Client Sample ID: PMAK-DU5-E

Lab Sample ID: HUL0004-12

Date Collected: 08/10/11 16:40

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND	H	0.062		mg/Kg		12/22/11 10:39	12/22/11 17:23	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
2-Fluorophenol	85		36 - 145	12/22/11 10:39	12/22/11 17:23	1			
Phenol-d5	42		38 - 149	12/22/11 10:39	12/22/11 17:23	1			
2,4,6-Tribromophenol	84		28 - 143	12/22/11 10:39	12/22/11 17:23	1			
Nitrobenzene-d5	82		38 - 141	12/22/11 10:39	12/22/11 17:23	1			
2-Fluorobiphenyl	82		42 - 140	12/22/11 10:39	12/22/11 17:23	1			
Terphenyl-d14	81		42 - 151	12/22/11 10:39	12/22/11 17:23	1			

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.1		5.5		mg/Kg		12/15/11 15:03	12/16/11 19:53	10
Lead	6.3		2.8		mg/Kg		12/15/11 15:03	12/16/11 19:53	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	H	0.019		mg/Kg		12/16/11 09:34	12/16/11 10:27	10

Client Sample ID: PMAK-DU13-B

Lab Sample ID: HUL0004-13

Date Collected: 08/03/11 10:50

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 13:55	1
Chlordane (technical)	ND	H	0.0010		mg/L		12/18/11 11:58	12/22/11 13:55	1
Endrin	ND	H	0.00020		mg/L		12/18/11 11:58	12/22/11 13:55	1
Heptachlor	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 13:55	1
Heptachlor epoxide	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 13:55	1
Methoxychlor	ND	H	0.0010		mg/L		12/18/11 11:58	12/22/11 13:55	1
Toxaphene	ND	H	0.010		mg/L		12/18/11 11:58	12/22/11 13:55	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
Tetrachloro-m-xylene	83		43 - 129	12/18/11 11:58	12/22/11 13:55	1			
DCB Decachlorobiphenyl	80		19 - 157	12/18/11 11:58	12/22/11 13:55	1			

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Client Sample ID: PMAK-DU13-B

Lab Sample ID: HUL0004-13

Date Collected: 08/03/11 10:50

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.060		mg/L		12/12/11 16:50	12/13/11 17:34	1
Barium	0.65		0.010		mg/L		12/12/11 16:50	12/13/11 17:34	1
Cadmium	ND		0.010		mg/L		12/12/11 16:50	12/13/11 17:34	1
Chromium	ND		0.025		mg/L		12/12/11 16:50	12/13/11 17:34	1
Lead	ND		0.030		mg/L		12/12/11 16:50	12/13/11 17:34	1
Selenium	ND		0.10		mg/L		12/12/11 16:50	12/13/11 17:34	1
Silver	ND		0.020		mg/L		12/12/11 16:50	12/13/11 17:34	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.0020		mg/L		12/12/11 16:58	12/13/11 13:01	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>212				Degrees F			12/19/11 13:53	1

Client Sample ID: PMAK-DU16-B

Lab Sample ID: HUL0004-14

Date Collected: 08/03/11 09:55

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 14:14	1
Chlordane (technical)	ND	H	0.0010		mg/L		12/18/11 11:58	12/22/11 14:14	1
Endrin	ND	H	0.00020		mg/L		12/18/11 11:58	12/22/11 14:14	1
Heptachlor	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 14:14	1
Heptachlor epoxide	ND	H	0.00010		mg/L		12/18/11 11:58	12/22/11 14:14	1
Methoxychlor	ND	H	0.0010		mg/L		12/18/11 11:58	12/22/11 14:14	1
Toxaphene	ND	H	0.010		mg/L		12/18/11 11:58	12/22/11 14:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	86		43 - 129	12/18/11 11:58	12/22/11 14:14	1
<i>DCB Decachlorobiphenyl</i>	77		19 - 157	12/18/11 11:58	12/22/11 14:14	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.060		mg/L		12/12/11 16:50	12/13/11 15:55	1
Barium	0.42		0.010		mg/L		12/12/11 16:50	12/13/11 15:55	1
Cadmium	ND		0.010		mg/L		12/12/11 16:50	12/13/11 15:55	1
Chromium	ND		0.025		mg/L		12/12/11 16:50	12/13/11 15:55	1
Lead	ND		0.030		mg/L		12/12/11 16:50	12/13/11 15:55	1
Selenium	ND		0.10		mg/L		12/12/11 16:50	12/13/11 15:55	1
Silver	ND		0.020		mg/L		12/12/11 16:50	12/13/11 15:55	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.0020		mg/L		12/12/11 16:58	12/13/11 12:45	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	>212				Degrees F			12/19/11 13:53	1

Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		2FP (36-145)	PHL (38-149)	TBP (28-143)	NBZ (38-141)	FBP (42-140)	TPH (42-151)
LCS 580-102590/2-A	Lab Control Sample	89	56	88	87	85	79
LCSD 580-102590/3-A	Lab Control Sample Dup	89	38	80	84	83	86
MB 580-102590/1-A	Method Blank	89	67	79	86	85	80

Surrogate Legend

2FP = 2-Fluorophenol
PHL = Phenol-d5
TBP = 2,4,6-Tribromophenol
NBZ = Nitrobenzene-d5
FBP = 2-Fluorobiphenyl
TPH = Terphenyl-d14

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid/Soil

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		2FP (36-145)	PHL (38-149)	TBP (28-143)	NBZ (38-141)	FBP (42-140)	TPH (42-151)
HUL0004-12	PMAK-DU5-E	85	42	84	82	82	81

Surrogate Legend

2FP = 2-Fluorophenol
PHL = Phenol-d5
TBP = 2,4,6-Tribromophenol
NBZ = Nitrobenzene-d5
FBP = 2-Fluorobiphenyl
TPH = Terphenyl-d14

Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		TCX1 (43-129)	DCB1 (19-157)
LCS 580-102262/2-A	Lab Control Sample	64	50
LCSD 580-102262/3-A	Lab Control Sample Dup	67	61
MB 580-102262/1-A	Method Blank	64	46

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl

Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid/Soil

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		TCX1 (43-129)	TCX2 (43-129)	DCB1 (19-157)	DCB2 (19-157)
HUL0004-01	PMAK-DU12-B	67	64	69	69
HUL0004-02	PMAK-DU14-B	63		73	
HUL0004-03	PMAK-DU15-B	75		73	
HUL0004-05	PMAK-DU17-B	72		78	

Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

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

Matrix: Solid/Soil

Prep Type: TCLP

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		TCX1 (43-129)	TCX2 (43-129)	DCB1 (19-157)	DCB2 (19-157)
HUL0004-06	PMAK-DU10-B	72		72	
HUL0004-07	PMAK-DU10-C	74		88	
HUL0004-08	PMAK-DU10-D	77		87	
HUL0004-09	PMAK-DU10-E	62		76	
HUL0004-13	PMAK-DU13-B	83		80	
HUL0004-14	PMAK-DU16-B	86		77	

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl

Internal Standards Summary

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Matrix: Solid

Prep Type: Total

		Percent Internal Standard Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (40-135)	1,2,3,7,8-Pe (40-135)	,2,3,6,7,8-H (40-135)	2,3,4,6,7,8-I (40-135)	13C-OCDD (40-135)	TCDF (40-135)	1,2,3,7,8-Pe (40-135)	,2,3,4,7,8-H (40-135)
G1L130000101B	Method Blank	92	85	80	103	88	82	83	99
G1L130000101C	Lab Control Sample	93	80	87	98	86	86	83	89

		Percent Internal Standard Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	2,3,4,6,7,8-I (40-135)							
G1L130000101B	Method Blank	101							
G1L130000101C	Lab Control Sample	97							

Internal Standard Legend

- TCDD = 13C-2,3,7,8-TCDD
- 13C-1,2,3,7,8-PeCDD = 13C-1,2,3,7,8-PeCDD
- 13C-1,2,3,6,7,8-HxCDD = 13C-1,2,3,6,7,8-HxCDD
- 13C-1,2,3,4,6,7,8-HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
- 13C-OCDD = 13C-OCDD
- TCDF = 13C-2,3,7,8-TCDF
- 13C-1,2,3,7,8-PeCDF = 13C-1,2,3,7,8-PeCDF
- 13C-1,2,3,4,7,8-HxCDF = 13C-1,2,3,4,7,8-HxCDF
- 13C-1,2,3,4,6,7,8-HpCDF = 13C-1,2,3,4,6,7,8-HpCDF

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Matrix: Solid/Soil

Prep Type: Total

		Percent Internal Standard Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (40-135)	1,2,3,7,8-Pe (40-135)	,2,3,6,7,8-H (40-135)	2,3,4,6,7,8-I (40-135)	13C-OCDD (40-135)	TCDF (40-135)	1,2,3,7,8-Pe (40-135)	,2,3,4,7,8-H (40-135)
HUL0004-04	PMAK-DU22-A	81	73	81	91	92	77	73	81
HUL0004-10	PMAK-DU2-C	95	87	89	89	85	87	88	95
HUL0004-11	PMAK-DU5-C	96	83	87	96	89	89	86	99

		Percent Internal Standard Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	2,3,4,6,7,8-I (40-135)							
HUL0004-04	PMAK-DU22-A	89							
HUL0004-10	PMAK-DU2-C	95							
HUL0004-11	PMAK-DU5-C	103							

Internal Standard Legend

- TCDD = 13C-2,3,7,8-TCDD
- 13C-1,2,3,7,8-PeCDD = 13C-1,2,3,7,8-PeCDD
- 13C-1,2,3,6,7,8-HxCDD = 13C-1,2,3,6,7,8-HxCDD
- 13C-1,2,3,4,6,7,8-HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
- 13C-OCDD = 13C-OCDD
- TCDF = 13C-2,3,7,8-TCDF
- 13C-1,2,3,7,8-PeCDF = 13C-1,2,3,7,8-PeCDF
- 13C-1,2,3,4,7,8-HxCDF = 13C-1,2,3,4,7,8-HxCDF
- 13C-1,2,3,4,6,7,8-HpCDF = 13C-1,2,3,4,6,7,8-HpCDF

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-102590/1-A

Matrix: Solid

Analysis Batch: 102599

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 102590

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	ND		0.067		mg/Kg		12/22/11 10:39	12/22/11 16:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	89		36 - 145	12/22/11 10:39	12/22/11 16:15	1
Phenol-d5	67		38 - 149	12/22/11 10:39	12/22/11 16:15	1
2,4,6-Tribromophenol	79		28 - 143	12/22/11 10:39	12/22/11 16:15	1
Nitrobenzene-d5	86		38 - 141	12/22/11 10:39	12/22/11 16:15	1
2-Fluorobiphenyl	85		42 - 140	12/22/11 10:39	12/22/11 16:15	1
Terphenyl-d14	80		42 - 151	12/22/11 10:39	12/22/11 16:15	1

Lab Sample ID: LCS 580-102590/2-A

Matrix: Solid

Analysis Batch: 102599

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 102590

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Pentachlorophenol	0.333	0.254		mg/Kg		76	29 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorophenol	89		36 - 145
Phenol-d5	56		38 - 149
2,4,6-Tribromophenol	88		28 - 143
Nitrobenzene-d5	87		38 - 141
2-Fluorobiphenyl	85		42 - 140
Terphenyl-d14	79		42 - 151

Lab Sample ID: LCSD 580-102590/3-A

Matrix: Solid

Analysis Batch: 102599

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 102590

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Pentachlorophenol	0.333	0.251		mg/Kg		75	29 - 124	1	68

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorophenol	89		36 - 145
Phenol-d5	38		38 - 149
2,4,6-Tribromophenol	80		28 - 143
Nitrobenzene-d5	84		38 - 141
2-Fluorobiphenyl	83		42 - 140
Terphenyl-d14	86		42 - 151

Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 580-102262/1-A

Matrix: Solid

Analysis Batch: 102545

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 102262

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	ND		0.00010		mg/L		12/18/11 11:57	12/22/11 10:23	1

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

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

Lab Sample ID: MB 580-102262/1-A

Matrix: Solid

Analysis Batch: 102545

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 102262

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.0010		mg/L		12/18/11 11:57	12/22/11 10:23	1
Endrin	ND		0.00020		mg/L		12/18/11 11:57	12/22/11 10:23	1
Heptachlor	ND		0.00010		mg/L		12/18/11 11:57	12/22/11 10:23	1
Heptachlor epoxide	ND		0.00010		mg/L		12/18/11 11:57	12/22/11 10:23	1
Methoxychlor	ND		0.0010		mg/L		12/18/11 11:57	12/22/11 10:23	1
Toxaphene	ND		0.010		mg/L		12/18/11 11:57	12/22/11 10:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	64		43 - 129	12/18/11 11:57	12/22/11 10:23	1
DCB Decachlorobiphenyl	46		19 - 157	12/18/11 11:57	12/22/11 10:23	1

Lab Sample ID: LCS 580-102262/2-A

Matrix: Solid

Analysis Batch: 102545

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 102262

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
gamma-BHC (Lindane)	0.00200	0.00165		mg/L		83	65 - 126
Endrin	0.00200	0.00191		mg/L		96	51 - 135
Heptachlor	0.00200	0.00173		mg/L		87	57 - 126
Heptachlor epoxide	0.00200	0.00176		mg/L		88	63 - 126
Methoxychlor	0.00200	0.00181		mg/L		91	50 - 150

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	64		43 - 129
DCB Decachlorobiphenyl	50		19 - 157

Lab Sample ID: LCSD 580-102262/3-A

Matrix: Solid

Analysis Batch: 102545

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 102262

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
gamma-BHC (Lindane)	0.00200	0.00181		mg/L		91	65 - 126	9	42
Endrin	0.00200	0.00205		mg/L		103	51 - 135	7	41
Heptachlor	0.00200	0.00193		mg/L		97	57 - 126	11	39
Heptachlor epoxide	0.00200	0.00193		mg/L		97	63 - 126	9	35
Methoxychlor	0.00200	0.00189		mg/L		95	50 - 150	4	37

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Tetrachloro-m-xylene	67		43 - 129
DCB Decachlorobiphenyl	61		19 - 157

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290)

Lab Sample ID: G1L130000101B

Matrix: Solid

Analysis Batch: 1347101

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 1347101_P

Analyte	MB Result	MB Qualifier	ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		2.0	0.033	1		pg/g		12/13/11 15:30	12/16/11 09:50	2

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Lab Sample ID: G1L130000101B

Matrix: Solid

Analysis Batch: 1347101

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 1347101_P

Analyte	MB MB		ML	EDL	TEF	TEQ	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier									
Total TCDD	ND		2.0	0.033			pg/g		12/13/11 15:30	12/16/11 09:50	2
1,2,3,7,8-PeCDD	ND		10	0.095	1		pg/g		12/13/11 15:30	12/16/11 09:50	2
Total PeCDD	ND		10	0.095			pg/g		12/13/11 15:30	12/16/11 09:50	2
1,2,3,4,7,8-HxCDD	ND		10	0.050	0.1		pg/g		12/13/11 15:30	12/16/11 09:50	2
1,2,3,6,7,8-HxCDD	ND		10	0.043	0.1		pg/g		12/13/11 15:30	12/16/11 09:50	2
1,2,3,7,8,9-HxCDD	ND		10	0.043	0.1		pg/g		12/13/11 15:30	12/16/11 09:50	2
Total HxCDD	ND		10	0.045			pg/g		12/13/11 15:30	12/16/11 09:50	2
1,2,3,4,6,7,8-HpCDD	ND		10	0.035	0.01		pg/g		12/13/11 15:30	12/16/11 09:50	2
Total HpCDD	ND		10	0.035			pg/g		12/13/11 15:30	12/16/11 09:50	2
OCDD	ND		20	0.028	0.0003		pg/g		12/13/11 15:30	12/16/11 09:50	2
2,3,7,8-TCDF	ND		2.0	0.073	0.1		pg/g		12/13/11 15:30	12/16/11 09:50	2
Total TCDF	ND		2.0	0.073			pg/g		12/13/11 15:30	12/16/11 09:50	2
1,2,3,7,8-PeCDF	ND		10	0.052	0.03		pg/g		12/13/11 15:30	12/16/11 09:50	2
2,3,4,7,8-PeCDF	ND		10	0.057	0.3		pg/g		12/13/11 15:30	12/16/11 09:50	2
Total PeCDF	ND		10	0.054			pg/g		12/13/11 15:30	12/16/11 09:50	2
1,2,3,4,7,8-HxCDF	ND		10	0.018	0.1		pg/g		12/13/11 15:30	12/16/11 09:50	2
1,2,3,6,7,8-HxCDF	ND		10	0.017	0.1		pg/g		12/13/11 15:30	12/16/11 09:50	2
2,3,4,6,7,8-HxCDF	ND		10	0.018	0.1		pg/g		12/13/11 15:30	12/16/11 09:50	2
1,2,3,7,8,9-HxCDF	ND		10	0.020	0.1		pg/g		12/13/11 15:30	12/16/11 09:50	2
Total HxCDF	ND		10	0.018			pg/g		12/13/11 15:30	12/16/11 09:50	2
1,2,3,4,6,7,8-HpCDF	ND		10	0.069	0.01		pg/g		12/13/11 15:30	12/16/11 09:50	2
1,2,3,4,7,8,9-HpCDF	ND		10	0.080	0.01		pg/g		12/13/11 15:30	12/16/11 09:50	2
Total HpCDF	ND		10	0.074			pg/g		12/13/11 15:30	12/16/11 09:50	2
OCDF	ND		20	0.092	0.0003		pg/g		12/13/11 15:30	12/16/11 09:50	2

Total TEQ

0.00

Internal Standard	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C-2,3,7,8-TCDD	92		40 - 135	12/13/11 15:30	12/16/11 09:50	2
13C-1,2,3,7,8-PeCDD	85		40 - 135	12/13/11 15:30	12/16/11 09:50	2
13C-1,2,3,6,7,8-HxCDD	80		40 - 135	12/13/11 15:30	12/16/11 09:50	2
13C-1,2,3,4,6,7,8-HpCDD	103		40 - 135	12/13/11 15:30	12/16/11 09:50	2
13C-OCDD	88		40 - 135	12/13/11 15:30	12/16/11 09:50	2
13C-2,3,7,8-TCDF	82		40 - 135	12/13/11 15:30	12/16/11 09:50	2
13C-1,2,3,7,8-PeCDF	83		40 - 135	12/13/11 15:30	12/16/11 09:50	2
13C-1,2,3,4,7,8-HxCDF	99		40 - 135	12/13/11 15:30	12/16/11 09:50	2
13C-1,2,3,4,6,7,8-HpCDF	101		40 - 135	12/13/11 15:30	12/16/11 09:50	2

Lab Sample ID: G1L130000101C

Matrix: Solid

Analysis Batch: 1347101

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 1347101_P

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	Limits
		Result	Qualifier				
2,3,7,8-TCDD	20.0	19.7		pg/g		98	60 - 138
1,2,3,7,8-PeCDD	100	110		pg/g		110	70 - 122
1,2,3,4,7,8-HxCDD	100	110		pg/g		110	60 - 138
1,2,3,6,7,8-HxCDD	100	93.3		pg/g		93	68 - 136
1,2,3,7,8,9-HxCDD	100	108		pg/g		108	68 - 138
1,2,3,4,6,7,8-HpCDD	100	104		pg/g		104	71 - 128
OCDD	200	214		pg/g		107	70 - 128

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Method: 8290 - Dioxins/Furans, HRGC/HRMS (8290) (Continued)

Lab Sample ID: G1L130000101C

Matrix: Solid

Analysis Batch: 1347101

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 1347101_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	
2,3,7,8-TCDF	20.0	20.9		pg/g		104	56 - 158	
1,2,3,7,8-PeCDF	100	102		pg/g		102	69 - 134	
2,3,4,7,8-PeCDF	100	102		pg/g		102	70 - 131	
1,2,3,4,7,8-HxCDF	100	104		pg/g		104	74 - 128	
1,2,3,6,7,8-HxCDF	100	104		pg/g		104	67 - 140	
2,3,4,6,7,8-HxCDF	100	109		pg/g		109	71 - 137	
1,2,3,7,8,9-HxCDF	100	109		pg/g		109	72 - 134	
1,2,3,4,6,7,8-HpCDF	100	108		pg/g		108	71 - 134	
1,2,3,4,7,8,9-HpCDF	100	111		pg/g		111	68 - 129	
OCDF	200	218		pg/g		109	63 - 141	

Internal Standard	LCS LCS		Limits
	%Recovery	Qualifier	
13C-2,3,7,8-TCDD	93		40 - 135
13C-1,2,3,7,8-PeCDD	80		40 - 135
13C-1,2,3,6,7,8-HxCDD	87		40 - 135
13C-1,2,3,4,6,7,8-HpCDD	98		40 - 135
13C-OCDD	86		40 - 135
13C-2,3,7,8-TCDF	86		40 - 135
13C-1,2,3,7,8-PeCDF	83		40 - 135
13C-1,2,3,4,7,8-HxCDF	89		40 - 135
13C-1,2,3,4,6,7,8-HpCDF	97		40 - 135

Method: 6010B - Metals (ICP)

Lab Sample ID: LCS 580-101887/25-A

Matrix: Solid

Analysis Batch: 102030

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 101887

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	
Arsenic	4.00	4.17		mg/L		104	80 - 120	
Barium	4.00	4.15		mg/L		104	80 - 120	
Cadmium	0.100	0.103		mg/L		103	80 - 120	
Chromium	0.400	0.401		mg/L		100	80 - 120	
Lead	1.00	1.03		mg/L		103	80 - 120	
Selenium	4.00	4.14		mg/L		104	80 - 120	
Silver	0.600	0.647		mg/L		108	80 - 120	

Lab Sample ID: LCSD 580-101887/26-A

Matrix: Solid

Analysis Batch: 102030

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 101887

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD
							Limits	RPD	Limit
Arsenic	4.00	4.20		mg/L		105	80 - 120	1	20
Barium	4.00	4.19		mg/L		105	80 - 120	1	20
Cadmium	0.100	0.103		mg/L		103	80 - 120	1	20
Chromium	0.400	0.405		mg/L		101	80 - 120	1	20
Lead	1.00	1.04		mg/L		104	80 - 120	1	20
Selenium	4.00	4.17		mg/L		104	80 - 120	1	20
Silver	0.600	0.645		mg/L		108	80 - 120	0	20

QC Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 580-102151/16-A
 Matrix: Solid
 Analysis Batch: 102302

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 102151

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.0		mg/Kg		12/15/11 15:03	12/16/11 17:27	1
Lead	ND		1.5		mg/Kg		12/15/11 15:03	12/16/11 17:27	1

Lab Sample ID: LCS 580-102151/17-A
 Matrix: Solid
 Analysis Batch: 102302

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 102151

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	204		mg/Kg		102	80 - 120
Lead	50.0	51.7		mg/Kg		103	80 - 120

Lab Sample ID: LCSD 580-102151/18-A
 Matrix: Solid
 Analysis Batch: 102302

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 102151

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	200	198		mg/Kg		99	80 - 120	3	20
Lead	50.0	50.6		mg/Kg		101	80 - 120	2	20

Lab Sample ID: MB 580-101775/1-C
 Matrix: Solid
 Analysis Batch: 102030

Client Sample ID: Method Blank
 Prep Type: TCLP
 Prep Batch: 101887

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.060		mg/L		12/12/11 16:50	12/13/11 13:46	1
Barium	ND		0.010		mg/L		12/12/11 16:50	12/13/11 13:46	1
Cadmium	ND		0.010		mg/L		12/12/11 16:50	12/13/11 13:46	1
Chromium	ND		0.025		mg/L		12/12/11 16:50	12/13/11 13:46	1
Lead	ND		0.030		mg/L		12/12/11 16:50	12/13/11 13:46	1
Selenium	ND		0.10		mg/L		12/12/11 16:50	12/13/11 13:46	1
Silver	ND		0.020		mg/L		12/12/11 16:50	12/13/11 13:46	1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 580-101888/23-A
 Matrix: Solid
 Analysis Batch: 101988

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 101888

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020		mg/L		12/12/11 16:58	12/13/11 12:08	1

Lab Sample ID: LCS 580-101888/24-A
 Matrix: Solid
 Analysis Batch: 101988

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 101888

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0200	0.0190		mg/L		95	80 - 120

QC Sample Results

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 580-101888/25-A
 Matrix: Solid
 Analysis Batch: 101988

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 101888

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.0200	0.0193		mg/L		97	80 - 120	2	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-102196/2-A
 Matrix: Solid
 Analysis Batch: 102202

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 102196

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		12/16/11 09:34	12/16/11 10:20	10

Lab Sample ID: LCS 580-102196/3-A
 Matrix: Solid
 Analysis Batch: 102202

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 102196

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.100	0.0952		mg/Kg		95	80 - 120

Lab Sample ID: LCSD 580-102196/4-A
 Matrix: Solid
 Analysis Batch: 102202

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 102196

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.100	0.0971		mg/Kg		97	80 - 120	2	20

Method: 1020A - Ignitability, Setafash Closed-Cup Method

Lab Sample ID: 580-30220-1 DU
 Matrix: Solid
 Analysis Batch: 102340

Client Sample ID: HUL0004-01
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Flashpoint	>212		>212		Degrees F		NC	20

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

GC/MS Semi VOA

Prep Batch: 102590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUL0004-12	PMAK-DU5-E	Total/NA	Solid/Soil	3550B	
LCS 580-102590/2-A	Lab Control Sample	Total/NA	Solid	3550B	
LCSD 580-102590/3-A	Lab Control Sample Dup	Total/NA	Solid	3550B	
MB 580-102590/1-A	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 102599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUL0004-12	PMAK-DU5-E	Total/NA	Solid/Soil	8270C	102590
LCS 580-102590/2-A	Lab Control Sample	Total/NA	Solid	8270C	102590
LCSD 580-102590/3-A	Lab Control Sample Dup	Total/NA	Solid	8270C	102590
MB 580-102590/1-A	Method Blank	Total/NA	Solid	8270C	102590

GC Semi VOA

Leach Batch: 101775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUL0004-01	PMAK-DU12-B	TCLP	Solid/Soil	1311	
HUL0004-02	PMAK-DU14-B	TCLP	Solid/Soil	1311	
HUL0004-03	PMAK-DU15-B	TCLP	Solid/Soil	1311	
HUL0004-05	PMAK-DU17-B	TCLP	Solid/Soil	1311	
HUL0004-06	PMAK-DU10-B	TCLP	Solid/Soil	1311	
HUL0004-07	PMAK-DU10-C	TCLP	Solid/Soil	1311	
HUL0004-08	PMAK-DU10-D	TCLP	Solid/Soil	1311	
HUL0004-09	PMAK-DU10-E	TCLP	Solid/Soil	1311	
HUL0004-13	PMAK-DU13-B	TCLP	Solid/Soil	1311	
HUL0004-14	PMAK-DU16-B	TCLP	Solid/Soil	1311	

Prep Batch: 102262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUL0004-01	PMAK-DU12-B	TCLP	Solid/Soil	3510C	101775
HUL0004-02	PMAK-DU14-B	TCLP	Solid/Soil	3510C	101775
HUL0004-03	PMAK-DU15-B	TCLP	Solid/Soil	3510C	101775
HUL0004-05	PMAK-DU17-B	TCLP	Solid/Soil	3510C	101775
HUL0004-06	PMAK-DU10-B	TCLP	Solid/Soil	3510C	101775
HUL0004-07	PMAK-DU10-C	TCLP	Solid/Soil	3510C	101775
HUL0004-08	PMAK-DU10-D	TCLP	Solid/Soil	3510C	101775
HUL0004-09	PMAK-DU10-E	TCLP	Solid/Soil	3510C	101775
HUL0004-13	PMAK-DU13-B	TCLP	Solid/Soil	3510C	101775
HUL0004-14	PMAK-DU16-B	TCLP	Solid/Soil	3510C	101775
LCS 580-102262/2-A	Lab Control Sample	Total/NA	Solid	3510C	
LCSD 580-102262/3-A	Lab Control Sample Dup	Total/NA	Solid	3510C	
MB 580-102262/1-A	Method Blank	Total/NA	Solid	3510C	

Analysis Batch: 102545

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUL0004-01	PMAK-DU12-B	TCLP	Solid/Soil	8081A	102262
HUL0004-02	PMAK-DU14-B	TCLP	Solid/Soil	8081A	102262
HUL0004-03	PMAK-DU15-B	TCLP	Solid/Soil	8081A	102262
HUL0004-05	PMAK-DU17-B	TCLP	Solid/Soil	8081A	102262
HUL0004-06	PMAK-DU10-B	TCLP	Solid/Soil	8081A	102262
HUL0004-07	PMAK-DU10-C	TCLP	Solid/Soil	8081A	102262
HUL0004-08	PMAK-DU10-D	TCLP	Solid/Soil	8081A	102262

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

GC Semi VOA (Continued)

Analysis Batch: 102545 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUL0004-09	PMAK-DU10-E	TCLP	Solid/Soil	8081A	102262
HUL0004-13	PMAK-DU13-B	TCLP	Solid/Soil	8081A	102262
HUL0004-14	PMAK-DU16-B	TCLP	Solid/Soil	8081A	102262
LCS 580-102262/2-A	Lab Control Sample	Total/NA	Solid	8081A	102262
LCS 580-102262/3-A	Lab Control Sample Dup	Total/NA	Solid	8081A	102262
MB 580-102262/1-A	Method Blank	Total/NA	Solid	8081A	102262

Specialty Organics

Analysis Batch: 1347101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
G1L130000101B	Method Blank	Total	Solid	8290	
G1L130000101C	Lab Control Sample	Total	Solid	8290	
HUL0004-04	PMAK-DU22-A	Total	Solid/Soil	8290	
HUL0004-10	PMAK-DU2-C	Total	Solid/Soil	8290	
HUL0004-11	PMAK-DU5-C	Total	Solid/Soil	8290	

Prep Batch: 1347101_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
G1L130000101B	Method Blank	Total	Solid	8290	
G1L130000101C	Lab Control Sample	Total	Solid	8290	
HUL0004-04	PMAK-DU22-A	Total	Solid/Soil	8290	
HUL0004-10	PMAK-DU2-C	Total	Solid/Soil	8290	
HUL0004-11	PMAK-DU5-C	Total	Solid/Soil	8290	

Metals

Leach Batch: 101775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUL0004-01	PMAK-DU12-B	TCLP	Solid/Soil	1311	
HUL0004-02	PMAK-DU14-B	TCLP	Solid/Soil	1311	
HUL0004-03	PMAK-DU15-B	TCLP	Solid/Soil	1311	
HUL0004-05	PMAK-DU17-B	TCLP	Solid/Soil	1311	
HUL0004-06	PMAK-DU10-B	TCLP	Solid/Soil	1311	
HUL0004-07	PMAK-DU10-C	TCLP	Solid/Soil	1311	
HUL0004-08	PMAK-DU10-D	TCLP	Solid/Soil	1311	
HUL0004-09	PMAK-DU10-E	TCLP	Solid/Soil	1311	
HUL0004-13	PMAK-DU13-B	TCLP	Solid/Soil	1311	
HUL0004-14	PMAK-DU16-B	TCLP	Solid/Soil	1311	
MB 580-101775/1-C	Method Blank	TCLP	Solid	1311	

Prep Batch: 101887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUL0004-01	PMAK-DU12-B	TCLP	Solid/Soil	3010A	101775
HUL0004-02	PMAK-DU14-B	TCLP	Solid/Soil	3010A	101775
HUL0004-03	PMAK-DU15-B	TCLP	Solid/Soil	3010A	101775
HUL0004-05	PMAK-DU17-B	TCLP	Solid/Soil	3010A	101775
HUL0004-06	PMAK-DU10-B	TCLP	Solid/Soil	3010A	101775
HUL0004-07	PMAK-DU10-C	TCLP	Solid/Soil	3010A	101775
HUL0004-08	PMAK-DU10-D	TCLP	Solid/Soil	3010A	101775
HUL0004-09	PMAK-DU10-E	TCLP	Solid/Soil	3010A	101775
HUL0004-13	PMAK-DU13-B	TCLP	Solid/Soil	3010A	101775

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Metals (Continued)

Prep Batch: 101887 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUL0004-14	PMAK-DU16-B	TCLP	Solid/Soil	3010A	101775
LCS 580-101887/25-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 580-101887/26-A	Lab Control Sample Dup	Total/NA	Solid	3010A	
MB 580-101775/1-C	Method Blank	TCLP	Solid	3010A	101775

Prep Batch: 101888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUL0004-01	PMAK-DU12-B	TCLP	Solid/Soil	7470A	101775
HUL0004-02	PMAK-DU14-B	TCLP	Solid/Soil	7470A	101775
HUL0004-03	PMAK-DU15-B	TCLP	Solid/Soil	7470A	101775
HUL0004-05	PMAK-DU17-B	TCLP	Solid/Soil	7470A	101775
HUL0004-06	PMAK-DU10-B	TCLP	Solid/Soil	7470A	101775
HUL0004-07	PMAK-DU10-C	TCLP	Solid/Soil	7470A	101775
HUL0004-08	PMAK-DU10-D	TCLP	Solid/Soil	7470A	101775
HUL0004-09	PMAK-DU10-E	TCLP	Solid/Soil	7470A	101775
HUL0004-13	PMAK-DU13-B	TCLP	Solid/Soil	7470A	101775
HUL0004-14	PMAK-DU16-B	TCLP	Solid/Soil	7470A	101775
LCS 580-101888/24-A	Lab Control Sample	Total/NA	Solid	7470A	
LCSD 580-101888/25-A	Lab Control Sample Dup	Total/NA	Solid	7470A	
MB 580-101888/23-A	Method Blank	Total/NA	Solid	7470A	

Analysis Batch: 101988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUL0004-01	PMAK-DU12-B	TCLP	Solid/Soil	7470A	101888
HUL0004-02	PMAK-DU14-B	TCLP	Solid/Soil	7470A	101888
HUL0004-03	PMAK-DU15-B	TCLP	Solid/Soil	7470A	101888
HUL0004-05	PMAK-DU17-B	TCLP	Solid/Soil	7470A	101888
HUL0004-06	PMAK-DU10-B	TCLP	Solid/Soil	7470A	101888
HUL0004-07	PMAK-DU10-C	TCLP	Solid/Soil	7470A	101888
HUL0004-08	PMAK-DU10-D	TCLP	Solid/Soil	7470A	101888
HUL0004-09	PMAK-DU10-E	TCLP	Solid/Soil	7470A	101888
HUL0004-13	PMAK-DU13-B	TCLP	Solid/Soil	7470A	101888
HUL0004-14	PMAK-DU16-B	TCLP	Solid/Soil	7470A	101888
LCS 580-101888/24-A	Lab Control Sample	Total/NA	Solid	7470A	101888
LCSD 580-101888/25-A	Lab Control Sample Dup	Total/NA	Solid	7470A	101888
MB 580-101888/23-A	Method Blank	Total/NA	Solid	7470A	101888

Analysis Batch: 102030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUL0004-01	PMAK-DU12-B	TCLP	Solid/Soil	6010B	101887
HUL0004-02	PMAK-DU14-B	TCLP	Solid/Soil	6010B	101887
HUL0004-03	PMAK-DU15-B	TCLP	Solid/Soil	6010B	101887
HUL0004-05	PMAK-DU17-B	TCLP	Solid/Soil	6010B	101887
HUL0004-06	PMAK-DU10-B	TCLP	Solid/Soil	6010B	101887
HUL0004-07	PMAK-DU10-C	TCLP	Solid/Soil	6010B	101887
HUL0004-08	PMAK-DU10-D	TCLP	Solid/Soil	6010B	101887
HUL0004-09	PMAK-DU10-E	TCLP	Solid/Soil	6010B	101887
HUL0004-13	PMAK-DU13-B	TCLP	Solid/Soil	6010B	101887
HUL0004-14	PMAK-DU16-B	TCLP	Solid/Soil	6010B	101887
LCS 580-101887/25-A	Lab Control Sample	Total/NA	Solid	6010B	101887
LCSD 580-101887/26-A	Lab Control Sample Dup	Total/NA	Solid	6010B	101887
MB 580-101775/1-C	Method Blank	TCLP	Solid	6010B	101887

QC Association Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Metals (Continued)

Prep Batch: 102151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUL0004-12	PMAK-DU5-E	Total/NA	Solid/Soil	3050B	
LCS 580-102151/17-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 580-102151/18-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
MB 580-102151/16-A	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 102196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUL0004-12	PMAK-DU5-E	Total/NA	Solid/Soil	7471A	
LCS 580-102196/3-A	Lab Control Sample	Total/NA	Solid	7471A	
LCSD 580-102196/4-A	Lab Control Sample Dup	Total/NA	Solid	7471A	
MB 580-102196/2-A	Method Blank	Total/NA	Solid	7471A	

Analysis Batch: 102202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUL0004-12	PMAK-DU5-E	Total/NA	Solid/Soil	7471A	102196
LCS 580-102196/3-A	Lab Control Sample	Total/NA	Solid	7471A	102196
LCSD 580-102196/4-A	Lab Control Sample Dup	Total/NA	Solid	7471A	102196
MB 580-102196/2-A	Method Blank	Total/NA	Solid	7471A	102196

Analysis Batch: 102302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HUL0004-12	PMAK-DU5-E	Total/NA	Solid/Soil	6010B	102151
LCS 580-102151/17-A	Lab Control Sample	Total/NA	Solid	6010B	102151
LCSD 580-102151/18-A	Lab Control Sample Dup	Total/NA	Solid	6010B	102151
MB 580-102151/16-A	Method Blank	Total/NA	Solid	6010B	102151

General Chemistry

Analysis Batch: 102340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-30220-1 DU	HUL0004-01	Total/NA	Solid	1020A	
HUL0004-01	PMAK-DU12-B	Total/NA	Solid/Soil	1020A	
HUL0004-02	PMAK-DU14-B	Total/NA	Solid/Soil	1020A	
HUL0004-03	PMAK-DU15-B	Total/NA	Solid/Soil	1020A	
HUL0004-05	PMAK-DU17-B	Total/NA	Solid/Soil	1020A	
HUL0004-06	PMAK-DU10-B	Total/NA	Solid/Soil	1020A	
HUL0004-07	PMAK-DU10-C	Total/NA	Solid/Soil	1020A	
HUL0004-08	PMAK-DU10-D	Total/NA	Solid/Soil	1020A	
HUL0004-09	PMAK-DU10-E	Total/NA	Solid/Soil	1020A	
HUL0004-13	PMAK-DU13-B	Total/NA	Solid/Soil	1020A	
HUL0004-14	PMAK-DU16-B	Total/NA	Solid/Soil	1020A	
LCS 580-102340/1	Lab Control Sample	Total/NA	Solid	1020A	

Lab Chronicle

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Client Sample ID: PMAK-DU12-B

Lab Sample ID: HUL0004-01

Date Collected: 08/04/11 12:25

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			101775	12/11/11 12:36	RS	TAL SEA
TCLP	Prep	3510C			102262	12/18/11 11:58	RS	TAL SEA
TCLP	Analysis	8081A		1	102545	12/22/11 11:21	CM	TAL SEA
TCLP	Leach	1311			101775	12/11/11 12:36	RS	TAL SEA
TCLP	Prep	7470A			101888	12/12/11 16:58	PAB	TAL SEA
TCLP	Analysis	7470A		1	101988	12/13/11 12:23	FCW	TAL SEA
TCLP	Prep	3010A			101887	12/12/11 16:50	PAB	TAL SEA
TCLP	Analysis	6010B		1	102030	12/13/11 15:00	PAB	TAL SEA
Total/NA	Analysis	1020A		1	102340	12/19/11 13:53	AM	TAL SEA

Client Sample ID: PMAK-DU14-B

Lab Sample ID: HUL0004-02

Date Collected: 08/04/11 13:40

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			101775	12/11/11 12:36	RS	TAL SEA
TCLP	Prep	3510C			102262	12/18/11 11:58	RS	TAL SEA
TCLP	Analysis	8081A		1	102545	12/22/11 11:40	CM	TAL SEA
TCLP	Leach	1311			101775	12/11/11 12:36	RS	TAL SEA
TCLP	Prep	7470A			101888	12/12/11 16:58	PAB	TAL SEA
TCLP	Analysis	7470A		1	101988	12/13/11 12:25	FCW	TAL SEA
TCLP	Prep	3010A			101887	12/12/11 16:50	PAB	TAL SEA
TCLP	Analysis	6010B		1	102030	12/13/11 15:07	PAB	TAL SEA
Total/NA	Analysis	1020A		1	102340	12/19/11 13:53	AM	TAL SEA

Client Sample ID: PMAK-DU15-B

Lab Sample ID: HUL0004-03

Date Collected: 08/04/11 15:55

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			101775	12/11/11 12:36	RS	TAL SEA
TCLP	Prep	3510C			102262	12/18/11 11:58	RS	TAL SEA
TCLP	Analysis	8081A		1	102545	12/22/11 11:59	CM	TAL SEA
TCLP	Leach	1311			101775	12/11/11 12:36	RS	TAL SEA
TCLP	Prep	7470A			101888	12/12/11 16:58	PAB	TAL SEA
TCLP	Analysis	7470A		1	101988	12/13/11 12:32	FCW	TAL SEA
TCLP	Prep	3010A			101887	12/12/11 16:50	PAB	TAL SEA
TCLP	Analysis	6010B		1	102030	12/13/11 15:15	PAB	TAL SEA
Total/NA	Analysis	1020A		1	102340	12/19/11 13:53	AM	TAL SEA

Lab Chronicle

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Client Sample ID: PMAK-DU22-A

Lab Sample ID: HUL0004-04

Date Collected: 08/05/11 14:00

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	8290			1347101_P	12/13/11 15:30	CC	TAL WSC
Total	Analysis	8290		3.69	1347101	12/16/11 12:03	LLH	TAL WSC

Client Sample ID: PMAK-DU17-B

Lab Sample ID: HUL0004-05

Date Collected: 08/05/11 14:25

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			101775	12/11/11 12:36	RS	TAL SEA
TCLP	Prep	3510C			102262	12/18/11 11:58	RS	TAL SEA
TCLP	Analysis	8081A		1	102545	12/22/11 12:18	CM	TAL SEA
TCLP	Leach	1311			101775	12/11/11 12:36	RS	TAL SEA
TCLP	Prep	7470A			101888	12/12/11 16:58	PAB	TAL SEA
TCLP	Analysis	7470A		1	101988	12/13/11 12:34	FCW	TAL SEA
TCLP	Prep	3010A			101887	12/12/11 16:50	PAB	TAL SEA
TCLP	Analysis	6010B		1	102030	12/13/11 15:22	PAB	TAL SEA
Total/NA	Analysis	1020A		1	102340	12/19/11 13:53	AM	TAL SEA

Client Sample ID: PMAK-DU10-B

Lab Sample ID: HUL0004-06

Date Collected: 08/08/11 13:20

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			101775	12/11/11 12:36	RS	TAL SEA
TCLP	Prep	3510C			102262	12/18/11 11:58	RS	TAL SEA
TCLP	Analysis	8081A		1	102545	12/22/11 12:38	CM	TAL SEA
TCLP	Leach	1311			101775	12/11/11 12:36	RS	TAL SEA
TCLP	Prep	7470A			101888	12/12/11 16:58	PAB	TAL SEA
TCLP	Analysis	7470A		1	101988	12/13/11 12:36	FCW	TAL SEA
TCLP	Prep	3010A			101887	12/12/11 16:50	PAB	TAL SEA
TCLP	Analysis	6010B		1	102030	12/13/11 15:29	PAB	TAL SEA
Total/NA	Analysis	1020A		1	102340	12/19/11 13:53	AM	TAL SEA

Client Sample ID: PMAK-DU10-C

Lab Sample ID: HUL0004-07

Date Collected: 08/08/11 13:25

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			101775	12/11/11 12:36	RS	TAL SEA
TCLP	Prep	3510C			102262	12/18/11 11:58	RS	TAL SEA
TCLP	Analysis	8081A		1	102545	12/22/11 12:57	CM	TAL SEA
TCLP	Leach	1311			101775	12/11/11 12:36	RS	TAL SEA
TCLP	Prep	7470A			101888	12/12/11 16:58	PAB	TAL SEA
TCLP	Analysis	7470A		1	101988	12/13/11 12:39	FCW	TAL SEA
TCLP	Prep	3010A			101887	12/12/11 16:50	PAB	TAL SEA

Lab Chronicle

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Client Sample ID: PMAK-DU10-C

Lab Sample ID: HUL0004-07

Date Collected: 08/08/11 13:25

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Analysis	6010B		1	102030	12/13/11 15:36	PAB	TAL SEA
Total/NA	Analysis	1020A		1	102340	12/19/11 13:53	AM	TAL SEA

Client Sample ID: PMAK-DU10-D

Lab Sample ID: HUL0004-08

Date Collected: 08/08/11 13:30

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			101775	12/11/11 12:36	RS	TAL SEA
TCLP	Prep	3510C			102262	12/18/11 11:58	RS	TAL SEA
TCLP	Analysis	8081A		1	102545	12/22/11 13:16	CM	TAL SEA
TCLP	Leach	1311			101775	12/11/11 12:36	RS	TAL SEA
TCLP	Prep	7470A			101888	12/12/11 16:58	PAB	TAL SEA
TCLP	Analysis	7470A		1	101988	12/13/11 12:41	FCW	TAL SEA
TCLP	Prep	3010A			101887	12/12/11 16:50	PAB	TAL SEA
TCLP	Analysis	6010B		1	102030	12/13/11 15:43	PAB	TAL SEA
Total/NA	Analysis	1020A		1	102340	12/19/11 13:53	AM	TAL SEA

Client Sample ID: PMAK-DU10-E

Lab Sample ID: HUL0004-09

Date Collected: 08/08/11 13:35

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			101775	12/11/11 12:36	RS	TAL SEA
TCLP	Prep	3510C			102262	12/18/11 11:58	RS	TAL SEA
TCLP	Analysis	8081A		1	102545	12/22/11 13:35	CM	TAL SEA
TCLP	Leach	1311			101775	12/11/11 12:36	RS	TAL SEA
TCLP	Prep	7470A			101888	12/12/11 16:58	PAB	TAL SEA
TCLP	Analysis	7470A		1	101988	12/13/11 12:43	FCW	TAL SEA
TCLP	Prep	3010A			101887	12/12/11 16:50	PAB	TAL SEA
TCLP	Analysis	6010B		1	102030	12/13/11 15:49	PAB	TAL SEA
Total/NA	Analysis	1020A		1	102340	12/19/11 13:53	AM	TAL SEA

Client Sample ID: PMAK-DU2-C

Lab Sample ID: HUL0004-10

Date Collected: 08/01/11 16:35

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	8290			1347101_P	12/13/11 15:30	CC	TAL WSC
Total	Analysis	8290		0.88	1347101	12/16/11 10:34	LLH	TAL WSC

Lab Chronicle

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Client Sample ID: PMAK-DU5-C

Lab Sample ID: HUL0004-11

Date Collected: 08/10/11 16:30

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	8290			1347101_P	12/13/11 15:30	CC	TAL WSC
Total	Analysis	8290		48.03	1347101	12/16/11 11:19	LLH	TAL WSC

Client Sample ID: PMAK-DU5-E

Lab Sample ID: HUL0004-12

Date Collected: 08/10/11 16:40

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			102590	12/22/11 10:39	GH	TAL SEA
Total/NA	Analysis	8270C		1	102599	12/22/11 17:23	AP	TAL SEA
Total/NA	Prep	7471A			102196	12/16/11 09:34	PAB	TAL SEA
Total/NA	Analysis	7471A		10	102202	12/16/11 10:27	FCW	TAL SEA
Total/NA	Prep	3050B			102151	12/15/11 15:03	PAB	TAL SEA
Total/NA	Analysis	6010B		10	102302	12/16/11 19:53	PAB	TAL SEA

Client Sample ID: PMAK-DU13-B

Lab Sample ID: HUL0004-13

Date Collected: 08/03/11 10:50

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			101775	12/11/11 12:36	RS	TAL SEA
TCLP	Prep	3510C			102262	12/18/11 11:58	RS	TAL SEA
TCLP	Analysis	8081A		1	102545	12/22/11 13:55	CM	TAL SEA
TCLP	Leach	1311			101775	12/11/11 12:36	RS	TAL SEA
TCLP	Prep	7470A			101888	12/12/11 16:58	PAB	TAL SEA
TCLP	Analysis	7470A		1	101988	12/13/11 13:01	FCW	TAL SEA
TCLP	Prep	3010A			101887	12/12/11 16:50	PAB	TAL SEA
TCLP	Analysis	6010B		1	102030	12/13/11 17:34	PAB	TAL SEA
Total/NA	Analysis	1020A		1	102340	12/19/11 13:53	AM	TAL SEA

Client Sample ID: PMAK-DU16-B

Lab Sample ID: HUL0004-14

Date Collected: 08/03/11 09:55

Matrix: Solid/Soil

Date Received: 11/21/11 12:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			101775	12/11/11 12:36	RS	TAL SEA
TCLP	Prep	3510C			102262	12/18/11 11:58	RS	TAL SEA
TCLP	Analysis	8081A		1	102545	12/22/11 14:14	CM	TAL SEA
TCLP	Leach	1311			101775	12/11/11 12:36	RS	TAL SEA
TCLP	Prep	7470A			101888	12/12/11 16:58	PAB	TAL SEA
TCLP	Analysis	7470A		1	101988	12/13/11 12:45	FCW	TAL SEA
TCLP	Prep	3010A			101887	12/12/11 16:50	PAB	TAL SEA
TCLP	Analysis	6010B		1	102030	12/13/11 15:55	PAB	TAL SEA
Total/NA	Analysis	1020A		1	102340	12/19/11 13:53	AM	TAL SEA

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Laboratory References:

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

TAL WSC = TestAmerica West Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

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Certification Summary

Client: Tetra Tech EM Inc.
 Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Honolulu	Alaska	Alaska UST	10	
TestAmerica Honolulu	Florida	NELAC	4	E87907
TestAmerica Honolulu	Hawaii	State Program	9	
TestAmerica Honolulu	L-A-B	DoD ELAP		L2250
TestAmerica Honolulu	L-A-B	ISO/IEC 17025		L2250
TestAmerica Honolulu	USDA	USDA		HON-S-206
TestAmerica Seattle	Alaska	Alaska UST	10	UST-022
TestAmerica Seattle	Alaska	TA-Port Heiden Mobile Lab	10	UST-093
TestAmerica Seattle	California	NELAC	9	1115CA
TestAmerica Seattle	Florida	NELAC	4	E871074
TestAmerica Seattle	L-A-B	DoD ELAP		L2236
TestAmerica Seattle	L-A-B	ISO/IEC 17025		L2236
TestAmerica Seattle	Louisiana	NELAC	6	05016
TestAmerica Seattle	Montana	MT DEQ UST	8	N/A
TestAmerica Seattle	Oregon	NELAC	10	WA100007
TestAmerica Seattle	USDA	USDA		P330-11-00222
TestAmerica Seattle	Washington	State Program	10	C553
TestAmerica West Sacramento	A2LA	DoD ELAP		2928-01
TestAmerica West Sacramento	Alaska	Alaska UST	10	UST-055
TestAmerica West Sacramento	Arizona	State Program	9	AZ0708
TestAmerica West Sacramento	Arkansas	State Program	6	88-0691
TestAmerica West Sacramento	Colorado	State Program	8	N/A
TestAmerica West Sacramento	Connecticut	State Program	1	PH-0691
TestAmerica West Sacramento	Florida	NELAC	4	E87570
TestAmerica West Sacramento	Georgia	State Program	4	960
TestAmerica West Sacramento	Guam	State Program	9	N/A
TestAmerica West Sacramento	Hawaii	State Program	9	N/A
TestAmerica West Sacramento	Illinois	NELAC	5	200060
TestAmerica West Sacramento	Kansas	NELAC	7	E-10375
TestAmerica West Sacramento	Louisiana	NELAC	6	30612
TestAmerica West Sacramento	Michigan	State Program	5	9947
TestAmerica West Sacramento	Nevada	State Program	9	CA44
TestAmerica West Sacramento	New Jersey	NELAC	2	CA005
TestAmerica West Sacramento	New Mexico	State Program	6	N/A
TestAmerica West Sacramento	New York	NELAC	2	11666
TestAmerica West Sacramento	Oregon	NELAC	10	CA200005
TestAmerica West Sacramento	Pennsylvania	NELAC	3	68-01272
TestAmerica West Sacramento	South Carolina	State Program	4	87014
TestAmerica West Sacramento	Texas	NELAC	6	T104704399-08-TX
TestAmerica West Sacramento	US Fish & Wildlife	US Fish & Wildlife		LE148388-0
TestAmerica West Sacramento	USDA	USDA		P330-09-00055
TestAmerica West Sacramento	Utah	NELAC	8	QUAN1
TestAmerica West Sacramento	Virginia	State Program	3	178
TestAmerica West Sacramento	Washington	State Program	10	C581
TestAmerica West Sacramento	West Virginia	West Virginia DEP	3	334
TestAmerica West Sacramento	West Virginia	West Virginia DHHR (DW)	3	9930C
TestAmerica West Sacramento	Wisconsin	State Program	5	998204680
TestAmerica West Sacramento	Wyoming	State Program	8	8TMS-Q

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: Tetra Tech EM Inc.
Project/Site: Kilauea, Kauai PMA, 103S1902014.H003

TestAmerica Job ID: HUL0004

Method	Method Description	Protocol	Laboratory
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL SEA
8081A	Organochlorine Pesticides (GC)	SW846	TAL SEA
8290	Dioxins/Furans, HRGC/HRMS (8290)	SW846	TAL WSC
6010B	Metals (ICP)	SW846	TAL SEA
7470A	Mercury (CVAA)	SW846	TAL SEA
7471A	Mercury (CVAA)	SW846	TAL SEA
1020A	Ignitability, Setflash Closed-Cup Method	SW846	TAL SEA

Protocol References:

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

Laboratory References:

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

TAL WSC = TestAmerica West Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



Heskett, Marvin

From: Duzan, Scott [scott.duzan@tetrattech.com]
Sent: Monday, November 21, 2011 3:02 PM
To: Heskett, Marvin
Cc: Jensen, Eric; Selbach, Rosiland
Subject: Kilauea PMA - Additional Sample Request
Importance: High
Follow Up Flag: Follow up
Flag Status: Red

Hi Marvin,

Please run the following samples from the Kilauea PMA project for the requested analyses:

Tetra Tech Sample ID	Test America Job No.	Analyses Requested
PMAK-DU2-C	HUH0012 8/11/11 (14.3)	TEQ DIOXINS Only
PMAK-DU5-C	HUH0072	TEQ DIOXINS Only
PMAK-DU5-E	HUH0072	Remove from Hold Status – Run All Analysis as Noted on COC
PMAK-DU22	HUH0049	TEQ DIOXINS Only
PMAK-DU10-B	HUH0049	TCLP Pesticides, TCLP Metals, Flammability
PMAK-DU10-C	HUH0049	TCLP Pesticides, TCLP Metals, Flammability
PMAK-DU10-D	HUH0049	TCLP Pesticides, TCLP Metals, Flammability
PMAK-DU10-E	HUH0049	TCLP Pesticides, TCLP Metals, Flammability
PMAK-DU12-B	HUH0049	TCLP Pesticides, TCLP Metals, Flammability
PMAK-DU13-B	HUH0028	TCLP Pesticides, TCLP Metals, Flammability
PMAK-DU14-B	HUH0049	TCLP Pesticides, TCLP Metals, Flammability
PMAK-DU15-B	HUH0049	TCLP Pesticides, TCLP Metals, Flammability
PMAK-DU16-B	HUH0028	TCLP Pesticides, TCLP Metals, Flammability
PMAK-DU17-B	HUH0049	TCLP Pesticides, TCLP Metals, Flammability

As, Hg, Pb
PCP 6270

Please clarify the following questions:

Tetra Tech Sample ID	Test America Job No.	Question
PMAK-DU6-D-T1	HUH0049	Why was PMAK-DU6-D-T1 run for Pentachlorophenol? What about the associated replicate samples PMAK-DU6-D-P and PMAK-DU6-D-T2, were they run for Pentachlorophenol also? Please advise.
PMAK-DU10-A	HUH0049	Was PMAK-DU10-A run for 2,4-D?
PMAK-DU11-A	HUH0049	Was PMAK-DU11-A run for 2,4-D?

Please let us know if you need clarification on any of these matters. Thanks!

Scott Duzan, LEED AP | Project Manager

Tetra Tech EM Inc.

737 Bishop Street, Suite 3010 | Honolulu, HI 96813 ([Google map](#))

Direct: 808.441.6645 | Main: 808.441.6600 | Fax: 808.836.1689

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Chain of Custody / Analysis Request Form

Report to: Scott Duzan, scott.duzan@tetratech.com		Project identification																														
Company name: Tetra Tech EMI		Job name: Kilauea PMA																														
Address: 737 Bishop Street, Suite 3010		Job number: 103S1902014.H003																														
City: Honolulu State: HI ZIP: 96813		Contact email address: scott.duzan@tetratech.com																														
Phone: 808.441.6645	Fax	# samples in shipment 25																														
Sampler: SD																																
Item no.	Client sample ID	MIS	GRAB	Water	Soil	Drinking water	Sludge	Liquid	Solid	Other	Preservation method	Date	Sampling Time	No. of containers	TEQ Dioxins 8290	Total Arsenic 6010	Bioaccessible Arsenic PBT	Mercury 7471	Lead 6010	TPH-DRO and TPH-RRO 8015	Pentachlorophenol 8270	Organochlorine Pesticides 8081	Chlorinated Herbicides 8151	SVOC 8270	Modified Pesticide Screen 8270	Carbamate Herbicides 8321	Total Metals 6010 and 7471	TCLP Metals 6010 and 7471	TCLP Pesticides 8081	PH 9015	Flammability ASTM D4986	Laboratory ID no.
1	PM1K-DU27	X		X							NA	8/9/11	13:00	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	H440072-1
2	PM1K-DU21-A	X		X							NA	8/2/11	16:00	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-2
3	PM1K-DU23-A	X		X							NA	11:45		1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-3
4	PM1K-DU24-A-P	X		X							NA	14:20		1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-4
5	PM1K-DU24-A-T1	X		X							NA	14:25		1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-5
6	PM1K-DU24-A-T2	X		X							NA	14:30		1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-6
7	PM1K-DU18-A-P	X		X							NA	16:10		1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-7
8	PM1K-DU18-A-T1	X		X							NA	16:15		1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-8
9	PM1K-DU18-A-T2	X		X							NA	16:20		1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-9
10	PM1K-DU5-A	X		X							NA	16:20		1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-10
Released by (print / sign) <i>Julia Simons</i>		Date / time released (print / sign) <i>8/11/11 16:00</i>		Delivery method <i>Air</i>		Received by (print / sign) <i>Julia Simons</i>		Date / time received <i>8/11/11 15:55</i>		Company / Agency affiliation <i>TestAmerica</i>		Date / time received <i>8/11/11 1</i>		Condition noted <i>Exp. Wnt/Lead</i>																		

Comments: Provide data in PDF and MS Excel format. *analyze*
Only Sample for Bioaccessible As if the total As is greater than 20ppm.
Hold layers D+E for DUS. Tetra Tech will provide further instruction for these layers pending
the results of layers A-C. Hold Sample-PM1K-DU5-A. Tetra Tech will provide further instruction regarding analysis of this sample at a later date.

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687 - 0524 5730

FREIGHT

687 LIH 0524 5730

Shipper: TESTAMERICA LABORATORIES, INC 45132
 4101 SHUFFEL ST., NW
 NORTH CANTON, OH 44720
 330, 497-9396

Consignee: TESTAMERICA 0
 99-193 AIEA HEIGHTS DRIVE
 HONOLULU, HI 96701-3900
 808, 4865227

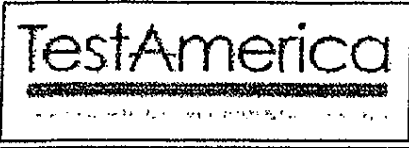
	ALOHA AIR CARGO P.O. BOX 30910 HONOLULU, HI 96820		
	It is agreed that the good described herein are accepted in apparent good order and condition (except as noted) for carriage SUBJECT TO THE CONDITIONS OF CONTRACT ON THE REVERSE HEREOF. THE SHIPPER'S ATTENTION IS DRAWN TO THE NOTICE CONCERNING CARRIER'S LIMITATION OF LIABILITY. Shipper may increase such limitation of liability by declaring a higher value for carriage and paying a supplemental charge if required.		
Accounting Information GENERAL FREIGHT			

Origin	LIH	Currency	USD
Destination	HNL	Charge Code	PX
Handling Information	Declared Value for Carriage		
CHILL	0		
	Declared Value for Customs		

Pieces	Gross Weight	Nature of Goods	Chargeable Weight	Rate/Charge	Total	Length	Width	Height	Dim Weight
4		SOIL SAMPLES				24	13	14	91

4 310 310 91

Fee	Prepaid	Collect	Other Charges			
Weight Charge	241.80		FSC Fee	77.50	SSC Fee	0.00
Valuation Charge	0.00		DOC Fees	0.00	DG Fee	0.00
Tax	19.96		Oth Fees	0.00	P/U Fee	0.00
Total Other Charges Due Agent	0.00		DEL Fees	0.00		
Total Other Charges Due Carrier	77.50		The shipper certifies that the particulars on the face hereof are correct, and that the shipment does not contain dangerous goods and that all ITEMS ARE ACCEPTED AT SHIPPERS RISK			
Total	339.26					
Signature of Issuing Carrier or its Agent	WB Date	WB Time	The consignee certifies that the shipment is received in good order except where noted below			
GLEN L706	11-AUG-11	1612				



Rush TAT Confirmation (Initial/Date) _____

Sample Receipt Checklist

Client Name: Tetra Tech Date/ Time Received: 8/2/11 1550

Received By: sc

Matrices: Soil

Carrier: Aldina

Airbill# :

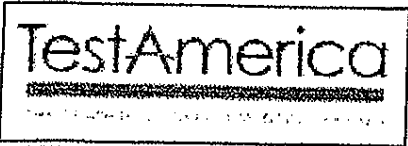
- Shipping container/cooler in good condition? Yes No Not Present
- Chain of Custody present? Yes No
- Chain of Custody Signed when relinquished and received? Yes No
- Chain of Custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sample containers on ice? Yes No Type: Wet / 6 sl
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Water - VOA Vials have Zero Headspace? Yes No No VOA vials present:
- Water - pH acceptable upon receipt? Yes No Not Checked:
- pH Adjusted? Yes No Final pH: _____
- Encores / MI-VOC / 5035 Vials Present? Yes No Location: _____
- Sample Filtration Needed? Yes No Filtered in Field:
- Dry Weight Corrected Results? Yes No Take Action:
- DODQSM / QAPP Project? Yes No Type: _____

Temperature Blank Present? Yes No

Sample Container Temperature: -2 °C

Comments/ Sampling Handling Notes:





Rush TAT Confirmation (Initial/Date) _____

Sample Receipt Checklist

Client Name: Tetra Tech Date/ Time Received: 8/2/11 1150

Received By: 2

Matrices: Soil

Carrier: Althen

Airbill# :

- Shipping container/cooler in good condition? Yes No Not Present
- Chain of Custody present? Yes No
- Chain of Custody Signed when relinquished and received? Yes No
- Chain of Custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sample containers on ice? Yes No Type: Wet / cool
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Water - VOA Vials have Zero Headspace? Yes No No VOA vials present:
- Water - pH acceptable upon receipt? Yes No Not Checked:
- pH Adjusted? Yes No Final pH: _____
- Encores / MI-VOC / 5035 Vials Present? Yes No Location: _____
- Sample Filtration Needed? Yes No Filtered in Field:
- Dry Weight Corrected Results? Yes No Take Action:
- DODQSM / QAPP Project? Yes No Type: _____

Temperature Blank Present? Yes No
Sample Container Temperature: 6 °C

Comments/ Sampling Handling Notes:



LABORATORY USE ONLY

LAB JOB NO. HUH0028

LOCATION

CONTAINERS

Chain of Custody / Analysis Request Form

Report to: Scott Duzan, scott.duzan@letratech.com		Project identification									
Company name: Tetra Tech EMI		Job name: Kilauea PIMA									
Address: 737 Bishop Street, Suite 3010		Job number: 103S1902014.H003									
City: Honolulu State: HI Zip: 96813		Contact email address: scott.duzan@letratech.com									
Phone: 808-441-6645 Fax		Matrix									
Sampler, SD # samples in shipment <u>40</u>		<input type="checkbox"/> Vapor <input type="checkbox"/> Soil <input type="checkbox"/> Wastewater <input type="checkbox"/> Drinking water <input type="checkbox"/> Sludge <input type="checkbox"/> Liquid <input type="checkbox"/> Solid <input type="checkbox"/> Other									
Item no.	Client sample ID	MIS	GRAB	Delivery method	Released by (print / sign)	Date / time released	Received by (print / sign)	Date / time received	Company / Agency affiliation	Indicate analyses requested	Laboratory ID no.
1	PMAX-DU9-A	X	X	GRAB	Scott Duzan	8/11/11 15:50	NA	8/11/11 15:50	TestAmerica	TEQ Dioxins 8290 Total Arsenic 6010 Bioaccessible Arsenic PBET Mercury 7471 Lead 6010 TPH-DRO and TPH-RO 8015 Pentachlorophenol 8270 Organochlorine Pesticides 8081 Chlorinated Herbicides 8151 SVOC 8270 Modified Pesticide Screen 8270 Carbamate Herbicides 8321 Total Metals 6010 and 7471 TCLP Pesticides 8081 TCLP Metals 6010 and 7471 PH 9015 Flammability ASTM D4986	HUH0028-11
2	PMAX-DU9-B	X	X	GRAB	Scott Duzan	8/11/11 15:55	NA	8/11/11 15:55	TestAmerica		12
3	PMAX-DU9-C	X	X	GRAB	Scott Duzan	8/11/11 16:00	NA	8/11/11 16:00	TestAmerica		13
4	PMAX-DU9-D	X	X	GRAB	Scott Duzan	8/11/11 16:05	NA	8/11/11 16:05	TestAmerica		14
5	PMAX-DU9-E	X	X	GRAB	Scott Duzan	8/11/11 16:10	NA	8/11/11 16:10	TestAmerica		15
6	PMAX-DU16-A	X	X	GRAB	Scott Duzan	8/11/11 9:50	NA	8/11/11 9:50	TestAmerica		16
7	PMAX-DU16-B	X	X	GRAB	Scott Duzan	8/11/11 9:55	NA	8/11/11 9:55	TestAmerica		17
8	PMAX-DU16-C	X	X	GRAB	Scott Duzan	8/11/11 10:00	NA	8/11/11 10:00	TestAmerica		18
9	PMAX-DU16-D	X	X	GRAB	Scott Duzan	8/11/11 10:05	NA	8/11/11 10:05	TestAmerica		19
10	PMAX-DU16-E	X	X	GRAB	Scott Duzan	8/11/11 10:10	NA	8/11/11 10:10	TestAmerica		20

Comments: Provide data in PDF and MS Excel format.

See page 1 for instructions

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99-193 Aiea Heights Drive Suite 121 • Aiea, HI 96701-3900
808-486-LABS (5227) • Fax 808-486-2456

LABORATORY USE ONLY

LAB JOB NO.

LOCATION

CONTAINERS

HAWAII 10078

Chain of Custody / Analysis Request Form

Report to: Scott Duzan, scott.duzan@tetratech.com		Project identification	
Company name: Tetra Tech EMI		Job name: Kilauea PIMA	
Address: 737 Bishop Street, Suite 3010		Job number: 103S1902014.H003	
City: Honolulu State: HI ZIP: 96813		Contact email address: scott.duzan@tetratech.com	
Phone: 808.441.6645		FAX:	
Sample: SD		# samples in shipment: 40	

Item no.	Client sample ID	MIS	GRAB	Matrix						Preservation method	Sampling Date	Time	No. of containers	Indicate analyses requested										Laboratory ID no.								
				Water	Soil	Water/water	Drinking water	Sediment	Liquid					Solid	Other	TEQ Dioxins 8290	Total Arsenic 6010	Bioaccessible Arsenic PBET	Mercury 7471	Lead 6010	TPH-DRO and TPH-RRO 8015	Pentachlorophenol 8270	Organochlorine Pesticides 8081		Chlordane Herbicides 8151	SVOC 8270	Modified Pesticide Screen 8270	Carbamate Herbicides 8321	Total Metals 6010 and 7471	TCLP Pesticides 8081	TCLP Metals 6010 and 7471	pH 9015
1	PMAK-DU13-A	X		X						NA	8/5/11	10:45	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	HAWAII 10078-21
2	PMAK-DU13-B	X		X						NA	8/5/11	10:55	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	22
3	PMAK-DU13-C	X		X						NA	8/5/11	11:00	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	23
4	PMAK-DU13-D	X		X						NA	8/5/11	11:05	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	24
5	PMAK-DU13-E	X		X						NA	8/5/11	15:00	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	25
6	PMAK-DU4-A-P	X		X						NA	8/5/11	15:05	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	26
7	PMAK-DU4-A-TI	X		X						NA	8/5/11	15:05	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	27
8	PMAK-DU4-A-T2	X		X						NA	8/5/11	15:05	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	28
9	PMAK-DU4-B-P	X		X						NA	8/5/11	15:05	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	29
10	PMAK-DU4-B-TI	X		X						NA	8/5/11	15:05	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	30

Released by: *Rosiland Selbach* / *hwl* / *8/9/11, 0900* / *Air*

Received by: _____ (print / sign)

Date / time received: _____ / _____

Company / Agency affiliation: TestAmerica

Condition noted: _____

Comments: Provide data in PDF and MS Excel format.

See page 1 for instructions

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FREIGHT

687 LIH 0524 4024

Shipper: TESTAMERICA LABORATORIES, INC 45132
 4101 SHUFFEL ST., NW
 NORTH CANTON, OH 44720
 330, 497-9396

Consignee: TESTAMERICA LABS 0
 99-193 AIEA HEIGHTS DR
 AIEA, HI 96701-3900
 808, 4865227

	ALOHA AIR CARGO P.O. BOX 30910 HONOLULU, HI 96820
	It is agreed that the good described herein are accepted in apparent good order and condition (except as noted) for carriage SUBJECT TO THE CONDITIONS OF CONTRACT ON THE REVERSE HEREOF. THE SHIPPER'S ATTENTION IS DRAWN TO THE NOTICE CONCERNING CARRIER'S LIMITATION OF LIABILITY. Shipper may increase such limitation of liability by declaring a higher value for carriage and paying a supplemental charge if required.
Accounting Information GENERAL FREIGHT	

Origin	LIH	Currency	USD
Destination	HNL	Charge Code	PX
Handling Information	Declared Value for Carriage Declared Value for Customs		
FROZEN - 7 COOLERS		0	

Pieces	Gross Weight	Nature of Goods	Chargeable Weight	Rate/Charge	Total	Length	Width	Height	Dim Weight
7		SOIL SAMPLES				24	13	14	158

7 496 496 158

Fee	Prepaid	Collect	Other Charges	
Weight Charge	386.88		FSC Fee	124.00
Valuation Charge	0.00		SSC Fee	0.00
Tax	0.00		DOC Fees	0.00
Total Other Charges Due Agent	0.00		Oth Fees	0.00
Total Other Charges Due Carrier	124.00		DEL Fees	0.00
			The shipper certifies that the particulars on the face hereof are correct, and that the shipment does not contain dangerous goods and that all ITEMS ARE ACCEPTED AT SHIPPERS RISK	
Total	510.88			
Signature of Issuing Carrier or its Agent	WB Date	WB Time	The consignee certifies that the shipment is received in good order except where noted below	
RYAN L144	04-AUG-11	0855		

Sample Receipt Checklist

Client Name: Tetratech Date/ Time Received: 08/05/11 1015

Received By: MDH

Matrices: soil Carrier: Aloha Air Cargo Airbill#: 687 0524 4024

- Shipping container/cooler in good condition? Yes No Not Present
- Chain of Custody present? Yes No
- Chain of Custody Signed when relinquished and received? Yes No
- Chain of Custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sample containers on ice? Yes No Type: gel
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Water - VOA Vials have Zero Headspace? Yes No No VOA vials present:
- Water - pH acceptable upon receipt? Yes No Not Checked:
- pH Adjusted? Yes No Final pH: _____
- Encores / MI-VOC / 5035 Vials Present? Yes No Location: _____
- Sample Filtration Needed? Yes No Filtered in Field:
- Dry Weight Corrected Results? Yes No Take Action:
- DODQSM / QAPP Project? Yes No Type: _____
- Temperature Blank Present? Yes No
- Sample Container Temperature: 2 °C

Comments/ Sampling Handling Notes:

Pascua, Margie F.

From: Duzan, Scott [scott.duzan@tetrattech.com]
Sent: Sunday, August 07, 2011 9:20 PM
To: Pascua, Margie F.
Subject: RE: WoAck: HUH0012

Importance: High

Follow Up Flag: Follow up
Flag Status: Red

Yes, please run the extraction now and hold for the actual analysis of pentachlorophenol.

Scott Duzan, LEED AP | Project Manager
Tetra Tech EM Inc.
737 Bishop Street, Suite 3010 | Honolulu, HI 96813
Direct: 808.441.6645 | Main: 808.441.6600 | Fax: 808.836.1689

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From: Pascua, Margie F. [Margie.Pascua@testamericainc.com]
Sent: Wednesday, August 03, 2011 10:39 AM
To: Duzan, Scott
Cc: Selbach, Rosiland
Subject: WoAck: HUH0012

Aloha Scott,

Attached, please find the Work Order Acknowledgment for HUH0012, Project Kilauea, Kauai PMA.

For samples PMAK-DU(1/2)-(D/E), should we extract and hold for Pentachlorophenol? The samples expire on 08/15, but the PMAK-DU(1/2)-(A/B/C) data may not be available until after the hold time expires.

Mahalo!

Margie Pascua Thach
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

99-193 Aiea Heights Drive, Suite 121
Aiea, HI 96701
Office: 808.486.5227 x208
www.testamericainc.com<BLOCKED::http://www.testamericainc.com/>

Please let us know if we met your expectations by rating the service you received from TestAmerica on this project by visiting our website at: Project Feedback<blocked::https://secure.testamericainc.com/snaponline/surveylogin.asp?k=121632876991>

LABORATORY USE ONLY
LAB JOB NO. MUK0049
LOCATION _____
CONTAINERS _____

Chain of Custody / Analysis Request Form

Report to: Scott Duzan, scott.duzan@tetratech.com		Project identification																																																																																																																																																																																														
Company name: Tetra Tech EMI		Job name: Kilauea PMA																																																																																																																																																																																														
Address: 737 Bishop Street, Suite 3010		Job number: 103S1902014.H003																																																																																																																																																																																														
City: Honolulu State: HI Zip: 96813		Contract email address: scott.duzan@tetratech.com																																																																																																																																																																																														
Phone: 808.441.6645 Fax _____		Matrix																																																																																																																																																																																														
Sampler: SD # samples in shipment: 51		<table border="1"> <tr> <th>Matrix</th> <th>Drinking water</th> <th>Wastewater</th> <th>Soil</th> <th>Water</th> <th>GRAB</th> <th>MIS</th> <th>GRAB</th> <th>Water</th> <th>Soil</th> <th>Drinking water</th> <th>Wastewater</th> <th>Other</th> <th>Other</th> <th>Preservation method</th> <th>Date</th> <th>Time</th> <th>No. of containers</th> </tr> <tr> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>NA</td> <td>8/11/11</td> <td>12:20</td> <td>1</td> </tr> <tr> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>NA</td> <td></td> <td>12:25</td> <td>1</td> </tr> <tr> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>NA</td> <td></td> <td>12:30</td> <td>2</td> </tr> <tr> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>NA</td> <td></td> <td>12:35</td> <td>3</td> </tr> <tr> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>NA</td> <td></td> <td>12:40</td> <td>3</td> </tr> <tr> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>NA</td> <td></td> <td>13:35</td> <td>1</td> </tr> <tr> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>NA</td> <td></td> <td>13:40</td> <td>1</td> </tr> <tr> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>NA</td> <td></td> <td>13:45</td> <td>1</td> </tr> <tr> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>NA</td> <td></td> <td>13:50</td> <td>1</td> </tr> <tr> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>NA</td> <td></td> <td>13:55</td> <td>1</td> </tr> </table>		Matrix	Drinking water	Wastewater	Soil	Water	GRAB	MIS	GRAB	Water	Soil	Drinking water	Wastewater	Other	Other	Preservation method	Date	Time	No. of containers		X	X	X	X	X	X	X	X	X	X	X	X	X	NA	8/11/11	12:20	1		X	X	X	X	X	X	X	X	X	X	X	X	NA		12:25	1		X	X	X	X	X	X	X	X	X	X	X	X	NA		12:30	2		X	X	X	X	X	X	X	X	X	X	X	X	NA		12:35	3		X	X	X	X	X	X	X	X	X	X	X	X	NA		12:40	3		X	X	X	X	X	X	X	X	X	X	X	X	NA		13:35	1		X	X	X	X	X	X	X	X	X	X	X	X	NA		13:40	1		X	X	X	X	X	X	X	X	X	X	X	X	NA		13:45	1		X	X	X	X	X	X	X	X	X	X	X	X	NA		13:50	1		X	X	X	X	X	X	X	X	X	X	X	X	NA		13:55	1
Matrix	Drinking water	Wastewater	Soil	Water	GRAB	MIS	GRAB	Water	Soil	Drinking water	Wastewater	Other	Other	Preservation method	Date	Time	No. of containers																																																																																																																																																																															
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Client sample ID		Delivery method																																																																																																																																																																																														
1 PMAK-DU12-A		Air																																																																																																																																																																																														
2 PMAK-DU12-B		Air																																																																																																																																																																																														
3 PMAK-DU12-C		Air																																																																																																																																																																																														
4 PMAK-DU12-D		Air																																																																																																																																																																																														
5 PMAK-DU12-E		Air																																																																																																																																																																																														
6 PMAK-DU14-A		Air																																																																																																																																																																																														
7 PMAK-DU14-B		Air																																																																																																																																																																																														
8 PMAK-DU14-C		Air																																																																																																																																																																																														
9 PMAK-DU14-D		Air																																																																																																																																																																																														
10 PMAK-DU14-E		Air																																																																																																																																																																																														
Released by (print / sign)		Received by (print / sign)																																																																																																																																																																																														
Rissland Selbach / [Signature]		Julie Johnson-Care																																																																																																																																																																																														
Date / time released		Date / time received																																																																																																																																																																																														
8/11/11 0900		8/10/11 / 1220																																																																																																																																																																																														
Company / Agency affiliation		Company / Agency affiliation																																																																																																																																																																																														
TestAmerica		TestAmerica																																																																																																																																																																																														
Condition noted		Condition noted																																																																																																																																																																																														
		Water Gel-floet -2-2																																																																																																																																																																																														

Comments: Provide data in PDF and MS Excel format.
 Hold layer A samples for DU12, DU14, DU15, DU17, DU11, and DU18, and DU19.
 Do not analyze the those layer A samples. Analyze for bioaccessible arsenic only if the total AS.
 Concentration is greater than 200 ppm. Hold time for pH is 7 days. Analyze samples for DU12, DU14, DU15, DU17, DU11 and DU18 for pH immediately. Hold layers D and E for all samples and do not analyze w/ the exception of pH. Pending results of layers A-C Tetratech will give further direction for layers D and E samples.

Please check one:
 Dispose by lab
 Return to client
 Archive

Distribution: White - TestAmerica Yellow - TestAmerica Pink - Client
 Page 1 of 6

Chain of Custody / Analysis Request Form

Item no.	Client sample ID	Released by (print / sign)	Date / time released	Delivery method	Received by (print / sign)	Date / time received	Indicate analyses requested										Laboratory ID no.				
							TEQ Dioxins 8290	Total Arsenic 6010	Bioaccessible Arsenic PBET	Mercury 7471	Lead 6010	TPH-DRO and TPH-FRO 8015	Pentachlorophenol 8270	Organochlorine Pesticides 8081	Chlorinated Herbicides 8151	SVOC 8270		Modified Pesticide Screen 8270	Carbamate Herbicides 8321	Total Metals 6010 and 7471	TCLP Pesticides 8081
1	PMAK-DUI7-E			GRAB	for Jackson Carr	8/5/11 14:40	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MUM0049-21
2	PMAK-DUI1-A			GRAB		8/10/11 10:40	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-22
3	PMAK-DUI1-B			GRAB		10:45	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-23
4	PMAK-DUI1-C			GRAB		10:50	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-24
5	PMAK-DUI1-D			GRAB		10:55	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-25
6	PMAK-DUI1-E			GRAB		11:00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-26
7	PMAK-DUI9-A			GRAB		13:15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-27
8	PMAK-DUI8-B			GRAB		13:20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-28
9	PMAK-DUI8-C			GRAB		13:25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-29
10	PMAK-DUI8-D			GRAB		13:30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-30

Please check one:
 Dispose by lab
 Return to client
 Archive

Page 3 of 6

Comments: Provide data in PDF and MS Excel format.

See page 1

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 Distribution: White - TestAmerica Yellow - TestAmerica Pink - Client



Sample Receipt Checklist

Client Name: Tetra Tech Date/ Time Received: 8/10/11 1220Received By: JLMatrices: SoilCarrier: Alpha

Airbill# :

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Chain of Custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<input type="checkbox"/>
Chain of Custody Signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of Custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Type: <u>Gel/Water</u>
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Water - VOA Vials have Zero Headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials present: <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Checked: <input checked="" type="checkbox"/>
	pH Adjusted? Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Final pH: _____
Encores / MI-VOC / 5035 Vials Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Location: _____
Sample Filtration Needed?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Filtered in Field: <input type="checkbox"/>
Dry Weight Corrected Results?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Take Action: <input type="checkbox"/>
DODQSM / QAPP Project?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Type: _____

Temperature Blank Present? Yes No Blind
Sample Container Temperature: -2 °C

Comments/ Sampling Handling Notes:

Samples received frozen on 8/10/11

Appendix C – Field QC Sample Statistic Calculations

Appendix C - Field QC Sample Statistic Calculations

DU4 Area 1 - Perimeter of Core PMA Along the southern border of the Ortal property, adjacent to the Foley property.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	PMAK-DU4-A-P	PMAK-DU4-A-T1	PMAK-DU4-A-T2	PMAK-DU4-A SD	PMAK-DU4-A RSD	PMAK-DU4-A RSD (%)	PMAK-DU4-B-P	PMAK-DU4-B-T1	PMAK-DU4-B-T2	PMAK-DU4-B SD	PMAK-DU4-B RSD	PMAK-DU4-B RSD (%)	PMAK-DU4-C-P	PMAK-DU4-C-T1	PMAK-DU4-C-T2	PMAK-DU4-C SD	PMAK-DU4-C RSD	PMAK-DU4-C RSD (%)	PMAK-DU4-D-P	PMAK-DU4-D-T1	PMAK-DU4-D-T2	PMAK-DU4-D SD	PMAK-DU4-D RSD	PMAK-DU4-D RSD (%)	
Sample Date			8/3/2011	8/3/2011	8/3/2011				8/3/2011	8/3/2011	8/3/2011				8/3/2011	8/3/2011	8/3/2011				8/3/2011	8/3/2011	8/3/2011				
Depth Intervals (' bgs)			0-0.5	0-0.5	0-0.5				0.5-2.0	0.5-2.0	0.5-2.0				2.0-4.0	2.0-4.0	2.0-4.0				4.0-7.0	4.0-7.0	4.0-7.0				
Soil Analyses (ng/kg)																											
TEQ DIOXINS	240	1500	170	190	180	10.00	0.06	5.56	120	170	110	32.15	0.24	24.11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Soil Analyses (mg/kg)																											
TOTAL ARSENIC	20	20	18	18	17	0.58	0.03	3.27	24	26	33	4.73	0.17	17.08	13	16	12	2.08	0.15	15.23	ND	ND	ND	NA	NA	NA	
BIOACCESSIBLE ARSENIC	23	95	NA	NA	NA	NA	NA	NA	18.8	17.3	23.8	3.40	0.17	17.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
PERCENT BIOACCESSIBLE ARSENIC	NA	NA	NA	NA	NA	NA	NA	NA	21.9	17.7	21.9	2.42	0.12	11.83	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
TOTAL ARSENIC (250 µm)	NA	NA	NA	NA	NA	NA	NA	NA	85.9	97.9	108	11.06	0.11	11.37	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
MERCURY	4.7	10	0.99	0.91	0.84	0.08	0.08	8.22	0.54	0.62	0.52	0.05	0.09	9.45	0.55	0.52	0.47	0.04	0.08	7.87	0.34	0.36	0.44	0.05	0.14	13.93	
LEAD	200	800	43	39	40	2.08	0.05	5.12	45	72	80	18.34	0.28	27.93	2800	1400	1700	737.11	0.37	37.48	16	24	20	4	0.2	20	
PENTACHLOROPHENOL (8270CM)	3	5	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	NA	NA	
TPH-DRO	500	500	35.8	32.7	32.4	1.88	0.06	5.60	259	164	151	58.96	0.31	30.82	275	181	179	54.86	0.26	25.92	NA	NA	NA	NA	NA	NA	
TPH-RRO	500	1000	165	125	121	24.33	0.18	17.76	182	298	303	68.46	0.26	26.23	303	264	182	61.76	0.25	24.74	NA	NA	NA	NA	NA	NA	
TA Job No.	HUH0028 and HUI0096																										

DU6 Area 1 - Perimeter of Core PMA Along the southern boundary of the HHA property, adjacent to Natural Bridges School property.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	PMAK-DU6-A-P	PMAK-DU6-A-T1	PMAK-DU6-A-T2	PMAK-DU6-A SD	PMAK-DU6-A RSD	PMAK-DU6-A RSD (%)	PMAK-DU6-B-P	PMAK-DU6-B-T1	PMAK-DU6-B-T2	PMAK-DU6-B SD	PMAK-DU6-B RSD	PMAK-DU6-B RSD (%)	PMAK-DU6-C-P	PMAK-DU6-C-T1	PMAK-DU6-C-T2	PMAK-DU6-C SD	PMAK-DU6-C RSD	PMAK-DU6-C RSD (%)
Sample Date			8/8/2011	8/8/2011	8/8/2011				8/8/2011	8/8/2011	8/8/2011				8/8/2011	8/8/2011	8/8/2011			
Depth Intervals (' bgs)			0-0.5	0-0.5	0-0.5				0.5-2.0	0.5-2.0	0.5-2.0				2.0-4.0	2.0-4.0	2.0-4.0			
Soil Analyses (ng/kg)																				
TEQ DIOXINS	240	1500	29	28	27	1.00	0.04	3.57	9.9	9.4	10	0.321	0.033	3.291	NA	NA	NA	NA	NA	NA
Soil Analyses (mg/kg)																				
TOTAL ARSENIC	20	20	18	15	16	1.53	0.09	9.35	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	NA	NA
BIOACCESSIBLE ARSENIC	23	95	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PERCENT BIOACCESSIBLE ARSENIC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL ARSENIC (250 µm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MERCURY	4.7	10	0.88	0.82	0.73	0.08	0.09	9.32	0.72	0.55	0.74	0.10	0.16	15.58	0.34	0.34	0.37	0.02	0.05	4.95
LEAD	200	800	150	160	140	10.00	0.07	6.67	27	25	27	1.15	0.04	4.38	13	15	12	1.53	0.11	11.46
PENTACHLOROPHENOL (8270CM)	3	5	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	NA	NA
TA Job No.	HUH0049																			

DU18 Area 2 - Core PMA Within the West Drainage Outfall, adjacent to the intersection of Kilauea Road and Oka Street.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	PMAK-DU18-A-P	PMAK-DU18-A-T1	PMAK-DU18-A-T2	PMAK-DU18-A SD	PMAK-DU18-A RSD	PMAK-DU18-A RSD (%)
Sample Date			8/10/2011	8/10/2011	8/10/2011			
Depth Intervals (' bgs)			0-0.5	0-0.5	0-0.5			
Soil Analyses (ng/kg)								
TEQ DIOXINS	240	1500	64	64	91	15.59	0.21	21.35
Soil Analyses (mg/kg)								
TOTAL ARSENIC	20	20	50	47	49	1.528	0.03	3.14
BIOACCESSIBLE ARSENIC	23	95	ND	ND	ND	NA	NA	NA
PERCENT BIOACCESSIBLE ARSENIC	NA	NA	1.94	2.88	2.04	0.52	0.23	22.58
TOTAL ARSENIC (250 µm)	NA	NA	32.7	29.1	29.7	1.93	0.06	6.32
MERCURY	4.7	10	0.6	0.52	0.39	0.11	0.21	21.06
LEAD	200	800	55	55	56	0.58	0.01	1.04
PENTACHLOROPHENOL (B270CM)	3	5	ND	ND	ND	NA	NA	NA
TA Job No.	HUH0072							

DU24 Area 4 - Surrounding Properties Yard area for the Sansevere property.	HDOH Tier I EAL (Unrestricted Use)	HDOH Tier I EAL (Commercial / Industrial Use)	PMAK-DU24-A-P	PMAK-DU24-A-T1	PMAK-DU24-A-T2	PMAK-DU24-A SD	PMAK-DU24-A RSD	PMAK-DU24-A RSD (%)
Sample Date			8/10/2011	8/10/2011	8/10/2011			
Depth Intervals (' bgs)			0-0.5	0-0.5	0-0.5			
Soil Analyses (ng/kg)								
TEQ DIOXINS	240	1500	92	92	98	3.46	0.04	3.69
Soil Analyses (mg/kg)								
TOTAL ARSENIC	20	20	290	230	230	34.64	0.14	13.86
BIOACCESSIBLE ARSENIC	23	95	16.8	16.1	17.1	NA	NA	NA
PERCENT BIOACCESSIBLE ARSENIC	NA	NA	6.94	8.14	8.07	0.67	0.09	8.73
TOTAL ARSENIC (250 µm)	NA	NA	242	198	212	22.48	0.10	10.34
MERCURY	4.7	10	0.68	0.62	0.68	0.03	0.05	5.25
LEAD	200	800	180	130	130	28.87	0.20	19.68
PENTACHLOROPHENOL (B270CM)	3	5	ND	ND	ND	NA	NA	NA
TA Job No.	HUH0072							

LEGEND

Red Text = Detected concentration exceeds the HEER Office Tier I EAL for Unrestricted Use only.
 Red Bold Text = Detected concentration exceeds the HEER Office Tier I EALs for both Unrestricted and Commercial/Industrial Use.
 mg/kg = milligrams per kilogram (parts per million [mg/kg] equivalent)
 ng/kg = nanograms per kilogram (parts per trillion [ng/kg] equivalent)
 NA = Not analyzed
 ND = Not detected at or above the limit shown in brackets
 NE = Not established
 RSD = Relative standard deviation
 SD = Standard deviation
 % = Percent
 Shading = Quality control statistic calculations
 Shading = The specific Tier I EALs used during the screening (based on current property usage)
 Shading = Exceeds upper limit %RSD (35%)
 Fall 2011 Revised Tier I EALs

Appendix D – Data Validation Reports

**DATA VALIDATION REPORT
HUH0012**

**Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area
Along Aalona Street and Oka Street
Kilauea, Hawaii**

Prepared for:



**State of Hawaii Department of Health,
Hazard Evaluation and Emergency Response Office
909 Ala Moana Boulevard, Suite 206
Honolulu, Hawaii 96814**

Prepared by:



TETRA TECH EM INC.

**Tetra Tech EM Inc.
737 Bishop Street, Suite 3010
Honolulu, Hawaii 96813**

December 2011

Tetra Tech Data Validation Report

Site: Kilauea PMA
Laboratory: Test America
Data Reviewer: Sara Woolley, Tetra Tech
Review Date: 11/29/11

Sample Delivery Group (SDG) No.: HUH0012

Sample IDs:	PMAK-DU1-A	PMAK-DU1-B
	PMAK-DU1-C	PMAK-DU1-D
	PMAK-DU1-E	PMAK-DU2-A
	PMAK-DU2-B	PMAK-DU2-C
	PMAK-DU2-D	PMAK-DU2-E

Matrix: Soil
Collection Date(s): August 1, 2011

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review" (June 2008), "USEPA Contract Laboratory Program National Functional Guidelines for Dioxin/Furan Data Review" (September 2005), and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (January 2010). In addition, the Tetra Tech documents "Data Validation Guidelines" (April 2010) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents was assessed, and any qualifications made to the data were in accordance with those documents.

Certified by:



Sara Woolley
Project Chemist

1 Data Validation Requirements

Cursory validation includes parameters listed below.

Organic Parameters

- * Holding times
- * Initial and continuing calibrations
- * Blanks
- * Surrogate recovery
- * Matrix spike/matrix spike duplicate
- * Laboratory control sample or blank spike
- * Laboratory control sample or blank spike
- * Internal standard performance
- * Overall assessment of data for the SDG

Inorganic Parameters

- * Holding times
- * Initial and continuing calibrations
- * Blanks
- * Matrix spike
- * Laboratory control sample or blank spike
- * Matrix duplicates
- * ICP serial dilution
- * Overall assessment of data for the SDG

2 Laboratory Qualifiers and Codes

All analyses

ND Not detected at or above the stated limit

Semivolatiles

M1 The matrix spike or matrix spike duplicate recovery were outside the acceptance limits

Z The surrogate recovery was outside the acceptance limits

Dioxins

CON Confirmation analysis

D Results was obtained from the analysis of the dilution

E Result concentration exceeds the calibration range

***** The surrogate recovery was outside the acceptance limits

Metals

M1 The matrix spike or matrix spike duplicate recovery were outside the acceptance limits

3 Semivolatile (Pentachlorophenol) by EPA SW-846 8270

I. Holding Times

A. All holding times were met.

II. Surrogate Recovery

A. The surrogates outside of QC limits are listed below.

<u>Sample ID</u>	<u>Surrogate</u>	<u>%R</u>	<u>QC Limits</u>
PMAK-DU2-A	2,4,6-TBP	18	40-120%

Low percent recoveries indicate that detected results may be biased low. Result should be considered estimated.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. QC criteria were violated for PCP (qualified "M1"). The LCS recoveries for this project were with QC criteria. Matrix interference, therefore, caused the QC violation rather than a laboratory or analytical problem.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All LCS criteria were met.

V. Blank Contamination

A. All blanks were free of contamination.

VI. Calibrations

A. No calibration violations were reported. Calibration data was not provided, however, so verification was not possible.

4 TEQ Dioxins by EPA SW-846 8290

I. Holding Times

- A. All holding times were met.

II. Internal Standards

- A. The internal standard recovery for 13C-OCDD was outside the acceptance criteria. Data is not expected to be affected by this outlier.

III. MS/MSD

- A. No MS/MSD analysis was performed.

IV. LCS

- A. All LCS criteria were met.

V. Blank Contamination

- A. All blanks were free of contamination.

VI. Calibrations

- A. The laboratory indicated all calibration curve criteria were met. No calibration data was provided, therefore, this could not be verified.
- B. OCDD was reported above the calibration curve in 4 samples (qualified "E"). These results should be considered estimated.
- C. 1,2,3,4,6,7,8-HpCDD was reported above the calibration curve in 1 sample (qualified "E"). This result should be considered estimated.

VII. Analyte Confirmation

- A. The sample concentration for 2,3,7,8-TCDF for 3 samples was reported from the confirmation analysis.
- B. Several analytes were reported from dilutions (qualified “D”). Sample results are considered usable as reported.

5 Metals (Arsenic, Lead, and Mercury) by EPA SW-846 6010/7471

I. Holding Times

- A. All holding times were met. The cooler temperature for samples subbed to the Denver laboratory arrived above the suggested maximum of 6 degrees C. Samples results are not expected to be affected for metals analysis.

II. Calibrations

- A. The laboratory indicated all calibration curve criteria were met. No calibration data was provided, therefore, this could not be verified

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

- A. QC criteria were violated for arsenic (qualified “M1”). The LCS recoveries for this project were with QC criteria. Matrix interference, therefore, caused the QC violation rather than a laboratory or analytical problem.

IV. LCS

- A. All LCS criteria were met.

V. Blank Contamination

- A. All blanks were free of contamination.

6 Overall Assessment of Data

I. Method Compliance and Additional Comments

- A. All analyses were conducted within all specifications of the requested methods.

II. Usability

Rejected sample results are unusable for all purposes. Estimated sample results are usable only for limited purposes.

- A. No sample results were rejected based on the provided QC information.
- B. As indicated above, some results should be considered estimated. All other quality control criteria were met and are considered acceptable.

**DATA VALIDATION REPORT
HUH0028**

**Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area
Along Aalona Street and Oka Street
Kilauea, Hawaii**

Prepared for:



**State of Hawaii Department of Health,
Hazard Evaluation and Emergency Response Office
909 Ala Moana Boulevard, Suite 206
Honolulu, Hawaii 96814**

Prepared by:



TETRA TECH EM INC.

**Tetra Tech EM Inc.
737 Bishop Street, Suite 3010
Honolulu, Hawaii 96813**

December 2011

Tetra Tech Data Validation Report

Site: Kilauea PMA
Laboratory: Test America
Data Reviewer: Sara Woolley, Tetra Tech
Review Date: 11/29/11

Sample Delivery Group (SDG) No.: HUH0028

Sample IDs:	PMAK-DU3-A	PMAK-DU8-A
	PMAK-DU3-B	PMAK-DU8-B
	PMAK-DU3-C	PMAK-DU8-C
	PMAK-DU3-D	PMAK-DU8-D
	PMAK-DU3-E	PMAK-DU8-E
	PMAK-DU9-A	PMAK-DU16-A
	PMAK-DU9-B	PMAK-DU16-B
	PMAK-DU9-C	PMAK-DU16-C
	PMAK-DU9-D	PMAK-DU16-D
	PMAK-DU9-E	PMAK-DU16-E
	PMAK-DU13-A	PMAK-DU4-A-P
	PMAK-DU13-B	PMAK-DU4-A-T1
	PMAK-DU13-C	PMAK-DU4-A-T2
	PMAK-DU13-D	PMAK-DU4-B-P
	PMAK-DU13-E	PMAK-DU4-B-T1
	PMAK-DU4-B-T2	PMAK-DU4-D-T1
	PMAK-DU4-C-P	PMAK-DU4-D-T2
	PMAK-DU4-C-T1	PMAK-DU4-E-P
	PMAK-DU4-C-T1	PMAK-DU4-E-T1
	PMAK-DU4-D-P	PMAK-DU4-E-T2

Matrix: Soil
Collection Date(s): August 2-3, 2011

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review" (June 2008), "USEPA Contract Laboratory Program National Functional Guidelines for Dioxin/Furan Data Review" (September 2005), and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (January 2010). In addition, the Tetra Tech documents "Data Validation Guidelines" (April 2010) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

Data Validation Report – HUH0028

Former Kilauea Sugar Company, Ltd. Mill PMA

I certify that all data validation criteria outlined in the above referenced documents was assessed, and any qualifications made to the data were in accordance with those documents.

Certified by:



Sara Woolley
Project Chemist

1 Data Validation Requirements

Cursory validation includes parameters listed below.

Organic Parameters

- * Holding times
- * Initial and continuing calibrations
- * Blanks
- * Surrogate recovery
- * Matrix spike/matrix spike duplicate
- * Laboratory control sample or blank spike
- * Laboratory control sample or blank spike
- * Internal standard performance
- * Overall assessment of data for the SDG

Inorganic Parameters

- * Holding times
- * Initial and continuing calibrations
- * Blanks
- * Matrix spike
- * Laboratory control sample or blank spike
- * Matrix duplicates
- * ICP serial dilution
- * Overall assessment of data for the SDG

2 Laboratory Qualifiers and Codes

All analyses

ND Not detected at or above the stated limit

Semivolatiles

M1 The matrix spike or matrix spike duplicate recovery were outside the acceptance limits

RL9 Increased reporting limit due to sample volume

RL2 Increased reporting limit due to interference

Dioxins

CON Confirmation analysis

D Results was obtained from the analysis of the dilution

E Result concentration exceeds the calibration range

***** The surrogate recovery was outside the acceptance limits

Q Estimated maximum possible concentration (EMPC)

Metals

M1 The matrix spike or matrix spike duplicate recovery were outside the acceptance limits

TPH

Z1 The surrogate recovery was outside the acceptance limits

3 Semivolatile (Pentachlorophenol) by EPA SW-846 8270

I. Holding Times

A. All holding times were met.

II. Surrogate Recovery

A. The surrogates outside of QC limits are listed below.

<u>Sample ID</u>	<u>Surrogate</u>	<u>%R</u>	<u>QC Limits</u>
PMAK-DU8-B	2,4,6-TBP	37	40-120%

Low percent recoveries indicate that detected results may be biased low. Result should be considered estimated.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. QC criteria were violated for PCP (qualified "M1"). The LCS recoveries for this project were with QC criteria. Matrix interference, therefore, caused the QC violation rather than a laboratory or analytical problem.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All LCS criteria were met.

V. Blank Contamination

A. All blanks were free of contamination.

VI. Calibrations

A. No calibration violations were reported. Calibration data was not provided, however, so verification was not possible.

VI. Other

- A. Reporting limits for sample PMAK-DU3-A were elevated due to sample volume (qualified RL9”). Reporting limit for was raised for PMAK-DU13-C due to interference from TPH (qualified “RL2”).

4 TEQ Dioxins by EPA SW-846 8290

I. Holding Times

- A. All holding times were met.

II. Internal Standards

- A. The internal standard recovery for 13C-OCDD was outside the acceptance criteria in 2 samples. Data is not expected to be affected by this outlier.

III. MS/MSD

- A. No MS/MSD analysis was performed.

IV. LCS

- A. The LCS had recoveries for OCDD above the acceptance criteria. Results for OCDD may be biased high.

V. Blank Contamination

- A. All blanks were free of contamination.

VI. Calibrations

- A. The laboratory indicated all calibration curve criteria were met. No calibration data was provided, therefore, this could not be verified.
- B. Several analyte were reported above the calibration curve in 13 samples (qualified "E"). These results should be considered estimated.

VII. Analyte Confirmation

- A. The sample concentration for 2,3,7,8-TCDF for 16 samples was reported from the confirmation analysis.
- B. Several analytes were reported from dilutions (qualified “D”). Sample results are considered usable as reported.
- C. 2,3,7,8-TCDF in sample PMAK-DU4-A-T2 was reported as an estimated maximum possible concentration because the quantitation is based on the theoretical ion abundance ratio (qualified “Q”).

5 Metals (arsenic, lead, and mercury) by EPA SW-846 6010/7471

I. Holding Times

- A. All holding times were met.

II. Calibrations

- A. The laboratory indicated all calibration curve criteria were met. No calibration data was provided, therefore, this could not be verified

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

- A. QC criteria were violated for arsenic (qualified “M1”). The LCS recoveries for this project were with QC criteria. Matrix interference, therefore, caused the QC violation rather than a laboratory or analytical problem.

IV. LCS

- A. All LCS criteria were met.

V. Blank Contamination

- A. All blanks were free of contamination.

6 TPH (DRO and RRO) by EPA SW-846 8015

I. Holding Times

A. All holding times were met.

II. Surrogate Recovery

A. The surrogates outside of QC limits are listed below.

<u>Sample ID</u>	<u>Surrogate</u>	<u>%R</u>	<u>QC Limits</u>
PMAK-DU4-B-P	o-terphenyl	144	40-120%
PMAK-DU4-C-P	o-terphenyl	194	40-120%
PMAK-DU4-C-T2	o-terphenyl	128	40-120%

High percent recoveries indicate that detected results may be biased low. Detected results should be considered estimated.

III. Calibrations

A. The laboratory indicated all calibration curve criteria were met. No calibration data was provided, therefore, this could not be verified

IV. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. All MS/MSD criteria were met.

V. LCS

A. All LCS criteria were met.

VI. Blank Contamination

A. All blanks were free of contamination.

7 Overall Assessment of Data

I. Method Compliance and Additional Comments

- A. All analyses were conducted within all specifications of the requested methods.

II. Usability

Rejected sample results are unusable for all purposes. Estimated sample results are usable only for limited purposes.

- A. No sample results were rejected based on the provided QC information.
- B. As indicated above, some results should be considered estimated. All other quality control criteria were met and are considered acceptable.

**DATA VALIDATION REPORT
HUH0049**

**Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area
Along Aalona Street and Oka Street
Kilauea, Hawaii**

Prepared for:



**State of Hawaii Department of Health,
Hazard Evaluation and Emergency Response Office
909 Ala Moana Boulevard, Suite 206
Honolulu, Hawaii 96814**

Prepared by:



TETRA TECH EM INC.

**Tetra Tech EM Inc.
737 Bishop Street, Suite 3010
Honolulu, Hawaii 96813**

December 2011

Tetra Tech Data Validation Report

Site: Kilauea PMA
Laboratory: Test America
Data Reviewer: Sara Woolley, Tetra Tech
Review Date: 11/29/11

Sample Delivery Group (SDG) No.: HUH0049

Sample IDs:

PMAK-DU12-A	PMAK-DU14-A
PMAK-DU12-B	PMAK-DU14-B
PMAK-DU12-C	PMAK-DU14-C
PMAK-DU12-D	PMAK-DU14-D
PMAK-DU12-E	PMAK-DU14-E
PMAK-DU12-A	PMAK-DU14-A
PMAK-DU15-B	PMAK-DU17-B
PMAK-DU15-C	PMAK-DU17-C
PMAK-DU15-D	PMAK-DU17-D
PMAK-DU15-E	PMAK-DU17-E
PMAK-DU11-A	PMAK-DU10-A
PMAK-DU11-B	PMAK-DU10-B
PMAK-DU11-C	PMAK-DU10-C
PMAK-DU11-D	PMAK-DU10-D
PMAK-DU11-E	PMAK-DU10-E
PMAK-DU6-A-P	PMAK-DU6-B-T2
PMAK-DU6-A-T1	PMAK-DU6-C-P
PMAK-DU6-A-T2	PMAK-DU6-C-T1
PMAK-DU6-B-P	PMAK-DU6-C-T2
PMAK-DU6-B-T1	PMAK-DU6-D-P
PMAK-DU6-D-T1	PMAK-DU7-A
PMAK-DU6-D-T2	PMAK-DU7-B
PMAK-DU6-E-P	PMAK-DU7-C
PMAK-DU6-E-T1	PMAK-DU7-D
PMAK-DU6-E-T2	PMAK-DU7-E
PMAK-DU22-A	

Matrix: Soil
Collection Date(s): August 4-8, 2011

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review" (June 2008), "USEPA Contract Laboratory Program National Functional Guidelines for Dioxin/Furan Data Review" (September 2005),

Data Validation Report – HUH0049

Former Kilauea Sugar Company, Ltd. Mill PMA

and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (January 2010). In addition, the Tetra Tech documents "Data Validation Guidelines" (April 2010) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents was assessed, and any qualifications made to the data were in accordance with those documents.

Certified by:



Sara Woolley
Project Chemist

1 Data Validation Requirements

Cursory validation includes parameters listed below.

Organic Parameters

- * Holding times
- * Initial and continuing calibrations
- * Blanks
- * Surrogate recovery
- * Matrix spike/matrix spike duplicate
- * Laboratory control sample or blank spike
- * Laboratory control sample or blank spike
- * Internal standard performance
- * Overall assessment of data for the SDG

Inorganic Parameters

- * Holding times
- * Initial and continuing calibrations
- * Blanks
- * Matrix spike
- * Laboratory control sample or blank spike
- * Matrix duplicates
- * ICP serial dilution
- * Overall assessment of data for the SDG

2 Laboratory Qualifiers and Codes

All analyses

ND Not detected at or above the stated limit

Chlorinated Herbicides

D Result was obtained from the analysis of the dilution

E Result concentration exceeds the calibration range

Volatiles

C9 Calibration criteria were not met

M1 The matrix spike or matrix spike duplicate recovery were outside the acceptance limits

R3 The ms/msd rpd was outside acceptance limits

RL6 The reporting limit was raised due to methanol extraction

Semivolatiles

H Sample analysis was outside the holding time

H2 Initial analysis was within the holding time, but reanalysis for the dilution was outside the holding time

M1 The matrix spike or matrix spike duplicate recovery were outside the acceptance limits

Z The surrogate recovery was outside the acceptance limits

C9 Calibration criteria were not met

Dioxins

CON Confirmation analysis

G Elevated reporting limit due to matrix interference

H Elevated reporting limit due to blank noise

E Result concentration exceeds the calibration range

Metals

M8 The matrix spike or matrix spike duplicate recovery were outside the acceptance limits

H Sample analysis was outside the holding time

TPH

H Sample analysis was outside the holding time

Z3 Surrogate recovery criteria was not met due to matrix interference

Z9 Surrogate recovery criteria was not met due to dilution

3 Chlorinated Herbicides (2,4-D) by EPA SW-846 8151

I. Holding Times

A. All holding times were met.

II. Surrogate Recovery

A. The surrogate recovery could not be accurately calculated for several samples because the extract was diluted beyond the ability to quantitate a recovery.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Insufficient sample volume was provided to analyze MS/MSD. LCS recoveries were acceptable.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All LCS criteria were met.

V. Blank Contamination

A. All blanks were free of contamination.

VI. Calibrations

A. No calibration violations were reported. Calibration data was not provided, however, so verification was not possible.

4 Volatiles by EPA SW-846 8260

I. Holding Times

A. All holding times were met.

II. Surrogate Recovery

A. All surrogate recovery criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. QC criteria were violated for a few volatiles (qualified “M1” and “R3”). The LCS recoveries for this project were with QC criteria. Matrix interference, therefore, caused the QC violation rather than a laboratory or analytical problem.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All LCS criteria were met.

V. Blank Contamination

A. All blanks were free of contamination.

VI. Calibrations

A. Calibration verification failed for 1,2,3-trichlorobenzene, acetone, and dibromodifluoromethane (qualified “C9”). These results should be considered estimated. No other calibration violations were reported. Calibration data was not provided, however, so verification was not possible.

5 Semivolatiles by EPA SW-846 8270

I. Holding Times

- A. A few samples or sample dilutions were analyzed outside the holding times (qualified “H” or “H2”). These results should be considered estimated.

II. Surrogate Recovery

- A. The surrogates outside of QC limits are listed below.

<u>Sample ID</u>	<u>Surrogate</u>	<u>%R</u>	<u>QC Limits</u>
PMAK-DU12-D	2,4,6-TBP	31	40-120%
PMAK-DU6-B-T1	2,4,6-TBP	36	40-120%
PMAK-DU6-B-T2	2,4,6-TBP	33	40-120%
PMAK-DU6-C-T1	2,4,6-TBP	8	40-120%
PMAK-DU6-C-T2	2,4,6-TBP	27	40-120%

Low percent recoveries indicate that detected results may be biased low. Result should be considered estimated.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

- A. QC criteria were violated (qualified “M1”). The LCS recoveries for this project were with QC criteria. Matrix interference, therefore, caused the QC violation rather than a laboratory or analytical problem.

IV. Blank Spike or Laboratory Control Sample (LCS)

- A. All LCS criteria were met.

V. Blank Contamination

- A. All blanks were free of contamination.

VI. Calibrations

- A. Calibration verification failed for 1-naphthylamine, 2,4-dinitrophenol, 3,4-methylphenol, benzoic acid, and methyl methanesulfonate (qualified "C9"). These results should be considered estimated. No other calibration violations were reported. Calibration data was not provided, however, so verification was not possible.

6 TEQ Dioxins by EPA SW-846 8290

I. Holding Times

A. All holding times were met.

II. Internal Standards

A. All internal standard criteria were met.

III. MS/MSD

A. No MS/MSD analysis was performed.

IV. LCS

A. All LCS criteria were met.

V. Blank Contamination

A. All blanks were free of contamination.

VI. Calibrations

A. The laboratory indicated all calibration curve criteria were met. No calibration data was provided, therefore, this could not be verified.

B. OCDD was reported above the calibration curve in 4 samples (qualified “E”). These results should be considered estimated.

VII. Analyte Confirmation

A. The sample concentration for 2,3,7,8-TCDF for 3 samples was reported from the confirmation analysis.

B. Several analytes were required raised detection limits due to blank noise (qualified “H”) or sample noise or matrix interference (qualified “G”). Sample results are considered usable as reported.

7 Metals (Arsenic, Lead, and Mercury) by EPA SW-846 6010/7471

I. Holding Times

- A. Some samples for mercury were analyzed outside of holding time (qualified “H”). These results should be considered estimated.

II. Calibrations

- A. The laboratory indicated all calibration curve criteria were met. No calibration data was provided, therefore, this could not be verified

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

- A. QC criteria were violated for some samples, however, results were greater than 4x the spike so no samples are useable as is.
- B. QC criteria were violated for arsenic (qualified “M8”). The LCS recoveries for this project were with QC criteria. Matrix interference, therefore, caused the QC violation rather than a laboratory or analytical problem.

IV. LCS

- A. All LCS criteria were met.

V. Blank Contamination

- A. All blanks were free of contamination.

8 TPH (DRO and RRO) by EPA SW-846 8015

I. Holding Times

- A. Some samples for were analyzed outside of holding time (qualified “H”). These results should be considered estimated.

II. Surrogate Recovery

- A. Several samples had surrogate recoveries outside of acceptance criteria (qualified “Z3” or “Z9”). Samples either had to be diluted or had high levels of contamination so surrogates recoveries do not provide useful information.

III. Calibrations

- A. The laboratory indicated all calibration curve criteria were met. No calibration data was provided, therefore, this could not be verified

IV. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

- A. Due to high analyte concentrations in the sample, MS/MSD spike recoveries do not provide useful information.

V. LCS

- A. All LCS criteria were met.

VI. Blank Contamination

- A. All blanks were free of contamination.

9 Overall Assessment of Data

I. Method Compliance and Additional Comments

- A. All analyses were conducted within all specifications of the requested methods.

II. Usability

Rejected sample results are unusable for all purposes. Estimated sample results are usable only for limited purposes.

- A. No sample results were rejected based on the provided QC information.
- B. As indicated above, some results should be considered estimated. All other quality control criteria were met and are considered acceptable.

**DATA VALIDATION REPORT
HUH0072**

**Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area
Along Aalona Street and Oka Street
Kilauea, Hawaii**

Prepared for:



**State of Hawaii Department of Health,
Hazard Evaluation and Emergency Response Office
909 Ala Moana Boulevard, Suite 206
Honolulu, Hawaii 96814**

Prepared by:



TETRA TECH EM INC.

**Tetra Tech EM Inc.
737 Bishop Street, Suite 3010
Honolulu, Hawaii 96813**

December 2011

Tetra Tech Data Validation Report

Site: Kilauea PMA
Laboratory: Test America
Data Reviewer: Sara Woolley, Tetra Tech
Review Date: 11/30/11

Sample Delivery Group (SDG) No.: HUH0072

Sample IDs:

PMARK-DU5-A	PMARK-DU27
PMARK-DU5-B	PMARK-DU21-A
PMARK-DU5-C	PMARK-DU23-A
PMARK-DU5-D	PMARK-DU24-A-P
PMARK-DU5-E	PMARK-DU24-A-T1
PMARK-DU24-T2	PMARK-DU19
PMARK-DU18-A-P	PMARK-DU25-A
PMARK-DU18-A-T1	PMARK-Area 1,3,4-WC
PMARK-DU18-A-T2	PMARK-Area 2-WC
PMARK-DU26	PMARK-Area 5-WC

Matrix: Soil
Collection Date(s): August 9-11, 2011

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review" (June 2008), "USEPA Contract Laboratory Program National Functional Guidelines for Dioxin/Furan Data Review" (September 2005), and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (January 2010). In addition, the Tetra Tech documents "Data Validation Guidelines" (April 2010) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents was assessed, and any qualifications made to the data were in accordance with those documents.

Certified by:



Sara Woolley
Project Chemist

1 Data Validation Requirements

Cursory validation includes parameters listed below.

Organic Parameters

- * Holding times
- * Initial and continuing calibrations
- * Blanks
- * Surrogate recovery
- * Matrix spike/matrix spike duplicate
- * Laboratory control sample or blank spike
- * Laboratory control sample or blank spike
- * Internal standard performance
- * Overall assessment of data for the SDG

Inorganic Parameters

- * Holding times
- * Initial and continuing calibrations
- * Blanks
- * Matrix spike
- * Laboratory control sample or blank spike
- * Matrix duplicates
- * ICP serial dilution
- * Overall assessment of data for the SDG

2 Laboratory Qualifiers and Codes

All analyses

ND Not detected at or above the stated limit

Pesticides

M1 The matrix spike or matrix spike duplicate recovery were outside the acceptance limits

Z1 Surrogate recovery criteria was above acceptance limits

Semivolatiles

RL1 Reporting limits was raised due to sample matrix effects

C9 Calibration criteria were not met

Dioxins

a LCS spike recovery was outside the acceptance limits

Metals

B Compound was found in the blank and the sample

F The matrix spike/ matrix spike duplicate recovery or the RPD were outside the acceptance limits

H Sample analysis was outside the holding time

J Result was less than the RL but greater than the MDL

TPH

Z3 Surrogate recovery criteria was not met due to matrix interference

3 Chlorinated Herbicides by EPA SW-846 8151

I. Holding Times

A. All holding times were met.

II. Surrogate Recovery

A. All surrogate recovery was met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. All MS/MSD criteria were met. LCS recoveries were acceptable.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All LCS criteria were met.

V. Blank Contamination

A. All blanks were free of contamination.

VI. Calibrations

A. No calibration violations were reported. Calibration data was not provided, however, so verification was not possible.

4 PESTICIDES by EPA SW-846 8151 AND 8321

I. Holding Times

A. All holding times were met.

II. Surrogate Recovery

A. Surrogate recoveries for PMAK-DU26 were above acceptance criteria. Detected results should be considered estimated.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. QC criteria were violated for a few endrin (qualified "M1"). The LCS recoveries for this project were with QC criteria. Matrix interference, therefore, caused the QC violation rather than a laboratory or analytical problem.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All LCS criteria were met.

V. Blank Contamination

A. All blanks were free of contamination.

VI. Calibrations

A. No calibration violations were reported. Calibration data was not provided, however, so verification was not possible.

5 Semivolatiles by EPA SW-846 8270

I. Holding Times

A. All holding times were met.

II. Surrogate Recovery

A. All surrogate recovery criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. All MS/MSD criteria were met.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All LCS criteria were met.

V. Blank Contamination

A. All blanks were free of contamination.

VI. Calibrations

A. Calibration verification failed for 1-naphthylamine, 2,4-dinitrophenol, 3,4-methylphenol, benzoic acid, and methyl methanesulfonate (qualified "C9"). These results should be considered estimated. No other calibration violations were reported. Calibration data was not provided, however, so verification was not possible.

6 TEQ Dioxins by EPA SW-846 8290

I. Holding Times

A. All holding times were met.

II. Internal Standards

A. All internal standard criteria were met.

III. MS/MSD

A. No MS/MSD analysis was performed.

IV. LCS

A. 1,2,3,7,8-PeCDD recovery was above the QC criteria indicating results may be biased high. Detected results for this analyte should be considered estimated.

V. Blank Contamination

A. All blanks were free of contamination.

VI. Calibrations

A. No calibration violations were reported. Calibration data was not provided, however, so verification was not possible.

7 Metals by EPA SW-846 6010/7471

I. Holding Times

- A. One sample for mercury was analyzed outside of holding time (qualified “H”). These results should be considered estimated.

II. Calibrations

- A. The laboratory indicated all calibration curve criteria were met. No calibration data was provided, therefore, this could not be verified

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

- A. QC criteria were violated for some samples, however, results were greater than 4x the spike so no samples are usable as is.
- B. QC criteria were violated for arsenic and selenium (qualified “F”). The LCS recoveries for this project were with QC criteria. Matrix interference, therefore, caused the QC violation rather than a laboratory or analytical problem.

IV. LCS

- A. All LCS criteria were met.

V. Blank Contamination

- A. Barium was detected in the method blank as well as the samples. The concentration level found in the blank was sufficiently low to have no effect on the sample results.

8 TPH (DRO and RRO) by EPA SW-846 8015

I. Holding Times

- A. All holding times were met.

II. Surrogate Recovery

- A. Several samples had surrogate recoveries outside of acceptance criteria (qualified “Z3”). Samples had high levels of contamination so surrogates recoveries do not provide useful information.

III. Calibrations

- A. The laboratory indicated all calibration curve criteria were met. No calibration data was provided, therefore, this could not be verified

IV. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

- A. All MS/MSD criteria were met..

V. LCS

- A. All LCS criteria were met.

VI. Blank Contamination

- A. All blanks were free of contamination.

9 Overall Assessment of Data

I. Method Compliance and Additional Comments

- A. All analyses were conducted within all specifications of the requested methods.

II. Usability

Rejected sample results are unusable for all purposes. Estimated sample results are usable only for limited purposes.

- A. No sample results were rejected based on the provided QC information.
- B. As indicated above, some results should be considered estimated. All other quality control criteria were met and are considered acceptable.

**DATA VALIDATION REPORT
HUI0095**

**Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area
Along Aalona Street and Oka Street
Kilauea, Hawaii**

Prepared for:



**State of Hawaii Department of Health,
Hazard Evaluation and Emergency Response Office
909 Ala Moana Boulevard, Suite 206
Honolulu, Hawaii 96814**

Prepared by:



TETRA TECH EM INC.

**Tetra Tech EM Inc.
737 Bishop Street, Suite 3010
Honolulu, Hawaii 96813**

December 2011

Tetra Tech Data Validation Report

Site: Kilauea PMA
Laboratory: Test America
Data Reviewer: Sara Woolley, Tetra Tech
Review Date: 11/30/11

Sample Delivery Group (SDG) No.: HUI0095

Sample IDs: PMAK-DU1-B
PMAK-DU2-B
PMAK-DU2-C

Matrix: Soil
Collection Date(s): August 1, 2011

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review" (June 2008), "USEPA Contract Laboratory Program National Functional Guidelines for Dioxin/Furan Data Review" (September 2005), and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (January 2010). In addition, the Tetra Tech documents "Data Validation Guidelines" (April 2010) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents was assessed, and any qualifications made to the data were in accordance with those documents.

Certified by:



Sara Woolley
Project Chemist

1 Data Validation Requirements

Cursory validation includes parameters listed below.

Organic Parameters

- * Holding times
- * Initial and continuing calibrations
- * Blanks
- * Surrogate recovery
- * Matrix spike/matrix spike duplicate
- * Laboratory control sample or blank spike
- * Laboratory control sample or blank spike
- * Internal standard performance
- * Overall assessment of data for the SDG

Inorganic Parameters

- * Holding times
- * Initial and continuing calibrations
- * Blanks
- * Matrix spike
- * Laboratory control sample or blank spike
- * Matrix duplicates
- * ICP serial dilution
- * Overall assessment of data for the SDG

2 Laboratory Qualifiers and Codes

All analyses

ND Not detected at or above the stated limit

Metals

B Compound was found in the blank and the sample

M1 The matrix spike/ matrix spike duplicate recoveries were outside the acceptance limits

3 Metals by EPA SW-846 6010/7471

I. Holding Times

A. All holding times were met.

II. Calibrations

A. The laboratory indicated all calibration curve criteria were met. No calibration data was provided, therefore, this could not be verified

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. QC criteria were violated for arsenic and selenium (qualified “M1”). The LCS recoveries for this project were with QC criteria. Matrix interference, therefore, caused the QC violation rather than a laboratory or analytical problem.

IV. LCS

A. All LCS criteria were met.

V. Blank Contamination

A. Arsenic was detected in the method blank as well as the samples. The concentration level found in the blank was sufficiently low to have no effect on the sample results.

4 Overall Assessment of Data

I. Method Compliance and Additional Comments

- A. All analyses were conducted within all specifications of the requested methods.

II. Usability

Rejected sample results are unusable for all purposes. Estimated sample results are usable only for limited purposes.

- A. No sample results were rejected based on the provided QC information.
- B. As indicated above, some results should be considered estimated. All other quality control criteria were met and are considered acceptable.

**DATA VALIDATION REPORT
HUI0096**

**Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area
Along Aalona Street and Oka Street
Kilauea, Hawaii**

Prepared for:



**State of Hawaii Department of Health,
Hazard Evaluation and Emergency Response Office
909 Ala Moana Boulevard, Suite 206
Honolulu, Hawaii 96814**

Prepared by:



TETRA TECH EM INC.

**Tetra Tech EM Inc.
737 Bishop Street, Suite 3010
Honolulu, Hawaii 96813**

December 2011

Tetra Tech Data Validation Report

Site: Kilauea PMA
Laboratory: Test America
Data Reviewer: Sara Woolley, Tetra Tech
Review Date: 11/30/11

Sample Delivery Group (SDG) No.: HUI0096

Sample IDs:
PMAK-DU3-B
PMAK-DU16-B
PMAK-DU16-C
PMAK-D4-B-P
PMAK-DU4-B-T1
PMAK-DU4-B-T2

Matrix: Soil
Collection Date(s): August 2-3, 2011

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review" (June 2008), "USEPA Contract Laboratory Program National Functional Guidelines for Dioxin/Furan Data Review" (September 2005), and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (January 2010). In addition, the Tetra Tech documents "Data Validation Guidelines" (April 2010) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents was assessed, and any qualifications made to the data were in accordance with those documents.

Certified by:



Sara Woolley
Project Chemist

1 Data Validation Requirements

Cursory validation includes parameters listed below.

Organic Parameters

- * Holding times
- * Initial and continuing calibrations
- * Blanks
- * Surrogate recovery
- * Matrix spike/matrix spike duplicate
- * Laboratory control sample or blank spike
- * Laboratory control sample or blank spike
- * Internal standard performance
- * Overall assessment of data for the SDG

Inorganic Parameters

- * Holding times
- * Initial and continuing calibrations
- * Blanks
- * Matrix spike
- * Laboratory control sample or blank spike
- * Matrix duplicates
- * ICP serial dilution
- * Overall assessment of data for the SDG

2 Laboratory Qualifiers and Codes

All analyses

ND Not detected at or above the stated limit

Metals

B Compound was found in the blank and the sample

M1 The matrix spike/ matrix spike duplicate recoveries were outside the acceptance limits

3 Metals by EPA SW-846 6010/7471

I. Holding Times

A. All holding times were met.

II. Calibrations

A. The laboratory indicated all calibration curve criteria were met. No calibration data was provided, therefore, this could not be verified

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. QC criteria were violated for arsenic and selenium (qualified “M1”). The LCS recoveries for this project were with QC criteria. Matrix interference, therefore, caused the QC violation rather than a laboratory or analytical problem.

IV. LCS

A. All LCS criteria were met.

V. Blank Contamination

A. Arsenic was detected in the method blank as well as the samples. The concentration level found in the blank was sufficiently low to have no effect on the sample results.

4 Overall Assessment of Data

I. Method Compliance and Additional Comments

- A. All analyses were conducted within all specifications of the requested methods.

II. Usability

Rejected sample results are unusable for all purposes. Estimated sample results are usable only for limited purposes.

- A. No sample results were rejected based on the provided QC information.
- B. As indicated above, some results should be considered estimated. All other quality control criteria were met and are considered acceptable.

**DATA VALIDATION REPORT
HUL0004**

**Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area
Along Aalona Street and Oka Street
Kilauea, Hawaii**

Prepared for:



**State of Hawaii Department of Health,
Hazard Evaluation and Emergency Response Office
909 Ala Moana Boulevard, Suite 206
Honolulu, Hawaii 96814**

Prepared by:



TETRA TECH EM INC.

**Tetra Tech EM Inc.
737 Bishop Street, Suite 3010
Honolulu, Hawaii 96813**

February 2012

Tetra Tech Data Validation Report

Site: Kilauea PMA
Laboratory: Test America
Data Reviewer: Sara Woolley, Tetra Tech
Review Date: 2/2 -2/3/12

Sample Delivery Group (SDG) No.: HUL0004

Sample IDs:	PMAK-DU12-B	PMAK-DU14-B	PMAK-DU15-B
	PMAK-DU22-A	PMAK-DU17-B	PMAK-DU10-B
	PMAK-DU10-C	PMAK-DU10-D	PMAK-DU10-E
	PMAK-DU2-C	PMAK-DU5-C	PMAK-DU5-E
	PMAK-DU13-B	PMAK-DU16-B	

Matrix: Soil
Collection Date(s): August 3 - 8, 2011

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review" (June 2008), "USEPA Contract Laboratory Program National Functional Guidelines for Dioxin/Furan Data Review" (September 2005), and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (January 2010). In addition, the Tetra Tech documents "Data Validation Guidelines" (April 2010) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents was assessed, and any qualifications made to the data were in accordance with those documents.

Certified by:



Sara Woolley
Project Chemist

1 Data Validation Requirements

Cursory validation includes parameters listed below.

Organic Parameters

- * Holding times
- * Initial and continuing calibrations
- * Blanks
- * Surrogate recovery
- * Matrix spike/matrix spike duplicate
- * Laboratory control sample or blank spike
- * Internal standard performance
- * Overall assessment of data for the SDG

Inorganic Parameters

- * Holding times
- * Initial and continuing calibrations
- * Blanks
- * Matrix spike
- * Laboratory control sample or blank spike
- * Matrix duplicates
- * ICP serial dilution
- * Overall assessment of data for the SDG

2 Laboratory Qualifiers and Codes

All analyses

ND Not detected at or above the stated limit

Semivolatiles

H Samples were extracted or analyzed outside the specified hold time

Pesticides

H Samples were extracted or analyzed outside the specified hold time

Dioxins

CON Confirmation analysis

E Result concentration exceeds the calibration range

Metals

H Samples were digested or analyzed outside the specified hold time

3 Semivolatile (Pentachlorophenol) by EPA SW-846 8270 - TCLP

I. Holding Times

- A. All samples were analyzed outside of the prescribed holding time. Sample results, therefore, should be considered estimated.

II. Surrogate Recovery

- A. All surrogate recoveries were within QC criteria.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

- A. No MS/MSD analysis was performed for this SDG. LCS/LCSD criteria were all met.

IV. Blank Spike or Laboratory Control Sample (LCS)

- A. All LCS criteria were met.

V. Blank Contamination

- A. All blanks were free of contamination.

VI. Calibrations

- A. No calibration violations were reported. Calibration data was not provided, however, so verification was not possible.

4 Pesticides by EPA SW-846 8081 - TCLP

I. Holding Times

- A. All samples were analyzed outside of the prescribed holding time. Sample results, therefore, should be considered estimated.

II. Surrogate Recovery

- A. All surrogate recoveries were within QC criteria.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

- A. No MS/MSD analysis was performed for this SDG. LCS/LCSD criteria were all met.

IV. Blank Spike or Laboratory Control Sample (LCS)

- A. All LCS criteria were met.

V. Blank Contamination

- A. All blanks were free of contamination.

VI. Calibrations

- A. No calibration violations were reported. Calibration data was not provided, however, so verification was not possible.

5 TEQ Dioxins by EPA SW-846 8290

I. Holding Times

- A. All samples were analyzed outside of the prescribed holding time. Sample results, therefore, should be considered estimated.

II. Internal Standards

- A. All internal standard criteria was met.

III. MS/MSD

- A. No MS/MSD analysis was performed.

IV. LCS

- A. All LCS criteria were met.

V. Blank Contamination

- A. All blanks were free of contamination.

VI. Calibrations

- A. The laboratory indicated all calibration curve criteria were met. No calibration data was provided, therefore, this could not be verified.
- B. OCDD was reported above the calibration curve in 3 samples (qualified “E”). These results should be considered estimated.

VII. Analyte Confirmation

- A. The sample concentration for 2,3,7,8-TCDF for sample PMAK-DU2-C was reported from the confirmation analysis.

6 Metals (Arsenic, Lead, and Mercury) by EPA SW-846 6010/7471 -TCLP

I. Holding Times

- A. All holding times were met for 6010 metals. Mercury was analyzed outside of the prescribed holding time. Results for mercury should be considered estimated.

II. Calibrations

- A. The laboratory indicated all calibration curve criteria were met. No calibration data was provided, therefore, this could not be verified

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

- A. No MS/MSD analysis was performed.

IV. LCS

- A. All LCS/LCSD criteria were met.

V. Blank Contamination

- A. All blanks were free of contamination.

7 Overall Assessment of Data

I. Method Compliance and Additional Comments

- A. All analyses were conducted within all specifications of the requested methods.

II. Usability

Rejected sample results are unusable for all purposes. Estimated sample results are usable only for limited purposes.

- A. No sample results were rejected based on the provided QC information. Although holding times were grossly exceeded in many instances, due to the stability and persistence of the compounds being analyzed, it is the opinion of the reviewer that ND results should be considered estimated (the associated numerical detection limit is regarded as inaccurate or imprecise) rather than rejected. In addition, samples were properly stored (kept cool) between collection and analysis.
- B. As indicated above, most results should be considered estimated due to holding time violations. All other quality control criteria were met and are considered acceptable.

Appendix E – EAL Surfer Reports

**¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2008, updated March 2009)**

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 10
Area: 2
Description: Within the western portion of the Drainage Swale, which is along the northern border of the Old Mill LLC property.
Sample ID: PMAK-DU10-B
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Commercial/ Industrial Only
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	DIOXINS (TEQ)
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Input Site Concentrations	
Soil (mg/kg):	2100
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	1.8E-05	Yes	Table I-2
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	-	-	Table L
Gross Contamination:	mg/kg	2.5E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	1.9E-01	Yes	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL:	mg/kg	1.8E-05		
	Basis: Direct Exposure			

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	3.0E-03	-	Table D-4a
Gross Contamination:	ug/L	6.0E-02	-	Table G-2
Final Groundwater Tier 1 EAL:	ug/L	3.0E-03		
	Basis: Aquatic Ecotoxicity			

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Summer 2008, updated March 2009)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 11
Area: 2
Description: Along the northern border of the Old Mill LLC property.
Sample ID: PMAK-DU11-B
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Commercial/ Industrial Only
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	DIOXINS (TEQ)
--------------------------------------	----------------------

Input Site Concentrations	
Soil (mg/kg):	350
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	1.8E-05	Yes	Table I-2
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	-	-	Table L
Gross Contamination:	mg/kg	2.5E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	1.9E-01	Yes	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL: mg/kg 1.8E-05				
Basis: Direct Exposure				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	3.0E-03	-	Table D-4a
Gross Contamination:	ug/L	6.0E-02	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 3.0E-03				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Summer 2008, updated March 2009)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 12
Area: 2
Description: Within the front yard of the Thompson property, adjacent to Aalona Street.
Sample ID: PMAK-DU12-B
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	DIOXINS (TEQ)
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Input Site Concentrations	
Soil (mg/kg):	1800
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	4.5E-06	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	-	-	Table L
Gross Contamination:	mg/kg	1.0E+03	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	1.9E-01	Yes	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL: mg/kg 4.5E-06				
Basis: Direct Exposure				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	3.0E-03	-	Table D-4a
Gross Contamination:	ug/L	6.0E-02	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 3.0E-03				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

**¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2008, updated March 2009)**

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 13
Area: 2
Description: Within the north side yard of the Thompson property, adjacent to Aalona Street
Sample ID: PMAK-DU13-B
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	DIOXINS (TEQ)
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Input Site Concentrations	
Soil (mg/kg):	1400
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	4.5E-06	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	-	-	Table L
Gross Contamination:	mg/kg	1.0E+03	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	1.9E-01	Yes	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL:	mg/kg	4.5E-06		
	Basis: Direct Exposure			

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	3.0E-03	-	Table D-4a
Gross Contamination:	ug/L	6.0E-02	-	Table G-2
Final Groundwater Tier 1 EAL:	ug/L	3.0E-03		
	Basis: Aquatic Ecotoxicity			

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Summer 2008, updated March 2009)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 14
Area: 2
Description: Within the back yard of the Thompson property, adjacent to the Foley property
Sample ID: KKSC-DU7 (Sample from previous HDOH investigation.)
Site ID Number:
Date of EAL Search: 12/19/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	DIOXINS (TEQ)
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Input Site Concentrations	
Soil (mg/kg):	1070
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	4.5E-06	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	-	-	Table L
Gross Contamination:	mg/kg	1.0E+03	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	1.9E-01	Yes	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL:		mg/kg 4.5E-06		
Basis: Direct Exposure				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	3.0E-03	-	Table D-4a
Gross Contamination:	ug/L	6.0E-02	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 3.0E-03		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Summer 2008, updated March 2009)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 15
Area: 2
Description: Withing the driveway of the Thompson property, adjacent to the Drainage Swa
Sample ID: KKSC-DU7 (Sample from previous HDOH investigation.)
Site ID Number:
Date of EAL Search: 12/16/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	DIOXINS (TEQ)
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Input Site Concentrations	
Soil (mg/kg):	1070
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	4.5E-06	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	-	-	Table L
Gross Contamination:	mg/kg	1.0E+03	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	1.9E-01	Yes	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL:		mg/kg 4.5E-06		
Basis: Direct Exposure				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	3.0E-03	-	Table D-4a
Gross Contamination:	ug/L	6.0E-02	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 3.0E-03		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

**¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2008, updated March 2009)**

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 16
Area: 2
Description: Within the driveway of the Foley property, adjacent to the Thompson property.
Sample ID: PMAK-DU16-B
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	DIOXINS (TEQ)
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Input Site Concentrations	
Soil (mg/kg):	260
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	4.5E-06	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	-	-	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	1.9E-01	Yes	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL: mg/kg 4.5E-06				
Basis: Direct Exposure				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	3.0E-03	-	Table D-4a
Gross Contamination:	ug/L	6.0E-02	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 3.0E-03				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

**¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2008, updated March 2009)**

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 17
Area: 2
Description: Within the backyard of the Foley property, adjacent to the Drainage Swale.
Sample ID: PMAK-DU17-B
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	DIOXINS (TEQ)
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Input Site Concentrations	
Soil (mg/kg):	400
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	4.5E-06	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	-	-	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	1.9E-01	Yes	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL:	mg/kg	4.5E-06		
	Basis: Direct Exposure			

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	3.0E-03	-	Table D-4a
Gross Contamination:	ug/L	6.0E-02	-	Table G-2
Final Groundwater Tier 1 EAL:	ug/L	3.0E-03		
	Basis: Aquatic Ecotoxicity			

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

**¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2008, updated March 2009)**

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 27
Area: 5
Description: Along the western border of the HHA property, south of Building B.
Sample ID: PMAK-DU27-A
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	DIOXINS (TEQ)
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Input Site Concentrations	
Soil (mg/kg):	370
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	4.5E-06	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	-	-	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	1.9E-01	Yes	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL:	mg/kg	4.5E-06		
	Basis: Direct Exposure			

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	3.0E-03	-	Table D-4a
Gross Contamination:	ug/L	6.0E-02	-	Table G-2
Final Groundwater Tier 1 EAL:	ug/L	3.0E-03		
	Basis: Aquatic Ecotoxicity			

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI DU: 1 Area: 1 Description: Along the eastern border of the North Shore Health Center Property Sample ID: PMAK-DU1-A Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	38
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL:		mg/kg 2.4E+01		
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 6.9E+01		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011); Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 1
Area: 1
Description: Along the eastern border of the North Shore Health Center Property
Sample ID: PMAK-DU1-B
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	37.8
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL:	mg/kg	2.4E+01		
	Basis:	Background		

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL:	ug/L	6.9E+01		
	Basis:	Aquatic Ecotoxicity		

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011); Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 2
Area: 1
Description: Along the eastern borders of the Grace Paul Trust property, Clarion property and Howard property; adjacent to Aalona St.
Sample ID: PMAK-DU2-B
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	55.4
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 2
Area: 1
Description: Along the eastern borders of the Grace Paul Trust property, Clarion property and Howard property; adjacent to Aalona St.
Sample ID: PMAK-DU2-C
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	114
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 3
Area: 1
Description: Along the eastern borders of the Johnson property, Deforge property, and the southern borders of the Cooper property, Cudiamat property, and Owens property; adjacent to the cul-de-sac portion of Aalona St.
Sample ID: PMAK-DU3-B
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	28
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL:		mg/kg 2.4E+01		
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 6.9E+01		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011); Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 4
Area: 1
Description: Along the southern border of the Ortal property, adjacent to the Foley property.
Sample ID: PMAK-DU4-B-T1
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	26
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 4
Area: 1
Description: Along the southern border of the Ortal property, adjacent to the Foley property.
Sample ID: PMAK-DU4-B-T2
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	33
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 5
Area: 1
Description: Along the western borders of the Ortal property and Foley property. This DU is adjacent to the HHA property.
Sample ID: PMAK-DU5-B
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	28
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL:		mg/kg 2.4E+01		
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 6.9E+01		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

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¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 5
Area: 1
Description: Along the western borders of the Ortal property and Foley property. This DU is adjacent to the HHA property.
Sample ID: PMAK-DU5-C
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	880
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

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¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 5
Area: 1
Description: Along the western borders of the Ortal property and Foley property. This DU is adjacent to the HHA property.
Sample ID: PMAK-DU5-D
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	500
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 10
Area: 2
Description: Within the western portion of the Drainage Swale, which is along the northern border of the Old Mill LLC property.
Sample ID: PMAK-DU10-B
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Commercial/ Industrial Only
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	6900
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	9.5E+01	Yes	Table I-2
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	2.5E+03	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL:		mg/kg 9.5E+01		
Basis: Direct Exposure				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 6.9E+01		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 10
Area: 2
Description: Within the western portion of the Drainage Swale, which is along the northern border of the Old Mill LLC property.
Site ID Number: PMAK-DU10-C
Date of EAL Search: 2/16/2012

Selected Site Scenario	
Land Use:	Commercial/ Industrial Only
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	3800
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	9.5E+01	Yes	Table I-2
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	2.5E+03	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL:		mg/kg 9.5E+01		
Basis: Direct Exposure				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 6.9E+01		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 10
Area: 2
Description: Within the western portion of the Drainage Swale, which is along the northern border of the Old Mill LLC property.
Site ID Number: PMAK-DU10-D
Date of EAL Search: 2/16/2012

Selected Site Scenario	
Land Use:	Commercial/ Industrial Only
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	2300
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	9.5E+01	Yes	Table I-2
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	2.5E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 9.5E+01				
Basis: Direct Exposure				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 10
Area: 2
Description: Within the western portion of the Drainage Swale, which is along the northern border of the Old Mill LLC property.
Sample ID: PMAK-DU10-E
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Commercial/ Industrial Only
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	1800
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	9.5E+01	Yes	Table I-2
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	2.5E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 9.5E+01				
Basis: Direct Exposure				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 12
Area: 2
Description: Within the front yard of the Thompson property, adjacent to Aalona Street.
Sample ID: PMAK-DU12-B
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	260
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

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¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 12
Area: 2
Description: Within the front yard of the Thompson property, adjacent to Aalona Street.
Sample ID: PMAK-DU12-C
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	370
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 12
Area: 2
Description: Within the front yard of the Thompson property, adjacent to Aalona Street.
Sample ID: PMAK-DU12-D
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	250
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 12
Area: 2
Description: Within the front yard of the Thompson property, adjacent to Aalona Street.
Sample ID: PMAK-DU12-E
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	130
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 13
Area: 2
Description: Within the north side yard of the Thompson property, adjacent to Aalona Street
Sample ID: PMAK-DU13-A
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	75
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL:		mg/kg 2.4E+01		
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 6.9E+01		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

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¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 13
Area: 2
Description: Within the north side yard of the Thompson property, adjacent to Aalona Street
Sample ID: PMAK-DU13-B
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	46
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL:		mg/kg 2.4E+01		
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 6.9E+01		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 13
Area: 2
Description: Within the north side yard of the Thompson property, adjacent to Aalona Street
Sample ID: PMAK-DU13-C
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	26
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI DU: 14 Area: 2 Description: Within the backyard of the Thompson property adjacent to the Foley property Sample ID: PMAK-DU14-B Date of EAL Search: 2/15/2012
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Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	1300
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI DU: 14 Area: 2 Description: Within the backyard of the Thompson property adjacent to the Foley property Sample ID: PMAK-DU14-C Date of EAL Search: 2/15/2012
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Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	1500
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL:		mg/kg 2.4E+01		
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 6.9E+01		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 14
Area: 2
Description: Within the backyard of the Thompson property adjacent to the Foley property
Sample ID: PMAK-DU14-D
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	230
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 15
Area: 2
Description: Within the south side yard of the Thompson property, adjacent to the Drainage Swale.
Sample ID: PMAK-DU15-B
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	2200
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL:		mg/kg 2.4E+01		
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 6.9E+01		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

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¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 15
Area: 2
Description: Within the south side yard of the Thompson property, adjacent to the Drainage Swale.
Sample ID: PMAK-DU15-C
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	260
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 15
Area: 2
Description: Within the south side yard of the Thompson property, adjacent to the Drainage Swale.
Sample ID: PMAK-DU15-D
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	1100
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 16
Area: 2
Description: Within the driveway of the Foley property, adjacent to the Thompson property
Sample ID: PMAK-DU16-C
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	37
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

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¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 17
Area: 2
Description: Within the backyard of the Foley property, adjacent to the Drainage Swale.
Sample ID: PMAK-DU17-B
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	540
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011); Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 17
Area: 2
Description: Within the backyard of the Foley property, adjacent to the Drainage Swale.
Sample ID: PMAK-DU17-C
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	72
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
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¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 17
Area: 2
Description: Within the backyard of the Foley property, adjacent to the Drainage Swale.
Sample ID: PMAK-DU17-D
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	38
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 18
Area: 2
Description: Within the West Drainage Outfall, adjacent to the intersection of Kilauea Road and Oka Street.
Sample ID: PMAK-DU18-A-P
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	50
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL:		mg/kg 2.4E+01		
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 6.9E+01		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 18
Area: 2
Description: Within the West Drainage Outfall, adjacent to the intersection of Kilauea Road and Oka Street.
Sample ID: PMAK-DU18-A-T1
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	47
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL:		mg/kg 2.4E+01		
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 6.9E+01		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 18
Area: 2
Description: Within the West Drainage Outfall, adjacent to the intersection of Kilauea Road and Oka Street.
Sample ID: PMAK-DU18-A-T2
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	49
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL:		mg/kg 2.4E+01		
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 6.9E+01		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI DU: 21 Area: 3 Description: Two separate areas on the Old Mill LLC property. Sample ID: PMAK-DU21-A Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Commercial/ Industrial Only
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	130
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	9.5E+01	Yes	Table I-2
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	2.5E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 9.5E+01				
Basis: Direct Exposure				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI DU: 24 Area: 4 Description: Within the front, back and side yards for the Sansevere property. Sample ID: PMAK-DU24-A-P Date of EAL Search: 2/15/2012
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Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	290
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 24
Area: 4
Description: Within the front, back and side yards for the Sansevere property.
Sample ID: PMAK-DU24-A-T1
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	230
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 24
Area: 4
Description: Within the front, back and side yards for the Sanssevere property.
Sample ID: PMAK-DU24-A-T2
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	230
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 25
Area: 4
Description: Within the front, back, and side yards of the Hadley property, south of Oka Street.
Sample ID: PMAK-DU25-A
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	25
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 26
Area: 5
Description: Along the western borders of the HHA property, west of Building B.
Sample ID: PMAK-DU26-A
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	380
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL:		mg/kg 2.4E+01		
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 6.9E+01		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 27
Area: 5
Description: Along the western border of the HHA property, south of Building B.
Sample ID: PMAK-DU27-A
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	ARSENIC
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Input Site Concentrations	
Soil (mg/kg):	370
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	2.4E+01		
Final Soil Tier 1 EAL: mg/kg 2.4E+01				
Basis: Background				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	6.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 6.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2008, updated March 2009)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 12
Area: 2
Description: Within the front yard of the Thompson property, adjacent to Aalona Street.
Sample ID: KKSC-DU5 (Sample from previous HDOH investigation.)
Site ID Number:
Date of EAL Search: 12/16/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	MERCURY
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Input Site Concentrations	
Soil (mg/kg):	5.94
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	4.7E+00	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	(Use soil gas)	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	1.0E+01	No	Table L
Gross Contamination:	mg/kg	5.0E+02	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	?		
Final Soil Tier 1 EAL:		mg/kg 4.7E+00		
Basis: Direct Exposure				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	(Use soil gas)	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.1E+00	-	Table D-4a
Gross Contamination:	ug/L	3.0E+01	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 2.1E+00		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2008, updated March 2009)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 14
Area: 2
Description: Within the backyard of the Thompson property adjacent to the Foley property.
Sample ID: KKSC-DU8 (Sample from previous HDOH investigation.)
Site ID Number:
Date of EAL Search: 12/16/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	MERCURY
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Input Site Concentrations	
Soil (mg/kg):	45
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	4.7E+00	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	(Use soil gas)	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	1.0E+01	Yes	Table L
Gross Contamination:	mg/kg	5.0E+02	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	?		
Final Soil Tier 1 EAL:		mg/kg 4.7E+00		
Basis: Direct Exposure				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	(Use soil gas)	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.1E+00	-	Table D-4a
Gross Contamination:	ug/L	3.0E+01	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 2.1E+00		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI DU: 14 Area: 2 Description: Within the backyard of the Thompson property adjacent to the Foley property Site ID Number: PMAK-DU14-D Date of EAL Search: 2/16/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	MERCURY
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Input Site Concentrations	
Soil (mg/kg):	5
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	4.7E+00	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	(Use soil gas)	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	5.0E+02	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	7.2E-01		
Final Soil Tier 1 EAL: mg/kg 4.7E+00				
Basis: Direct Exposure				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	(Use soil gas)	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.1E+00	-	Table D-4a
Gross Contamination:	ug/L	3.0E+01	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 2.1E+00				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	6.3E+00	-	Table C-2
Indoor Air:	ug/m ³	6.3E-03	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011): Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

**¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2008, updated March 2009)**

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 15
Area: 2
Description: Within the south side yard of the Thompson property, adjacent to the Drainage Swale.
Sample ID: PMAK-DU15-B
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	MERCURY
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Input Site Concentrations	
Soil (mg/kg):	6.1
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	4.7E+00	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	(Use soil gas)	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	1.0E+01	No	Table L
Gross Contamination:	mg/kg	5.0E+02	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	?		
Final Soil Tier 1 EAL: mg/kg 4.7E+00				
Basis: Direct Exposure				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	(Use soil gas)	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.1E+00	-	Table D-4a
Gross Contamination:	ug/L	3.0E+01	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 2.1E+00				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

**¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2008, updated March 2009)**

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 17
Area: 2
Description: Within the backyard of the Foley property, adjacent to the Drainage Swale.
Sample ID: PMAK-DU17-B
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	MERCURY
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Input Site Concentrations	
Soil (mg/kg):	15
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	4.7E+00	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	(Use soil gas)	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	1.0E+01	Yes	Table L
Gross Contamination:	mg/kg	5.0E+02	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	?		
Final Soil Tier 1 EAL: mg/kg 4.7E+00				
Basis: Direct Exposure				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	(Use soil gas)	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.1E+00	-	Table D-4a
Gross Contamination:	ug/L	3.0E+01	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 2.1E+00				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

**¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2008, updated March 2009)**

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 10
Area: 2
Description: Within the western portion of the Drainage Swale, which is along the northern border of the Old Mill LLC property.
Sample ID: PMAK-DU10-E
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Commercial/ Industrial Only
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	PENTACHLOROPHENOL
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Input Site Concentrations	
Soil (mg/kg):	13.3
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	9.0E+00	Yes	Table I-2
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	5.0E+00	Yes	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	7.3E+00	Yes	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL:	mg/kg	5.0E+00		
	Basis: Terrestrial Ecotoxicity			

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	1.3E+01	-	Table D-4a
Gross Contamination:	ug/L	5.9E+03	-	Table G-2
Final Groundwater Tier 1 EAL:	ug/L	1.3E+01		
	Basis: Aquatic Ecotoxicity			

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

**¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2008, updated March 2009)**

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 15
Area: 2
Description: Within the south side yard of the Thompson property, adjacent to the Drainage Swale.
Sample ID: PMAK-DU15-D
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	PENTACHLOROPHENOL
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Input Site Concentrations	
Soil (mg/kg):	3.67
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	3.0E+00	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	5.0E+00	No	Table L
Gross Contamination:	mg/kg	5.0E+02	No	Table F-2
Leaching (threat to groundwater):	mg/kg	7.3E+00	No	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL:	mg/kg	3.0E+00		
	Basis: Direct Exposure			

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	1.3E+01	-	Table D-4a
Gross Contamination:	ug/L	5.9E+03	-	Table G-2
Final Groundwater Tier 1 EAL:	ug/L	1.3E+01		
	Basis: Aquatic Ecotoxicity			

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 1
Area: 1
Description: Along the eastern border of the North Shore Health Center Property
Sample ID: PMAK-DU1-B
Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	LEAD
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Input Site Concentrations	
Soil (mg/kg):	1070
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.0E+02	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	7.3E+01		
Final Soil Tier 1 EAL:	mg/kg	2.0E+02		
Basis: Direct Exposure				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL:	ug/L	2.9E+01		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011); Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Fall 2011; rev Jan 2012)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI DU: 1 Area: 1 Description: Along the eastern border of the North Shore Health Center Property Sample ID: PMAK-DU1-C Date of EAL Search: 2/15/2012

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	LEAD
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Input Site Concentrations	
Soil (mg/kg):	246
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.0E+02	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	site-specific	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	7.3E+01		
Final Soil Tier 1 EAL:		mg/kg 2.0E+02		
Basis: Direct Exposure				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 2.9E+01		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2011).

Reference: HDOH 2011, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Fall 2011); Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

**¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2008, updated March 2009)**

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 2
Area: 1
Description: Along the easter borders of the Grace Paul Trust property, Clarion property and Howard property; adjacent to Aalona St.
Sample ID: PMAK-DU2-C
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	LEAD
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Input Site Concentrations	
Soil (mg/kg):	1380
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	4.0E+02	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	2.0E+02	Yes	Table L
Gross Contamination:	mg/kg	1.0E+03	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	?		
Final Soil Tier 1 EAL: mg/kg 2.0E+02				
Basis: Terrestrial Ecotoxicity				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 2.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

**¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2008, updated March 2009)**

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 4
Area: 1
Description: Along the southern border of the Ortal property, adjacent to the Foley property.
Sample ID: PMAK-DU4-C-P
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	LEAD
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Input Site Concentrations	
Soil (mg/kg):	2800
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	4.0E+02	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	2.0E+02	Yes	Table L
Gross Contamination:	mg/kg	1.0E+03	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	?		
Final Soil Tier 1 EAL: mg/kg 2.0E+02				
Basis: Terrestrial Ecotoxicity				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 2.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2008, updated March 2009)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 12
Area: 2
Description: Within the front yard of the Thompson property, adjacent to Aalona Street
Sample ID: KKSC-DU5 (Sample from HDOH Investigation.)
Site ID Number:
Date of EAL Search: 12/16/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	LEAD
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Input Site Concentrations	
Soil (mg/kg):	680
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	4.0E+02	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	2.0E+02	Yes	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	?		
Final Soil Tier 1 EAL:	mg/kg	2.0E+02		
		Basis: Terrestrial Ecotoxicity		

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL:	ug/L	2.9E+01		
		Basis: Aquatic Ecotoxicity		

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

**¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2008, updated March 2009)**

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 13
Area: 2
Description: Within the north side yard of the Thompson property, adjacent to Aalona Street
Sample ID: PMAK-DU13-C
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	LEAD
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Input Site Concentrations	
Soil (mg/kg):	220
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	4.0E+02	No	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	2.0E+02	Yes	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	?		
Final Soil Tier 1 EAL: mg/kg 2.0E+02				
Basis: Terrestrial Ecotoxicity				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 2.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Summer 2008, updated March 2009)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 15
Area: 2
Description: Within the south side yard of the Thompson property, adjacent to the Drainage Swale.
Sample ID: PMAK-DU15-C
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	LEAD
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Input Site Concentrations	
Soil (mg/kg):	1300
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	4.0E+02	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	2.0E+02	Yes	Table L
Gross Contamination:	mg/kg	1.0E+03	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	?		
Final Soil Tier 1 EAL:		mg/kg 2.0E+02		
Basis: Terrestrial Ecotoxicity				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 2.9E+01		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

**¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2008, updated March 2009)**

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 26
Area: 5
Description: Along the eastern borders of the Ortal and Foley properties.
Sample ID: PMAK-DU26-A
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	LEAD
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Input Site Concentrations	
Soil (mg/kg):	340
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	4.0E+02	No	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	2.0E+02	Yes	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	?		
Final Soil Tier 1 EAL: mg/kg 2.0E+02				
Basis: Terrestrial Ecotoxicity				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 2.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Summer 2008, updated March 2009)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 27
Area: 5
Description: Along the western border of the HHA property, south of Building B.
Sample ID: PMAK-DU27-A
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	LEAD
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Input Site Concentrations	
Soil (mg/kg):	3300
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	4.0E+02	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	2.0E+02	Yes	Table L
Gross Contamination:	mg/kg	1.0E+03	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	(Use batch test)	-	Table E-1
Background:	mg/kg	?		
Final Soil Tier 1 EAL: mg/kg 2.0E+02				
Basis: Terrestrial Ecotoxicity				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.9E+01	-	Table D-4a
Gross Contamination:	ug/L	5.0E+04	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 2.9E+01				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Summer 2008, updated March 2009)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 10
Area: 2
Description: Within the western portion of the Drainage Swale, which is along the northern border of the Old Mill LLC property.
Sample ID: PMAK-DU10-E
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Commercial/ Industrial Only
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	TPH (middle distillates)
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Input Site Concentrations	
Soil (mg/kg):	8080
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	5.0E+02	Yes	Table I-2
Vapor Emissions To Indoor Air:	mg/kg	(Use soil gas)	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	-	-	Table L
Gross Contamination:	mg/kg	5.0E+02	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	5.0E+03	Yes	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL:		mg/kg 5.0E+02		
Basis: Direct Exposure				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	(Use soil gas)	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.5E+03	-	Table D-4a
Gross Contamination:	ug/L	2.5E+03	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 2.5E+03		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	1.6E+05	-	Table C-2
Indoor Air:	ug/m ³	8.0E+01	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Summer 2008, updated March 2009)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 12
Area: 2
Description: Within the front yard of the Thompson property, adjacent to Aalona Street.
Sample ID: PMAK-DU12-E
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	TPH (middle distillates)
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Input Site Concentrations	
Soil (mg/kg):	1520
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	5.0E+02	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	(Use soil gas)	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	-	-	Table L
Gross Contamination:	mg/kg	5.0E+02	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	5.0E+03	No	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL: mg/kg 5.0E+02				
Basis: Direct Exposure				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	(Use soil gas)	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.5E+03	-	Table D-4a
Gross Contamination:	ug/L	2.5E+03	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 2.5E+03				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	5.7E+04	-	Table C-2
Indoor Air:	ug/m ³	5.7E+01	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Summer 2008, updated March 2009)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 10
Area: 2
Description: Within the western portion of the Drainage Swale, which is along the northern border of the Old Mill LLC property.
Sample ID: PMAK-DU10-E
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Commercial/ Industrial Only
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	TPH (residual fuels)
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Input Site Concentrations	
Soil (mg/kg):	4070
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	3.1E+04	No	Table I-2
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	-	-	Table L
Gross Contamination:	mg/kg	2.5E+03	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	1.0E+03	Yes	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL:		mg/kg 1.0E+03		
Basis: Leaching				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.5E+03	-	Table D-4a
Gross Contamination:	ug/L	2.5E+03	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 2.5E+03		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

**¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2008, updated March 2009)**

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 12
Area: 2
Description: Within the front yard of the Thompson property, adjacent to Aalona Street.
Sample ID: PMAK-DU12-D
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	TPH (residual fuels)
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Input Site Concentrations	
Soil (mg/kg):	3330
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.3E+03	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	-	-	Table L
Gross Contamination:	mg/kg	5.0E+02	Yes	Table F-2
Leaching (threat to groundwater):	mg/kg	1.0E+03	Yes	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL:		mg/kg 5.0E+02		
Basis: Gross Contamination				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	2.5E+03	-	Table D-4a
Gross Contamination:	ug/L	2.5E+03	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 2.5E+03		
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Summer 2008, updated March 2009)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 10
Area: 2
Description: Within the western portion of the Drainage Swale, which is along the northern border of the Old Mill LLC property.
Sample ID: PMAK-DU10-E
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Commercial/ Industrial Only
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	METHYLNAPHTHALENE, 1-
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Input Site Concentrations	
Soil (mg/kg):	24.7
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	5.0E+02	No	Table I-2
Vapor Emissions To Indoor Air:	mg/kg	1.1E+01	Yes	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	-	-	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	5.1E+01	No	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL: mg/kg 1.1E+01				
Basis: Vapor Intrusion				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	2.5E+04	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	3.0E+02	-	Table D-4a
Gross Contamination:	ug/L	1.0E+02	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 1.0E+02				
Basis: Gross Contamination				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	9.9E+02	-	Table C-2
Indoor Air:	ug/m ³	4.9E-01	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Summer 2008, updated March 2009)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 10
Area: 2
Description: Within the western portion of the Drainage Swale, which is along the northern border of the Old Mill LLC property.
Sample ID: PMAK-DU10-E
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Commercial/ Industrial Only
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	NAPHTHALENE
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Input Site Concentrations	
Soil (mg/kg):	2.21
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	1.4E+02	No	Table I-2
Vapor Emissions To Indoor Air:	mg/kg	1.9E+00	Yes	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	4.0E+01	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	6.5E+01	No	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL:		mg/kg 1.9E+00		
Basis: Vapor Intrusion				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	1.1E+04	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	7.7E+02	-	Table D-4a
Gross Contamination:	ug/L	2.1E+02	-	Table G-2
Final Groundwater Tier 1 EAL:		ug/L 2.1E+02		
Basis: Gross Contamination				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	2.4E+02	-	Table C-2
Indoor Air:	ug/m ³	1.2E-01	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

¹Tier 1 EAL SURFER SUMMARY REPORT

Hawai'i DOH (Summer 2008, updated March 2009)

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI DU: 11 Area: 2 Description: Along the northern border of the Old Mill LLC property. Sample ID: PMAK-DU11-A Date of EAL Search: 12/9/2011
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Selected Site Scenario	
Land Use:	Commercial/ Industrial Only
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	BENZO(a)PYRENE
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Input Site Concentrations	
Soil (mg/kg):	2.11
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	2.1E+00	Yes	Table I-2
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	4.0E+01	No	Table L
Gross Contamination:	mg/kg	1.0E+03	No	Table F-2
Leaching (threat to groundwater):	mg/kg	7.6E+00	No	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL: mg/kg 2.1E+00				
Basis: Direct Exposure				

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	1.4E-02	-	Table D-4a
Gross Contamination:	ug/L	8.1E-01	-	Table G-2
Final Groundwater Tier 1 EAL: ug/L 1.4E-02				
Basis: Aquatic Ecotoxicity				

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

**¹Tier 1 EAL SURFER SUMMARY REPORT
Hawai'i DOH (Summer 2008, updated March 2009)**

Site Name: Former Kilauea Sugar Company Ltd. Mill PMA
Site Address: Aalona St. and Oka St. in Kilauea, Kauai, HI
DU: 26
Area: 5
Description: Along the eastern borders of the Ortal and Foley properties.
Sample ID: PMAK-DU26-A
Date of EAL Search: 12/9/2011

Selected Site Scenario	
Land Use:	Unrestricted
Groundwater Utility:	Nondrinking Water Resource
Distance To Nearest Surface Water Body:	>150m

Selected Chemical of Concern:	BENZO(a)PYRENE
--------------------------------------	-----------------------

Input Site Concentrations	
Soil (mg/kg):	0.344
Groundwater (ug/L):	-
Soil Gas (ug/m ³):	-

Soil Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Direct Exposure:	mg/kg	1.5E-01	Yes	Table I-1
Vapor Emissions To Indoor Air:	mg/kg	-	-	Table C-1b
Terrestrial Ecotoxicity:	mg/kg	4.0E+01	No	Table L
Gross Contamination:	mg/kg	5.0E+02	No	Table F-2
Leaching (threat to groundwater):	mg/kg	7.6E+00	No	Table E-1
Background:	mg/kg	-		
Final Soil Tier 1 EAL:	mg/kg	1.5E-01		
	Basis: Direct Exposure			

Groundwater Environmental Hazards	Units	Tier 1 Action Level	² Potential Hazard?	³ Referenced Table
Drinking Water (Toxicity):	ug/L	-	-	Table D-1d
Vapor Emissions To Indoor Air:	ug/L	-	-	Table C-1a
Aquatic Ecotoxicity:	ug/L	1.4E-02	-	Table D-4a
Gross Contamination:	ug/L	8.1E-01	-	Table G-2
Final Groundwater Tier 1 EAL:	ug/L	1.4E-02		
	Basis: Aquatic Ecotoxicity			

Other Tier 1 EALs:	Units	EAL	² Potential Hazard?	³ Referenced Table
Shallow Soil Gas:	ug/m ³	-	-	Table C-2
Indoor Air:	ug/m ³	-	-	Table C-3

Notes:

1. Include Surfer Summary Report in appendices of *Environmental Hazard Evaluation* (EHE) for contaminants that exceed Tier 1 EALs (refer to Chapter 3 of main text).
2. Environmental hazard could exist if concentration of contaminant exceeds action level.
3. Referenced tables presented in Appendix 1 of EHE guidance document (HDOH 2008).

Reference: HDOH 2008, *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (Summer 2008), Hawai'i Department of Health, Hazard Evaluation and Emergency Response, <http://hawaii.gov/health/environmental/hazard/index.html>

Appendix F - Boring Logs

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER

Location: Along Aalona Street and Oka Street
Kilauea, HI

Decision Unit: DU1

Coordinates: NA

Logged By: RS, SD

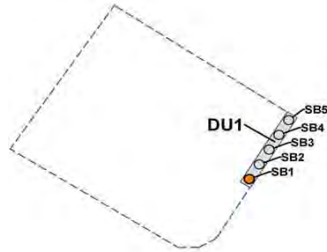
Drilling Company: Geotek Hawaii Inc.

Drilling Method: Direct-push Geoprobe

Drilling Date: 8/1/2011

Total Depth: 10' bgs

Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER

Location: Along Aalona Street and Oka Street
Kilauea, HI

Decision Unit: DU1

Coordinates: NA

Logged By: RS, SD

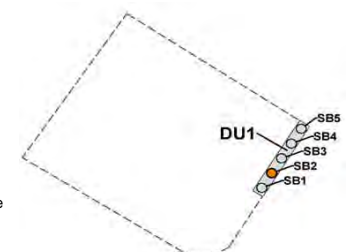
Drilling Company: Geotek Hawaii Inc.

Drilling Method: Direct-push Geoprobe

Drilling Date: 8/1/2011

Total Depth: 10' bgs

Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU1 - SB1

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
0		1	
		2	1-2' Brown, organic matter, dry, roots
		3	2-3' Brown, sand with gravel, dry
0		4	3-6' Brown, very stiff clay, dry
		5	
		6	
0		7	6-8' Brown, clay with gravel, dry
		8	
		9	8-10' Brown-red streaks, clay, dry
0		10	
			Core 1 Partial Recovery (4')
			Core 2 Full Recovery (5')

NOTES:

BORING NUMBER: DU1 - SB2

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
0		1	
		2	1-2' Brown, organic matter, dry
		3	2-3' Brown, organic matter with gravel, dry
0		4	3-4' Brown, clay with brick, dry
		5	
		6	
0		7	4-10' Brown, clay, dry
		8	
		9	
0		10	
			Core 1 Partial Recovery (4')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER

Location: Along Aalona Street and Oka Street
Kilauea, HI

Decision Unit: DU1

Coordinates: NA

Logged By: RS, SD

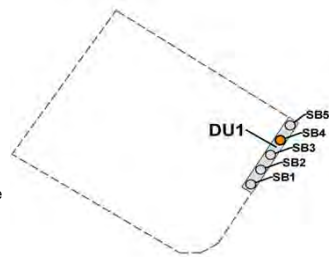
Drilling Company: Geotek Hawaii Inc.

Drilling Method: Direct-push Geoprobe

Drilling Date: 8/1/2011

Total Depth: 10' bgs

Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER

Location: Along Aalona Street and Oka Street,
Kilauea, HI

Decision Unit: DU1

Coordinates: NA

Logged By: RS, SD

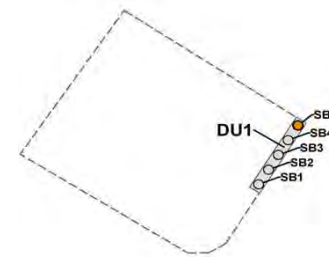
Drilling Company: Geotek Hawaii Inc.

Drilling Method: Direct-push Geoprobe

Drilling Date: 8/1/2011

Total Depth: 10' bgs

Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU1 - SB4

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
		2	
		3	
0		3-4.5'	Brown, organic matter, dry
		4	
		5	4.5-5' Brown, clay, dry
		6	
		7	
		8	
		9	
		10	
			Core 1 Partial Recovery (1')
			Core 2 No Recovery (0')

NOTES:

Multiple attempts were made to advance DU1-SB3, but refusal was encountered each time. As a result, DU1-SB3 was eliminated.

BORING NUMBER: DU1 - SB5

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	0-0.5' Brown, organic matter with gravel, dry
0		2	0.5-2' Brown, sand, dry
		3	2-4' Dark brown, clay with brick, dry
0		4	
		5	4-5' Dark brown, clay, dry, slight diesel odor
		6	
0		7	
		8	5-10' Light brown, clay, slightly moist
		9	
0		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER

Location: Along Aalona Street and Oka Street Kilauea, HI

Decision Unit: DU2

Coordinates: NA

Logged By: RS, SD

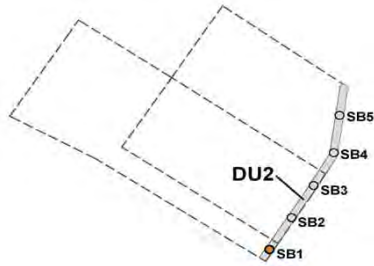
Drilling Company: Geotek Hawaii Inc.

Drilling Method: Direct-push Geoprobe

Drilling Date: 8/1/2011

Total Depth: 10' bgs

Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER

Location: Along Aalona Street and Oka Street Kilauea, HI

Decision Unit: DU2

Coordinates: NA

Logged By: RS, SD

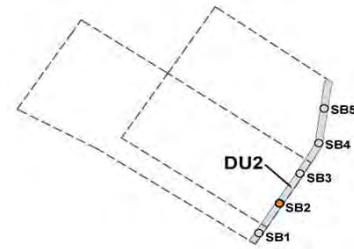
Drilling Company: Geotek Hawaii Inc.

Drilling Method: Direct-push Geoprobe

Drilling Date: 8/1/2011

Total Depth: 10' bgs

Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU2 - SB1

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
0			
		2	1.5-2' Red-brown, sandy clay with gravel, dry
		3	2-4' Red-brown, sandy clay with gravel, slightly moist
0			
		4	
		4-5'	Brown, sandy clay with gravel, dry
		5	
		6	
0			6-7' Brown, clay with gravel, dry
		7	
		8	7-10' Red-Brown, clay with brick, dry
		9	
0			
		10	
			Core 1 Partial Recovery (3.5')
			Core 2 Partial Recovery (4')

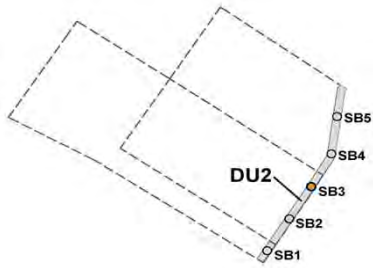
NOTES:

BORING NUMBER: DU2 - SB2

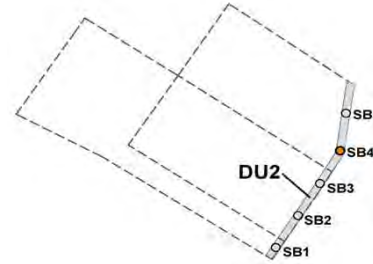
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.25' Black, asphalt, dry
0		1	
		2	1.5-2' Brown, sand with gravel, dry
		3	2-4' Brown, clay with gravel, dry
0			
		4	
		5	D) Brown, clay, dry,
		6	
0			
		7	
		8	7-10' Red-brown, clay, slightly moist
0			
		9	
		10	
			Core 1 Partial Recovery (3.5')
			Core 2 Partial Recovery (3.0')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU2
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/1/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU2
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/1/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU2 - SB3

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
0		1	0-0.5' Brown, organic matter, dry
		2	0.5-2' Dark brown, sandy clay, dry
		3	2-4' Dark brown, clay with gravel, dry
		4	
0		5	4-5' Grey-dark, clay with gravel, dry
		6	
0		7	7-8' Dark brown, clay with gravel, dry
		8	
0		9	8-10' Brown, clay, dry
		10	
			Core 1 full Recovery (5')
			Core 2 Partial Recovery (4')

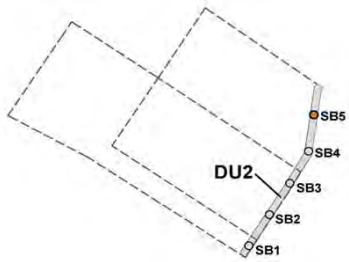
NOTES:

BORING NUMBER: DU2 - SB4

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	0-0.5' Black, asphalt, dry
0		2	0.5-2' Brown, clay with gravel, dry
		3	
0		4	2-5' Olive-brown, clay, dry
		5	
		6	
0.7		7	
		8	7-8' Light brown, clay, dry
		9	8-9' Light brown, clay with brick, dry
1		10	9-10' Grey, clay, moist, odorless
			Core 1 Full Recovery (5')
			Core 2 Partial Recovery (4')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU2
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/1/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU2 - SB5

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.5' Black, asphalt, dry
0		1	
			0.5-2' Grey-dark, sandy clay, dry
		2	
		3	2-4' Grey-brown, sandy clay, dry
0			
		4	
			4-5' Grey-brown, sandy clay, dry
		5	
0		6	
			5-7' Light brown, clay, dry
		7	
		8	7-10' Grey, clay with brick, dry
0.5		9	
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER

Location: Along Aalona Street and Oka Street
Kilauea, HI

Decision Unit: DU3

Coordinates: NA

Logged By: RS, SD

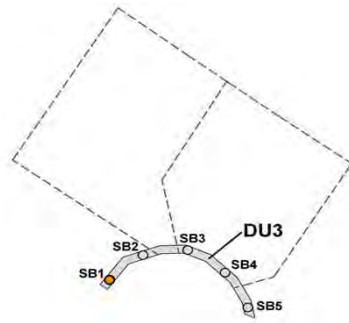
Drilling Company: Geotek Hawaii Inc.

Drilling Method: Direct-push Geoprobe

Drilling Date: 8/2/2011

Total Depth: 10' bgs

Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU3 - SB1

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.5' Black, asphalt, dry
0.8		1	
			0.5-2' Dark brown, clay with gravel, dry
		2	
			2-4' Red, clay with gravel, moist
0.8		3	
		4	
			4-5' Red, clay, moist
		5	
			5.5-6.5' Red, clay with gravel, moist
		6	
0.8			6.5-7' Red, clay, moist
		7	
			7-10' Red, clay with gravel, moist
		8	
0.8		9	
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER

Location: Along Aalona Street and Oka Street
Kilauea, HI

Decision Unit: DU3

Coordinates: NA

Logged By: RS, SD

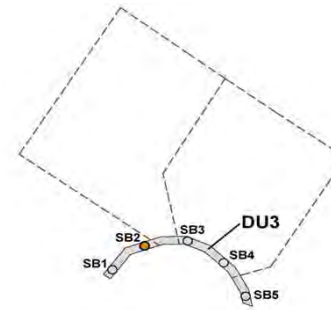
Drilling Company: Geotek Hawaii Inc.

Drilling Method: Direct-push Geoprobe

Drilling Date: 8/1/2011

Total Depth: 10' bgs

Depth to Water: NA - Water Not Encountered



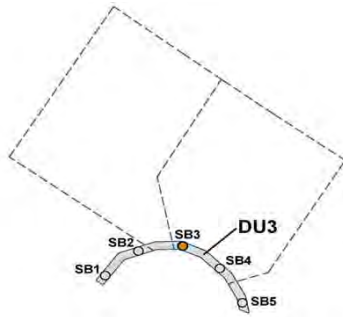
BORING NUMBER: DU3 - SB2

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.25' Black, asphalt, dry
0.5		1	0.25-0.5' light brown, coral, dry
			0.5-2' Brown, clay, dry
		2	
			2-4' Brown-red, clay with brick, dry
0.6		3	
		4	
			4-5' Red-brown, clay, dry
		5	
		6	
0.5			6.5-7.5' Dark red, clay with gravel, moist
		7	
			7.5-10' Red brown, clay with, moist
		8	
		9	
0.8		10	
			Core 1 Full Recovery (5')
			Core 2 Partial Recovery (4')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU3
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/2/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



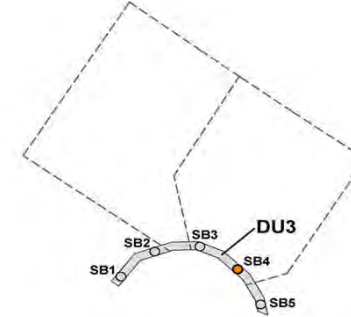
BORING NUMBER: DU3 - SB3

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
0.3		2	
		3	2.5-3' Brown, clay with gravel, dry
		4	3-4' Dark red, sandy clay with basalt, saturated
0.8		5	4-5' Grey-dark, sandy clay with coralline gravel, dry
		6	
		7	7-8' Brown, sandy clay, saturated
0.3		8	8-10' Red-brown, clay, moist
0.4		9	
		10	
			Core 1 Partial Recovery (3')
			Core 2 Partial Recovery (3.5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU3
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/2/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU3 - SB4

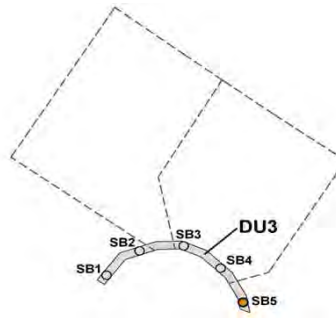
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	0-0.5' Black, asphalt, dry
0.2		2	0.5-2' Brown, clay, dry
		3	2-4' Red-brown, clay, dry
0.4		4	
		5	5-5.5' Brown, clay, dry
		6	5.5-6' Grey-dark, gravel, dry
0.2		7	6-6.5' Red-brown, clay, dry
		8	6.5-7' Red-brown, sandy clay with gravel, dry
		9	7-8' Red, sandy clay, dry
		10	8-9' Black, sandy clay, dry
0.1		10	9-10' Brown, sandy clay, with gravel, dry
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER
Location: Along Aalona Street and Oka Street
 Kilauea, HI

Decision Unit: DU3
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/2/2011
Total Depth: 10' bgs
Depth to Water: 10'



BORING NUMBER: DU3 - SB5

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0.25-0.5' Grey-brown, sand, dry, odorless
		1	
			0.5-2' Brown, sandy clay with gravel, dry
		2	
0.2			
		3	2-4' Red-brown, clay, dry
		4	
			4-5' Light brown, clay, moist/soft
		5	
		6	5.5-6' Red, clay, moist/soft
		7	6-7' Red, sandy clay, dry
0.8		8	
			7-10' Red, clay, dry
		9	
		10	
			Core 1 Full Recovery (5')
			Core 2 Partial Recovery (4.5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER

Location: Along Aalona Street and Oka Street Kilauea, HI

Decision Unit: DU4

Coordinates: NA

Logged By: RS, SD

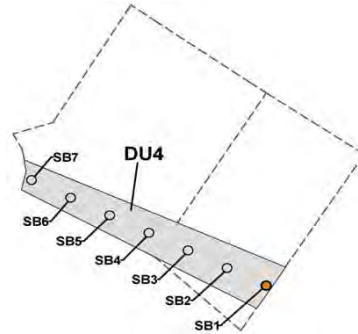
Drilling Company: Geotek Hawaii Inc.

Drilling Method: Direct-push Geoprobe

Drilling Date: 8/3/2011

Total Depth: 10' bgs

Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU4 - SB1

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	1-1.25' Grey, gravel, dry
8.1		1.25-1.5'	Brown, gravel, dry
		2	1.5-2' Brown, sandy clay with coralline gravel, dry
			2-3' Grey-dark, sandy clay with coralline gravel, dry
		3	
7.5		3-3.5'	Grey-dark, clay, dry, debris (glass and tile)
		4	3.5-4' Red-brown, clay, dry, debris
			4-5' Red-brown, clay, slightly moist
		5	
		6	
4.1		5-7'	Red-brown, clay, slightly moist
		7	
		8	7-8.5' Red-brown, clay with gravel, dry
			8.5-10' Red, clay with brick, slightly moist
3.7		9	
		10	
			Core 1 Partial Recovery (4')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER

Location: Along Aalona Street and Oka Street Kilauea, HI

Decision Unit: DU4

Coordinates: NA

Logged By: RS, SD

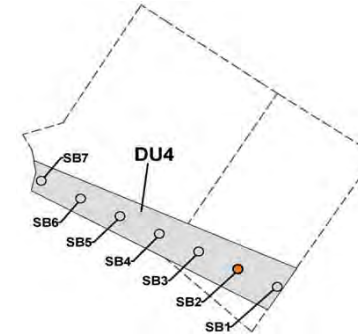
Drilling Company: Geotek Hawaii Inc.

Drilling Method: Direct-push Geoprobe

Drilling Date: 8/3/2011

Total Depth: 10' bgs

Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU4 - SB2

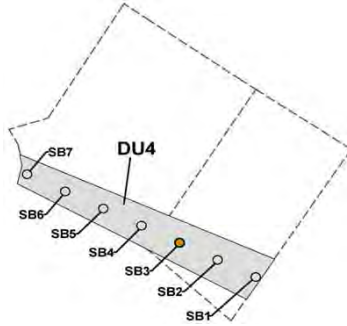
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	1-1.25' Grey, gravel, dry
4.0		1.25-1.5'	Brown, sandy clay with gravel, dry
		2	1.5-2' Brown, sandy clay with gravel, dry
		3	2-4' Red/brown, clay, dry
		4	
5.0			4-5' Red/brown, sandy clay, dry
		5	
		6	5.5-6' Brown, sandy clay, dry
4.5		6-7'	Brown-grey, sandy clay w/ gravel, dry
		7	
			7-8' Brown-grey, sand, dry
		8	
			8-8.5' Dark brown, clay, dry
6.2		9	8.5-10' Red-brown, clay w/gravel, moist
		10	
			Core 1 Partial Recovery (4')
			Core 2 Partial Recovery (4.5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER
Location: Along Aalona Street and Oka Street, Kilauea, HI

Decision Unit: DU4
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/3/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU4 - SB3

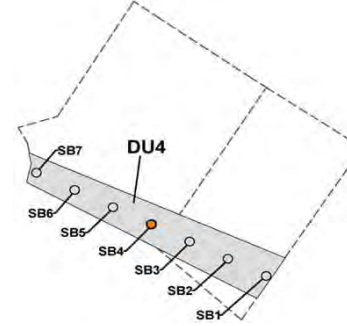
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			Core 1 Full Recovery (5')
4.6		1	A) 0-0.5' Brown, sandy clay w/ gravel, dry, petroleum odor B) 0.5-1' Brown, sandy clay, dry, petroleum odor
		2	1-2' Grey, sand with gravel, dry, petroleum odor C) 2-2.25' Brown, sandy clay, dry, petroleum odor
		3	2.25-3' Brown, clay w/brick, dry, petroleum odor 3-4' Red/brown, clay, dry, petroleum odor
5.7		4	D) 4-4.5' Red/brown, clay, moist, petroleum odor 4.5-5' Grey/brown, clay, dry, odorless
		5	
			Core 2 Full Recovery (5')
3.8		6	D) 5-7' Red/brown, clay, slightly moist, odorless
		7	
		8	E) 7-8.5' Red/brown, sandy clay, moist, odorless 8.5-10' Red/brown, sandy clay, moist, odorless
2.5		9	
		10	
		11	
		12	

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER
Location: Along Aalona Street and Oka Street, Kilauea, HI

Decision Unit: DU4
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/3/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU4 - SB4

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			Core 1 Full Recovery (5')
4.6		1	A) 0-0.5' Brown, sandy clay with gravel, dry, petroleum odor B) 0.5-1' Brown, sandy clay, dry, petroleum odor
		2	1-2' grey, sandy gravel, dry, petroleum odor C) 2-2.25' brown, sandy clay, dry, petroleum odor
		3	2.25-3' Brown, clay w/ brick, dry, petroleum odor 3-4' Red/brown, clay w/ brick, dry, petroleum odor
4.7		4	D) 4-5' Red/brown, clay w/ brick, dry, petroleum odor
		5	
			Core 2 Full Recovery (5')
4.0		6	D) 5-7' Red/brown, clay, moist, odorless
		7	
		8	E) 7-8' Red/brown, sandy clay, dry, odorless 8-9' Red, sandy clay w/ brick fragments, moist, odorless
3.0		9	9-10' Light brown, sandy clay, dry, odorless
		10	
		11	
		12	

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER

Location: Along Aalona Street and Oka Street
Kilauea, HI

Decision Unit: DU4

Coordinates: NA

Logged By: RS, SD

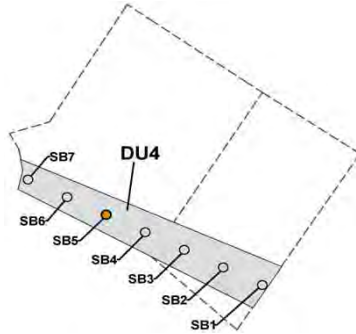
Drilling Company: Geotek Hawaii Inc.

Drilling Method: Direct-push Geoprobe

Drilling Date: 8/3/2011

Total Depth: 10' bgs

Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU4 - SB5

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			Core 1 Partial Recovery (3')
		1	
		2	A) 2-2.5' Brown, sandy clay w/ gravel, dry, petroleum odor
3.0			B) 2.5-3' Brown, sandy clay, dry, petroleum odor
		3	3-3.5' Grey, sand w/ gravel, dry, petroleum odor
			C) 3.5-4' Black, cinder, dry, petroleum odor
		4	4-4.5' Olive-brown, clay, dry, petroleum odor, soft/wavy shape
3.8			D) 4.5-5' Olive-brown, clay, dry, petroleum odor
		5	
			Core 2 Full Recovery (5')
		6	
6.0			D) 5-7' Light brown, clay, very dry/hard, odorless
		7	
		8	E) 7-8.5' Light brown, clay, dry, odorless
			8.5-10' Brown, clay, moist, odorless
2.8		9	
		10	
		11	
		12	

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER

Location: Along Aalona Street and Oka Street
Kilauea, HI

Decision Unit: DU4

Coordinates: NA

Logged By: RS, SD

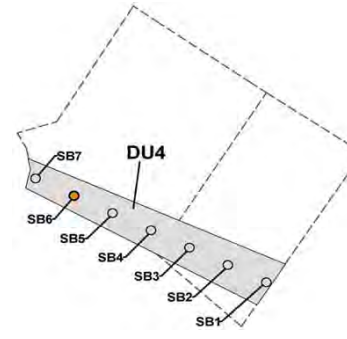
Drilling Company: Geotek Hawaii Inc.

Drilling Method: Direct-push Geoprobe

Drilling Date: 8/3/2011

Total Depth: 10' bgs

Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU4 - SB6

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			Core 1 Full Recovery (5')
7.3		1	A) 0-0.5' Grey-brown, sandy clay, dry, petroleum odor
		2	B) 0.5-1' Grey, sandy clay w/ gravel, dry, petroleum odor
			1-2' Grey, sandy clay, dry, petroleum odor
		3	C) 2-4' Brown, clay, dry, petroleum odor
6.2		4	
			D) 4-5' Light brown, clay, dry, petroleum odor
		5	
			Core 2 Full Recovery (5')
		6	
5.5			D) 5-7' Olive-brown, sandy clay, dry, petroleum odor
		7	
		8	E) 7-8' Olive-brown, sandy clay, dry, odorless
			8-9' Red-brown, clay, soft, odorless
5.5		9	9-10' Red, clay, dry, odorless
		10	
		11	
		12	

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER

Location: Along Aalona Street
and Oka Street
Kilauea, HI

Decision Unit: DU4

Coordinates: NA

Logged By: RS, SD

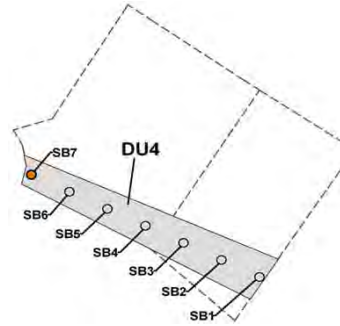
Drilling Company: Geotek Hawaii Inc.

Drilling Method: Direct-push Geoprobe

Drilling Date: 8/3/2011

Total Depth: 10' bgs

Depth to Water: NA - Water Not
Encountered

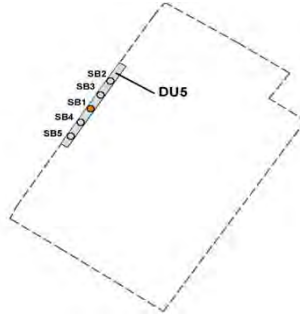


BORING NUMBER: DU4 - SB7

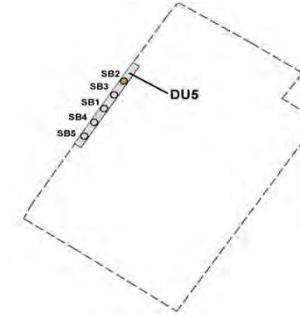
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			Core 1 Full Recovery (5')
13.0		1	A) 0-0.5' Color, sand with gravel, dry, petroleum odor
		2	B) 0.5-2' Brown, sandy clay w/ gravel, dry, petroleum odor
		3	C) 2-4' Brown, clay, dry, petroleum odor
4.9		4	D) 4-5' Brown, clay, dry, petroleum odor
		5	
			Core 2 Full Recovery (5')
5.3		6	D) 5-7' Light brown, clay, dry, odorless
		7	
		8	E) 7-10' Red, clay, moist, odorless
12.4		9	
		10	
		11	
		12	

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU5
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/10/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU5
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/10/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU5 - SB1

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.5' Brown, sandy clay with gravel, dry
3.3		1	
			0.5-2' Grey-dark, sandy clay w/ gravel, dry
3.2		2	
			2-3' Light brown, sand, dry
		3	
2.9			3-4' Red-brown, sandy clay w/ gravel, dry
		4	
			4-6' Red-brown, sandy clay w/ gravel, moist
		5	
		6	
2.1			6-7' Red-brown, sandy clay, moist
		7	
			7-9' Light brown, sandy clay, moist
		8	
0.8			
		9	
1.4			9-10' Light brown, sandy clay, moist
		10	
			Core 1 Full Recovery (3')
			Core 2 Full Recovery (3')
			Core 3 Full Recovery (3')
			Core 4 Full Recovery (1')

NOTES:

BORING NUMBER: DU5 - SB2

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.5' Brown, sandy clay w/ gravel, dry
		1	
			0.5-2' Red-brown, sandy clay w/ gravel, dry
		2	
			2-3' Brown, sandy clay w/ gravel, dry
		3	
			3-4' Light brown, sand, dry
See Note		4	
			4-5' Brown, clay w/ coralline sand, dry
		5	
		6	
			5-7' Light brown, sandy clay, dry
		7	
			7-8' Light brown, sandy clay, moist
		8	
		9	8-10' Red-brown, sandy clay w/ gravel, moist
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

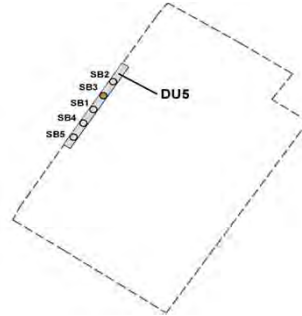
NOTES:

No PID readings due to equipment malfunction

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI

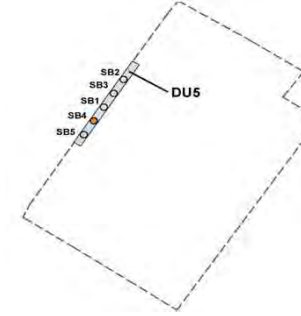
Decision Unit: DU5
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/10/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI

Decision Unit: DU5
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/10/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU5 - SB3

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	0-2' Brown, sandy clay w/ gravel, dry
		2	
		2-3'	Brown, sandy clay w/ gravel, moist, debris (glass, metal)
		3	
		3-4.5'	Brown, sandy clay w/ gravel, dry
See Note		4	
		5	
		4.5-7'	Red-brown, clay w/ gravel, dry
		6	
		7	
		8	7-10' Red-brown, sandy clay, moist/very moist
		9	
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

NOTES:
 No PID readings due to equipment malfunction

BORING NUMBER: DU5 - SB4

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
		2	
		3	
		3.5-4'	Brown, sandy clay w/ gravel, dry
See Note		4	4-4.5' Grey-dark, sand with gravel, dry
		5	4.5-5' Brown-dark, sandy clay, dry
		6	
		6-7'	Brown, sandy clay w/ gravel, moist
		7	
		8	
		7-10'	Red-brown, clay, dry
		9	
		10	
			Core 1 Partial Recovery (2')
			Core 2 Partial Recovery (4')

NOTES:
 No PID readings due to equipment malfunction

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation

Client: HDOH HEER

Location: Along Aalona Street
and Oka Street
Kilauea, HI

Decision Unit: DU5

Coordinates: NA

Logged By: RS, SD

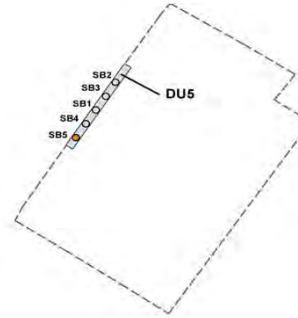
Drilling Company: Geotek Hawaii Inc.

Drilling Method: Direct-push Geoprobe

Drilling Date: 8/10/2011

Total Depth: 10' bgs

Depth to Water: NA - Water Not
Encountered



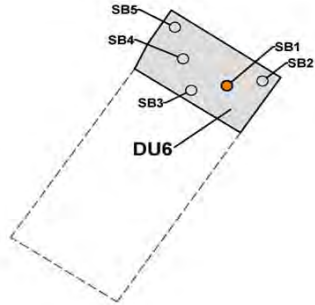
BORING NUMBER: DU5 - SB5

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
		1-1.5'	Brown, sandy clay with gravel, moist
		2	1.5-2' Red-brown, sandy clay w/ gravel, dry
		2-3'	Red-brown, sandy clay, dry
		3	
		3-4'	Dark brown, clay w/ gravel, dry
See Note		4	
		4-5'	Dark brown-black, sandy gravel, dry
		5	
		6	5-7' Red/brown, sandy clay w/ gravel, moist
		7	
		8	7-9' Red/brown, sandy clay, dry
		9	
		9-10'	Red/brown, sandy clay, saturated
		10	
			Core 1 Partial Recovery (4')
			Core 2 Full Recovery (5')

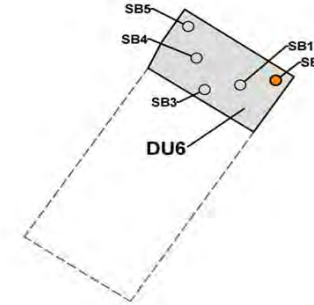
NOTES:

No PID readings due to equipment malfunction

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU6
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/8/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU6
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/8/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU6 - SB1

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.5' Dark brown, sandy clay w/ gravel and roots, dry
134.0		1	
			0.5'-2' Light brown, sandy clay, dry
		2	
			2-5' Light red-brown, sandy clay, slightly moist
		3	
			4
70.0			5-5.5' Dark brown, sandy clay, dry
		5	
			5.5-6' Red-brown, sandy clay, dry
		6	
			6-7' Black, cinder, dry
		7	
			7-10' Red-brown, sandy clay, dry
204.0		8	
			9
		10	
			11
			Core 1 Full Recovery (5')
		12	Core 2 Full Recovery (5')

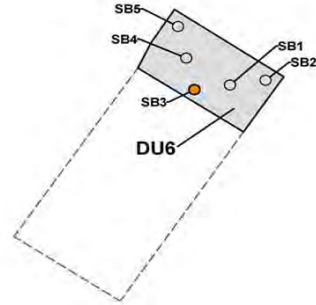
NOTES:

BORING NUMBER: DU6 - SB2

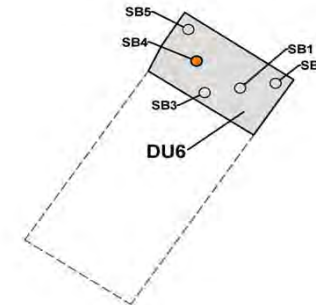
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.5' Brown, sandy clay with, gravel and roots, dry
207.0		1	
			0.5'-2' Brown, sandy clay with gravel, dry
		2	
			2-2.5' Light brown, sandy clay, dry, slight solvent odor
		3	
			2.5-3.5' Red-brown, sandy clay, dry
160.0			3.5-4.5' Grey-dark gravel, dry
		4	
			4.5-5' Red-brown, sandy clay, dry, odorless
		5	
			6
			6.5-7' Red-brown, sandy clay with gravel, dry
158.0		7	
			7-7.5' Grey-dark, gravel, dry
		8	
			7.5-8' Red-brown, sandy clay, moist
			9
			8-10' Red-brown, sandy clay with gravel, moist, faint petroleum odor
91.4		9	
		10	
			11
			Core 1 Full Recovery (5')
			Core 2 Partial Recovery (3.5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street, Kilauea, HI
Decision Unit: DU6
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/8/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street, Kilauea, HI
Decision Unit: DU6
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/8/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU6 - SB3

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.5' Brown, sandy clay with gravel and roots, dry
230.0		1	
			0.5'-2' Light brown, sandy clay, dry
		2	
			2-4' Red-brown, sandy clay, dry
		3	
			4-5' Red-brown, sandy clay w/cinder, dry
180.0		4	
		5	
			5-7' Redbrown, sandy clay w/ gravel, dry
		6	
		7	
			7-7.5' Grey-dark, gravel, dry
230.0		8	
			7.5-10' Red, clay w/ gravel, moist
		9	
189.0			
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

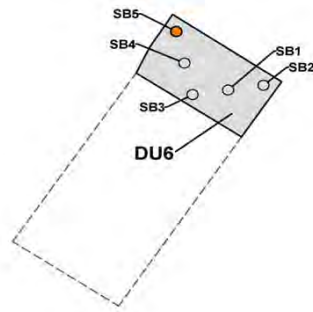
NOTES:

BORING NUMBER: DU6 - SB4

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.5' Brown, sandy clay with gravel and roots, dry
280.0		1	
			0.5'-2.5' Light red-brown, sandy clay, dry
		2	
			2.5-5' Red-brown, sandy clay, dry
		3	
			2.5-5' Red-brown, sandy clay, dry
219.0		4	
		5	
			5-7' Red-brown, sandy clay with gravel, moist
240.0		6	
		7	
			7-9' Red-brown, sandy clay, moist
		8	
224.0		9	
			9-10' Red-brown, sandy clay, saturated
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street, Kilauea, HI
Decision Unit: DU6
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/8/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered

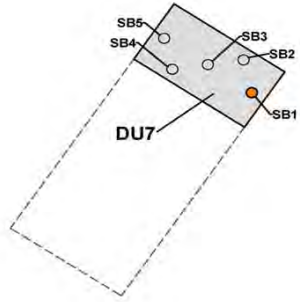


BORING NUMBER: DU6 - SB5

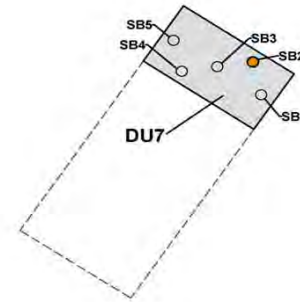
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
198.0		1	0-2' Brown, sandy clay with gravel and roots, dry
		2	
		3	2-4' Red-brown, sandy clay with gravel, slightly moist
152.0		4	4-5' Red-brown, sandy clay, very moist
		5	
		6	
120.0		7	5-10' Red-brown, sandy clay with gravel, very moist
		8	
142.0		9	
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU7
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/8/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU7
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/8/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU7 - SB1

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
162.0		1	
		2	0-2' Brown, sandy clay w/ gravel, dry
		3	
134.0		4	2-5' Red/brown, sandy clay, very stiff/dry
		5	
		6	
121.0		7	5-9' Red/brown, sandy clay, dry, odorless
		8	
107.0		9	9-10' Red/brown, sandy clay, moist, petroleum odor
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

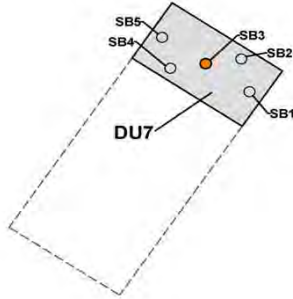
NOTES:

BORING NUMBER: DU7 - SB2

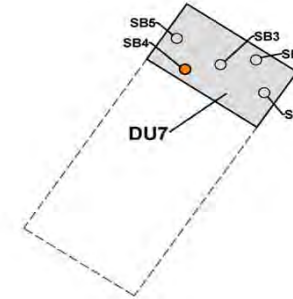
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
106.0		1	
		2	0-2' Brown, sandy clay with gravel and roots, dry
76.0		3	
		4	
		5	2-7' Red/Brown, sandy clay, dry
		6	
91.0		7	
		8	7-8' Red/Brown, sandy clay, dry
		8-8.5'	8-8.5' Grey-dark, cinder, dry
76.0		9	8.5-10' Red/Brown, sandy clay w/ cinder, dry
		10	
			Core 1 Full Recovery (5')
			Core 2 Partial Recovery (4.5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street, Kilauea, HI
Decision Unit: DU7
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/8/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street, Kilauea, HI
Decision Unit: DU7
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/8/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU7 - SB3

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
89.9		2	1.5-2.5' Brown, sandy clay with organic matter, dry
		3	2.5-4' Red-brown, sandy clay with gravel, dry
110.0		4	4-5' Red-brown, clay, dry
		5	
		6	
		7	
		8	
		9	9-9.5' Red-brown, clay, slightly moist
		10	9.5-10' Grey-dark, gravel, dry
			Core 1 Partial Recovery (3.5')
			Core 2 Partial Recovery (1')

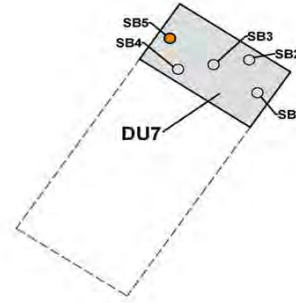
NOTES:

BORING NUMBER: DU7 - SB4

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		0-0.5'	Brown, sandy clay with roots and gravel, dry
110.0		1	
		0.5-2'	Brown, sandy clay with organic matter, dry
		2	
		3	
80.0		4	
		5	2-7' Red-brown, sandy clay, slightly moist
		6	
		7	
77.0		8	7-9' Red-brown, sandy clay, moist
		9	
81.0		9-10'	Red-brown, sandy clay with gravel, very moist
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street
 Kilauea, HI
Decision Unit: DU7
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/8/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered

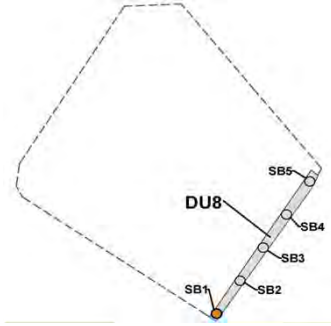


BORING NUMBER: DU7 - SB5

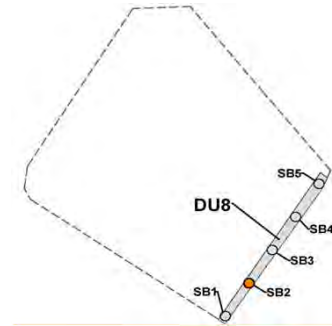
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.5' Brown, sandy clay with gravel and roots, dry
146.0		1	
			0.5'-2' Brown, sandy clay with gravel and roots, slightly moist
		2	
		3	
132.0		4	
		5	
			2-7' Red-brown, sandy clay, moist
		6	
102.0		7	
		8	7-10' Red-brown, sandy clay w/ cinder, moist
		9	
79.0		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU8
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/2/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU8
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/2/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU8 - SB1

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
		2	1.5-2' Black, asphalt, dry 2-3' light brown, clay with gravel, dry
2.1		3	3-4' Light brown, clay, dry
		4	4-5' Light brown, clay with gravel, dry
		5	
		6	5.5-6' Light brown, clay, dry 6-6.25' Asphalt
3.1		7	6.25-7' Light brown, clay, dry
		8	7-10' Red-brown, clay w/gravel, moist
		9	
		10	
			Core 1 Partial Recovery (3.5')
			Core 2 Partial Recovery (4.5')

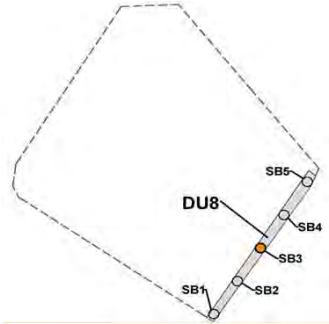
NOTES:

BORING NUMBER: DU8 - SB2

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	0.5-1' Black, asphalt, dry
		2	1-2' Brown, clay with organic matter, dry
2.0		3	2-4' Brown-dark, clay with gravel and organic matter, dry
		4	
		5	4-5' Red-brown, clay, dry
		6	
		7	
		8	7-8' light brown, red, clay w/gravel, moist
2.7		9	8-10' Red, clay w/gravel, dry
		10	
			Core 1 Partial Recovery (4.5')
			Core 2 Partial Recovery (3')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU8
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/2/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered

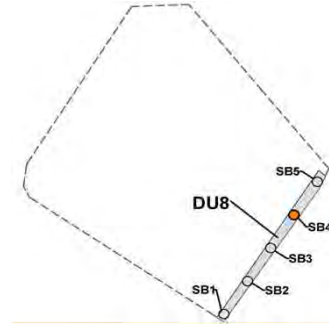


BORING NUMBER: DU8 - SB3

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	0.5-0.75' Black, asphalt, dry
2.3		2	0.75-2' Dark brown, clay with gravel, dry
		3	2-4' Brown, clay, dry
2.5		4	4-5' Brown-red, clay, dry
		5	
		6	
4.0		7	6-7' Red-brown, clay w/gravel, dry
		8	7-10' Red-brown, clay w/ gravel, moist
		9	
4.6		10	
			Core 1 Partial Recovery (4.5')
			Core 2 Partial Recovery (4')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU8
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/2/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered

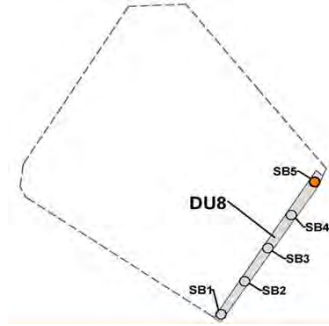


BORING NUMBER: DU8 - SB4

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	0-2' Dark brown, clay, dry
4.7		2	
		3	2-4' Red-brown, clay w/ gravel, dry
		4	
		5	4-5' Red-brown-dark, clay, dry
		6	
		6	
6.8		7	5-5-7' Red, clay w/ gravel, dry
		8	7-10' Red-brown, sand, slightly moist
		9	
8.0		10	
			Core 1 Full Recovery (5')
			Core 2 Partial Recovery (4.5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street, Kilauea, HI
Decision Unit: DU8
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/2/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered

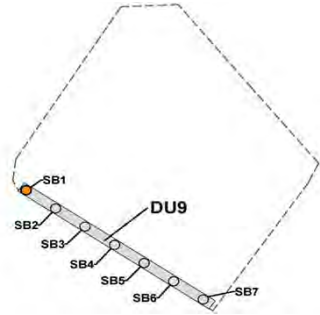


BORING NUMBER: DU8 - SB5

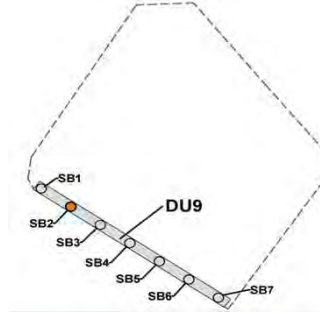
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.5' Dark brown, clay, dry
		1	
			0.5-2' Brown, clay, dry
8.0		2	
		3	2-5' Red-brown, clay w/ gravel, dry
		4	
		5	
		6	
10.0		7	
		8	
			6-10' Red-brown, clay with gravel, dry
11.0		9	
		10	
			Core 1 Full Recovery (5')
			Core 2 Partial Recovery (4')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU9
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/2/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU9
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/2/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU9 - SB1

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	1-1.25' Black, asphalt, dry
0.8		1.25-1.5'	Brown, clay, dry
		2	
		3	1.5-4' Brown, clay w/gravel, dry
2.1		4	
		4-5'	Red-brown clay, dry/very stiff
		5	
		6	
		5-7'	Red-brown clay, dry
1.2		7	
		8	7-10' Red-brown clay w/gravel, dry
		9	
3.4		10	
			Core 1 Partial Recovery (4')
			Core 2 Full Recovery (5')

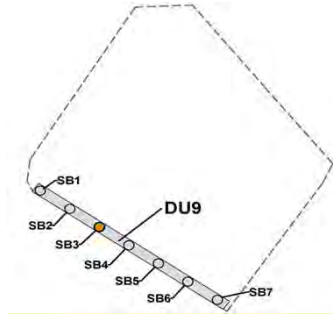
NOTES:

BORING NUMBER: DU9 - SB2

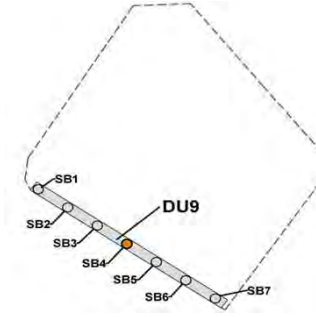
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.25' Black, asphalt, dry
6.7		1	
		0.25-2'	Brown, clay w/ gravel, dry
		2	
		3	2-4' Brown, clay, dry
5.2		4	
		4-5'	Red-brown, clay, dry
		5	
		6	
		6-7'	Brown, clay, dry
7.8		7	
		8	7-10' Red-brown, clay, dry
		9	
3.7		10	
			Core 1 Full Recovery (5')
			Core 2 Partial Recovery (4')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU9
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/2/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU9
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/2/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU3 - SB3

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
8.4		1	
			1-2' Brown, clay w/organic matter, dry, odorless
		2	
		3	2-4' Dark brown, clay, dry
6.8		4	
			4-5' Grey-brown, sandy clay, dry
		5	
		6	
4.7			
		7	6.5-7' Grey-brown, sandy clay w/ gravel, dry
		8	7-10' Red-brown, clay, dry
8.9		9	
		10	
			Core 1 Partial Recovery (4')
			Core 2 Partial Recovery (3.5')

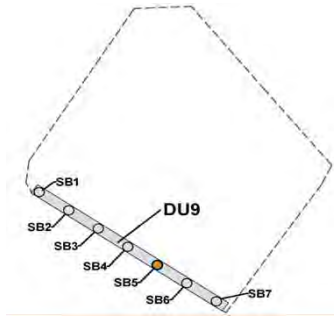
NOTES:

BORING NUMBER: DU9 - SB4

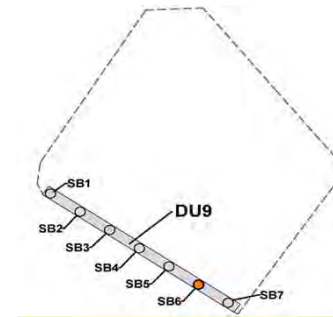
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
6.7		1	
			1-1.5' Brown, clay w/ roots, dry
		2	1.5-2' Brown, clay w/ gravel and organic matter, dry
		3	2-6' Brown, clay, dry
5.4		4	
		5	
6.1		6	
			6-7' Red-brown, clay, dry
		7	
		8	7-10' Red-brown, clay, moist
9.2		9	
		10	
			Core 1 Partial Recovery (4')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU9
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/2/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU9
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/2/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU9 - SB5

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	0.5-2' Brown, clay w/ organic matter, dry
10.5		2	
		3	
		4	
9.0		5	
		6	2-10' Red-brown, clay, dry
10.3		7	
		8	
		9	
10.4		10	
			Core 1 Partial Recovery (4.5')
			Core 2 Full Recovery (5')

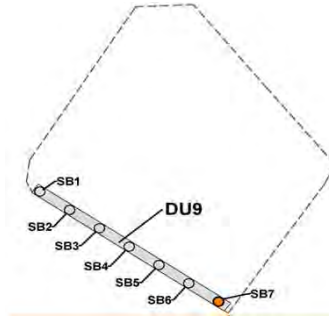
NOTES:

BORING NUMBER: DU9 - SB6

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
2.2		2	
		3	
4.4		3-3.5'	Black, asphalt, dry
		4	3.5-4' Brown, clay w/ gravel, dry
		5	
		6	
6.1		7	
		8	4-10' Red-brown, clay, dry
		9	
3.6		10	
			Core 1 Partial Recovery (2')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street, Kilauea, HI
Decision Unit: DU9
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/2/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered

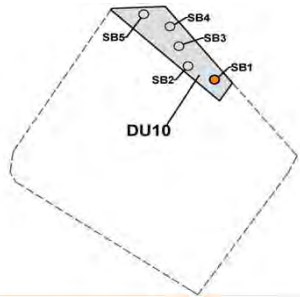


BORING NUMBER: DU9 - SB7

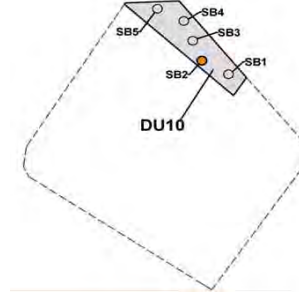
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
5.3		1	
		2	
		2-2.5'	Black, asphalt, dry
		3	2.5-3' Dark grey, clay, dry
5.9		3-4'	Red-brown, clay, dry
		4	
		4-5'	Brown, clay, dry
		5	
		6	
6.6		7	
		8	6-10' Red-brown, clay, dry
3.9		9	
		10	
			Core 1 Partial Recovery (3')
			Core 2 Partial Recovery (4')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU10
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/8/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU10
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/8/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU10 - SB1

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		0-0.5'	Dark brown, sandy clay w/gravel and organic matter, slightly moist, petroleum odor
77.0		1	
		0.5'-2'	Dark brown, sandy clay w/ gravel, slightly moist, petroleum odor
		2	
		2-3'	Dark brown, sandy clay w/ gravel, dry, petroleum odor
93.7		3	
		3-4'	Olive-brown, sandy clay, very dry/stiff, petroleum odor
		4	
		4-5'	Red-brown, sandy clay, moist/soft, petroleum odor
		5	
		5-5.5'	Red-brown, sandy clay, dry/stiff, petroleum odor
		5.5-6'	Light brown, clay, moist, petroleum odor
135.0		6	
		6-6.5'	Red-brown, clay, dry, petroleum odor
		7	
		6.5-7'	Black, gravel and cinder, dry, petroleum odor
		8	
		7-9'	Red-brown, clay, saturated/soft, petroleum odor
200.0		9	
		9-10'	Light brown, clay, saturated/soft
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

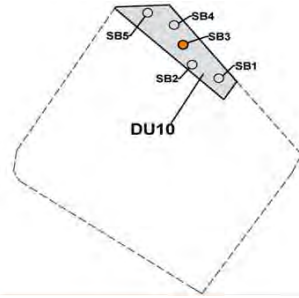
NOTES:

BORING NUMBER: DU10 - SB2

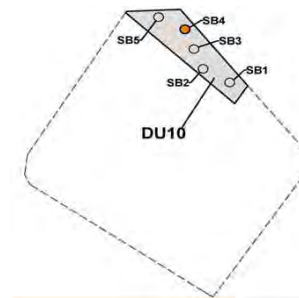
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		0-0.5'	Dark brown, sandy clay w/ gravel and organic matter, dry, petroleum odor
780.0		1	
		2	
		0.5'-1'	Light brown, sandy clay w/ gravel, slightly moist, petroleum odor
		1-2'	Light brown, sandy clay w/ gravel, slightly moist, strong chemical odor
		3	
		2-4'	Light brown, sandy clay w/ gravel, moist, very strong odor
2500.0		4	
		4-5'	Olive-brown, clay, drier/slightly stiff, chemical odor
		5	
		5-5.5'	Brown, clay, stiff, strong odor
		5.5-6.5'	Brown, clay, saturated
		6	
9999		6.5-7'	Black, clay with gravel, dry, strong odor
		7	
		8	
		7-9.5'	Black-brown, clay, dry, strong odor
3600.0		9	
		9.5-10'	Black, clay, dry, strong odor
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU10
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/8/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU10
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/8/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU10 - SB3

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.5' Brown, sandy clay w/ gravel and organic matter, dry, petroleum odor
95		1	
		0.5'-2'	Brown, sandy clay w/ gravel and organic matter, dry, faint odor
		2	
		3	2-4' Olive-brown, sandy clay, dry/stiff, faint odor
130		4	
		4-5'	Olive-brown, sandy clay, dry, petroleum odor
		5	
		6	5.5-6' Brown, clay, moist, petroleum odor
108		6-7'	Dark brown, clay, dry, debris (plastic)
		7	
		7-8'	Light brown w/ red/brown streaks, clay, moist/soft, faint odor
		8	
		9	8-10' Black-brown, clay, moist, strong odor
9999		10	
			Core 1 Full Recovery (5')
			Core 2 Partial Recovery (4.5')

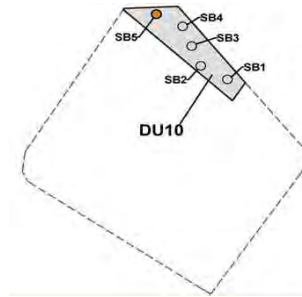
NOTES:

BORING NUMBER: DU10 - SB4

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
		1-1.5'	Dark brown, sandy clay with gravel and organic matter, dry, petroleum odor
6.0		2	1.5'-2' Dark brown, sandy clay with gravel and roots, dry, petroleum odor
		2-2.5'	Light brown, sandy clay, dry, petroleum odor
		3	
		2.5-3'	Light brown, sandy clay, dry, faint solvent odor
		4	3-4' Light brown, sandy clay, dry, petroleum odor
202.0		4-5'	Olive-brown, clay, stiff/dry, faint odor
		5	
		6	
		6-6.5'	Brown, clay, dry, solvent odor
350.0		7	6.5-7' Light brown w/ sheen, clay, saturated, strong odor
		7-7.5'	Light brown, clay, dry
		8	7.5-8' Black w/ sheen, clay, saturated, strong odor
7650.0		9	8'-10' Black, clay, dry, strong odor
		10	
			Core 1 Partial Recovery (4')
			Core 2 Partial Recovery (4')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU10
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/8/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered

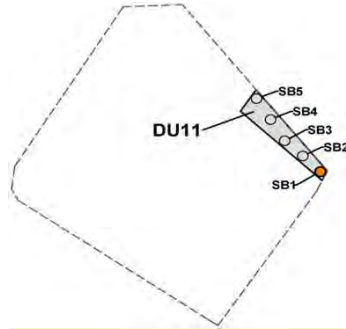


BORING NUMBER: DU10 - SB5

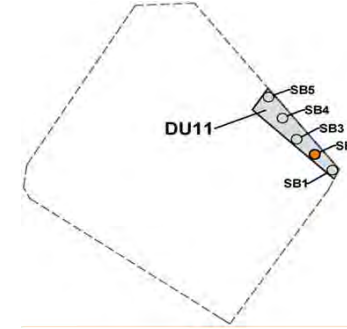
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.5' Brown, sandy clay with gravel and organic matter, slightly moist, petroleum odor
148.0		1	
			0.5'-2' Light Brown, sandy clay, with gravel and organic matter, dry, petroleum odor
		2	
		3	2-5' Olive-brown, sandy clay, dry, faint odor
142.0		4	
		5	
453.0		6	5-7' Light brown, clay, dry/stiff, solvent odor
		7	7-7.5' Light red-brown, clay, dry
133.0		7.5-8'	Light red-brown, clay, saturated
		8	
			8-9' Black w/ sheen, clay, saturated, strong petroleum odor
		9	
1186.0		9-10'	Grey-dark, clay, drier, strong petroleum odor
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU11
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/8/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU11
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/8/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU11 - SB1

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.5' Brown, sandy clay w/ gravel and organic matter, dry
96.8		1	0.5-1.5' Brown, sandy clay w/ gravel, slightly moist
			1.5-2' Brown, sandy clay w/ gravel, slightly moist, debris (glass)
		2	
86.0		3	2-4' Brown, clay w/ gravel, moist
		4	
			4-5' Brown, red streaks, clay, saturated
		5	
		6	
100.0			6.5-7' Grey-dark, gravel, dry
		7	
		8	7-10' Red-brown, clay w/ gravel, soft/saturated
206.0		9	
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

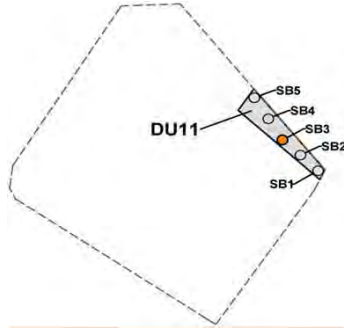
NOTES:

BORING NUMBER: DU11 - SB2

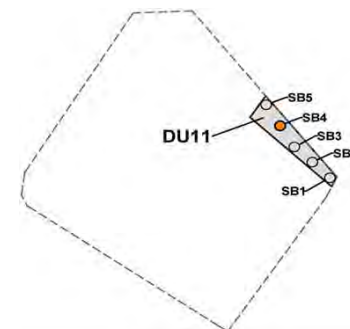
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.5' Dark brown, clay, with/gravel and organic matter, dry
181.0		1	
			0.5-2' Dark brown, sandy clay with gravel and organic matter, dry
		2	
			2-3' Brown w/red streaks, clay w/ gravel, dry
		3	
176.0			3-4.5' Light brown, clay, dry/soft
		4	
			4.5-5' Red-Brown, sandy clay, slightly moist
		5	
		6	5-7' Red-brown, sandy clay, slightly moist
		7	
		8	
200.0			7-10' Red/brown, sandy clay, saturated
		9	
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU11
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/8/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU11
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/8/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU11 - SB3

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
180.0		1	0.5-0.75' Brown, sandy clay w/ gravel, dry
			0.75-1.5' Grey-dark, gravel, dry
		2	
			1.5-2.5' Brown, sandy clay, dry
160.0		3	2.5-4.5' Red-brow, sandy clay w/ gravel, very dry
		4	
			4.5-5' Olive-brown, clay, very dry/stiff
		5	
			5-6.5' Light brown, clay, very dry/stiff
150.0		6	6.5-7' Grey w/ red streaks, clay, very dry/stiff
		7	
		8	7-8.5' Grey w/ red streaks, clay, dry
138.0		9	8.5-10' Red-brown, sandy clay, moist/soft
		10	
			Core 1 Partial Recovery (4.5')
			Core 2 Full Recovery (5')

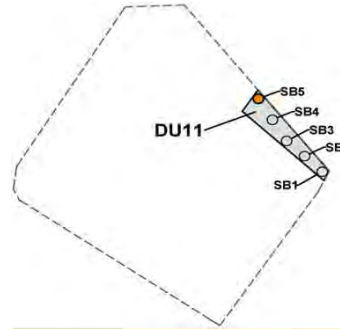
NOTES:

BORING NUMBER: DU11 - SB4

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
132.0		1	
			0-3' Brown, clay w/ gravel and organic matter, dry
		2	
		3	
138.0			3-4' Olive-brown, clay, slightly moist
		4	
			4-5' Red-brown, clay, saturated
		5	
		6	5.5-6' Red-brown, clay, saturated
270.0			6-7' Olive-brown, clay, stiff
		7	
			7-8' Red-brown, clay, saturated
116.0		8	
			8-9.5' Light brown, clay, soft/moist
		9	
			9.5-10' Grey, gravel, dry
		10	
			Core 1 Full Recovery (5')
			Core 2 Partial Recovery (4.5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street
 Kilauea, HI
Decision Unit: DU11
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/8/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encoun

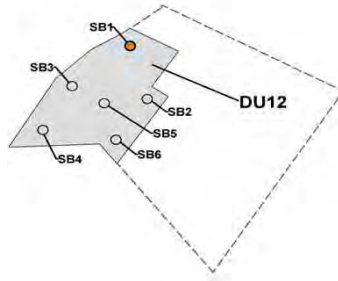


BORING NUMBER: DU11 - SB5

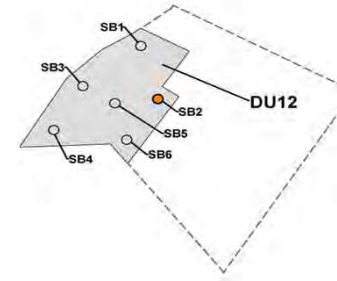
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
		1.5-1.75'	Brown, clay w/ gravel and organic matter, moist
200.0		2	1.75-2' Red-brown, clay w/ gravel, roots, moist
		2-3'	Brown, clay, moist
		3	
		3-4'	Brown, sandy clay, dry
270.0		4	
		4-4.5'	Brown-Black, sandy clay, cinder, moist
		5	4.5-5' Light brown, red streaks, clay, moist
		5-6'	Light brown, red streaks, clay, moist
		6	6-6.5' Grey-dark, gravel, dry
214.0			
		7	
		8	6.5-10' Red-brown, sandy clay, saturated
186.0		9	
		10	
			Core 1 Partial Recovery (3.5')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street, Kilauea, HI
Decision Unit: DU12
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/4/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street, Kilauea, HI
Decision Unit: DU12
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/4/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU12 - SB1

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.5' Brown, clay, dry, petroleum odor
18.2		1	
			0.5'-2' Brown, sandy clay w/ gravel, dry, slight odor
		2	
			2-4' Brown, sandy clay, moist, petroleum odor
		3	
10.1		4	
			4-5' Brown, sandy clay, petroleum odor, debris (glass fragments)
		5	
		6	
		7	
9.0		8	
			7.5-10' Olive-brown, clay, moist, diesel odor
13.7		10	
			Core 1 Full Recovery (5')
			Core 2 Partial Recovery (2.5')

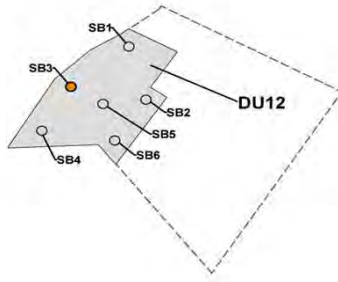
NOTES:

BORING NUMBER: DU12 - SB2

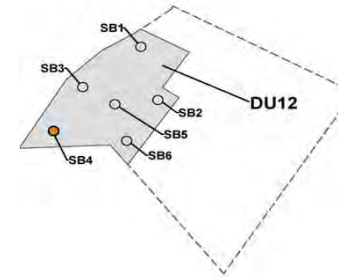
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
12.5		2	1.5-2' Brown clay w/ gravel, slightly moist, petroleum odor
			2-3' Brown, clay w/ gravel, dry, petroleum odor
		3	
			3-4' Brown, clay w/ gravel, slightly moist, diesel odor
		4	
4.6			4-5' Olive-brown w/ black streaks, clay, dry, strong diesel odor
		5	
		6	
4.9		7	6.5- 7' Olive-brown w/black streaks, clay, metal fragments, odor
		8	7-9' Olive-brown, clay, moist
4.8		9	
			9-10' Red, clay, dry
		10	
			Core 1 Partial recovery
			Core 2 Partial recovery

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU12
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/4/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU12
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/4/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU12 - SB3

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
		1-2'	Brown, clay w/ gravel and organic matter, dry, petroleum odor
33.7		2	
		2-2.5'	Brown, clay w/ gravel and roots, dry, petroleum odor
		3	2.5-3' Grey, sand, dry, petroleum odor
		4	3-5' Red-brown, sandy clay, dry, petroleum odor
9.7		5	
		6	
5.2		5-9'	Light brown, clay, dry/stiff
		7	
		8	
		9	
4.1		9-10'	Reddish, clay, dry
		10	
			Core 1 Partial Recovery (4')
			Core 2 Full Recovery (5')

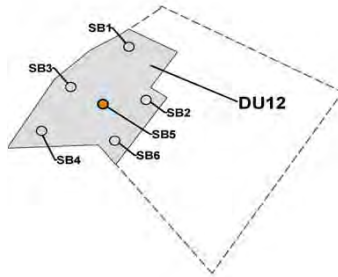
NOTES:

BORING NUMBER: DU12 - SB4

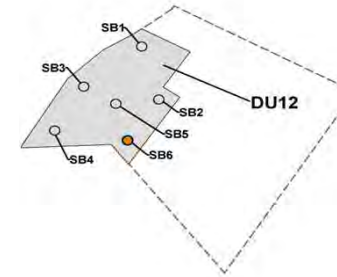
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
5.4		1-1.5'	Brown, clay w/ roots and gravel, dry, petroleum odor
		2	1.5-2' Black, cinder, gravel, dry, petroleum odor
		3	2-3' Olive-brown, sandy clay, dry, petroleum odor
		3	3-3.5' Brown-black, sandy clay, dry, petroleum odor
		4	3.5-4' Red-brown, clay, slightly moist, petroleum odor
6.5		4-5'	Brown, clay, stiff, petroleum odor
		5	
		6	
6.3		7	5-9' Light brown, clay, solid
		8	
		9	
6.5		9-10'	Red, clay w/ gravel, dry
		10	
			Core 1 Partial Recovery (4')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU12
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/4/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU12
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/4/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU12 - SB5

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		0-0.5'	Brown, clay w/gravel and organic matter, dry, petroleum odor
		1	
		0.5-2'	Brown, clay with organic matter, dry, petroleum odor
		2	
		3	2-4' Olive-brown, clay, dry, slight odor
		4	
		5	
		5-6.5'	Olive-brown, sandy clay, moist
		6	
		7	6.5-7' Black, sand, dry, strong petroleum odor
		8	
		7-10'	Light brown, clay, dry, petroleum odor
		9	
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

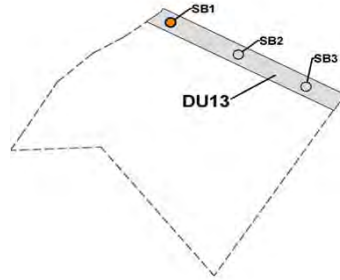
NOTES:

BORING NUMBER: DU12 - SB6

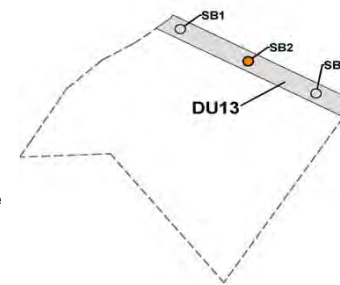
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		0-0.5'	Brown, clay w/gravel and organic matter, dry, petroleum odor
		1	
		0.5-2'	Brown, clay with organic matter, dry, petroleum odor
		2	
4.8		1.5-3'	Brown, clay with organic matter and gravel, dry, petroleum odor
		3	2-4' Olive-brown, clay, slightly moist, petroleum odor
		4	
22.8		4-4.5'	Grey, sand w/ gravel, moist, petroleum odor
		4.5-5'	Grey-dark, sandy clay, moist, petroleum odor
		5	
		6	
		7	
27.9		6.5-7'	Black, sandy clay, saturated, petroleum odor
		8	7-9' Light brown, sandy clay, dry/stiff, petroleum odor
		9	
39.4		9-10'	Light brown w/red streaks, clay, dry, petroleum odor
		10	
			Core 1 Partial Recovery (3.5')
			Core 2 Full Recovery (3.5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU13
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/3/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU13
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/3/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU13 - SB1

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	0.5-1' Dark brown, sandy clay, roots, dry
3.9			
		2	1-1.5' Dark brown, sandy clay w/gravel, dry
			1.5-2' Red-brown, clay, dry
		3	2-5' Red-brown, sandy clay, dry
		4	
2.8			
		5	
		6	
2.9			5-7' Brown, sandy clay, dry
		7	7-9' Red-brown, sandy clay, dry
		8	
3.2		9	9-10' Red-brown, sandy clay, moist
		10	
			Core 1 Partial Recovery (4.5')
			Core 2 Full Recovery (5')

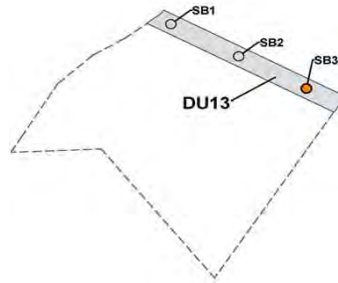
NOTES:

BORING NUMBER: DU13 - SB2

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-1' Brown, sandy clay w/ gravel, dry
4.6		1	
			1-2' Red-brown, sandy clay, dry
		2	
			2-3' Red-brown, sandy clay, slightly moist
		3	
4.9			3-4' Brown, clay, slightly moist
		4	
			4-5' Light brown, clay, dry
		5	
			5-6.5' Red-brown, clay, dry
3.1		6	
			6.5-7' Brown, sand, dry
		7	
		8	7-10' Red-brown, clay, dry
3.0		9	
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
 Along Aalona Street
 and Oka Street
 Kilauea, HI
Location:
Decision Unit: DU13
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/3/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered

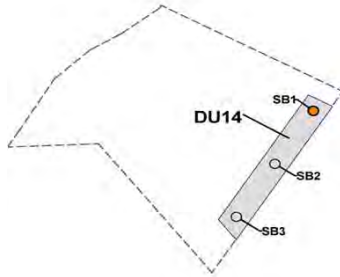


BORING NUMBER: DU13 - SB3

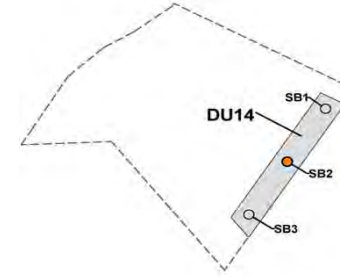
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
3.6		2	1.5-2' Grey-brown, gravel, very dry
			2-2.5' Brown, sand w/ gravel, dry
		3	2.5-3' Brown-grey, coral, sand, dry
			3-4' Black, cinder, gravel, very dry, debris (glass and ceramic)
		4	
			4-5' Brown, silty clay, dry
2.6		5	
			5-6' Brown, silty clay, very dry
2.2		6	
			6-7' Brown, clay w/ brick fragments, very dry
		7	
			7-8.5' Brown, silty clay, very dry
		8	
			8.5-10' Brown, clay w/ brick fragments, dry
2.6		9	
			9-10' Red-brown, clay, moist
		10	
			Core 1 Partial Recovery (3.5')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU14
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/4/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU14
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/4/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU14 - SB1

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
3.2		2	
		2-2.5'	Red/brown, clay w/ gravel, soft/moist
		3	2.5-3' Red, clay, stiff/dry
		3-4'	Red, clay, stiff/dry, strong petroleum odor
5.8		4	
		4-5'	Brown, clay w/ gravel, petroleum odor
		5	
		6	
		7	
4.7		7-8'	Brown, clay, moist, slight petroleum odor
		8	
		8-9'	Red-brown, clay, moist
		9	
5.6		9-10'	Red-brown w/ light brown streaks, clay w/ gravel, dry
		10	
			Core 1 Partial Recovery (3')
			Core 2 Partial Recovery (3')

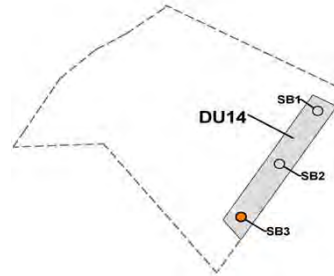
NOTES:

BORING NUMBER: DU14 - SB2

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
2.9		1-2'	Brown, clay w/ gravel, moist/soft
		2	
		2-3'	Red-brown, clay, moist/soft
		3	3-3.5' Red-brown, clay, dry
		3.5-4'	Black, cinder, dry
3.4		4	
		4-5'	Brown, clay w/ gravel, dry
		5	
		6	
		7	
		6.5-7'	Brown, clay, moist, petroleum odor
2.6		8	
		7-9'	Red-brown w/ light brown streaks, clay, dry
		9	
1.4		9-10'	Black, gravel, dry
		10	
			Core 1 Partial Recovery (4')
			Core 2 Partial Recovery (3.5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site
Client: HDOH HEER
Location: Along Aalona Street and Oka Street
 Kilauea, HI
Decision Unit: DU14
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/4/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered

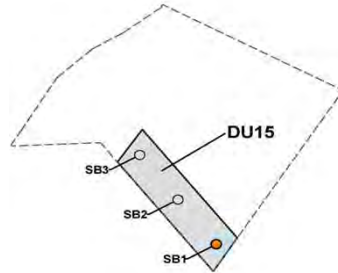


BORING NUMBER: DU14 - SB3

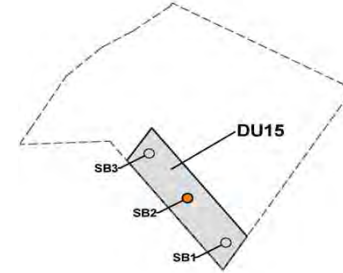
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
1.9		1-2'	Red-brown, clay, dry
		2	2-2.25' Black, cinder and ash, dry
		2.25-3.5'	Red-brown, clay, dry
		3	
		3.5-4'	Brown, clay, dry
1.3		4	
		4-5'	Brown, sand w/ gravel, dry
		5	
		5-6'	Brown, sandy clay, dry
2.0		6	
		6-7'	Light brown, sandy clay, dry
		7	
		8	7-10' Light brown w/ red streaks, clay, dry
0.0		9	
		10	
			Core 1 Partial Recovery (4')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU15
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/4/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU15
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/4/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU15 - SB1

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	1--1.5' Brown, sandy clay w/ roots, dry
2.6		1.5-2'	Brown w/ red streaks, sandy clay, dry
		2	
		2-3.5'	Brown, sandy clay w/ gravel, dry
		3	
4.4		3.5-3.75'	Brown, sand, coral, dry
		4	3.75-4.25' Brown w/ red streaks, sandy clay, dry, slight odor
		5	4.25-5' Brown, sandy clay, dry
3.0		6	5-7' Light brown, sandy clay, moist/soft, slight odor
		7	
		7-8.5'	Light brown w/ red streaks, sandy clay, dry, slight odor
		8	
		8.5-10'	Light red-brown, clay, moist/soft
7.2		9	
		10	
			Core 1 Partial Recovery (4.5')
			Core 2 Full Recovery (5')

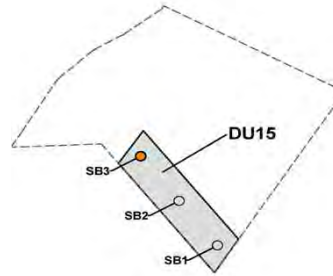
NOTES:

BORING NUMBER: DU15 - SB2

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
14.1		1-1.5'	Brown, sandy clay w/ gravel, dry
		2	1.5-2' Red-brown, sandy clay, dry
		2-3'	Grey-dark, sand with gravel, dry
		3	
		3-4'	Brown and red-brown, clay, dry
4.1		4	
		4-5'	Brown w/ red streaks, clay, slightly moist
		5	
		6	
7.3		5-8.5'	Light brown, clay, slightly moist
		7	
		8	
4.2		9	8.5-10' Red-brown, clay, slightly moist
		10	
			Core 1 Partial Recovery (4')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street
 Kilauea, HI
Decision Unit: DU15
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/4/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered

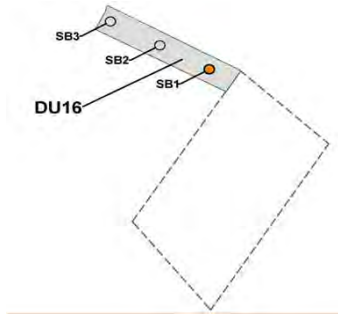


BORING NUMBER: DU15 - SB3

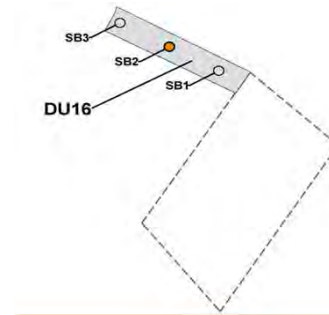
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
		2	1.5-2' Brown, clay w/ organic matter, dry
		2-2.5'	Brown, clay w/ gravel and organic matter, dry
		3	2.5-3.5' Brown, sandy clay w/ gravel, dry
See Note		4	3.5-4.5' Grey, sand and gravel, dry
		4.5-5'	Brown-black, sandy clay, ash at bottom, dry, odor
		5	
		6	
		7	
		8	
		9	
		9-9.5'	Olive-brown, clay, dry, odor
		10	9.5-10' Light brown to red-brown, clay, dry
			Core 1 Partial Recovery (3.5')
			Core 2 Partial Recovery (1')

NOTES:
 No PID readings due to equipment malfunction

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU16
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/3/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU16
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/3/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU16 - SB1

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	Soil Description
		1	
5.4		2	1.5'-3' Brown, clay w/gravel, moist
		3	
		3-3.5'	Brown, sand clay, w/ gravel, dry
		4	3.5-4' Light brown, pure sand, dry
3.7		4-4.5'	Dark brown, silty clay, dry
		5	4.5-5' Black-brown, clay, dry, stiff
		6	
6.2		7	
		6-9'	Red-brown, clay w/brick fragments, dry
		8	
3.6		9	9-9.5' Dark brown, clay, dry
		9.5-10'	Red-brown, clay w/brick fragments, dry
		10	
			Core 1 Partial Recovery (3.5')
			Core 2 Partial Recovery (4')

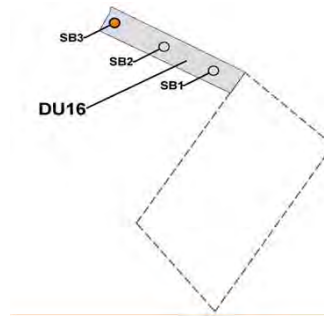
NOTES:

BORING NUMBER: DU16 - SB2

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
1.8		1-2'	Dark brown, clay w/organic matter, moist
		2	
		2-3'	Dark brown, clay, dry
		3	
		3-4'	Dark brown, clay w/ gravel, moist
4.3		4	
		4-5'	Light brown, clay, dry
		5	
		6	
		7	
8		7-8'	Dark brown, clay w/gravel, moist
		8	
		9	9-10' Red-brown, clay w/ brick, dry/stiff
3.4		10	
			Core 1 Partial Recovery (4')
			Core 2 Partial Recovery (3')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street, Kilauea, HI
Decision Unit: DU16
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/3/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered

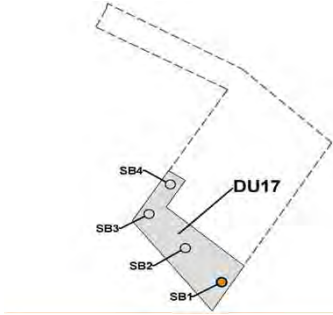


BORING NUMBER: DU16 - SB3

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.5' Grey/black, sand w/gravel, dry
2.2		1	
			0.5-2' Red/brown sandy clay, dry
		2	
		3	2-4' Brown, clay, dry/stiff
5.8			
		4	
			4-5' Red-brown, clay, dry/stiff
		5	
			5-6' Brown, clay, dry/stiff
		6	
3.8			6-6.5' Gravel and asphalt, dry/stiff
		7	6.6-7' Brown, clay, dry/stiff
			7-8' Red-brown, sandy clay, slightly moist/stiff
		8	
			8-9' Red-brown, sandy clay, more moist
3.2		9	
			9-10' Red-brown, clay, mostly soft
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU17
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/5/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered

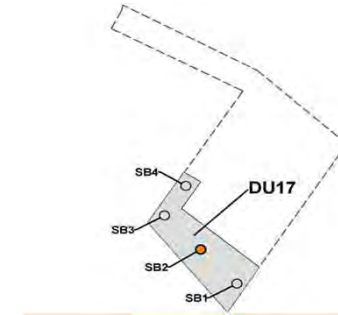


BORING NUMBER: DU17 - SB1

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.5' Brown, clay, dry
10.7		1	
			0.5-2' Grey-Brown, sand w/gravel, dry
		2	
8.9			2-3' Brown, sandy clay w/ gravel, dry
		3	
16.0			3-4' Red/-rown, sandy clay, dry
		4	
9.2			4-5' Brown, sandy clay w/ gravel, dry
		5	
			5-6' Light brown w/ red streaks, sandy clay, dry/very stiff
		6	
			6-6.25' Light brown, sandy clay, dry
1.4			6.25-7.5' Redbrown, sandy clay, dry
		7	
			7.5-8' Red-brown, sandy clay, moist
		8	
5.4			8-9' Light brown, sandy clay, moist
		9	
3.2			9-10' Red-brown, sandy clay, moist
		10	
			Core 1 Full Recovery (3')
			Core 2 Full Recovery (3')
			Core 3 Full Recovery (3')
			Core 4 Full Recovery (1')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU17
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/5/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered

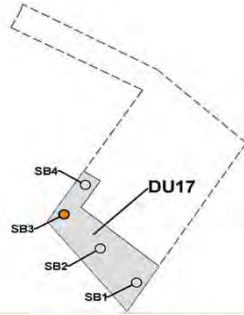


BORING NUMBER: DU17 - SB2

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
0.5		1	0.5-1' Red-brown, sandy clay, dry
			1-2' Brown, sandy clay w/ gravel, dry
		2	
2.9			2-3' Brown, sandy clay, dry
		3	
			3-4' Light brown w/ red streaks, sandy clay w/gravel, dry
4.5		4	
			4-6' Red-brown, sandy clay, stiff/dry
2.3		5	
		6	
2.6			6-7' Light brown w/ red streaks, sandy clay, stiff/dry
		7	
			7-9' Light brown w/ red and grey, sandy clay, stiff/dry
		8	
5.8		9	
			9-10' Light brown w/ red streaks, clay w/gravel, moist/soft
2.9		10	
			Core 1 Partial Recovery (2.5')
			Core 2 Full Recovery (3')
			Core 3 Full Recovery (3')
			Core 4 Full Recovery (1')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU17
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/5/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered

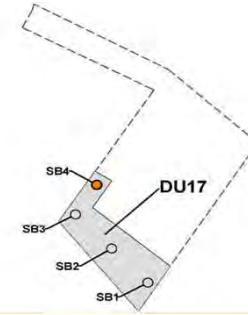


BORING NUMBER: DU17 - SB3

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
5.8		1	0.5-1.5' Red-brown, sandy clay w/ gravel, dry
			1.5-2' Grey, sand/gravel, dry
		2	
6.5			2-3' Brown, sandy clay w/ gravel
		3	
			3-4' Brown, clay, dry/stiff
11.9		4	
		5	
19.7			4-7' Light brown, red streaks, sandy clay w/gravel, stiff/dry, petroleum odor
		6	
9.7			
		7	
		8	7-9' Red-brown, black and grey streaks, sandy clay, moist/soft
8.6			
		9	
6.1			9-10' Light brown w/ red streaks, clay, moist/soft
		10	
			Core 1 Partial Recovery (2.5')
			Core 2 Full Recovery (3')
			Core 3 Full Recovery (3')
			Core 4 Full Recovery (1')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU17
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/5/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered

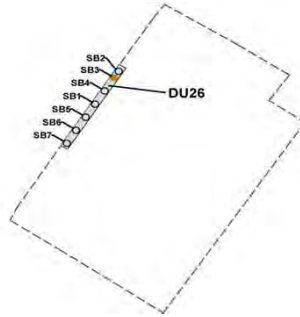


BORING NUMBER: DU17 - SB4

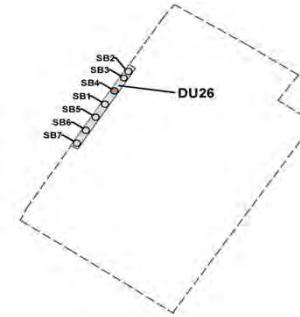
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.5' Brown, sandy clay w/ gravel, dry
5.9		1	0.5-1' Black, sand w/gravel, dry
			1-2' Red-brown, clay, soft/moist
		2	
7.8			2-3' Red, clay w/ brick, dry
		3	
7.4		4	3-5' Red, sandy clay, dry
		5	5-5.5' Brown, sandy clay, dry
2.9			5.5-6' Light brown w/ red streaks, clay, dry
		6	
			6-7' Light brown, red streaks, clay, dry/stiff
		7	
4.7			7-8' Red-brown-light, sandy clay, dry/stiff
		8	
7.4			8-9' Grey, gravel, dry
		9	
4.1			9-10' Red-brown-light, sandy clay, moist
		10	
			Core 1 Full Recovery (3')
			Core 2 full Recovery (3')
			Core 3 Full Recovery (3')
			Core 4 Full Recovery (1')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU26
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/10/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU26
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/10/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU26 - SB3

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		0-0.5'	Red-brown, sandy clay w/ gravel, dry, petroleum odor
		1	
		0.5-3'	Brown, sandy clay, gravel, dry, petroleum odor
		2	
		3	3-3.5' Light brown, coralline sand, dry, petroleum odor
		3.5-4.5'	Brown-dark brown, red streaks, sandy clay, ash, dry, odorless, debris (glass, metal)
		4	
		5	4.5-5' Light brown, coralline sand, dry, petroleum odor
		5-6'	Light brown, coralline sand, dry
		6	
		7	
		6-9'	Red-brown, light brown streaks, sandy clay, dry/stiff
		8	
		9	
		9-10'	Red-brown, sandy clay, moist
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

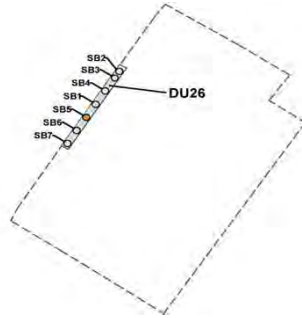
NOTES:

BORING NUMBER: DU26 - SB4

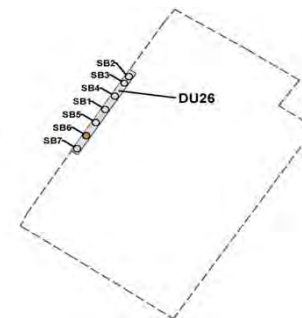
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		0-0.5'	Light brown, sandy clay, gravel, roots, dry, petroleum odor
		1	
		0.5-2'	Red-brown, sandy clay, gravel, dry, petroleum odor
		2	
		2-3'	Dark brown, sandy clay, gravel, dry, petroleum odor
		3	
		3-4'	Dark brown, sandy clay, ash, dry, petroleum odor debris (glass)
		4	
		4-5'	Brown, red streaks, sandy clay, moist
		5	
		6	
		7	
		8	
		9	
		10	
			Core 1 Full Recovery (5')
			Core 2 No Recovery (0')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU26
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/10/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street Kilauea, HI
Decision Unit: DU26
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/10/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU26 - SB5

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
		2	
		3	2.5-3.5' Brown, sandy clay w/ gravel, dry, petroleum odor
		4	3.5-4' Brown, sandy clay, dry, petroleum odor 4-5' Red-Brown, sandy clay, moist, petroleum odor
		5	
		6	
		7	
		8	7.5-8' Red-Brown, sandy clay, moist 8-8.5' Black-grey, gravel w/ sand, dry
		9	8.5-10' Red-brown, light brown streaks, sandy clay, moist
		10	
			Core 1 Partial Recovery (3.5')
			Core 2 Partial Recovery (3.5')

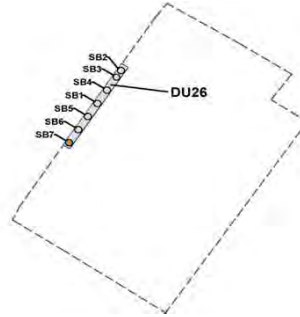
NOTES:

BORING NUMBER: DU26 - SB6

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
		2	0.5-2' Red-brown, sandy clay, roots, gravel, dry, petroleum odor
		3	2-3' Dark grey, Coralline sand w/ gravel, dry, petroleum odor
		4	3-4' Dark brown, sandy clay w/ white powder, dry, petroleum odor debris (glass)
		5	4-5' Red-brown, sandy clay, moist
		6	
		7	
		8	
		9	
		10	
			Core 1 Partial Recovery (4.5')
			Core 2 No Recovery (0')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street
 Kilauea, HI
Decision Unit: DU26
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/10/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered

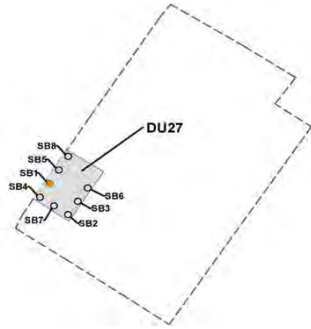


BORING NUMBER: DU26 - SB7

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		0-0.5'	Light brown, sandy clay, gravel, dry, petroleum odor
		1	
		0.5-2.5'	Red-brown, sandy clay, dry, petroleum odor
		2	
		2.5-3'	Black, ash, dry
		3	
		3-4'	Red-brown, black, sandy clay, ash, gravel, dry/very stiff, petroleum odor debris (glass)
		4	
		4-5'	Red, clay, moist, petroleum odor
		5	
		5-6'	Light brown, clay, gravel, dry
		6	
		7	
		8	
		9	
		10	
			Core 1 Full Recovery (5')
			Core 2 Partial Recovery (1')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street, Kilauea, HI
Decision Unit: DU27
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/9/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street, Kilauea, HI
Decision Unit: DU27
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/9/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU27 - SB1

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		0-0.5'	Brown, sandy clay, grass, roots, slightly moist, petroleum odor
		1	0.5'-2' Brown, sandy clay, grass, gravel, roots, slightly moist, petroleum odor
		2	
		2-3'	Medium brown/black, sandy clay, dry, petroleum odor
		3	
		3-4'	Brown, sandy clay, w/ gravel, dry, petroleum odor
		4	
		4-5'	Light brown, sandy clay w/ gravel, dry, petroleum odor
		5	
		5-7'	Brown w/ reddish streaks, sandy clay w/ gravel, stiff/dry, petroleum odor
		6	
		7	
		7-10'	red/brown, sandy clay w/ black basalt gravel, dry
		8	
		9	
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

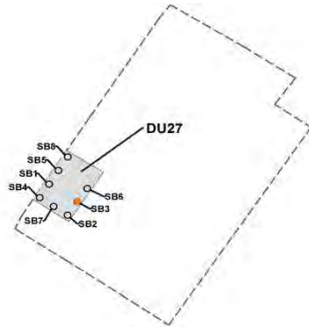
NOTES:

BORING NUMBER: DU27 - SB2

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	
		2	1.5-2' Brown, sandy clay, grass, roots, dry, petroleum odor
		3	2-4' Black/brown, sandy clay, dry, petroleum odor debris (brown glass)
		4	
		4-5'	Black/brown, sandy clay, dry, petroleum odor
		5	
		5-7'	Light brown, clay w/ gravel, dry, petroleum odor
		6	
		7	
		7-8'	Light brown, clay w/ gravel, dry
		8	
		8-8.5'	Grey/black, sandy gravel, dry
		9	8.5-9' red/brown, sandy clay, mois
		9-10'	Red/brown, sandy clay w/ black cinder, moist
		10	
			Core 1 Partial Recovery (3.5')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street, Kilauea, HI
Decision Unit: DU27
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/9/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU27 - SB3

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.5' Brown, sandy clay, gravel, roots, dry, petroleum odor
		1	0.5'-1.75' Red/Brown, sandy clay, dry, petroleum odor
		2	1.75-2' Black/grey, gravel, dry, petroleum odor
		2-4'	Red/brown, sandy clay, dry, odorless
		3	
		4	
		4-4.5'	Red/brown, sandy clay, dry odorless
		5	4.5-5' Brown, sandy clay, dense/dry/stiff, odorless
		5-7'	Brown w/ red streaks, sandy clay, slightly moist, petroleum odor
		6	
		7	
		7-10'	Red/brown, sandy clay, slightly moist
		8	
		9	
		10	
			Core 1 Partial Recovery (4')
			Core 2 Partial Recovery (4.5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street, Kilauea, HI
Decision Unit: DU27
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/9/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered

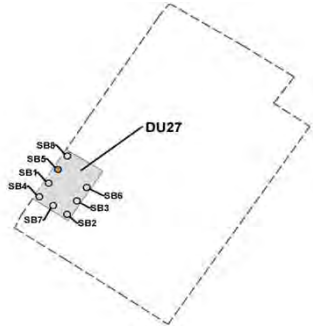


BORING NUMBER: DU27 - SB4

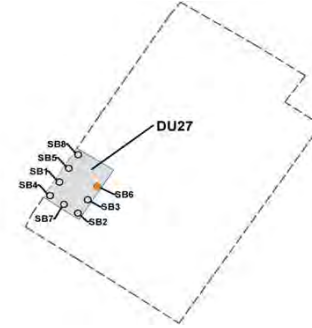
PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
		1	0.5-1' Brown, sandy clay, gravel, roots, dry, petroleum odor
		2	1-2' Brown, sandy clay, gravel, roots, drier, petroleum odor
		2-3'	Brown, sandy clay, gravel, roots, dry, petroleum odor
		3	
		3-3.5'	Black/grey, gravel, dry, petroleum odor
		4	3.5-4' Red/brown, clay, dry, petroleum odor debris (ceramic tile)
		4-5'	Red/brown, clay, dry, petroleum odor
		5	
		5-6'	Light brown, red streaks, sandy clay, slightly moist
		6	
		6-7'	Red/brown, sandy clay, slightly moist, petroleum odor
		7	
		8	7-10' Red/brown, sandy clay, black gravel, more moist
		9	
		10	
			Core 1 Partial Recovery (4.5')
			Core 2 Full Recovery (5')

NOTES:

Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street, Kilauea, HI
Decision Unit: DU27
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/9/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



Project: Former Kilauea Sugar Company, Ltd. Mill Pesticide Mixing Area Site Investigation
Client: HDOH HEER
Location: Along Aalona Street and Oka Street, Kilauea, HI
Decision Unit: DU27
Coordinates: NA
Logged By: RS, SD
Drilling Company: Geotek Hawaii Inc.
Drilling Method: Direct-push Geoprobe
Drilling Date: 8/9/2011
Total Depth: 10' bgs
Depth to Water: NA - Water Not Encountered



BORING NUMBER: DU27 - SB5

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-0.5' Brown, sandy clay, dry, petroleum odor
		1	0.5'-1' Brown, sandy clay, dry, petroleum odor
		1-1.5'	Grey/black, gravel, very dry, petroleum odor
		2	1.5-2' Light brown w/ red streaks, sandy clay, dry
		2-3'	Red, sandy clay, dry, petroleum odor
		3	
		3-4'	Light brown, sandy clay, dry, petroleum odor
		4	
		4-5'	Light brown, sandy clay, dry, petroleum odor
		5	
		5-5.5'	Light brown, sandy clay, dry
		6	5.5-7' Red/brown, sandy clay/ moist, petroleum odor
		7	
		7-8'	Red/brown, sandy clay/ moist
		8	
		8-10'	Red/brown, w/ black, clay w/gravel, moist/soft
		9	
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

NOTES:

BORING NUMBER: DU27 - SB6

PID READING	RECOVERY	DEPTH BELOW GRADE (FEET)	SOIL DESCRIPTION
			0-1.0' Brown, sandy clay, roots, gravel, dry, petroleum odor
		1	
		1.0-2.5'	Grey, sandy gravel, dry, petroleum odor
		2	
		3	2.5-3.5' Green/black, clay, stiff/very dry, solvent/petroleum odor
		3.5-4'	Red, sandy clay, moist
		4	
		4-5'	Dark brown, sandy clay, w/ gravel, dry, petroleum odor
		5	
		5-7'	Light brown, red streaks, sandy clay, dry
		6	
		7	
		7-9'	Red/brown, sandy clay, slightly moist/soft
		8	
		9	
		9-10'	Red/brown, sandy clay w/ black gravel, dry
		10	
			Core 1 Full Recovery (5')
			Core 2 Full Recovery (5')

NOTES:

Appendix G – Solid Waste Manifests

6000/10000

NON-HAZARDOUS WASTE MANIFEST 1. Generator ID Number H I R 0 0 0 0 0 0 8 1 0 2. Page 1 of 1 3. Emergency Response Phone 808-206-9989 4. Waste Tracking Number 000016540

5. Generator's Name and Mailing Address STATE OF HAWAII DOH HEER 919 ALA MOANA BLVD. ROOM 206 HONOLULU, HI 96814-4249 808-586-4249 Generator's Site Address (if different than mailing address) 2430 A OKA STREET KILAUEA, HI 96754 HIC7248-02

6. Transporter 1 Company Name PACIFIC COMMERCIAL SERVICES, LLC. 808-545-4599 U.S. EPA ID Number H I R 0 0 0 0 9 7 8 2 4

7. Transporter 2 Company Name U.S. EPA ID Number

8. Designated Facility Name and Site Address PVT LAND COMPANY, LTD. 87-2020 FARRINGTON HIGHWAY WAIANAE, HI 96792 U.S. EPA ID Number NOT APPLICABLE Facility's Phone: 808-668-4561

Table with 5 columns: 9. Waste Shipping Name and Description, 10. Containers (No., Type), 11. Total Quantity, 12. Unit Wt./Vol., and a final column for classification. Row 1: MATERIAL NOT REGULATED BY DOT (IDW DECONTAMINATION WATER WITH TRACE PESTICIDE), 001, DM, 00450, P, NON-RCRA.

13. Special Handling Instructions and Additional Information 9b1: NR 9b2: * 76318 9b3: * 9b4: * 2008 ERG# DO/JOE 7248 9b1: 9b2: 9b3: 9b4: SEND COPY TO: PCS LLC P.O. BOX 235117 HONOLULU, HI 96823

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offoror's Printed/Typed Name Terence Corpus for State of Hawaii Signature Terence Corpus Month 8 Day 12 Year 11

15. International Shipments [] Import to U.S. [] Export from U.S. Port of entry/exit: Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name LYLE RAGRAGOLA Signature Lyle Ragragola Month 8 Day 12 Year 11

Transporter 2 Printed/Typed Name Hashimoto-Terrence Signature Hashimoto-Terrence Month 8 Day 12 Year 11

17. Discrepancy 17a. Discrepancy Indication Space [] Quantity [] Type [] Residue [] Partial Rejection [] Full Rejection Manifest Reference Number:

17b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone: 17c. Signature of Alternate Facility (or Generator) Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a Printed/Typed Name K. Ishii Signature K. Ishii Month 12 Day 22 Year 11

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

Pacific U1

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number HTR0000000810	2. Page 1 of 2	3. Emergency Response Phone 808-206-9989	4. Waste Tracking Number 000016539
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5. Generator's Name and Mailing Address
STATE OF HAWAII DOH HEER
 919 ALA MOANA BLVD. ROOM 206 ATTN: TERRY CORPUS 2430 A OKA STREET
 HONOLULU, HI 96814-4249 KILAUEA, HI 96754
 Generator's Phone: 808-586-4249

Generator's Site Address (if different than mailing address): HIC7248-01

6. Transporter 1 Company Name PACIFIC COMMERCIAL SERVICES, LLC.	U.S. EPA ID Number HTR0000097824
7. Transporter 2 Company Name	U.S. EPA ID Number

8. Designated Facility Name and Site Address
PVT LAND COMPANY, LTD.
 87-2020 FARRINGTON HIGHWAY
 WAIANAE, HI 96792
 Facility's Phone: 808-668-4561

U.S. EPA ID Number: NOT APPLICABLE

9. Waste Shipping Name and Description	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	
	No.	Type			
1. MATERIAL NOT REGULATED BY DOT (IDW SOIL WITH TRACE PESTICIDES)	002		00200		NON-RCRA
2.	005	DM	02500	P	
3.					
4.					

13. Special Handling Instructions and Additional Information

9b1: NR 76320 2008 9b1: SEND COPY TO:
 9b2: * ERG# 9b2: PCS LLC
 9b3: * DO/JOE 9b3: P.O. BOX 235117
 9b4: * 7248 9b4: HONOLULU, HI 96823

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Terence Corpus for State of Hawaii Signature: Terence Corpus
 Month: 8 Day: 12 Year: 11

15. International Shipments Import to U.S. Export from U.S. Port of entry/exit: _____
 Transporter Signature (for exports only): _____ Date leaving U.S.: _____

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: LYLE RAGRAGOLA Signature: Lyle Ragragola Month: 8 Day: 12 Year: 11
 Transporter 2 Printed/Typed Name: Hashimoto-Ferreira Signature: Hashimoto-Ferreira Month: 08 Day: 12 Year: 11

17. Discrepancy

17a. Discrepancy Indication Space Quantity Type Residue Partial Rejection Full Rejection

Manifest Reference Number: _____ U.S. EPA ID Number: _____

17b. Alternate Facility (or Generator) U.S. EPA ID Number: _____

Facility's Phone: _____

17c. Signature of Alternate Facility (or Generator) Month: _____ Day: _____ Year: _____

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a

Printed/Typed Name: Mary Jones Signature: Mary Jones Month: 12 Day: 9 Year: 11

Appendix H - Targeted Contaminants of Concern and Tier II EAL Risk Categories

Table 1

Previous Sampling Activities - Step 1: Tier II EAL Risk Categories for Each Sample for TEQ Dioxins

Appendix H - Table 1 Previous Sampling Activities - Step 1: Tier II EAL Risk Categories for Each Sample for TEQ Dioxins

TCOC	KKSC-DU1	KKSC-DU2	KKSC-DU3	KKSC-DU4	KKSC-DU5	KKSC-DU6 ¹	KKSC-DU7 ¹	KKSC-DU8 ¹	KSPMA-DU1	KSPMA-DU2	KSPMA-DU3	KSPMA-DU4	KSPMA-DU5	KSPMA-DU6	KSPMA-DU7	KSPMA-DU8	KSNB-DU1	KSNB-DU2	KBV-01
Sample Date	8.19.10	8.19.10	8.19.10	8.19.10	8.18.10	8.18.10	8.18.10	8.18.10	12.15.10	12.15.10	12.15.10	12.15.10	12.16.10	12.15.10	12.16.10	12.16.10	3.5.11	3.5.11	1.26.11
Depth Interval (bgs)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	4.0-6.0
Soil Analysis (ng/kg)																			
TEQ DIOXINS	18	110	299	143	930	817	1070	879	170	94	87	55	140	1700	2500	650	17	125	NA
Tier II EAL Risk Category	A	B	C	B	C	C	C	C	B	B	B	B	B	D	D	C	A	B	X
NOTES:																			
Red Text = Detected concentration exceeds the HDOH Tier I EAL for Unrestricted Use only.																			
Red Bold Text = Detected concentration exceeds the HDOH Tier I EALs for both Unrestricted and Commercial/Industrial Use.																			
ng/kg = Nanograms per kilogram (parts per trillion [ppt] equivalent)																			
TCOC = Targeted contaminant of concern (TEQ dioxins or arsenic)																			
X = No TCOC analytical data available (i.e., sample listed as NA [Not Analyzed] or H [Hold]) on Table 22																			
1 = Triplicate sample																			
KBV = Kauai Beach Villas																			
KKSC = Kauai Kilauea Sugar Company																			
KSPMA = Kilauea Sugar Pesticide Mixing Area																			
KSNB = Kilauea Sugar Natural Bridges																			
NA = Not analyzed																			
Fall 2011 Revised Tier I EALs and July 2010 Revised Tier II EALs																			

HEER Office Tier II EAL Risk Category	TEQ Dioxins (ng/kg)
A - Background	< 20
B - Minimally Impacted	≥ 20 but ≤ 240
C - Moderately Impacted	≥ 240 but ≤ 1500
D - Heavily Impacted	> 1500

Table 2

Previous Sampling Activities - Step 1: Tier II EAL Risk Categories for Each Sample for Arsenic

Appendix H - Table 2 Previous Sampling Activities - Step 1: Tier II EAL Risk Categories for Each Sample for Arsenic

TCOC	KKSC-DU1	KKSC-DU2	KKSC-DU3	KKSC-DU4	KKSC-DU5	KKSC-DU6 ³	KKSC-DU7 ³	KKSC-DU8 ³	KSPMA-DU1	KSPMA-DU2	KSPMA-DU3	KSPMA-DU4	KSPMA-DU5	KSPMA-DU6	KSPMA-DU7	KSPMA-DU8	KSNB-DU1	KSNB-DU2	KBV-01
Sample Date	8.19.10	8.19.10	8.19.10	8.19.10	8.18.10	8.18.10	8.18.10	8.18.10	12.15.10	12.15.10	12.15.10	12.15.10	12.16.10	12.15.10	12.16.10	12.16.10	3.5.11	3.5.11	1.26.11
Depth Interval (’ bgs)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	4.0-6.0
Soil Analysis (mg/kg)																			
TOTAL ARSENIC	ND [<29]	ND [<30]	100	44 ^a	180 ^a	520 ^a	770	430 ^a	19.8	93.9	33.8	12.5	39.1	1890	3760	317	13.3	19.7	950 ^a
BIOACCESSIBLE ARSENIC ¹	NA	NA	18.1	NA	NA	NA	307	NA	NA	9.98	4.6	NA	7.95	786	1870	69.6	NA	NA	NA
Tier II EAL Risk Category	X	X	B	B ²	B ²	C ²	D	C ²	A	B	B	A	B	D	D	C	A	A	C ²
NOTES:																			
Red Text = Detected concentration exceeds the HDOH Tier I EAL for Unrestricted Use only.																			
Red Bold Text = Detected concentration exceeds the HDOH Tier I EALs for both Unrestricted and Commercial/Industrial Use.																			
mg/kg = Milligrams per kilogram (parts per million [ppm]) equivalent																			
TCOC = Targeted contaminant of concern (TEQ dioxins or arsenic)																			
X = No TCOC analytical data available (i.e., sample listed as NA [Not Analyzed] or H [Hold]) on Table 22																			
1 = Bioaccessible arsenic concentration was estimated by calculating 10% of the total arsenic concentration. This was only done for samples where bioaccessible arsenic was not analyzed.																			
2 = Tier II EAL Risk Category based upon estimated Bioaccessible Arsenic concentration. The Bioaccessible Arsenic concentration was estimated as 10% of Total Arsenic (see "1" in line above)																			
a = Detected concentration of total arsenic exceeded 20 ppm, but bioaccessible arsenic analysis was not conducted.																			
3 = Triplicate sample																			
KBV = Kauai Beach Villas																			
KKSC = Kauai Kilauea Sugar Company																			
KSPMA = Kilauea Sugar Pesticide Mixing Area																			
KSNB = Kilauea Sugar Natural Bridges																			
ND = Not detected at or above the method detection limit shown in brackets																			
NA = Not analyzed																			
Fall 2011 Revised Tier I EALs and Fall 2011 Revised Tier II EALs																			

HEER Office Tier II EAL Risk Category	Total Arsenic / Bioaccessible Arsenic (mg/kg)
A - Background	< 24 Total Arsenic
B - Minimally Impacted	> 24 Total Arsenic and ≤ 23 Bioaccessible Arsenic
C - Moderately Impacted	> 23 but ≤ 95 Bioaccessible Arsenic
D - Heavily Impacted	> 95 Bioaccessible Arsenic

Table 3

**Previous Sampling Activities - Step 2: Highest Impact Tier II EAL Risk
Category for Each Sample**

Appendix H - Table 3 Previous Sampling Activities - Step 2: Highest Impact Tier II EAL Risk Category for Each Sample

TCOC	KKSC-DU1	KKSC-DU2	KKSC-DU3	KKSC-DU4	KKSC-DU5	KKSC-DU6 ³	KKSC-DU7 ³	KKSC-DU8 ³	KSPMA-DU1	KSPMA-DU2	KSPMA-DU3	KSPMA-DU4	KSPMA-DU5	KSPMA-DU6	KSPMA-DU7	KSPMA-DU8	KSNB-DU1	KSNB-DU2	KBV-01
Sample Date	8.19.10	8.19.10	8.19.10	8.19.10	8.18.10	8.18.10	8.18.10	8.18.10	12.15.10	12.15.10	12.15.10	12.15.10	12.16.10	12.15.10	12.16.10	12.16.10	3.5.11	3.5.11	1.26.11
Depth Interval (' bgs)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	4.0-6.0
Highest Tier II EAL Risk Category ¹	A	B	C	B	C	C	D	C	B	B	B	B	B	D	D	C	A	B	C ²

NOTES:
 TCOC = Targeted contaminant of concern (TEQ dioxins or arsenic)
 mg/kg = Milligrams per kilogram (parts per million [ppm]) equivalent
 ng/kg = Nanograms per kilogram (parts per trillion [ppt] equivalent)
 X = No TCOC analytical data available (i.e., sample listed as NA [Not Analyzed] or H [Hold]) on Table 22
 1 = The individual risk categories for TEQ dioxins and arsenic for each sample were compared, and the highest risk category identified was assigned to that sample. This approach was selected to present the most conservative scenario.
 2 = Tier II EAL Risk Category based upon estimated Bioaccessible Arsenic concentration. The Bioaccessible Arsenic concentration was estimated as 10% of Total Arsenic
 3 = Triplicate sample
 KBV = Kauai Beach Villas
 KKSC = Kauai Kilauea Sugar Company
 KSPMA = Kilauea Sugar Pesticide Mixing Area
 KSNB = Kilauea Sugar Natural Bridges
 ND = Not detected at or above the method detection limit shown in brackets
 NA = Not analyzed
 Fall 2011 Revised Tier I EALs and July 2010/Fall 2011 Revised Tier II EALs

HEER Office Tier II EAL Risk Category	TEQ Dioxins (ng/kg)
A - Background	< 20
B - Minimally Impacted	≥ 20 but ≤ 240
C - Moderately Impacted	≥ 240 but ≤ 1500
D - Heavily Impacted	> 1500

HEER Office Tier II EAL Risk Category	Total Arsenic / Bioaccessible Arsenic (mg/kg)
A - Background	< 24 Total Arsenic
B - Minimally Impacted	> 24 Total Arsenic and ≤ 23 Bioaccessible Arsenic
C - Moderately Impacted	> 23 but ≤ 95 Bioaccessible Arsenic
D - Heavily Impacted	> 95 Bioaccessible Arsenic

Table 4

Current Site Investigation - Step 1: Tier II EAL Risk Categories for Each Sample for TEQ Dioxins

(4 pages)

Appendix H - Table 4 Current Site Investigation - Step 1: Tier II EAL Risk Categories for Each Sample for TEQ Dioxins
(4 pages)

DU1 Area 1 - Perimeter of Core PMA Along the eastern border of the North Shore Health Center Property	KSPMA-DU5	PMAK-DU1-A	PMAK-DU1-B	PMAK-DU1-C	PMAK-DU1-D	PMAK-DU1-E
Sample Date	12.16.10	8.1.11	8.1.11	8.1.11	8.1.11	8.1.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)						
TEQ DIOXINS	140	120	160	NA	NA	NA
Tier II EAL Risk Category	B	B	B	X	X	X

DU2 Area 1 - Perimeter of Core PMA Along the eastern borders of the Grace Paul Trust property, Clarion property and Howard property; adjacent to Aalona St.	KSPMA-DU2	KSPMA-DU3	PMAK-DU2-A	PMAK-DU2-B	PMAK-DU2-C	PMAK-DU2-D	PMAK-DU2-E
Sample Date	12.15.10	12.15.10	8.1.11	8.1.11	8.1.11	8.1.11	8.1.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0.5-2.0	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)							
TEQ DIOXINS	94	87	21	87	11	NA	NA
Tier II EAL Risk Category	B	B	B	B	A	X	X

DU3 Area 1 - Perimeter of Core PMA Along the eastern borders of the Johnson property, Deforge property, and the southern borders of the Cooper property, Cudiamat property, and Owens property; adjacent to the cul-de-sac portion of Aalona St.	KSPMA-DU1	KSPMA-DU4	PMAK-DU3-A	PMAK-DU3-B	PMAK-DU3-C	PMAK-DU3-D	PMAK-DU3-E
Sample Date	12.15.10	12.15.10	8.2.11	8.2.11	8.2.11	8.2.11	8.2.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)							
TEQ DIOXINS	170	55	64	130	NA	NA	NA
Tier II EAL Risk Category	B	B	B	B	X	X	X

DU4 Area 1 - Perimeter of Core PMA Along the southern border of the Ortal property, adjacent to the Foley property.	PMAK-DU4-A-P	PMAK-DU4-A-T1	PMAK-DU4-A-T2	PMAK-DU4-B-P	PMAK-DU4-B-T1	PMAK-DU4-B-T2	PMAK-DU4-C-P	PMAK-DU4-C-T1	PMAK-DU4-C-T2	PMAK-DU4-D-P	PMAK-DU4-D-T1	PMAK-DU4-D-T2	PMAK-DU4-E-P	PMAK-DU4-E-T1	PMAK-DU4-E-T2
Sample Date	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0-0.5	0.5-2.0	0.5-2.0	0.5-2.0	2.0-4.0	2.0-4.0	2.0-4.0	4.0-7.0	4.0-7.0	4.0-7.0	7.0-10.0	7.0-10.0	7.0-10.0
Soil Analyses (ng/kg)															
TEQ DIOXINS	170	190	180	120	170	110	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tier II EAL Risk Category	B	B	B	B	B	B	X	X	X	X	X	X	X	X	X

DU5 Area 1 - Perimeter of Core PMA Along the western borders of the Ortal property and Foley property. This DU is adjacent to the HHA property.	KKSC-DU1	KKSC-DU2	PMAK-DU5-A	PMAK-DU5-B	PMAK-DU5-C	PMAK-DU5-D	PMAK-DU5-E
Sample Date	8.19.10	8.19.10	8.10.11	8.10.11	8.10.11	8.10.11	8.10.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)							
TEQ DIOXINS	18	110	H	33	530	NA	NA
Tier II EAL Risk Category	A	B	X	B	C	X	X

DU6 Area 1 - Perimeter of Core PMA Along the southern boundary of the HHA property, adjacent to Natural Bridges School property.	PMAK-DU6-A-P	PMAK-DU6-A-T1	PMAK-DU6-A-T2	PMAK-DU6-B-P	PMAK-DU6-B-T1	PMAK-DU6-B-T2	PMAK-DU6-C-P	PMAK-DU6-C-T1	PMAK-DU6-C-T2	PMAK-DU6-D-P	PMAK-DU6-D-T1	PMAK-DU6-D-T2	PMAK-DU6-E-P	PMAK-DU6-E-T1	PMAK-DU6-E-T2
Sample Date	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0-0.5	0.5-2.0	0.5-2.0	0.5-2.0	2.0-4.0	2.0-4.0	2.0-4.0	4.0-7.0	4.0-7.0	4.0-7.0	7.0-10.0	7.0-10.0	7.0-10.0
Soil Analyses (ng/kg)															
TEQ DIOXINS	29	28	27	9.9	9.4	10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tier II EAL Risk Category	B	B	B	A	A	A	X	X	X	X	X	X	X	X	X

LEGEND
Red Text = Detected concentration exceeds the HDOH Tier I EAL for Unrestricted Use only.
Red Bold Text = Detected concentration exceeds the HDOH Tier I EALs for both Unrestricted and Commercial/Industrial Use.
 ng/kg = Nanograms per kilogram (parts per trillion [ppt] equivalent)
 TCOC = Targeted contaminant of concern (TEQ dioxins or arsenic)
 X = No TCOC analytical data available (i.e., sample listed as NA [Not Analyzed] or H [Hold]) on Table 22
 3 = Triplicate sample
 H = Sample is on "hold" and was archived at the laboratory.
 Shading = Sample collected during current site investigation
 Shading = Sample collected during previous sampling activities (HEER Office or Kauai Environmental)
 NA = Not analyzed
 Fall 2011 Revised Tier I EALs and July 2010/Fall 2011 Revised Tier II EALs

HEER Office Tier II EAL Risk Category	TEQ Dioxins (ng/kg)
A - Background	< 20
B - Minimally Impacted	≥ 20 but ≤ 240
C - Moderately Impacted	≥ 240 but ≤ 1500
D - Heavily Impacted	> 1500

Appendix H - Table 4 Current Site Investigation - Step 1: Tier II EAL Risk Categories for Each Sample for TEQ Dioxins
(continued)

DU7					
Area 1 - Perimeter of Core PMA					
Along the southern boundary of the HHA property, adjacent to Natural Bridges School property.					
	PMAK-DU7-A	PMAK-DU7-B	PMAK-DU7-C	PMAK-DU7-D	PMAK-DU7-E
Sample Date	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11
Depth Intervals (' bgs)	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)					
TEQ DIOXINS	86	83	NA	NA	NA
Tier II EAL Risk Category	B	B	X	X	X

DU8					
Area 1 - Perimeter of Core PMA					
Along the eastern border of the Old Mill LLC property, adjacent to the Natural Bridges School property.					
	PMAK-DU8-A	PMAK-DU8-B	PMAK-DU8-C	PMAK-DU8-D	PMAK-DU8-E
Sample Date	8.2.11	8.2.11	8.2.11	8.2.11	8.2.11
Depth Intervals (' bgs)	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)					
TEQ DIOXINS	29	63	NA	NA	NA
Tier II EAL Risk Category	B	B	X	X	X

DU9					
Area 1 - Perimeter of Core PMA					
Along the southern border of the Old Mill LLC property, adjacent to Oka Street.					
	PMAK-DU9-A	PMAK-DU9-B	PMAK-DU9-C	PMAK-DU9-D	PMAK-DU9-E
Sample Date	8.2.11	8.2.11	8.2.11	8.2.11	8.2.11
Depth Intervals (' bgs)	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)					
TEQ DIOXINS	31	41	NA	NA	NA
Tier II EAL Risk Category	B	B	X	X	X

DU10							
Area 2 - Core PMA							
Within the western portion of the Drainage Swale, which is along the northern border of the Old Mill LLC property.							
	KSPMA-DU6	KSPMA-DU7	PMAK-DU10-A	PMAK-DU10-B	PMAK-DU10-C	PMAK-DU10-D	PMAK-DU10-E
Sample Date	12.15.10	12.16.10	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)							
TEQ DIOXINS	1700	2500	NA	2100	NA	NA	NA
Tier II EAL Risk Category	D	D	X	D	X	X	X

DU11						
Area 2 - Core PMA						
Within the eastern portion of the Drainage Swale. Along the northern border of the Old Mill LLC property.						
	KSPMA-DU8	PMAK-DU11-A	PMAK-DU11-B	PMAK-DU11-C	PMAK-DU11-D	PMAK-DU11-E
Sample Date	12.16.10	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)						
TEQ DIOXINS	650	NA	350	NA	NA	NA
Tier II EAL Risk Category	C	X	C	X	X	X

DU12						
Area 2 - Core PMA						
Within the front yard of the Thompson property, adjacent to Aalona Street.						
	KKSC-DU5	PMAK-DU12-A	PMAK-DU12-B	PMAK-DU12-C	PMAK-DU12-D	PMAK-DU12-E
Sample Date	8.18.10	8.4.11	8.4.11	8.4.11	8.4.11	8.4.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)						
TEQ DIOXINS	930	H	1800	NA	NA	NA
Tier II EAL Risk Category	C	X	D	X	X	X

DU13					
Area 2 - Core PMA					
Within the north side yard of the Thompson property, adjacent to Aalona Street					
	PMAK-DU13-A	PMAK-DU13-B	PMAK-DU13-C	PMAK-DU13-D	PMAK-DU13-E
Sample Date	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11
Depth Intervals (' bgs)	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)					
TEQ DIOXINS	760	1400	NA	NA	H
Tier II EAL Risk Category	C	C	X	X	X

Appendix H - Table 4 Current Site Investigation - Step 1: Tier II EAL Risk Categories for Each Sample for TEQ Dioxins
(continued)

DU14 Area 2 - Core PMA Within the backyard of the Thompson property adjacent to the Foley property.	KKSC-DU6 ³	KKSC-DU7 ³	KKSC-DU8 ³	PMAK-DU14-A	PMAK-DU14-B	PMAK-DU14-C	PMAK-DU14-D	PMAK-DU14-E
Sample Date	8.18.10	8.18.10	8.18.10	8.4.11	8.4.11	8.4.11	8.4.11	8.4.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)								
TEQ DIOXINS	817	1070	879	H	35	NA	NA	H
Tier II EAL Risk Category	C	C	C	X	B	X	X	X

DU15 Area 2 - Core PMA Within the south side yard of the Thompson property, adjacent to the Drainage Swale.	KKSC-DU6 ³	KKSC-DU7 ³	KKSC-DU8 ³	PMAK-DU15-A	PMAK-DU15-B	PMAK-DU15-C	PMAK-DU15-D	PMAK-DU15-E
Sample Date	8.18.10	8.18.10	8.18.10	8.4.11	8.4.11	8.4.11	8.4.11	8.4.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)								
TEQ DIOXINS	817	1070	879	H	740	NA	NA	H
Tier II EAL Risk Category	C	C	C	X	C	X	X	X

DU16 Area 2 - Core PMA Within the driveway of the Foley property, adjacent to the Thompson property.	PMAK-DU16-A	PMAK-DU16-B	PMAK-DU16-C	PMAK-DU16-D	PMAK-DU16-E
Sample Date	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11
Depth Intervals (' bgs)	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)					
TEQ DIOXINS	120	260	NA	NA	NA
Tier II EAL Risk Category	B	C	X	X	X

DU17 Area 2 - Core PMA Within the backyard of the Foley property, adjacent to the Drainage Swale.	KKSC-DU3	PMAK-DU17-A	PMAK-DU17-B	PMAK-DU17-C	PMAK-DU17-D	PMAK-DU17-E
Sample Date	8.19.10	8.5.11	8.5.11	8.5.11	8.5.11	8.5.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (ng/kg)						
TEQ DIOXINS	299	H	400	NA	NA	NA
Tier II EAL Risk Category	C	X	C	X	X	X

DU18 Area 2 - Core PMA Within the West Drainage Outfall, adjacent to the intersection of Kilauea Road and Oka Street.	PMAK-DU18-A-P	PMAK-DU18-A-T1	PMAK-DU18-A-T2
Sample Date	8.10.11	8.10.11	8.10.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0-0.5
Soil Analyses (ng/kg)			
TEQ DIOXINS	64	64	91
Tier II EAL Risk Category	B	B	B

DU19 Area 2 - Core PMA Within the West Drainage Outfall, to the west of DU18.	PMAK-DU19-A
Sample Date	8.11.11
Depth Intervals (' bgs)	0-0.5
Soil Analyses (ng/kg)	
TEQ DIOXINS	15
Tier II EAL Risk Category	A

DU21 Area 3 - Potentially Impacted Exposed Surface Soils - Not Previously Sampled Two separate areas on the Old Mill LLC property.	PMAK-DU21-A
Sample Date	8.10.11
Depth Intervals (' bgs)	0-0.5
Soil Analyses (ng/kg)	
TEQ DIOXINS	NA
Tier II EAL Risk Category	X

Appendix H - Table 4 Current Site Investigation - Step 1: Tier II EAL Risk Categories for Each Sample for TEQ Dioxins
(continued)

DU22 Area 3 - Potentially Impacted Exposed Surface Soils - Not Previously Sampled Along the western border of the Old Mill LLC property adjacent to the drainage swale.	PMAK-DU22-A
Sample Date	8.5.11
Depth Intervals (' bgs)	0-0.5
Soil Analyses (ng/kg)	
TEQ DIOXINS	140
Tier II EAL Risk Category	B

DU23 Area 3 - Potentially Impacted Exposed Surface Soils - Not Previously Sampled Within the raised planter box along the southern boundary of the Old Mill LLC property.	PMAK-DU23-A
Sample Date	8.10.11
Depth Intervals (' bgs)	0-0.5
Soil Analyses (ng/kg)	
TEQ DIOXINS	45
Tier II EAL Risk Category	B

DU24 Area 4 - Surrounding Properties Within the front, back and side yards for the Sansevere property.	PMAK-DU24-A-P	PMAK-DU24-A-T1	PMAK-DU24-A-T2
Sample Date	8.10.11	8.10.11	8.10.11
Depth Intervals (' bgs)	0-0.5	0-0.5	0-0.5
Soil Analyses (ng/kg)			
TEQ DIOXINS	92	92	98
Tier II EAL Risk Category	B	B	B

DU25 Area 4 - Surrounding Properties Within the front, back, and side yards of the Hadley property, south of Oka Street.	PMAK-DU25-A
Sample Date	8.11.11
Depth Intervals (' bgs)	0-0.5
Soil Analyses (ng/kg)	
TEQ DIOXINS	39
Tier II EAL Risk Category	B

DU26 Area 5 - HHA Debris Pit Along the western borders of the HHA property, west of Building B.	KKSC-DU1	KKSC-DU2	KBV-01	PMAK-DU26
Sample Date	8.19.10	8.19.10	1.26.11	8.10.11
Depth Intervals (' bgs)	0-0.5	0-0.5	4.0-6.0	3.0-4.5
Soil Analyses (ng/kg)				
TEQ DIOXINS	18	110	NA	24
Tier II EAL Risk Category	A	B	X	B

DU27 Area 5 - HHA Debris Pit Along the western border of the HHA property, south of Building B.	KKSC-DU2	PMAK-DU27
Sample Date	8.19.10	8.9.11
Depth Intervals (' bgs)	0-0.5	3.0-4.5
Soil Analyses (ng/kg)		
TEQ DIOXINS	110	370
Tier II EAL Risk Category	B	C

LEGEND

Red Text = Detected concentration exceeds the HDOH Tier I EAL for Unrestricted Use only.

Red Bold Text = Detected concentration exceeds the HDOH Tier I EALs for both Unrestricted and Commercial/Industrial Use.

ng/kg = Nanograms per kilogram (parts per trillion [ppt] equivalent)

TCOC = Targeted contaminant of concern (TEQ dioxins or arsenic)

X = No TCOC analytical data available (i.e., sample listed as NA [Not Analyzed] or H [Hold]) on Table 22

3 = Triplicate sample

H = Sample is on "hold" and was archived at the laboratory.

Shading = Sample collected during current site investigation

Shading = Sample collected during previous sampling activities (HEER Office or Kauai Environmental)

NA = Not analyzed

Fall 2011 Revised Tier I EALs and July2010/Fall 2011 Revised Tier II EALs

HEER Office Tier II EAL Risk Category	TEQ Dioxins (ng/kg)
A - Background	< 20
B - Minimally Impacted	≥ 20 but ≤ 240
C - Moderately Impacted	≥ 240 but ≤ 1500
D - Heavily Impacted	> 1500

Table 5

Current Site Investigation - Step 1: Tier II EAL Risk Categories for Each Sample for Arsenic

(5 pages)

Appendix H - Table 5 Current Site Investigation - Step 1: Tier II EAL Risk Categories for Each Sample for Arsenic
(4 pages)

DU1 Area 1 - Perimeter of Core PMA Along the eastern border of the North Shore Health Center Property	KSPMA-DU5	PMAK-DU1-A	PMAK-DU1-B	PMAK-DU1-C	PMAK-DU1-D	PMAK-DU1-E
Sample Date	12.16.10	8.1.11	8.1.11	8.1.11	8.1.11	8.1.11
Depth Intervals (° bgs)	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (mg/kg)						
TOTAL ARSENIC	39.1	38	37.8	ND [<9.26]	NA ⁴	NA ⁴
BIOACCESSIBLE ARSENIC ¹	7.95	ND [<1]	6.11	NA	NA ⁴	NA ⁴
Tier II EAL Risk Category	B	B	B	A	X	X

DU2 Area 1 - Perimeter of Core PMA Along the eastern borders of the Grace Paul Trust property, Clarion property and Howard property; adjacent to Aalona St.	KSPMA-DU2	KSPMA-DU3	PMAK-DU2-A	PMAK-DU2-B	PMAK-DU2-C	PMAK-DU2-D	PMAK-DU2-E
Sample Date	12.15.10	12.15.10	8.1.11	8.1.11	8.1.11	8.1.11	8.1.11
Depth Intervals (° bgs)	0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (mg/kg)							
TOTAL ARSENIC	93.9	33.8	15.4	55.4	114	17	NA ⁴
BIOACCESSIBLE ARSENIC ¹	9.98	4.6	NA	15.1	49.6	NA	NA ⁴
Tier II EAL Risk Category	B	B	A	B	C	A	X

DU3 Area 1 - Perimeter of Core PMA Along the eastern borders of the Johnson property, Deforge property, and the southern borders of the Cooper property, Cudiamat property, and Owens property; adjacent to the cul-de-sac portion of Aalona St.	KSPMA-DU1	KSPMA-DU4	PMAK-DU3-A	PMAK-DU3-B	PMAK-DU3-C	PMAK-DU3-D	PMAK-DU3-E
Sample Date	12.15.10	12.15.10	8.2.11	8.2.11	8.2.11	8.2.11	8.2.11
Depth Intervals (° bgs)	0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (mg/kg)							
TOTAL ARSENIC	19.8	12.5	11	28	ND [<6.0]	NA ⁴	NA ⁴
BIOACCESSIBLE ARSENIC ¹	NA	NA	NA	4.04	NA	NA ⁴	NA ⁴
Tier II EAL Risk Category	A	A	A	B	A	X	X

DU4 Area 1 - Perimeter of Core PMA Along the southern border of the Ortal property, adjacent to the Foley property.	PMAK-DU4-A-P	PMAK-DU4-A-T1	PMAK-DU4-A-T2	PMAK-DU4-B-P	PMAK-DU4-B-T1	PMAK-DU4-B-T2	PMAK-DU4-C-P	PMAK-DU4-C-T1	PMAK-DU4-C-T2	PMAK-DU4-D-P	PMAK-DU4-D-T1	PMAK-DU4-D-T2	PMAK-DU4-E-P	PMAK-DU4-E-T1	PMAK-DU4-E-T2
Sample Date	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11
Depth Intervals (° bgs)	0-0.5	0-0.5	0-0.5	0.5-2.0	0.5-2.0	0.5-2.0	2.0-4.0	2.0-4.0	2.0-4.0	4.0-7.0	4.0-7.0	4.0-7.0	7.0-10.0	7.0-10.0	7.0-10.0
Soil Analyses (mg/kg)															
TOTAL ARSENIC	18	18	17	24	26	33	13	16	12	ND [<5.7]	ND [<5.8]	ND [<6.1]	NA ⁴	NA ⁴	NA ⁴
BIOACCESSIBLE ARSENIC ¹	NA	NA	NA	18.8	17.3	23.8	NA	NA	NA	NA	NA	NA	NA ⁴	NA ⁴	NA ⁴
Tier II EAL Risk Category	A	A	A	B	B	C	A	A	A	A	A	A	X	X	X

DU5 Area 1 - Perimeter of Core PMA Along the western borders of the Ortal property and Foley property. This DU is adjacent to the HHA property.	KKSC-DU1	KKSC-DU2	PMAK-DU5-A	PMAK-DU5-B	PMAK-DU5-C	PMAK-DU5-D	PMAK-DU5-E
Sample Date	8.19.10	8.19.10	8.10.11	8.10.11	8.10.11	8.10.11	8.10.11
Depth Intervals (° bgs)	0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (mg/kg)							
TOTAL ARSENIC	ND [<29]	ND [<30]	H	28	880	500	7.1
BIOACCESSIBLE ARSENIC ¹	NA	NA	H	ND [<1.00]	61.6	NA	NA
Tier II EAL Risk Category	X	X	X	B	C	C ²	A

LEGEND
Red Text = Detected concentration exceeds the HDOH Tier I EAL for Unrestricted Use only.
Red Bold Text = Detected concentration exceeds the HDOH Tier I EALs for both Unrestricted and Commercial/Industrial Use.
 mg/kg = Milligrams per kilogram (parts per million [ppm]) equivalent)
 TCOC = Targeted contaminant of concern (TEQ dioxins or arsenic)
 X = No TCOC analytical data available (i.e., sample listed as NA [Not Analyzed]) on Table 22

1 = Bioaccessible arsenic concentration was estimated by calculating 10% of the total arsenic concentration. This was only done for samples where bioaccessible arsenic was not analyzed.
 2 = Tier II EAL Risk Category based upon estimated Bioaccessible Arsenic concentration. The Bioaccessible Arsenic concentration was estimated as 10% of Total Arsenic (see "1" in line above)
 3 = Triplicate sample

Shading = Sample collected during current site investigation
 Shading = Sample collected during previous sampling activities (HEER Office or Kauai Environmental)
 NA = Not analyzed
 NA⁴ = Not analyzed because concentration of COPC(s) in overlying layer(s) was(were) below applicable EALs

Fall 2011 Revised Tier I EALs and July 2010/Fall 2011 Revised Tier II EALs

HEER Office Tier II EAL Risk Category	Total Arsenic / Bioaccessible Arsenic (mg/kg)
A - Background	< 24 Total Arsenic
B - Minimally Impacted	> 24 Total Arsenic and ≤ 23 Bioaccessible Arsenic
C - Moderately Impacted	> 23 but ≤ 95 Bioaccessible Arsenic
D - Heavily Impacted	> 95 Bioaccessible Arsenic

Appendix H - Table 5 Current Site Investigation - Step 1: Tier II EAL Risk Categories for Each Sample for Arsenic
(continued)

DU6 Area 1 - Perimeter of Core PMA Along the southern boundary of the HHA property, adjacent to Natural Bridges School property.	PMAK-DU6-A-P	PMAK-DU6-A-T1	PMAK-DU6-A-T2	PMAK-DU6-B-P	PMAK-DU6-B-T1	PMAK-DU6-B-T2	PMAK-DU6-C-P	PMAK-DU6-C-T1	PMAK-DU6-C-T2	PMAK-DU6-D-P	PMAK-DU6-D-T1	PMAK-DU6-D-T2	PMAK-DU6-E-P	PMAK-DU6-E-T1	PMAK-DU6-E-T2
Sample Date	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11
Depth Intervals (° bgs)	0-0.5	0-0.5	0-0.5	0.5-2.0	0.5-2.0	0.5-2.0	2.0-4.0	2.0-4.0	2.0-4.0	4.0-7.0	4.0-7.0	4.0-7.0	7.0-10.0	7.0-10.0	7.0-10.0
Soil Analyses (mg/kg)															
TOTAL ARSENIC	18	15	16	ND[<5.6]	ND[<5.8]	ND[<5.9]	ND [<6.0]	ND [<5.8]	ND [<6.0]	H	H	H	H	H	H
BIOACCESSIBLE ARSENIC ¹	NA	NA	NA	NA	NA	NA	NA	NA	NA	H	H	H	H	H	H
Tier II EAL Risk Category	A	A	A	A	A	A	A	A	A	X	X	X	X	X	X

DU7 Area 1 - Perimeter of Core PMA Along the southern boundary of the HHA property, adjacent to Natural Bridges School property.	PMAK-DU7-A	PMAK-DU7-B	PMAK-DU7-C	PMAK-DU7-D	PMAK-DU7-E
Sample Date	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11
Depth Intervals (° bgs)	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (mg/kg)					
TOTAL ARSENIC	13	ND [<5.8]	ND [<5.5]	NA ⁴	NA ⁴
BIOACCESSIBLE ARSENIC ¹	NA	NA	NA	NA ⁴	NA ⁴
Tier II EAL Risk Category	A	A	A	X	X

DU8 Area 1 - Perimeter of Core PMA Along the eastern border of the Old Mill LLC property, adjacent to the Natural Bridges School property.	PMAK-DU8-A	PMAK-DU8-B	PMAK-DU8-C	PMAK-DU8-D	PMAK-DU8-E
Sample Date	8.2.11	8.2.11	8.2.11	8.2.11	8.2.11
Depth Intervals (° bgs)	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (mg/kg)					
TOTAL ARSENIC	32	7.9	ND [<5.8]	NA ⁴	NA ⁴
BIOACCESSIBLE ARSENIC ¹	16.5	NA	NA	NA ⁴	NA ⁴
Tier II EAL Risk Category	B	A	A	X	X

DU9 Area 1 - Perimeter of Core PMA Along the southern border of the Old Mill LLC property, adjacent to Oka Street.	PMAK-DU9-A	PMAK-DU9-B	PMAK-DU9-C	PMAK-DU9-D	PMAK-DU9-E
Sample Date	8.2.11	8.2.11	8.2.11	8.2.11	8.2.11
Depth Intervals (° bgs)	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (mg/kg)					
TOTAL ARSENIC	8.8	12	ND [<5.7]	NA ⁴	NA ⁴
BIOACCESSIBLE ARSENIC ¹	NA	NA	NA	NA ⁴	NA ⁴
Tier II EAL Risk Category	A	A	A	X	X

DU10 Area 2 - Core PMA Within the western portion of the Drainage Swale, which is along the northern border of the Old Mill LLC property.	KSPMA-DU6	KSPMA-DU7	PMAK-DU10-A	PMAK-DU10-B	PMAK-DU10-C	PMAK-DU10-D	PMAK-DU10-E
Sample Date	12.15.10	12.16.10	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11
Depth Intervals (° bgs)	0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (mg/kg)							
TOTAL ARSENIC	1890	3760	NA	6900	3800	2300	1800
BIOACCESSIBLE ARSENIC ¹	786	1870	NA	2860	NA	NA	NA
Tier II EAL Risk Category	D	D	X	D	D ²	D ²	D ²

DU11 Area 2 - Core PMA Within the eastern portion of the Drainage Swale. Along the northern border of the Old Mill LLC property.	KSPMA-DU8	PMAK-DU11-A	PMAK-DU11-B	PMAK-DU11-C	PMAK-DU11-D	PMAK-DU11-E
Sample Date	12.16.10	8.8.11	8.8.11	8.8.11	8.8.11	8.8.11
Depth Intervals (° bgs)	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (mg/kg)						
TOTAL ARSENIC	317	NA	66	19	NA ⁴	NA ⁴
BIOACCESSIBLE ARSENIC ¹	69.6	NA	9.19	NA	NA ⁴	NA ⁴
Tier II EAL Risk Category	C	X	B	A	X	X

DU12 Area 2 - Core PMA Within the front yard of the Thompson property, adjacent to Aalona Street.	KKSC-DU5	PMAK-DU12-A	PMAK-DU12-B	PMAK-DU12-C	PMAK-DU12-D	PMAK-DU12-E
Sample Date	8.18.10	8.4.11	8.4.11	8.4.11	8.4.11	8.4.11
Depth Intervals (° bgs)	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (mg/kg)						
TOTAL ARSENIC	180	H	260	370	250	130
BIOACCESSIBLE ARSENIC ¹	NA	H	NA	NA	NA	NA
Tier II EAL Risk Category	B ²	X	C ²	C ²	C ²	B ²

Appendix H - Table 5 Current Site Investigation - Step 1: Tier II EAL Risk Categories for Each Sample for Arsenic
(continued)

DU13 Area 2 - Core PMA Within the north side yard of the Thompson property, adjacent to Aalona Street	PMAK-DU13-A	PMAK-DU13-B	PMAK-DU13-C	PMAK-DU13-D	PMAK-DU13-E
Sample Date	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11
Depth Intervals (° bgs)	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (mg/kg)					
TOTAL ARSENIC	75	46	26	ND [<5.8]	NA ⁴
BIOACCESSIBLE ARSENIC ¹	NA	NA	NA	NA	NA ⁴
Tier II EAL Risk Category	B ²	B ²	B ²	A	X

DU14 Area 2 - Core PMA Within the backyard of the Thompson property adjacent to the Foley property.	KKSC-DU6 ³	KKSC-DU7 ³	KKSC-DU8 ³	PMAK-DU14-A	PMAK-DU14-B	PMAK-DU14-C	PMAK-DU14-D	PMAK-DU14-E
Sample Date	8.18.10	8.18.10	8.18.10	8.4.11	8.4.11	8.4.11	8.4.11	8.4.11
Depth Intervals (° bgs)	0-0.5	0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (mg/kg)								
TOTAL ARSENIC	520	770	430	H	1300	1500	230	NA ⁴
BIOACCESSIBLE ARSENIC ¹	NA	307	NA	H	NA	NA	NA	NA ⁴
Tier II EAL Risk Category	C ²	D	C ²	X	D ²	D ²	B ²	X

DU15 Area 2 - Core PMA Within the south side yard of the Thompson property, adjacent to the Drainage Swale.	KKSC-DU6 ³	KKSC-DU7 ³	KKSC-DU8 ³	PMAK-DU15-A	PMAK-DU15-B	PMAK-DU15-C	PMAK-DU15-D	PMAK-DU15-E
Sample Date	8.18.10	8.18.10	8.18.10	8.4.11	8.4.11	8.4.11	8.4.11	8.4.11
Depth Intervals (° bgs)	0-0.5	0-0.5	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (mg/kg)								
TOTAL ARSENIC	520	770	430	H	2200	260	1100	NA ⁴
BIOACCESSIBLE ARSENIC ¹	NA	307	NA	H	NA	NA	NA	NA ⁴
Tier II EAL Risk Category	C ²	D	C ²	X	D ²	C ²	D ²	X

DU16 Area 2 - Core PMA Within the driveway of the Foley property, adjacent to the Thompson property.	PMAK-DU16-A	PMAK-DU16-B	PMAK-DU16-C	PMAK-DU16-D	PMAK-DU16-E
Sample Date	8.3.11	8.3.11	8.3.11	8.3.11	8.3.11
Depth Intervals (° bgs)	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (mg/kg)					
TOTAL ARSENIC	17	22	37	ND [<5.4]	NA ⁴
BIOACCESSIBLE ARSENIC ¹	NA	2.54	28.1	NA	NA ⁴
Tier II EAL Risk Category	A	B	C	A	X

DU17 Area 2 - Core PMA Within the backyard of the Foley property, adjacent to the Drainage Swale.	KKSC-DU3	PMAK-DU17-A	PMAK-DU17-B	PMAK-DU17-C	PMAK-DU17-D	PMAK-DU17-E
Sample Date	8.19.10	8.5.11	8.5.11	8.5.11	8.5.11	8.5.11
Depth Intervals (° bgs)	0-0.5	0-0.5	0.5-2.0	2.0-4.0	4.0-7.0	7.0-10.0
Soil Analyses (mg/kg)						
TOTAL ARSENIC	100	H	540	72	38	NA ⁴
BIOACCESSIBLE ARSENIC ¹	18.1	H	NA	NA	NA	NA ⁴
Tier II EAL Risk Category	B	X	C ²	B ²	B ²	X

DU18 Area 2 - Core PMA Within the West Drainage Outfall, adjacent to the intersection of Kilauea Road and Oka Street.	PMAK-DU18-A-P	PMAK-DU18-A-T1	PMAK-DU18-A-T2
Sample Date	8.10.11	8.10.11	8.10.11
Depth Intervals (° bgs)	0-0.5	0-0.5	0-0.5
Soil Analyses (mg/kg)			
TOTAL ARSENIC	50	47	49
BIOACCESSIBLE ARSENIC ¹	ND [<1.00]	ND [<1.00]	ND [<1.00]
Tier II EAL Risk Category	B	B	B

DU19 Area 2 - Core PMA Within the West Drainage Outfall, to the west of DU18.	PMAK-DU19-A
Sample Date	8.11.11
Depth Intervals (° bgs)	0-0.5
Soil Analyses (mg/kg)	
TOTAL ARSENIC	24
BIOACCESSIBLE ARSENIC ¹	ND [<1.00]
Tier II EAL Risk Category	B

Appendix H - Table 5 Current Site Investigation - Step 1: Tier II EAL Risk Categories for Each Sample for Arsenic
(continued)

DU21	
Area 3 - Potentially Impacted Exposed Surface Soils - Not Previously Sampled	
Two separate areas on the Old Mill LLC property.	
Sample Date	8.10.11
Depth Intervals (° bgs)	0-0.5
Soil Analyses (mg/kg)	
TOTAL ARSENIC	130
BIOACCESSIBLE ARSENIC ¹	19.1
Tier II EAL Risk Category	B

DU22	
Area 3 - Potentially Impacted Exposed Surface Soils - Not Previously Sampled	
Along the western border of the Old Mill LLC property adjacent to the drainage swale.	
Sample Date	8.5.11
Depth Intervals (° bgs)	0-0.5
Soil Analyses (mg/kg)	
TOTAL ARSENIC	60
BIOACCESSIBLE ARSENIC ¹	14.9
Tier II EAL Risk Category	B

DU23	
Area 3 - Potentially Impacted Exposed Surface Soils - Not Previously Sampled	
Within the raised planter box along the southern boundary of the Old Mill LLC property.	
Sample Date	8.10.11
Depth Intervals (° bgs)	0-0.5
Soil Analyses (mg/kg)	
TOTAL ARSENIC	38
BIOACCESSIBLE ARSENIC ¹	ND [<1.00]
Tier II EAL Risk Category	B

DU24			
Area 4 - Surrounding Properties			
Within the front, back and side yards for the Sansevere property.			
	PMAK-DU24-A-P	PMAK-DU24-A-T1	PMAK-DU24-A-T2
Sample Date	8.10.11	8.10.11	8.10.11
Depth Intervals (° bgs)	0-0.5	0-0.5	0-0.5
Soil Analyses (mg/kg)			
TOTAL ARSENIC	290	230	230
BIOACCESSIBLE ARSENIC ¹	16.8	16.1	17.1
Tier II EAL Risk Category	B	B	B

DU25	
Area 4 - Surrounding Properties	
Within the front, back, and side yards of the Hadley property, south of Oka Street.	
Sample Date	8.11.11
Depth Intervals (° bgs)	0-0.5
Soil Analyses (mg/kg)	
TOTAL ARSENIC	25
BIOACCESSIBLE ARSENIC ¹	ND [<1.00]
Tier II EAL Risk Category	B

DU26				
Area 5 - HHA Debris Pit				
Along the western borders of the HHA property, west of Building B.				
	KKSC-DU1	KKSC-DU2	KBV-01	PMAK-DU26
Sample Date	8.19.10	8.19.10	1.26.11	8.10.11
Depth Intervals (° bgs)	0-0.5	0-0.5	4.0-6.0	3.0-4.5
Soil Analyses (mg/kg)				
TOTAL ARSENIC	ND [<29]	ND [<30]	950	380
BIOACCESSIBLE ARSENIC ¹	NA	NA	NA	NA
Tier II EAL Risk Category	X	X	C ²	C ²

DU27		
Area 5 - HHA Debris Pit		
Along the western border of the HHA property, south of Building B.		
	KKSC-DU2	PMAK-DU27
Sample Date	8.19.10	8.9.11
Depth Intervals (° bgs)	0-0.5	3.0-4.5
Soil Analyses (mg/kg)		
TOTAL ARSENIC	ND [<30]	170
BIOACCESSIBLE ARSENIC ¹	NA	NA
Tier II EAL Risk Category	A	B ²

LEGEND

Red Text = Detected concentration exceeds the HDOH Tier I EAL for Unrestricted Use only.

Red Bold Text = Detected concentration exceeds the HDOH Tier I EALs for both Unrestricted and Commercial/Industrial Use.

mg/kg = Milligrams per kilogram (parts per million [ppm] equivalent)

TCOC = Targeted contaminant of concern (TEQ dioxins or arsenic)

X = No TCOC analytical data available (i.e., sample listed as NA [Not Analyzed] or H [Hold]) on Table 22

1 = Bioaccessible arsenic concentration was estimated by calculating 10% of the total arsenic concentration. This was only done for samples where bioaccessible arsenic was not analyzed.

2 = Tier II EAL Risk Category based upon estimated Bioaccessible Arsenic concentration. The Bioaccessible Arsenic concentration was estimated as 10% of Total Arsenic (see "1" in line above)

3 = Triplicate sample

Shading = Sample collected during current site investigation

Shading = Sample collected during previous sampling activities (HEER Office or Kauai Environmental)

NA = Not analyzed NA⁴ = Not analyzed because concentration of COPC(s) in overlying layer(s) was(were) below applicable EALs

Fall 2011 Revised Tier I EALs and July 2010/Fall 2011 Revised Tier II EALs

HEER Office Tier II EAL Risk Category	Total Arsenic / Bioaccessible Arsenic (mg/kg)
A - Background	< 24 Total Arsenic
B - Minimally Impacted	> 24 Total Arsenic and ≤ 23 Bioaccessible Arsenic
C - Moderately Impacted	> 23 but ≤ 95 Bioaccessible Arsenic
D - Heavily Impacted	> 95 Bioaccessible Arsenic

Appendix I – Calculations for Percent Bioaccessible Arsenic

Appendix I - Calculations for Percent Bioaccessible Arsenic

Sample ID	Sample Date	Depth Interval (ft bgs)	Total Arsenic (<2 mm) (mg/kg)	Total Arsenic (<250 µm) (mg/kg)	Percent Arsenic Enrichment in Fines	Bioaccessible Arsenic (mg/kg)	Percent Bioaccessible Arsenic
PMAK-DU1-B	8.1.11	0.5-2.0	38	85.3	126%	6.11	7.16%
PMAK-DU2-B	8.1.11	0.5-2.0	55	131.0	136%	15.10	11.53%
PMAK-DU2-C	8.1.11	2.0-4.0	114	276.0	142%	49.60	17.97%
PMAK-DU3-B	8.2.11	0.5-2.0	28	129.0	361%	4.04	3.13%
PMAK-DU4-B-P	8.3.11	0.5-2.0	24	85.9	258%	18.80	21.89%
PMAK-DU4-B-T1	8.3.11	0.5-2.0	26	97.9	277%	17.30	17.67%
PMAK-DU4-B-T2	8.3.11	0.5-2.0	33	108.0	227%	23.80	22.04%
PMAK-DU5-B	8.10.11	0.5-2.0	28	9.4	-67%	ND [<1.00]	<11% ¹
PMAK-DU5-C	8.10.11	2.0-4.0	880	452.0	-49%	61.60	13.63%
PMAK-DU8-A	8.2.11	0-0.5	32	130.0	306%	16.50	12.69%
PMAK-DU10-B	8.8.11	0.5-2.0	6,900	12500.0	81%	2860.00	22.88%
PMAK-DU11-B	8.8.11	0.5-2.0	66	283.0	329%	9.19	3.25%
PMAK-DU16-B	8.3.11	0.5-2.0	22	84.8	285%	2.54	3.00%
PMAK-DU16-C	8.3.11	2.0-4.0	37	132.0	257%	28.10	21.29%
PMAK-DU18-A-P	8.10.11	0-0.5	50	32.7	-35%	ND [<1.00]	<3.1% ¹
PMAK-DU18-A-T1	8.10.11	0-0.5	47	29.1	-38%	ND [<1.00]	<3.4% ¹
PMAK-DU18-A-T2	8.10.11	0-0.5	49	29.7	-39%	ND [<1.00]	<3.4% ¹
PMAK-DU21-A	8.10.11	0-0.5	130	96.8	-26%	19.10	19.73%
PMAK-DU22-A	8.5.11	0-0.5	60	178.0	197%	14.90	8.37%
PMAK-DU23-A	8.10.11	0-0.5	38	200.0	426%	ND [<1.00]	<0.5% ¹
PMAK-DU24-A-P	8.10.11	0-0.5	290	242.0	-17%	16.80	6.94%
PMAK-DU24-A-T1	8.10.11	0-0.5	230	198.0	-14%	16.10	8.13%
PMAK-DU24-A-T2	8.10.11	0-0.5	230	212.0	-8%	17.10	8.07%
PMAK-DU25-A	8.11.11	0-0.5	25	10.2	-59%	ND [<1.00]	<9.8% ¹
AVERAGE Percent Bioaccessible Arsenic (Excluding ND Data)							12.74%
AVERAGE Percent Bioaccessible Arsenic (Including ND Data)							10.86%

NOTES:

mg/kg = milligrams per kilogram

ND = Not detected at or above the limit shown in brackets

1 = Maximum percent bioaccessible arsenic as calculated by dividing the bioaccessible arsenic detection level by the reported concentration of total arsenic in <250µm fraction, if batch test concentration for bioaccessible arsenic was reported as not detected (ND).

**Appendix J – Calculations for Soil Volume Estimates in Each Tier II EAL
Risk Category**

TMK/Property With Confirmed Category C and/or Category D Soils	Area Represented	Key DU Referenced		Approximate Area Represented (ft ² , rounded)	Key DU Layer Referenced	Assumed Thickness Represented (ft)	¹ Total Estimated Volume of Soil Category Present (yd ³) (Bold=Confirmed; Non-Bold:Extrapolated)				
		Previous HEER Office Sampling Events	Current Site Investigation				Category A	Category B	Category C	Category D	
452008056 HHA	Northwest corner of property. Soil removed to depth of 6-8ft for installation of septic system in 2011; assumed clean to 10'bgs.	KKSC-DU1	-	2,500	Layer A (0-0.5')	10	926				
	Debris pit area along property boundary with Foley property. Assumed to not extend a significant distance under Foley property for soil volume estimates.	-	DU5 DU26	400	Layer A (0-0.5')	0.5		7			
					Layer B (0.5-2')	1.5		22			
					Layer C (2-4')	2.0				30	
					Layer D (4-7')	3.0				44	
					Layer E (7-10')	3.0	44				
	Southwest corner of property, including Building C.	KKSC-DU2	DU27	4,000	Layer A (0-0.5')	0.5		74			
					Layer B (0.5-2')	1.5		222			
					Layer C (2-4')	2.0				296	
					Layer D (4-7')	3.0				444	
					Layer E (7-10')	3.0	444				
	Northwest area of drainage swale.	-	DU6	1,900	Layer A (0-0.5')	0.5		35			
					Layer B (0.5-2')	1.5		106			
					Layer C (2-4')	2.0		141			
					Layer D (4-7')	3.0		211			
					Layer E (7-10')	3.0	211				
	Southeast area of drainage swale.	-	DU7	1,900	Layer A (0-0.5')	0.5		35			
					Layer B (0.5-2')	1.5		106			
					Layer C (2-4')	2.0		141			
					Layer D (4-7')	3.0		211			
					Layer E (7-10')	3.0	211				
Total Volumes:							2,822	326	815	0	
452014060 Thompson	Northwest half of parcel (frontyard).	KKSC-DU5	DU12	2,000	Layer A (0-0.5')	0.5			37		
		-			Layer B (0.5-2')	1.5			111		
		-			Layer C (2-4')	2.0				148	
		-			Layer D (4-7')	3.0				222	
		-			Layer E (7-10')	3.0				222	
	Southwest side yard area.	KKSC-DU6 KKSC-DU7 KKSC-DU8	DU15	1,000	Layer A (0-0.5')	0.5				19	
		-			Layer B (0.5-2')	1.5			56		
		-			Layer C (2-4')	2.0			74		
		-			Layer D (4-7')	3.0				111	
		-			Layer E (7-10')	3.0				111	
	Southeast half of parcel, including area under house but minus DU15 (backyard). 100% of Layers A&B assumed Category D. 80% of Layers C,D&E assumed Category D with 20% Category C.	-	DU14	3,000	Layer A (0-0.5')	0.5				56	
		-			Layer B (0.5-2')	1.5			167		
		-			Layer C (2-4')	2.0			222		
		-			Layer D (4-7')	3.0			333		
		-	Layer E (7-10')	3.0			333				
		-	DU13	550	Layer A (0-0.5')	0.5				10	
		-			Layer B (0.5-2')	1.5			31		
		-			Layer C (2-4')	2.0			41		
	-	Layer D (4-7')			3.0		61				
-	Layer E (7-10')	3.0	61								
Total Volumes:							122	41	819	1,444	

TMK/Property With Confirmed Category C and/or Category D Soils	Area Represented	Key DU Referenced		Approximate Area Represented (ft ² , rounded)	Key DU Layer Referenced	Assumed Thickness Represented (ft)	¹ Total Estimated Volume of Soil Category Present (yd ³) (Bold=Confirmed; Non-Bold:Extrapolated)			
		Previous HEER Office Sampling Events	Current Site Investigation				Category A	Category B	Category C	Category D
452014059 Foley	Southwest half of parcel.	KKSC-DU3	DU17	2,500	Layer A (0-0.5')	0.5			46	
		-			Layer B (0.5-2')	1.5			139	
		-			Layer C (2-4')	2.0			185	
		-			Layer D (4-7')	3.0			278	
		-			Layer E (7-10')	3.0			278	
	Southeast half of parcel. (Contamination from HHA DU5 & DU26 may partially extend under northwest edge of property)	KKSC-DU4	-	2,500	Layer A (0-0.5')	0.5			46	
		-			Layer B (0.5-2')	1.5			139	
		-			Layer C (2-4')	2.0			185	
		-			Layer D (4-7')	3.0			278	
		-			Layer E (7-10')	3.0			278	
Total Volumes:							0	1,667	185	0
452014049 Old Mill LLC	Northwest quarter of parcel, including northwest area of drainage swale.	KSPMA-DU6 KSPMA-DU7	DU10	5,500	Layer A (0-0.5')	0.5				102
		-			Layer B (0.5-2')	1.5			306	
		-			Layer C (2-4')	2.0			407	
		-			Layer D (4-7')	3.0			611	
		-			Layer E (7-10')	3.0			611	
	Northeast quarter of parcel, including southeast area of drainage swale.	KSPMA-DU8	DU11	5,000	Layer A (0-0.5')	0.5				93
		-			Layer B (0.5-2')	1.5			278	
		-			Layer C (2-4')	2.0	370			
		-			Layer D (4-7')	3.0	556			
		-			Layer E (7-10')	3.0	556			
	Area to immediate northwest side of building; assumed contaminated at depth similar to DU10 for worst-case estimate of soil volumes.	-	DU22	800	Layer A (0-0.5')	0.5			15	
		-			Layer B (0.5-2')	1.5			44	
		-			Layer C (2-4')	2.0			59	
		-			Layer D (4-7')	3.0			89	
		-			Layer E (7-10')	3.0			89	
	Southwest half of parcel.	-	DU8 DU9 DU21 DU23	12,750	Layer A (0-0.5')	0.5			236	
		-			Layer B (0.5-2')	1.5			708	
		-			Layer C (2-4')	2.0			944	
		-			Layer D (4-7')	3.0			1,417	
		-			Layer E (7-10')	3.0			1,417	
Total Volumes:							1,481	4,737	370	2,319
Total Area (ft²):				46,300	Total Volumes (areawide):		4,426	6,770	2,189	3,763
Total Volume to 10' bgs (yd3):				17,148						

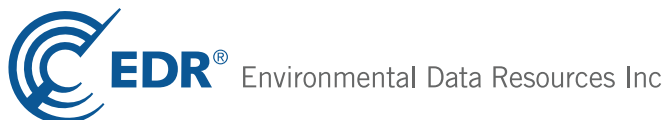
1. Noted soil volumes are gross estimates only and not intended for final, decision making purposes. Estimated volume bolded where sample data confirm contamination in that DU layer, although data may be limited to one are of the DU. Data for DU Layers B-E based a limited number of brings within each DU (see text).

Attachment A - EDR GeoCheck Report

Kilauea PMA
4273 Aalona Street
Kilauea, HI 96754

Inquiry Number: 3061014.2s
May 05, 2011

The EDR GeoCheck® Report



440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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GEOCHECK® - PHYSICAL SETTING SOURCE REPORT

TARGET PROPERTY ADDRESS

KILAUEA PMA
4273 AALONA STREET
KILAUEA, HI 96754

TARGET PROPERTY COORDINATES

Latitude (North):	22.21090 - 22° 12' 39.2"
Longitude (West):	159.4069 - 159° 24' 24.9"
Universal Tranverse Mercator:	Zone 4
UTM X (Meters):	458060.9
UTM Y (Meters):	2456083.5
Elevation:	320 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property:	N/A
Source:	USGS 7.5 min quad index

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

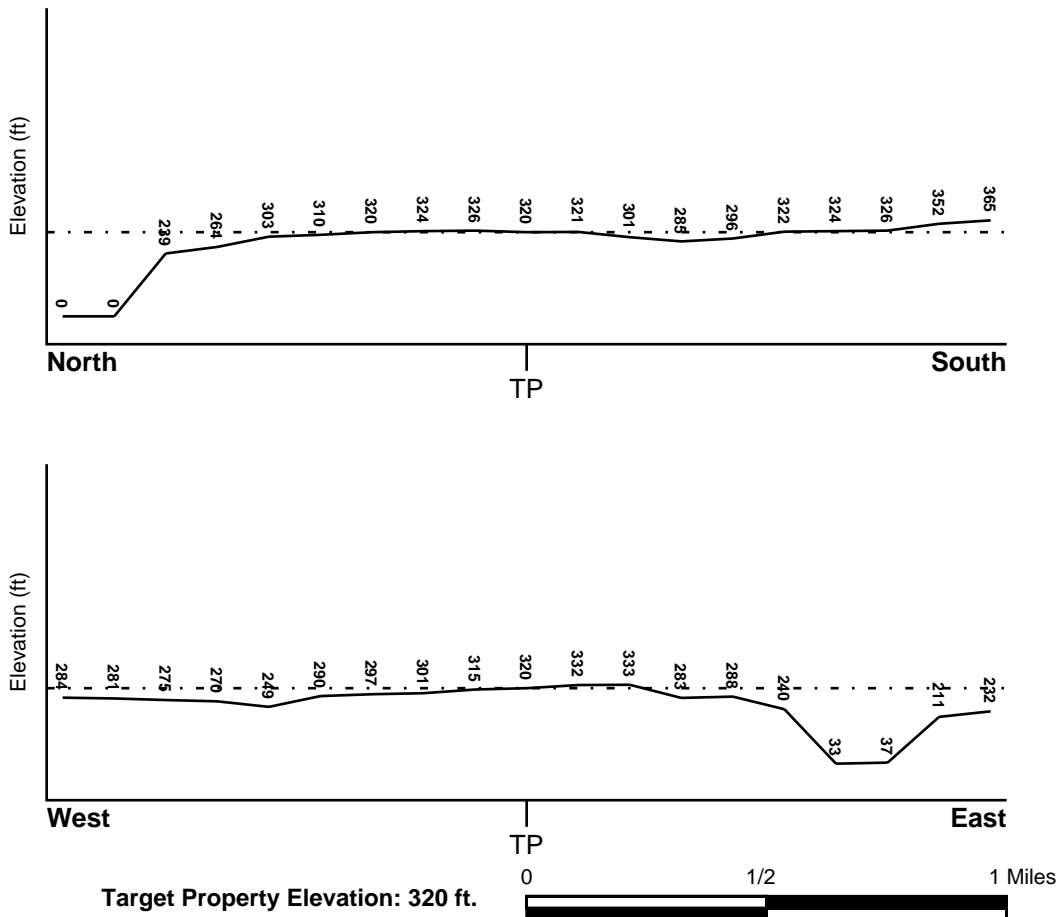
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

<u>Target Property County</u> KAUAI, HI	<u>FEMA Flood Electronic Data</u> YES - refer to the Overview Map and Detail Map
Flood Plain Panel at Target Property:	150002 - FEMA DFIRM Flood data
Additional Panels in search area:	Not Reported

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u> NOT AVAILABLE	<u>NWI Electronic Data Coverage</u> YES - refer to the Overview Map and Detail Map
---	---

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era: -
System: -
Series: -
Code: N/A (decoded above as Era, System & Series)

GEOLOGIC AGE IDENTIFICATION

Category: -

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name: LIHUE

Soil Surface Texture: silty clay

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: MODERATE

Depth to Bedrock Min: > 60 inches

Depth to Bedrock Max: > 60 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Permeability Rate (in/hr)	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	12 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Kaolinitic suffix for MH	Max: 6.00 Min: 2.00	Max: 7.30 Min: 5.60
2	12 inches	60 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Kaolinitic suffix for MH	Max: 6.00 Min: 2.00	Max: 7.30 Min: 5.60

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: silty clay loam
stony - silty clay loam
stony - silty clay

Surficial Soil Types: silty clay loam
stony - silty clay loam
stony - silty clay

Shallow Soil Types: No Other Soil Types

Deeper Soil Types: silty clay loam
weathered bedrock

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	1.000
State Database	1.000

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

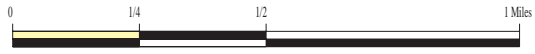
<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
1	HI6000000004472	1/4 - 1/2 Mile SW
2	HI6000000004493	1/4 - 1/2 Mile North
3	HI6000000004491	1/4 - 1/2 Mile NNW
A4	HI6000000004477	1/2 - 1 Mile WSW
A5	HI6000000004480	1/2 - 1 Mile West
6	HI6000000004495	1/2 - 1 Mile NNW
B7	HI6000000004501	1/2 - 1 Mile North
B8	HI6000000004503	1/2 - 1 Mile North
9	HI6000000004497	1/2 - 1 Mile NW

PHYSICAL SETTING SOURCE MAP - 3061014.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory



SITE NAME: Kilauea PMA
 ADDRESS: 4273 Aalona Street
 Kilauea HI 96754
 LAT/LONG: 22.2109 / 159.4069

CLIENT: Tetra Tech EM Inc.
 CONTACT: Scott Duzan
 INQUIRY #: 3061014.2s
 DATE: May 05, 2011 6:10 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

1
SW
1/4 - 1/2 Mile
Higher

HI WELLS HI6000000004472

Wid:	2-1224-001	Island:	2
Well no:	1224-01	Well name:	Gina
Old name:	Not Reported	Yr drilled:	2001
Driller:	OASIS WTR SYS	Quad map:	09
Longitude2:	1592450	Latitude27:	221235
Longitude8:	1592440	Latitude83:	221223
Lat83d:	22	Lat83m:	12
Lat83s:	23	Lon83d:	159
Lon83m:	24	Lon83s:	40
Lat83dd:	22.20639		
Lon83dd:	-159.41111		
Long83dd:	-159.41111		
Lat83dd 1:	22.20639		
Gps:	0	Utm:	1
Owner user:	Aloha Assoc 2000	Old number:	Not Reported
Well type:	ROT	Casing dia:	6
Ground el:	320	Well depth:	443
Solid case:	403	Perf case:	443
Use:	UNU - Unused		
Use year:	01		
Init water:	Not Reported		
Init head:	Not Reported		
Init chlor:	Not Reported	Init cl:	35
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Temp unit:	Not Reported
Pump gpm:	0.00000	Draft mgy:	Not Reported
Head feet:	Not Reported	Max chlor:	Not Reported
Min chlor:	Not Reported	Geology:	Not Reported
Pump yr:	Not Reported	Draft yr:	Not Reported
Head yr:	Not Reported	Maxchl:	Not Reported
Maxchl yr:	Not Reported	Minchl:	Not Reported
Minchl yr:	Not Reported	Bot hole:	-123
Bot solid:	-83	Bot perf:	-123
Spec capac:	Not Reported	Pump mgd:	Not Reported
Draft mgd:	Not Reported	Aquifer:	Not Reported
Tmk:	5-2-013:001	Old aqui:	Not Reported
Aqui code:	20201	Latest hd:	Not Reported
Cur head:	Not Reported	Cur cl:	Not Reported
Cur temp:	Not Reported	Wcr:	02/04/2010
Pir:	Not Reported	Surveyor:	PETER N TAYLOR
T:	Not Reported	Pump elev:	Not Reported
Pump depth:	Not Reported	Site id:	HI6000000004472

2
North
1/4 - 1/2 Mile
Lower

HI WELLS HI6000000004493

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Wid:	2-1324-009	Island:	2
Well no:	1324-09	Well name:	Wai Eli oka Lae
Old name:	Not Reported	Yr drilled:	2009
Driller:	Not Reported	Quad map:	9
Longitude2:	Not Reported	Latitude27:	Not Reported
Longitude8:	1592427	Latitude83:	221305
Lat83d:	22	Lat83m:	13
Lat83s:	05	Lon83d:	159
Lon83m:	24	Lon83s:	27
Lat83dd:	22.21806		
Lon83dd:	-159.4075		
Long83dd:	0		
Lat83dd 1:	0		
Gps:	1	Utm:	0
Owner user:	Not Reported	Old number:	Not Reported
Well type:	ROT	Casing dia:	6
Ground el:	306	Well depth:	300
Solid case:	260	Perf case:	300
Use:	AGR - Agriculture		
Use year:	09		
Init water:	Not Reported		
Init head:	227.04000		
Init chlor:	Not Reported	Init cl:	24.1
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Temp unit:	Not Reported
Pump gpm:	45.00000	Draft mgy:	Not Reported
Head feet:	Not Reported	Max chlor:	Not Reported
Min chlor:	Not Reported	Geology:	QKL
Pump yr:	20	Draft yr:	Not Reported
Head yr:	Not Reported	Maxchl:	Not Reported
Maxchl yr:	Not Reported	Minchl:	Not Reported
Minchl yr:	Not Reported	Bot hole:	6
Bot solid:	46	Bot perf:	6
Spec capac:	Not Reported	Pump mgd:	Not Reported
Draft mgd:	Not Reported	Aquifer:	Not Reported
Tmk:	5-2-004:102	Old aqui:	Not Reported
Aqui code:	20201	Latest hd:	Not Reported
Cur head:	Not Reported	Cur cl:	Not Reported
Cur temp:	Not Reported	Wcr:	02/02/2010
Pir:	2/2/2010	Surveyor:	Not Reported
T:	Not Reported	Pump elev:	91
Pump depth:	215	Site id:	HI6000000004493

3

NNW
1/4 - 1/2 Mile
Lower

HI WELLS

HI6000000004491

Wid:	2-1324-004	Island:	2
Well no:	1324-04	Well name:	Pualei Properties
Old name:	Not Reported	Yr drilled:	2005
Driller:	Not Reported	Quad map:	09
Longitude2:	1592443	Latitude27:	221316
Longitude8:	1592433	Latitude83:	221304
Lat83d:	22	Lat83m:	13
Lat83s:	04	Lon83d:	159
Lon83m:	24	Lon83s:	33
Lat83dd:	22.21778		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Lon83dd:	-159.40917	Utm:	0
Long83dd:	-159.40917	Old number:	Not Reported
Lat83dd 1:	22.21778	Casing dia:	6
Gps:	1	Well depth:	185
Owner user:	Not Reported	Perf case:	185
Well type:	ROT		
Ground el:	Not Reported	Init cl:	13
Solid case:	145	Test gpm:	Not Reported
Use:	AGR - Crops and Processing	Test chlor:	Not Reported
Use year:	06	Temp unit:	Not Reported
Init water:	Not Reported	Draft mgy:	Not Reported
Init head:	Not Reported	Max chlor:	Not Reported
Init chlor:	Not Reported	Geology:	QKL
Test date:	Not Reported	Draft yr:	Not Reported
Test ddown:	Not Reported	Maxchl:	Not Reported
Test temp:	Not Reported	Minchl:	Not Reported
Pump gpm:	60.00000	Bot hole:	Not Reported
Head feet:	Not Reported	Bot perf:	Not Reported
Min chlor:	Not Reported	Pump mgd:	.086
Pump yr:	06	Aquifer:	Not Reported
Head yr:	Not Reported	Old aqui:	Not Reported
Maxchl yr:	Not Reported	Latest hd:	Not Reported
Minchl yr:	Not Reported	Cur cl:	Not Reported
Bot solid:	Not Reported	Wcr:	07/01/1985
Spec capac:	Not Reported	Surveyor:	Not Reported
Draft mgd:	Not Reported	Pump elev:	Not Reported
Trnk:	5-2-005:023	Site id:	HI6000000004491
Aqui code:	20105		
Cur head:	Not Reported		
Cur temp:	Not Reported		
Pir:	Not Reported		
T:	Not Reported		
Pump depth:	171		

**A4
WSW
1/2 - 1 Mile
Lower**

HI WELLS HI6000000004477

Wid:	2-1225-003	Island:	2
Well no:	1225-03	Well name:	Kilauea-KPGI III
Old name:	Not Reported	Yr drilled:	1994
Driller:	RICHARDSON	Quad map:	06
Longitude2:	1592507	Latitude27:	221243
Longitude8:	1592457	Latitude83:	221231
Lat83d:	22	Lat83m:	12
Lat83s:	31	Lon83d:	159
Lon83m:	24	Lon83s:	57
Lat83dd:	22.20861		
Lon83dd:	-159.41583	Utm:	1
Long83dd:	-159.41583	Old number:	Not Reported
Lat83dd 1:	22.20861	Casing dia:	9
Gps:	0	Well depth:	164
Owner user:	KPG III	Perf case:	164
Well type:	Per		
Ground el:	251		
Solid case:	72		
Use:	UNU - Unused		
Use year:	94		
Init water:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Init head:	220.91000	Init cl:	0
Init chlor:	Not Reported	Test gpm:	100
Test date:	#####	Test chlor:	16
Test ddown:	5.8	Temp unit:	Not Reported
Test temp:	Not Reported	Draft mgy:	Not Reported
Pump gpm:	Not Reported	Max chlor:	Not Reported
Head feet:	Not Reported	Geology:	Not Reported
Min chlor:	Not Reported	Draft yr:	Not Reported
Pump yr:	Not Reported	Maxchl:	Not Reported
Head yr:	Not Reported	Minchl:	Not Reported
Maxchl yr:	0	Bot hole:	87
Minchl yr:	0	Bot perf:	87
Bot solid:	179	Pump mgd:	Not Reported
Spec capac:	17	Aquifer:	Not Reported
Draft mgd:	Not Reported	Old aqui:	Not Reported
Tmk:	5-2-017:028	Latest hd:	Not Reported
Aqui code:	20201	Cur cl:	Not Reported
Cur head:	Not Reported	Wcr:	10/01/1994
Cur temp:	Not Reported	Surveyor:	Not Reported
Pir:	Not Reported	Pump elev:	Not Reported
T:	Not Reported	Site id:	HI6000000004477
Pump depth:	Not Reported		

**A5
West
1/2 - 1 Mile
Lower**

HI WELLS HI6000000004480

Wid:	2-1225-002	Island:	2
Well no:	1225-02	Well name:	Kilauea-Halasey
Old name:	Not Reported	Yr drilled:	1993
Driller:	RICHARDSON	Quad map:	06
Longitude2:	1592508	Latitude27:	221246
Longitude8:	1592458	Latitude83:	221234
Lat83d:	22	Lat83m:	12
Lat83s:	34	Lon83d:	159
Lon83m:	24	Lon83s:	58
Lat83dd:	22.20944		
Lon83dd:	-159.41611		
Long83dd:	-159.41611		
Lat83dd 1:	22.20944		
Gps:	0	Utm:	1
Owner user:	Halasey	Old number:	Not Reported
Well type:	PER	Casing dia:	12
Ground el:	Not Reported	Well depth:	209
Solid case:	70	Perf case:	150
Use:	DOM - Single and Multi Low-Rise and High-Rise Household		
Use year:	05		
Init water:	257.0		
Init head:	257.00000		
Init chlor:	17	Init cl:	17
Test date:	6/1/1993	Test gpm:	200
Test ddown:	34.7	Test chlor:	17
Test temp:	Not Reported	Temp unit:	Not Reported
Pump gpm:	40.00000	Draft mgy:	Not Reported
Head feet:	Not Reported	Max chlor:	Not Reported
Min chlor:	17	Geology:	QKL
Pump yr:	05	Draft yr:	Not Reported
Head yr:	Not Reported	Maxchl:	#####

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Maxchl yr:	93	Minchl:	Not Reported
Minchl yr:	93	Bot hole:	Not Reported
Bot solid:	Not Reported	Bot perf:	Not Reported
Spec capac:	6	Pump mgd:	.057
Draft mgd:	Not Reported	Aquifer:	Not Reported
Tmk:	5-2-019:002	Old aqui:	Not Reported
Aqui code:	20201	Latest hd:	Not Reported
Cur head:	Not Reported	Cur cl:	Not Reported
Cur temp:	Not Reported	Wcr:	06/02/1993
Pir:	Not Reported	Surveyor:	Not Reported
T:	Not Reported	Pump elev:	Not Reported
Pump depth:	200	Site id:	HI6000000004480

**6
NNW
1/2 - 1 Mile
Lower**

HI WELLS HI6000000004495

Wid:	2-1324-002	Island:	2
Well no:	1324-02	Well name:	Namahana Acres
Old name:	Not Reported	Yr drilled:	2001
Driller:	OASIS WTR SYS	Quad map:	09
Longitude2:	1592447	Latitude27:	221321
Longitude8:	1592437	Latitude83:	221309
Lat83d:	22	Lat83m:	13
Lat83s:	09	Lon83d:	159
Lon83m:	24	Lon83s:	37
Lat83dd:	22.21917		
Lon83dd:	-159.41028		
Long83dd:	-159.41028		
Lat83dd 1:	22.21917		
Gps:	0	Utm:	1
Owner user:	Yellin J	Old number:	Not Reported
Well type:	ROT	Casing dia:	6
Ground el:	286	Well depth:	366
Solid case:	326	Perf case:	366
Use:	DOM - Single and Multi Low-Rise and High-Rise Household		
Use year:	01		
Init water:	Not Reported		
Init head:	40.00000		
Init chlor:	Not Reported	Init cl:	65
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Temp unit:	Not Reported
Pump gpm:	25.00000	Draft mgy:	Not Reported
Head feet:	Not Reported	Max chlor:	Not Reported
Min chlor:	Not Reported	Geology:	Not Reported
Pump yr:	01	Draft yr:	Not Reported
Head yr:	Not Reported	Maxchl:	Not Reported
Maxchl yr:	Not Reported	Minchl:	Not Reported
Minchl yr:	Not Reported	Bot hole:	-80
Bot solid:	-40	Bot perf:	-80
Spec capac:	Not Reported	Pump mgd:	0.036
Draft mgd:	Not Reported	Aquifer:	Not Reported
Tmk:	5-2-023:003	Old aqui:	Not Reported
Aqui code:	20201	Latest hd:	Not Reported
Cur head:	Not Reported	Cur cl:	Not Reported
Cur temp:	Not Reported	Wcr:	07/01/1985
Pir:	Not Reported	Surveyor:	PETER N TAYLOR

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

T:	Not Reported	Pump elev:	-54
Pump depth:	340	Site id:	HI6000000004495

B7
North
1/2 - 1 Mile
Lower

HI WELLS HI6000000004501

Wid:	2-1324-005	Island:	2
Well no:	1324-05	Well name:	Hale'ae Kai #1
Old name:	Not Reported	Yr drilled:	2005
Driller:	OASIS WTR SYS	Quad map:	09
Longitude2:	1592438	Latitude27:	221328
Longitude8:	1592428	Latitude83:	221316
Lat83d:	22	Lat83m:	13
Lat83s:	16	Lon83d:	159
Lon83m:	24	Lon83s:	28
Lat83dd:	22.22111		
Lon83dd:	-159.40778		
Long83dd:	-159.40778		
Lat83dd 1:	22.22111		
Gps:	1	Utm:	0
Owner user:	Strong W	Old number:	Not Reported
Well type:	ROT	Casing dia:	6
Ground el:	Not Reported	Well depth:	340
Solid case:	296	Perf case:	336
Use:	DOM - Single and Multi Low-Rise and High-Rise Household		
Use year:	05		
Init water:	Not Reported		
Init head:	Not Reported		
Init chlor:	Not Reported		
Test date:	Not Reported		
Test ddown:	Not Reported		
Test temp:	Not Reported		
Pump gpm:	25.00000		
Head feet:	Not Reported		
Min chlor:	Not Reported		
Pump yr:	06		
Head yr:	Not Reported		
Maxchl yr:	Not Reported		
Minchl yr:	Not Reported		
Bot solid:	Not Reported		
Spec capac:	Not Reported		
Draft mgd:	Not Reported		
Tmk:	5-2-004:063		
Aqui code:	20201		
Cur head:	Not Reported		
Cur temp:	Not Reported		
Pir:	Not Reported		
T:	Not Reported		
Pump depth:	330		
		Init cl:	100
		Test gpm:	Not Reported
		Test chlor:	Not Reported
		Temp unit:	Not Reported
		Draft mgy:	Not Reported
		Max chlor:	Not Reported
		Geology:	QKL
		Draft yr:	Not Reported
		Maxchl:	Not Reported
		Minchl:	Not Reported
		Bot hole:	Not Reported
		Bot perf:	Not Reported
		Pump mgd:	.036
		Aquifer:	Not Reported
		Old aqui:	Not Reported
		Latest hd:	Not Reported
		Cur cl:	Not Reported
		Wcr:	07/01/1985
		Surveyor:	Not Reported
		Pump elev:	Not Reported
		Site id:	HI6000000004501

B8
North
1/2 - 1 Mile
Lower

HI WELLS HI6000000004503

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Wid:	2-1324-001	Island:	2
Well no:	1324-01	Well name:	Sunburst Equity
Old name:	Not Reported	Yr drilled:	2001
Driller:	OASIS WTR SYS	Quad map:	09
Longitude2:	1592435	Latitude27:	221330
Longitude8:	1592425	Latitude83:	221318
Lat83d:	22	Lat83m:	13
Lat83s:	18	Lon83d:	159
Lon83m:	24	Lon83s:	25
Lat83dd:	22.22167		
Lon83dd:	-159.40694		
Long83dd:	-159.40694		
Lat83dd 1:	22.22167		
Gps:	0	Utm:	1
Owner user:	Sunburst Equities	Old number:	Not Reported
Well type:	ROT	Casing dia:	6
Ground el:	278	Well depth:	375
Solid case:	335	Perf case:	375
Use:	DOM - Single and Multi Low-Rise and High-Rise Household		
Use year:	01		
Init water:	Not Reported		
Init head:	216.30000		
Init chlor:	Not Reported	Init cl:	35
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Temp unit:	Not Reported
Pump gpm:	16.00000	Draft mgy:	Not Reported
Head feet:	Not Reported	Max chlor:	Not Reported
Min chlor:	Not Reported	Geology:	Not Reported
Pump yr:	01	Draft yr:	Not Reported
Head yr:	Not Reported	Maxchl:	Not Reported
Maxchl yr:	Not Reported	Minchl:	Not Reported
Minchl yr:	Not Reported	Bot hole:	-97
Bot solid:	-57	Bot perf:	-97
Spec capac:	Not Reported	Pump mgd:	0.023
Draft mgd:	Not Reported	Aquifer:	Not Reported
Tmk:	5-2-004:064	Old aqui:	Not Reported
Aqui code:	20201	Latest hd:	Not Reported
Cur head:	Not Reported	Cur cl:	Not Reported
Cur temp:	Not Reported	Wcr:	07/01/1985
Pir:	Not Reported	Surveyor:	PETER N TAYLOR
T:	Not Reported	Pump elev:	-42
Pump depth:	320	Site id:	HI6000000004503

9
NW
1/2 - 1 Mile
Lower

HI WELLS HI6000000004497

Wid:	2-1325-004	Island:	2
Well no:	1325-04	Well name:	Ruddell
Old name:	Not Reported	Yr drilled:	2007
Driller:	HIGH PLAINS	Quad map:	06
Longitude2:	1592517	Latitude27:	221322
Longitude8:	1592507	Latitude83:	221310
Lat83d:	22	Lat83m:	13
Lat83s:	10	Lon83d:	159
Lon83m:	25	Lon83s:	07
Lat83dd:	22.21944		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Lon83dd:	-159.41861		
Long83dd:	0		
Lat83dd 1:	0		
Gps:	1	Utm:	0
Owner user:	Ruddell, Steve	Old number:	Not Reported
Well type:	ROT	Casing dia:	6
Ground el:	Not Reported	Well depth:	268
Solid case:	190	Perf case:	Not Reported
Use:	DOM - Single and Multi Low-Rise and High-Rise Household		
Use year:	07		
Init water:	Not Reported		
Init head:	Not Reported		
Init chlor:	Not Reported	Init cl:	39
Test date:	Not Reported	Test gpm:	Not Reported
Test ddown:	Not Reported	Test chlor:	Not Reported
Test temp:	Not Reported	Temp unit:	Not Reported
Pump gpm:	18.00000	Draft mgy:	Not Reported
Head feet:	Not Reported	Max chlor:	Not Reported
Min chlor:	Not Reported	Geology:	TKL
Pump yr:	07	Draft yr:	Not Reported
Head yr:	Not Reported	Maxchl:	Not Reported
Maxchl yr:	Not Reported	Minchl:	Not Reported
Minchl yr:	Not Reported	Bot hole:	Not Reported
Bot solid:	Not Reported	Bot perf:	Not Reported
Spec capac:	Not Reported	Pump mgd:	.026
Draft mgd:	Not Reported	Aquifer:	Not Reported
Trmk:	5-2-010:031	Old aqui:	Not Reported
Aqui code:	20201	Latest hd:	Not Reported
Cur head:	Not Reported	Cur cl:	Not Reported
Cur temp:	Not Reported	Wcr:	10/23/2007
Pir:	#####	Surveyor:	Not Reported
T:	Not Reported	Pump elev:	Not Reported
Pump depth:	228	Site id:	HI6000000004497

FRDS PWS HI0000407

PWS ID: HI0000407
 Date Initiated: Not Reported Date Deactivated: Not Reported
 PWS Name: DWS KILAUEA
 KUAWA ROAD
 KILAUEA, KAUAI, HI 96754

Addressee / Facility: System Owner/Responsible Party
 MR. RAYMOND SATO, MANAGER
 DEPT OF WATER
 P.O. BOX 1706
 LIHUE, HI 96766

Facility Latitude:	22 11 41.0000	Facility Longitude:	159 25 25.0000
Facility Latitude:	22 11 42.0000	Facility Longitude:	159 25 26.0000
City Served:	KALIHUWAI		
City Served:	KILAUEA		
Treatment Class:	Treated	Population:	2025

Violations information not reported.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

ENFORCEMENT INFORMATION:

Truedate:	03/31/2009	Pwsid:	HI0000407
Pwsname:	KILAUEA		
Retpopsrvd:	3758	Pwstypecod:	C
Vooid:	20104	Contaminant:	GROSS ALPHA, EXCL. RADON & U
Viol. Type:	3		
Complperbe:	1/1/2000 0:00:00		
Complperen:	12/8/2003 0:00:00	Enfdate:	No Enf Action as of
Enf action:	7/8/2009 0:00:00		
Violmeasur:	Not Reported		

System Name:	KILAUEA		
Violation Type:	3		
Contaminant:	GROSS ALPHA, EXCL. RADON & U		
Compliance Period:	1/1/2000 0:00:00 - 12/8/2003 0:00:00		
Violation ID:	20104		
Enforcement Date:	No Enf Action as of	Enf. Action:	10/17/2006 0:00:00

System Name:	KILAUEA		
Violation Type:	3		
Contaminant:	GROSS ALPHA, EXCL. RADON & U		
Compliance Period:	1/1/2000 0:00:00 - 12/8/2003 0:00:00		
Violation ID:	20104		
Enforcement Date:	4/12/2007 0:00:00	Enf. Action:	Not Reported

CONTACT INFORMATION:

Name:	KILAUEA	Population:	3758
Contact:	USHIGOME, WYNNE	Phone:	808-245-5408
Address:	Department of Water		
Address 2:	P.O. Box 1706		
	LIHUE, HI 96766		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for KAUAI County: 3

- Note: Zone 1 indoor average level > 4 pCi/L.
 : Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
 : Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 96754

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.350 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2009 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Well Index Database

Source: Commission on Water Resource Management

Telephone: 808-587-0214

CWRM maintains a Well Index Database to track specific information pertaining to the construction and installation of production wells in Hawaii

OTHER STATE DATABASE INFORMATION

RADON

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

STREET AND ADDRESS INFORMATION

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Attachment B – EDR Historical Topographic Maps



Kilauea PMA

4273 Aalona Street

Kilauea, HI 96754

Inquiry Number: 3061014.1

May 09, 2011

EDR Historical Topographic Map Report

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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Historical Topographic Map



	TARGET QUAD NAME: Anahola, HI MAP YEAR: 1963	SITE NAME: Kilauea PMA ADDRESS: 4273 Aalona Street Kilauea, HI 96754 LAT/LONG: 22.2109 / -159.4069	CLIENT: Tetra Tech EM Inc. CONTACT: Scott Duzan INQUIRY#: 3061014.1 RESEARCH DATE: 05/09/2011
	SERIES: 7.5 SCALE: 1:24,000		

Historical Topographic Map



	TARGET QUAD NAME: Anahola, HI MAP YEAR: 1996	SITE NAME: Kilauea PMA ADDRESS: 4273 Aalona Street Kilauea, HI 96754 LAT/LONG: 22.2109 / -159.4069	CLIENT: Tetra Tech EM Inc. CONTACT: Scott Duzan INQUIRY#: 3061014.1 RESEARCH DATE: 05/09/2011
	SERIES: 7.5 SCALE: 1:24,000		

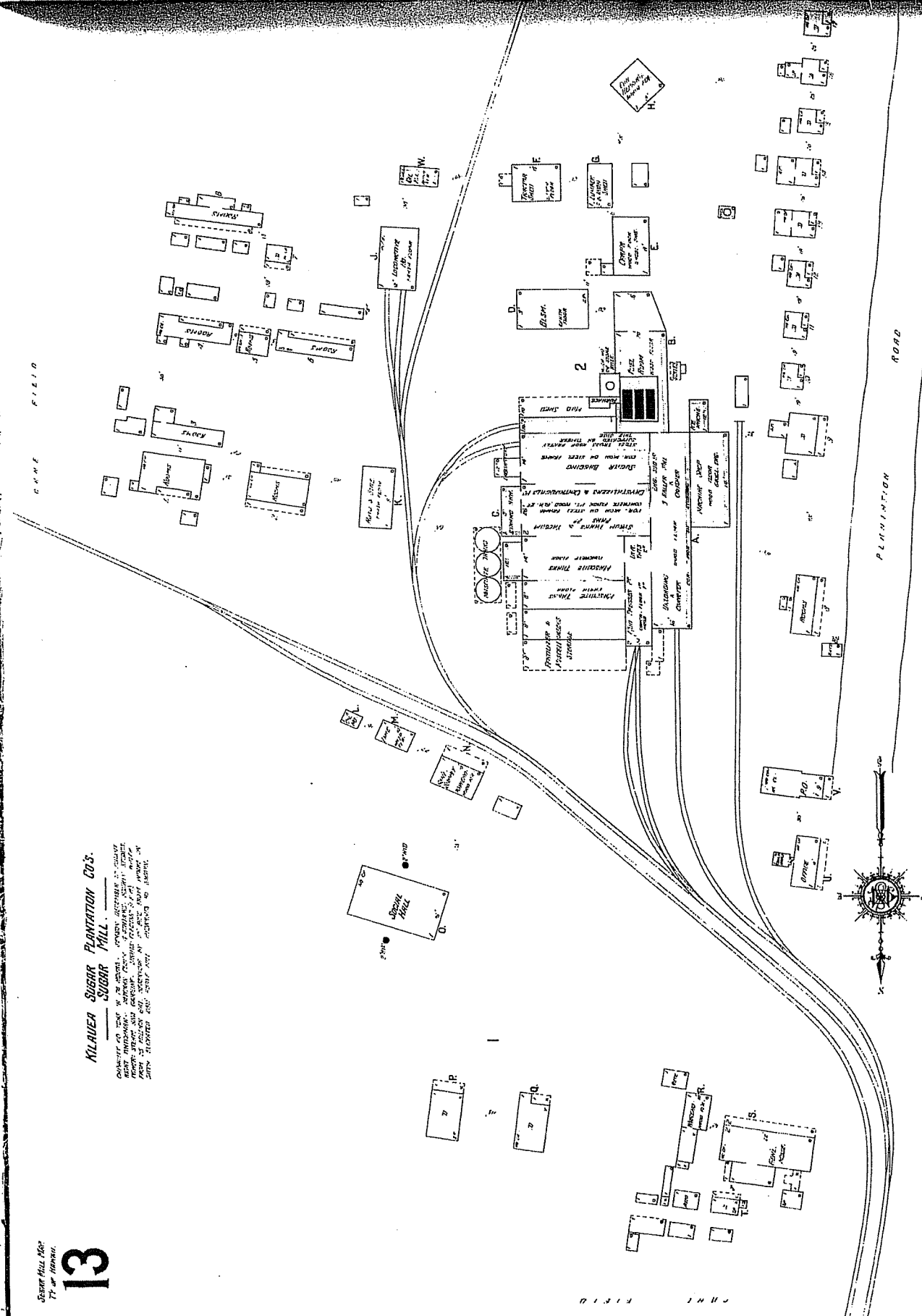
Attachment C – EDR Sanborn Fire Insurance Maps

SUGAR MILL MAP
74 OF 100

13

KILAUEA SUGAR CO'S. SUGAR MILL.

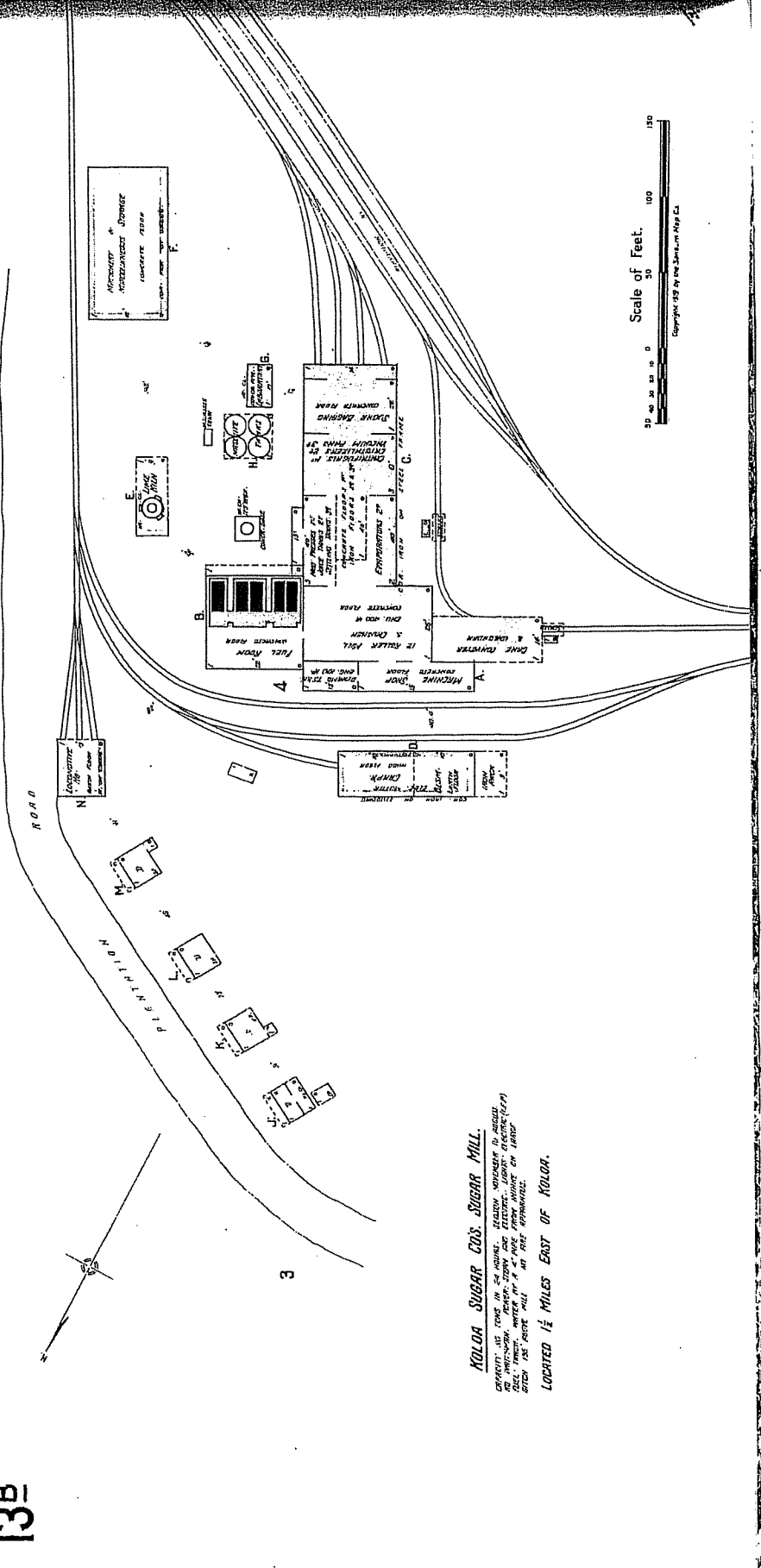
CONSTITUTED BY ACT OF THE LEGISLATURE OF HAWAII, FEBRUARY 22, 1907.
FIRST PRODUCTION OF SUGAR BEGINS IN 1908. THE SUGAR FACTORY WAS
BUILT IN 1909. THE SUGAR FACTORY WAS BUILT IN 1909. THE SUGAR FACTORY
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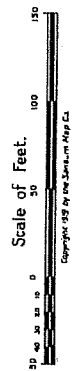
13B

KOLOA SUGAR CO'S. SUGAR MILL.

CONSTITUTED BY ACT OF THE LEGISLATURE OF HAWAII, FEBRUARY 22, 1907.
FIRST PRODUCTION OF SUGAR BEGINS IN 1908. THE SUGAR FACTORY WAS
BUILT IN 1909. THE SUGAR FACTORY WAS BUILT IN 1909. THE SUGAR FACTORY
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THE SUGAR FACTORY WAS BUILT IN 1909. THE SUGAR FACTORY WAS BUILT IN 1909.



LOCATED 1 1/2 MILES EAST OF KOLOA.



Attachment D – Historical Aerial Photographs

477-20





5532-4



11-4-92

8844-65



Attachment E – Site Property Historical Land Title Records

