

DRAFT ENVIRONMENTAL ASSESSMENT PROPERTY ACQUISITION FOR KAHULUI HARBOR

District of Wailuku, County of Maui
Tax Map Key: (2) 3-7-011:017 portion, (2) 3-7-011:019 portion,
and (2) 3-7-11:023

VOLUME II OF III



Proposing Agency:
STATE OF HAWAII, DEPARTMENT OF TRANSPORTATION

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LIMITED
PHASE II ENVIRONMENTAL SITE ASSESSMENT

Kahului Harbor Parcel B
Kahului, Oahu, Hawaii
TMK (1) 3-7-11: Parcels 17, 19 (portion), and 23

Prepared For:
ALEXANDER & BALDWIN, LLC
822 Bishop Street
Honolulu, Hawaii 96813

Prepared By:
ENVIROSERVICES & TRAINING CENTER, LLC
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814
tel: (808) 839-7222

ETC Project No. 14-2003

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1.0 CERTIFICATIONS AND LIMITATIONS

EnviroServices & Training Center (ETC), LLC has completed this Limited Phase II Environmental Site Assessment (ESA) for the project site. ETC's findings and conclusions presented in this report are professional opinions based solely upon visual observations of the project site, government regulations, and upon interpretation of the laboratory data and field measurements gathered at the time and location of the study.

This report is intended for the sole use and purpose of ETC's Client, exclusively for the project site indicated. The scope of services performed in execution of these site investigation activities may not be appropriate for satisfying the needs of other users, and any use or reuse of this report or the findings and conclusions presented herein is at the sole risk of said user.

ETC makes no guarantee or warranty; either expressed or implied, except that our services are consistent with good commercial or customary practices designed to conform to acceptable industry standards and governmental regulations. No warranty or representation, expressed or implied, is included or intended in its proposal, contracts, or reports. Information stated in this report applies only to the site as outlined and apply to the conditions present at the time of remedial investigation activities.

Prepared By:



Sharla Nakashima
Project Manager

2.0 EXECUTIVE SUMMARY

EnviroServices & Training Center, LLC (ETC) was contracted by A & B Properties Inc. (Client) to perform Limited Phase II Environmental Site Assessment (ESA) activities at the subject property ("Property"), identified as Tax Map Key (TMK): 3-7-11: Parcels 17, 19 (portion), and 23, located at 140 Hobron Avenue. The Property is bound by Hobron Avenue to the west, Alahao Street to the south, and Amala Road to the east. The Property consists of approximately 11.04 acres of land and is owned by A & B Properties Inc. (A&B). Note that the Royal Order of Kamehameha Property, which occupies approximately 1.2 acres of the Property, was excluded from this investigation due to the fact that this area was reportedly not used for industrial purposes; and current plans indicated that this area will be subdivided from the remainder of the Property.

The purpose of the Limited Phase II ESA activities was to assess the potential contaminants on the Property (less the 1.2 acre portion occupied by the Royal Order of Kamehameha). The current acquisition area is depicted in Appendix II, Figure 2. Specifically, the site investigation was conducted in accordance with Section 5 of the *Site Work Plan, A&B Acquisition Parcel B Phase II ESA*, prepared by EKNA Services Inc. (EKNA). EKNA's work plan included subsurface soil samples collected from 30 to 35 soil borings, groundwater samples collected from five (5) permanent groundwater monitoring wells, and multi-incremental surface soil samples from fifteen (15) surface soil decision unit areas. Note that EKNA's work plan was prepared at the request of, and in accordance with specification provided by, the State of Hawaii – Department of Transportation (DOT), Harbors Division. In addition to those activities described in EKNA's work plan, additional contaminants of potential concern and/or areas of concern were also investigated. Specifically, total petroleum hydrocarbons (TPH) as oil (O) and an expanded polynuclear aromatic hydrocarbon (PAH) list was included in the COPC list; and five (5) discretionary borings were proposed based on historic information provided by A&B. The overall objectives of this Phase II ESA report are to document site investigation activities, present data obtained from the investigation, and to provide recommendations.

The COPC identified for the purposes of this investigation were TPH as diesel (D), TPH - O, TPH as gasoline (G), methyl tertiary-butyl ether/benzene/ toluene/ethylbenzene/xylenes (MBTEX), PAHs, the eight Resource Conservation and Recovery Act (RCRA) metals, and organochlorine pesticides. The media targeted by this investigation were soil and groundwater.

Although not specified in detail as part of EKNA's Site Investigation Work Plan, the fifteen (15) surface soil decision units were established based on the potential impacts associated with the historical Property usage. As such, the following decision units (DU) were established based on source locations: BEI Fertilizer AST area (DU1); Reynolds Recycling occupied area (DU2); Maui Crane occupied area (DU3); DeCoite Trucking baseyard area (DU6); Oil-Water Separator area (DU8); Former bitumuls AST area (DU9 and 10); Former molasses AST area (DU11); Kahului Trucking & Storage occupied area (DU12); Former black oil AST area (DU13); Molasses AST area (DU14 and 15); and all other areas (DU4, 5, and 7). Surface soil samples were analyzed for TPH-D, TPH-O, PAHs, organochlorine pesticides, and RCRA 8 Metals.

Soil borings B1 through B30 were established based on EKNA's Site Boring Plan. Five of these borings (B2, B9, B19, B23, and B30) were completed as 2-inch diameter monitoring wells. Soil borings B31 through B36 were discretionary borings based on BV's Historical

Research Report. Specifically, B31 through B36 were established to investigate the former KT&S UST and associated dispensers (B31/B32); a former cesspool (B33); a former oil pump house (B34); the former bitumuls ASTs (B35); and the potential offsite contaminant migration from adjacent bulk petroleum facilities (B36). Note that B32 was not advanced due to the presence of underground utilities and no sample was collected from B33 due to the physical observations and poor sample recovery. Subsurface soils and groundwater samples were analyzed for TPH-G, TPH-D, TPH-O, MBTEX, PAHs, RCRA 8 Metals, and organochlorine pesticides. Data tables summarizing the analytical results are provided in Appendix 3.

As requested by the DOH, three (3) additional groundwater monitoring wells were installed along the north and northeast boundary of the Property. The groundwater samples were analyzed for TPH-G, TPH-D, TPH-O, MBTEX, PAHs, and RCRA 8 Metals. In addition, two replicate multi-incremental surface soil samples of DU12 were collected for quality control purposes. The replicate samples were analyzed for TPH-D, TPH-O, PAHs, RCRA 8 Metals, and polychlorinated biphenyls (PCBs). Note that PCBs was not part of the original COPC list.

Analytical results were initially compared to Hawaii Department of Health (DOH) – Tier 1 Environmental Action Levels (EALs) for residential (unrestricted) land use in areas where groundwater is not a current or potential drinking water source; and where the nearest surface water body is less than 150 meters from the site. In accordance with EKNA's *Site Work Plan*, provided by the DOT, field replicates were not initially collected; however, based on correspondence with the DOH HEER Office, additional supplemental sampling activities were conducted. Specifically, two field replicate samples were collected for the quality control purposes from DU12. According to A&B, following the initial results in 2014, KT&S was advised of the initial elevated TPH results. KT&S subsequently excavated stained surface soils from DU12. The excavated soils were subsequently profiled and disposed at the Maalaea Demolition and Construction Landfill. As a result, the field replicates collected from DU12 were not suitable for calculation of relative standard deviations (RSDs). Based on telephone correspondence with Mr. John Peard of the DOH HEER Office, relative percent differences (RPDs) were calculated and used to evaluate data precision for the project. The RPDs ranged from 0% to 57%, which generally indicates moderate precision. As such, no additional adjustment to the soil data was required. Furthermore, the replicate data acquired from DU12 also confirms that the previously detected contaminants (i.e. TPH-D, TPH-O, arsenic, and lead) were sufficiently removed. Disposal documentation for the soil excavated from DU12 is provided in Appendix 8.

The Property is currently developed and used for commercial/industrial purposes and there are no plans for residential development or development for use by sensitive receptors (i.e. daycare center, school for children, hospital, etc.). Specifically, future plans are convert the Property into a paved container storage yard in accordance with the current zoning designation. Therefore, this site investigation data evaluation considered the intended commercial/industrial land use. Based on the future commercial/industrial land use, analytical results indicated that TPH-G, MBTEX, PAHs, PCBs, and organochlorine pesticides were either not detected above method detection limits or below their corresponding EAL for all soil and groundwater samples. TPH-D and/or TPH-O were detected in one or more surface soil decision units (DU2, DU3, DU6, DU8, DU9, and DU11) at elevated concentrations exceeded the default commercial/industrial EAL. Lead was detected at 1,400 mg/kg (DU11), which exceeds the corresponding default commercial/industrial EAL. TPH-D and/or TPH-O were detected above the default commercial/industrial EALs in B5, B16, and B24. Groundwater sampling results

indicated that with the exception of the TPH-D, arsenic and silver, all COPCs were either not detected above method detection limits or were below all applicable EALs. Specifically, TPH-D was detected in a B19; arsenic was detected in B2 and B9; and silver was detected in B9 and B30 at elevated concentrations exceeding their corresponding default EALs.

Based on analytical results, contaminants on the Property exceeding commercial/industrial EALs appeared to be primarily TPH-O and TPH-D in the surface and subsurface soils, though other contaminants were found at elevated levels in limited areas. Based on these results coupled with the current and planned future usage of the Property, ETC recommends that an environmental hazard evaluation and/or environmental hazard management plan be conducted and implemented on the Property. While not specifically addressed or targeted as part of this investigation, ETC understands that potential impacts associated with the lead/asbestos-containing coatings on the former fuel oil/molasses tank (within DU11) and two Maui Agricultural Company molasses tanks (within DU14 and DU15) will be investigated and/or addressed in conjunction with future demolition activities.

3.0 INTRODUCTION/PURPOSE

EnviroServices & Training Center, LLC (ETC) was contracted by A & B Properties Inc. (A&B), to complete a Limited Phase II ESA for the approximate 10.5-acre Property, identified as Tax Map Key (TMK) 2-3-7-11: Parcels 17, 19 (portion), and 23, located at 140 Hobron Avenue in Kahului, Maui, Hawaii (Figure 1).

The overall objective of the site investigation was to determine whether contaminants of potential concern (COPC) concentrations exceed appropriate risk-based action levels. The COPC investigated were established based on historic land use and results from previous environmental investigations. Note that the approximate 1.2-acre area occupied by the Royal Order of Kamehameha was excluded from this investigation due to the fact that this area was reportedly not used for industrial purposes; and current plans indicate that this area will be subdivided from the remainder of the Property. The current acquisition area is depicted in Appendix II, Figure 2

This report presents the site plan survey of the Property; and ETC's findings during soil and groundwater sampling activities at the Property. The data obtained during the investigation will help determine whether additional investigation and/or corrective actions are warranted, based on and in accordance with the *Site Work Plan, A&B Acquisition Parcel B Phase II ESA*, prepared by EKNA Services Inc. (EKNA) for the Property. Note that EKNA's *Site Work Plan* was provided to A&B by the Department of Transportation (DOT). This Limited Phase II ESA was conducted in general accordance with the November 2008 Hawaii Department of Health (DOH) Hazard Evaluation and Emergency Response (HEER) Office's Interim Final *Technical Guidance Manual for the Implementation of the Hawaii State Contingency Plan*, herein referred to as the HEER TGM; and the DOH's Fall 2017 *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater*, herein referred to as the EHE Document.

Specifically, the following tasks were completed:

- Retained a licensed professional land surveyor to conduct a site plan survey of the Property to include property lines and surface features such as buildings, tanks, walls, walkways, and fences. The site plan survey was conducted and prepared by Austin, Tsutsumi & Associates, Inc. (ATA).
- Identified and demarcated up to thirty-six (36) shallow boring locations, the eight groundwater monitoring well locations, and the fifteen (15) surface soil sampling decision units.
- Subcontracted GeoTek Hawaii, Inc. (GTH) to identify potential underground utility lines in the vicinity of the soil borings and monitoring well locations using electromagnetic instrumentation and/or ground penetrating radar.
- Mobilized a team of environmental scientists to conduct multi-incremental surface soil sampling, subsurface soil sampling, and groundwater sampling activities.
- Collected two (2) field replicate multi-incremental surface soil samples from one of the fifteen decision units.
- Subcontracted GTH to utilize direct-push technology sampling techniques to obtain subsurface soil samples and install groundwater monitoring wells.

- Installed three (3) 2-inch diameter groundwater monitoring wells; and converted five (5) boreholes into permanent, 2-inch diameter groundwater monitoring wells with traffic rated covers.
- Submitted the fifteen (15) multi-incremental surface soil samples to Accutest Laboratories - Northern California (ALNC) for multi-incremental sample preparation in accordance with the HEER TGM. Directed the laboratory to analyze the multi-incremental soil samples for total petroleum hydrocarbons (TPH) as diesel (TPH-D), TPH as oil (O), polynuclear aromatic hydrocarbons (PAHs), the eight Resource Conservation and Recovery Act (RCRA) metals, and organochlorine pesticides on a standard turn around time.
- Submitted thirty-three (33) discrete subsurface soil samples and five (5) groundwater samples to ALNC for analysis of TPH as gasoline (TPH-G), TPH-D, TPH-O, methyl tertiary butyl ether/benzene/toluene/ethylbenzene/xylenes (MBTEX), PAHs, RCRA8 metals, and organochlorine pesticides on a standard turn around time..
- Submitted five (5) groundwater samples to ALNC for analysis of TPH as gasoline (TPH-G), TPH-D, TPH-O, methyl tertiary butyl ether/benzene/toluene/ethylbenzene/xylenes (MBTEX), PAHs, RCRA8 metals, and organochlorine pesticides on a standard turn around time.
- Submitted the two (2) multi-incremental replicate surface soil samples to Advances Analytical Laboratory (AAL) for multi-incremental sample preparation in accordance with the HEER TGM. Directed the laboratory to analyze the multi-incremental soil samples for TPH-D, TPH-O, PAHs, PCBs, and RCRA 8 metals on a standard turn around time.
- Submitted two (2) groundwater samples to AAL for analysis of TPH-G, TPH-D, TPH-O, methyl tertiary butyl ether/benzene/toluene/ethylbenzene/xylenes (MBTEX), PAHs, and RCRA8 metals on a standard turn around time. Note that one of the three wells was not sampled due to poor water recovery.
- Prepared this Limited Phase II ESA report summarizing the soil and groundwater investigation, including identification of sample locations on the site plan and comparison of analytical data to default DOH Environmental Action Levels (EALs).

4.0 SITE BACKGROUND

4.1 Site Description and Land Area

The Property is currently owned by A&B and consists of TMK Nos. (2) 3-7-11: Parcels 17, 19 (portion), and 23. The Property is located at 140 Hobron Avenue, bound by Hobron Avenue to the west, Alahao Street to the south, and Amala Road to the east. The Property consists of approximately 11.04 acres of land. The Royal Order of Kamehameha property, which occupies approximately 1.2 acres of the Property, was excluded from this investigation due to the fact that this area was reportedly not used for industrial purposes; and current plans indicated that this area will be subdivided from the remainder of the Property.

Currently, there are tenants operating various businesses on the Property. These businesses' use of the Property include trucking, recycling, vehicle and heavy equipment maintenance operations, offices, parking, and storage.

Ground surface at the Property does not exhibit a discernible gradient. The Property is situated at an elevation of approximately 5 feet above mean sea level (msl). The nearest surface water body is the Kahului Harbor located approximately 200-feet north of the Property.

4.2 Site Mapping

ETC retained a licensed professional land surveyor to conduct a site plan survey of the Property to include property lines and surface features such as buildings, tanks, walls, walkways, and fences. Note that detailed information including, but not limited to, spot elevations, contours, underground/overhead utility locations, utility invert elevations, and vegetation were excluded. The site plan survey was conducted and prepared by Austin, Tsutsumi & Associates, Inc. (ATA). The Site Plan Survey is included in Appendix 1 and the corresponding CAD file is provided as attachment to this report.

4.3 Proposed Future Use

The proposed future use of the Property is to continue commercial / light industrial uses.

4.4 History and Land Use

The Property has been used for commercial and light industrial operations since the early 1900s.

4.5 Geology and Hydrogeology

4.5.1 Regional Geology

The island of Maui is the second largest of the Hawaiian Islands. Maui consists of two shield volcanoes with a connecting isthmus. The volcanic rocks of the West Maui Mountains (West Maui Volcano) are divided into three series. The oldest is the Wailuku Volcanic Series, followed by the Honolua and Lahaina Volcanic Series. The Wailuku Series built the major shield volcano comprised of basaltic lava flows and associated pyroclastic deposits. The Lahaina Series then covered the western slopes of the West Maui Volcano.

The Haleakala Volcano last erupted around 1790 and is presently dormant. The shield of the volcano is composed of a`a and pahoehoe lava flows of theoliite, theoleiitic olivine basalt, and oceanite known as the Honomanu Volcano Series. The Kula Volcanic Series overlays the Honomanu Series and is comprised of hawaiiite, alkalic olivine basalt, and ankaramite. Lava flows from the Haleakala volcano formed the Maui Isthmus and are made up of permeable basalt and erosional deposits (Macdonald, et al., 1983).

4.5.2 Site Geology

The soil at the Subject Property is mapped as Fill land (Fd). Fd consists of areas filled with bagasse and slurry from sugar mills. A few areas are filled with material from dredging and from soil excavations. These materials are generally dumped and spread over marshes, low-lying areas along the coastal flats, coral limestone, or areas shallow to bedrock. This land type is mostly used for the production of the sugarcane (USDA, 1972).

4.5.3 Regional Hydrogeology

Basal groundwater is formed by rainwater percolating down through the residual soils and permeable volcanic rock. All of the island situated below sea level, except within rift zones of the volcanoes, is saturated with ocean salt water and thus forms a basal lens called the "Ghyben-Herzberg" lens. A zone of transition between the fresh groundwater and the ocean salt water occurs due to the constant movement of the interface as a result of tidal fluctuations, seasonal fluctuations in recharge and discharge and aquifer development (Macdonald, et al., 1983).

Downward percolation of rainwater may be stopped by impermeable layers such as dense lava flows, alluvial clay layers and volcanic ash. The groundwater then forms a perched or high level aquifer, which is not in contact with salt water. Recharge of the aquifer occurs in areas of high rainfall, which are the interior mountainous areas. The groundwater flows from the recharge areas to the areas of discharge along the shoreline. Frictional resistance to groundwater flow causes it to pile up within the island until it attains sufficient hydraulic head to overcome friction. Thus, basal groundwater tends to slope toward the shoreline.

4.5.4 Site Hydrogeology

The site is underlain by the Kahului Aquifer System, which is part of the Central Aquifer Sector on the island of Maui. The aquifer is classified by Mink and Lau, 1990, with the system identification number 60301116 (12211). This system includes an unconfined basal aquifer in sedimentary (nonvolcanic) lithology. The aquifer is described as a currently used, ecologically important water source, containing groundwater with a low salinity (250 to 1,000 mg/l Cl⁻). It is also described as irreplaceable with a high vulnerability to contamination.

The site is further underlain by a second aquifer of the same system. The aquifer is an unconfined, basal aquifer in flank compartments, and is classified with the system identification number 60301111 (12212). The aquifer is described as a currently used, ecologically important water source, containing groundwater with a low salinity (250 to 1,000 mg/l Cl⁻). It is also described as irreplaceable with a moderate vulnerability to contamination (Mink and Lau, 1990).

The Property is located below the Underground Injection Control (UIC) line and the groundwater is not considered a drinking water resource. Therefore, the DOH Environmental Action Levels (EALs) for soil in areas where groundwater is not a current or potential drinking water source and where the nearest surface water body is less than 150 meters from the site will be used as a reference.

4.6 Previous Environmental Reports

Walker Consultants, Ltd. (WCL) conducted a *Site Assessment Report* in October 2000 to investigate Tosco's black oil AST located on Parcel 23. A total of fifty-three soil samples and three caprock groundwater samples were collected from twenty-eight soil borings/sampling points. The sampling points were situated within and surrounding the former AST; and in the vicinity of the loading rack. Analytical results indicated that petroleum related constituents were detected in several soil samples and one grab caprock groundwater sample. Elevated concentrations of petroleum related constituents were generally located on the southeast portion of the former AST site and the loading rack area. Investigation maps indicated that there were several underground pipelines traversing the south portion of the former AST site and the loading rack area. Based on the analytical results, WCL suspected that the identified petroleum impacts were likely due to leakage from the abandoned pipelines in the vicinity of the former AST (WCL, 2000). WCL's investigation included both near surface and subsurface soil samples. A limited volume of impacted surface soils were excavated; however, WCL concluded that the impacted soils likely remain at the bottom of these limited excavations (WCL, 2000). Based on ETC's review of WCL's site maps, boring B24 of ETC's investigation was situated east and adjacent to the former AST site and located in close proximity to the historic pipelines noted by WCL.

Two former molasses ASTs are located within DU14 and DU15; and a former fuel oil/molasses AST is located within DU11. A hazardous materials inspection identified deteriorated lead and asbestos-containing coatings on each of the three tanks. Potential impacts to surrounding soils from these coatings will reportedly be investigated and/or addressed in conjunction with future demolition activities.

Two ASTs containing liquid asphalt/bitumen (bitumuls) were reportedly abandoned on the Property by a former tenant, Hawaiian Bitumuls and Paving Company (HBPC). These tanks were located within DU9. In November 1998, one of the tanks reportedly failed, releasing residual contents to the surrounding soil. The release was reported to the DOH HEER Office by A&B, and HBPC reportedly cleaned up the spill and removed the failed tank. Analysis of the spilled bitumuls indicated the presence of elevated levels of TPH but no detectable PAHs were reported. In 2006, A&B requested a no further action (NFA) determination for the 1998 release, but noted that a second bitumuls AST remained on the site and was planned for removal. These plans were delayed when no on-island disposal site could be identified for the remaining bitumuls; as a consequence, remnants of the tank and its contents are still on the Property and the NFA request remains pending. Disposition of the former bitumuls AST and any remaining bitumuls will be addressed in future documents.

A *Phase I Environmental Site Assessment Report*, dated January 13, 2012, was performed by Kevin S. Kennedy Consulting, LLC (KSK). KSK's Phase I ESA identified numerous RECs in connection with the Property (KSK, 2012). The RECs generally pertained to current and historic operations on the Property as well as adjacent and nearby properties; and observed storage practices and conditions. Although Parcel 23 (former Tosco AST site) was not included in KSK's January 2012 Phase I ESA, KSK's *Additional Parcel Inclusion* addendum letter, dated March 16, 2012 indicated that the 'same conclusions' would have been reported (KSK, 2012).

In January 2014, Bureau Veritas North America, Inc. (BV) completed a *Historical Research Report* for the Property. The purpose of the historical research was to identify and document parties whose current or historical operations may have caused or contributed to the suspect petroleum impacts on the Property (BV, 2014). Based on ETC's review of the BV's *Historical Research Report*, the following potential sources of petroleum impacts were identified: 1) former UST and dispensers; 2) seepage pit (former cesspool); 3) former oil pump house; 4) former bitumuls ASTS; and 5) potential for contaminant migration from off-site bulk petroleum storage facilities located south of the Property. The historical pipelines were also identified as a source of potential petroleum contamination. Although not specified targeted as part of this investigation, several borings were situated along or in the vicinity of these historic pipelines. The known historic pipelines are mapped in Figure 3. In addition, the surface soil decision units (DUs) were also situated and/or demarcated based on the BV's report findings.

4.7 Historic Environmental Concerns

The Property has been used for commercial and light industrial purposes since the early 1900s. The current and former bulk molasses ASTs were and are associated with the KT&S operations. Note that although the current molasses handled at the Property is produced by HC&S, historically, molasses produced by other Maui sugar mills was also handled at the Property. Since the 1940s, operations on the Property have included maintenance, repair, and fueling. Specifically, the Property was historically used for petroleum storage and there are existing historic petroleum pipelines on the Property (Figure 3). Based on the historic and current operations, the environmental concerns include pesticides and petroleum related products.

4.8 Contaminants of Potential Concern

The contaminants of potential concern (COPC) identified in EKNA's Site Work Plan included pesticides, gasoline and diesel-related products, and metals. The COPC were selected based on EKNA's Site Work Plan. Note that TPH-O was added to the COPC list based on the historical usage and operations at the Property. In addition, EKNA's work plan only specified acenaphthene, benzo(a)pyrene, fluoranthene, and naphthalene; however, an expanded PAH list was used for this project (16 DOH PAHs plus 1- and 2-methylnaphthalenes). The specific contaminants are listed in Table 1 below.

Table 1: COC List

Constituent
RCRA 8 Metals
<i>Arsenic</i>
<i>Barium</i>
<i>Cadmium</i>
<i>Chromium</i>
<i>Lead</i>
<i>Mercury</i>
<i>Selenium</i>
<i>Silver</i>
Organochlorine Pesticides
Total Petroleum Hydrocarbons
<i>TPH as gasoline (G)</i>
<i>TPH as oil (O)¹</i>
<i>TPH as diesel (D)</i>
Polychlorinated Biphenyls (PCBs)¹
Volatile Organic Compounds (VOCs)²
<i>Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)</i>
<i>Methyl tertiary-butyl ether (MtBE)</i>
<i>VOCs (Full List)³</i>
Polynuclear Aromatic Hydrocarbons (PAHs)

1- TPH-O and PCBs were not included as part of EKNA's COC List

2- Volatile constituents were excluded for surface soil sampling analyses.

3- VOCs in the groundwater were limited MW6 and MW8 (see Section 5.4.3)

4.9 Project Action Levels

All contaminant concentrations were compared to DOH EALs for residential (unrestricted) land use in areas where groundwater is not a current or potential drinking water source and where the nearest surface water body is less than 150 meters from the site. Currently, the Property is developed and used for commercial/industrial purposes and there are no plans for residential development or development for use by sensitive receptors (i.e. daycare center, school for children, hospital, etc.). Future plans are to continue use of the Property for commercial/industrial purposes indefinitely in accordance with the current zoning designation. Therefore, this site investigation also included an evaluation of the data was based on the intended commercial/industrial land use.

5.0 FIELD INVESTIGATION ACTIVITIES

5.1 Introduction

In order to minimize the occurrence of decision errors, a statistics-based sampling design was selected to generate data that provides an effective representation of existing average COPC concentrations at the Property. The sampling design was based on the EKNA's Site Work Plan for the Property, in which the primary populations of interest for the sampling activities were identified as follows:

- Surface soils, defined as the top 2- to 4-inches of soil throughout the Property.
- Subsurface soils, defined as soils at depths greater than 1-foot below ground surface (bgs), in select areas of the Property.
- Groundwater throughout the Property.

A multi-increment (MI) sampling approach was established and used for the collection and analysis of surface soil samples throughout the Property. A biased sampling approach was used for subsurface soil samples for select areas of the Property. The borings and groundwater monitoring well locations were based on EKNA's Site Boring Plan. The MI decision units were constrained laterally by the current/historical usage and/or physical features such as paved areas, buildings, structures, streets and roads. Note that the paved areas are assumed to be of similar usage to the immediately adjacent non-constrained areas (i.e. unpaved, etc.). As such, the conditions in the soils within the constrained areas are anticipated to be similar to the findings within the non-constrained area of the DUs as well as the adjacent soil borings.

Multi-increment sampling is a method employed to obtain representative samples that exhibit average concentrations of the material being sampled and that account for the variability of concentrations within that particular material. Such a method was adopted by the DOH to provide accurate (closeness of the sample value to its actual value) and precise (closeness of repeated sample values, or repeatability) data. If data is considered sufficiently accurate and precise, then the data can be considered reliable estimates of the true concentrations.

Sampling accuracy is usually achieved by some type of random sampling. In random sampling, every unit in the population has an equal chance of being sampled and measured. Consequently, statistics generated by the sample (i.e., mean and standard deviation of the mean) are unbiased (accurate) estimators of true population parameters – in other words, the sample is representative of the population.

Sampling precision is commonly achieved by taking an appropriate amount of samples from the population. By looking at the equation for the standard deviation of the mean of a sample (standard error of the mean), precision increases (variability decreases) as the number of samples increase, although it is not a 1 to 1 relationship. Another method to increase the sampling precision is to increase the physical size (weight or volume) of the samples that are collected and analyzed. This technique has the effect of minimizing between-sample variation and decreasing the standard deviation of the mean of the sample. Increasing the number of samples collected and/or the size of the samples from a population not only increases sampling precision, it also has the secondary effect of increasing sampling accuracy.

The multi-increment sampling technique takes into account the need for sufficiently accurate and precise sample data. The technique includes requirements for: 1) collection of random samples; 2) collection of a larger number of samples; and 3) collection of a physically larger sample volume than standard discrete sampling techniques.

5.2 Sample Control System

The sample control system includes the methods used to identify, label, transport, and maintain the integrity of samples. The following subsections describe the sample control system that was used for this field investigation.

5.2.1 Sample Identification

This sample identification, or sample naming, procedure describes the naming convention for samples collected and analyzed during sampling activities.

For multi-increment soil samples, the following format was used:

AAAA.B where:

AAAA	=	ETC four digit project no. (2003 for this project)
B	=	decision unit designation (i.e. SS1, SS2, etc.)

For discrete subsurface soil samples, the following format was used:

AAAA.B.C where:

AAAA	=	four digit project no. (2003 for this project)
B	=	boring sample point location (i.e. B1, B2, etc.)
C	=	depth in inches at which sample was collected

For groundwater samples, the following format was used:

AAAA.B.GW where:

AAAA	=	four digit project no. (2003 for this project)
B	=	boring location (i.e. B2, B9, etc.)

5.2.2 Sample Labeling

A sample label with adhesive backing was affixed to each sample container where feasible. The following information was recorded with indelible ink on each label:

- Project Name
- Sample ID number
- Date and time of collection
- Sampler initials
- Analysis to be performed

The labels were provided by the contracted analytical laboratory.

5.2.3 Chain of Custody Procedures

Chain of custody procedures are designed to ensure that the integrity of the samples is maintained through collection, transfer, analysis, and disposal. Custody of samples was maintained in accordance with applicable chain of custody guidelines. A sample was said to be in custody if:

- It is in one's actual physical possession or view
- It is in one's physical possession and has not been tampered with (i.e., it is under lock or official seal)
- It is retained in an area with secure access

Field personnel logged individual samples onto carbon chain of custody forms. These forms also served as the request for analyses. The following information was recorded on the chain of custody:

- Sample ID number
- Matrix
- Date and time of collection
- Number and type of containers
- Analytical method to be performed
- Number of pages in chain of custody

Samples were hand-delivered to ALNC's Service Center located in Honolulu, Hawaii. All appropriate U.S. Department of Transportation (US DOT) regulations (e.g., 49 CFR 171-179) were followed in the shipment of environmental samples.

5.3 Sampling Location and Frequency

5.3.1 Soil Investigation

This soil investigation was performed by utilizing the current uses of the Property and existing Property usage maps from historic reports to divide the Property into fifteen (15) surface soil decision units (Figure 5). Note that the Royal Order of Kamehameha Property was excluded from the soil investigation areas due to the fact that this area was reportedly not used for industrial purposes; and current plans indicated that this area will be subdivided from the remainder of the Property. Based on the population of interest and potential source areas identified for this project, surface soil decision units were established as follows.

- Decision Unit 1: BEI Fertilizer AST area.
- Decision Unit 2: Reynolds Recycling occupied area.
- Decision Unit 3: Maui Crane occupied area.
- Decision Unit 4: Lengo Construction, Inc. (subtenants: BioBeetle, Maui Recycling, sail board shop).
- Decision Unit 5: Lengo Construction, Inc. (subtenant: Cruiser Phil's Volcano Riders)
- Decision Units 6: DeCoite Trucking area.
- Decision Unit 7: DeCoite Trucking area (a portion subleased to concrete forming operation)
- Decision Unit 8: Oil-Water Separator area.
- Decision Unit 9 and 10: Former bitumuls AST area.
- Decision Unit 11: Former fuel oil/molasses AST area.
- Decision Unit 12: Kahului Trucking & Storage occupied area.
- Decision Unit 13: Former black oil AST area.
- Decision Unit 14 and 15: Molasses AST area.

The soil borings (i.e. B1 through B30) were situated as noted in EKNA's Site Boring Plan. Soil borings B31 through B36 were discretionary borings based on the Historical Research Report prepared by Bureau Veritas North America, Inc. (BV, 2014). Specifically, B31 through B36 were established as follows:

- B31/B32: Former UST and dispensers.
- B33: Seepage Pit (former cesspool).
- B34: Former Oil Pump House.
- B35: Former Bitumuls ASTS.
- B36: Potential for contaminant migration from off-site bulk petroleum storage facilities to the south.

Historical pipelines were also identified as a source of potential petroleum contamination. And although not specifically targeted as part of this investigation, several borings were situated along or in the vicinity of the historic pipelines. The historic pipelines are mapped in Figure 3 and are also show in Figures 2, 4, and 5.

5.3.2 Groundwater Investigation

A total of five (5) borings were converted into 2-inch diameter monitoring wells. The borings selected for conversion were biased locations as noted in EKNA's Site Boring Plan. In addition, based on recommendations from the DOH HEER Office, three additional 2-inch diameter groundwater monitoring wells were installed along the north and northeast border of the Property. Depth to groundwater ranged from 4 to 7 feet bgs.

5.4 Field Methods

This section provides information regarding specific field methods that ETC employed to complete sampling activities. The activities described herein were performed in general accordance with the HEER TGM.

5.4.1 Surface Soil Sampling and Analysis

Collection of incremental samples was performed in a stratified, random manner (i.e., collect incremental samples from random locations within each decision unit, but ensuring that each portion of the decision unit is represented) within each decision unit. ETC personnel conceptually subdivided each decision unit and collected a proportional amount of increments from each area. ETC personnel used new and pre-cleaned stainless steel trowels to collect soil increments from 50 locations in each decision unit. All soil increments were placed into new, resealable polyethylene bags dedicated to each multi-increment sample. In addition to the 15 primary samples, two field replicate MI samples were collected from one of the primary DUs for field quality control methods (2003.SS16 and 2003.SS17). Each multi-increment sample consisted of an approximate 1 to 2 kg of soil. Prior to handling any soil, ETC personnel donned a new pair of disposable gloves (latex/vinyl/nitrile). Gloves were interchanged prior to collection of each multi-increment sample.

All sample containers were labeled with the project name, sample identification number, date/time of sample collection, and sampler's initials. The samples were kept in a sample cooler with ice pending delivery to the contracted laboratory.

ETC delivered samples to the contracted laboratory with a completed chain of custody documentation. ETC instructed the contracted laboratory to perform multi-incremental subsampling in accordance with the HEER TGM and EHE document. This includes air-drying, sieving, and obtaining representative subsamples using either an appropriate mechanical splitter or through multi-incremental sampling protocols. Specifically, each multi-increment sample was air-dried, sieved to less than 2-millimeters in particle size, and representatively sub-sampled. Note that in accordance with the HEER TGM, the mass of sample to be analyzed via EPA Method 6010B/7000 Series was modified from 1-gram to 10-grams.

5.4.2 Subsurface Soil Sampling and Analysis

Discrete subsurface soil samples were collected using a direct-push technology rig, specifically the GeoProbe (or similar) system operated by GTH. ETC collected one (1) soil sample per boring location between 3 to 5 feet bgs. In general, unless otherwise noted, subsurface samples were collected from the unsaturated soils above the capillary fringe. In addition, field screening methods, such as visual/olfactory observations and the use of a photoionization detector (PID) were used to make qualitative determinations whether subsurface soils had been impacted, specifically by petroleum COPC.

The samples were collected in new, laboratory-provided sample containers (EnCore® or similar sampler for volatile organic compound analysis, glass jars for other analytes). Prior to handling any soil, ETC personnel donned a new pair of disposable gloves (latex/vinyl/nitrile). Gloves were interchanged prior to collection of each sample.

All sample containers were labeled with the project name, sample identification number, date/time of sample collection, and sampler's initials. The samples were kept in a sample cooler with ice pending delivery to the contracted laboratory.

5.4.3 Groundwater Sampling and Analysis

ETC installed a total of eight (8) 2-inch diameter monitoring wells throughout the Property. Detailed well construction information is provided in Appendix 4. In general, each well consisted of slotted PVC screen and solid PVC riser. A sand filter was placed around the monitoring well with a bentonite seal and each monitoring well was completed to the ground surface with a well vault/traffic rated cover and concrete. Note that although saturated soil was observed during the well boring advancement of MW7, no water was observed within the well following well installation. MW7 was installed at a depth of 11 feet bgs and previous investigations suggest that groundwater it anticipated between 5- to 8- feet bgs. Subsequently, MW7 was returned to 24-hours later; however, no water was observed. As such, ETC was unable to collect a sample from MW7. Immediately after installation, the monitoring wells were developed using a disposable bailer and the purged groundwater was placed into a 55-gallon drum. Following well development, the groundwater monitoring wells were subsequently sampled. Groundwater sampling was performed using a water level indicator in conjunction with the low-flow submersible pump. Field personnel ensured that the pump intake was placed near the upper-middle portion of the well screen in order to ensure sufficient communication with the aquifer formation and to minimize the introduction of suspended solids that may have accumulated at the bottom of the well. The groundwater samples were placed into new, laboratory-provided sample containers. The sample containers were labeled and placed in a designated sample cooler with ice pending delivery to the laboratory.

Personnel collecting the groundwater samples donned a new pair of disposable latex gloves at each sample location. Only new or laboratory-cleaned sample containers were used to collect groundwater samples.

5.5 Sample Processing and Analyses

Initial investigative efforts included the delivery of a total of fifteen (15) multi-increment soil samples, thirty-three (33) discrete soil samples, and five (5) groundwater samples to ALNC in San Jose, California with completed chain of custody documentation. ETC instructed ALNC to perform multi-increment subsampling in accordance with the HEER TGM which includes air-drying, sieving, and obtaining representative subsamples using either an appropriate mechanical splitter or through multi-increment protocols. ALNC was then instructed to analyze the processed soil samples for select constituents. The discrete soil samples and groundwater samples were processed and analyzed in accordance with their corresponding EPA analytical methods. ALNC was also instructed to filter the groundwater samples at the laboratory using a 0.45 micron filter prior to performing metal analyses.

Subsequent supplemental investigation efforts included the delivery of a the two (2) multi-increment replicate soil samples and three (3) additional groundwater samples to AAL in Honolulu, Hawaii with completed chain of custody documentation. ETC instructed AAL to perform multi-increment subsampling in accordance with the HEER TGM which includes air-drying, sieving, and obtaining representative subsamples using either an appropriate mechanical splitter or through multi-increment protocols. AAL was then instructed to analyze the processed soil samples for select constituents. All samples were processed, extracted, and analyzed within the appropriate method hold times.

5.6 Decontamination

Re-useable sampling tools, such as stainless steel trowels, drill bits, chisel bits, and split spoon samplers were decontaminated by washing with a brush and potable water - Alconox™ solution, rinsing with potable water, then rinsing with distilled water. Whenever possible, spray bottles were used to perform decontamination procedures in order to minimize the volume of decontamination fluids generated. Decontamination fluids were allowed to drip directly onto the ground surface.

Any disposable sample collection equipment (i.e., used PPE, disposable gloves, etc.) were containerized at the end of each work day and disposed as solid waste.

5.7 Investigation-Derived Waste (IDW)

IDW included soil excavated during drilling, disposable personal protective equipment (PPE), disposable sampling equipment, decontamination fluids, purge water, and any other material that may have come in contact with potentially contaminated materials. IDW generated on-site were handled as follows:

- Used PPE and disposable sampling equipment (i.e., latex gloves, bailers) were disposed as solid waste.
- Soil from borings were returned to the source after sampling.
- Decontamination fluids and groundwater purged from the monitoring wells were placed into 55-gallon drum(s).

5.8 Field Equipment Calibration

All direct reading field instruments were calibrated at the beginning of the work day or as recommended by the manufacturer. Calibration served as a quality assurance (QA) check on the equipment. Calibration procedures for the field equipment were performed according to specifications provided in the equipment operation manuals.

Field personnel used the following direct reading field instruments for this investigation:

- RAE Systems MiniRAE 2000 Portable VOC Monitor (Model PGM-7600) PID – calibrated using 100-ppm isobutylene standard.
- Horiba U-52 Multi-Parameter Water Quality Checker – calibrated using AutoCal Solution (pH = 4.0, turbidity = 0.0 NTU, conductivity = 4.49 mS/cm) and/or Buffer Solution (pH=4.0).
- Solinst Canada Ltd. Water Level Indicator Model 101 – no calibration necessary.

6.0 FINDINGS AND DISCUSSION

Field investigation activities were performed to identify the extent of COPC concentrations in the soil and groundwater. A total of thirty-three discrete soil samples, fifteen multi-increment soil samples, five groundwater samples were collected during the site investigation.

6.1 Deviations from the EKNA's Site Work Plan

A number of deviations were made from the EKNA's *Site Work Plan*. During investigation activities, field conditions precluded boring advancement at specific coordinates due to the presence of physical obstructions (i.e. potential underground and overhead utility lines and difficult geological conditions). In these cases, boring locations were moved and documented; or no samples were collected. ETC believes that the assessment data was not significantly impacted by these deviations. In addition, TPH-O and an expanded PAH list was included in the COPC list; and five (5) discretionary borings were proposed based on historic information provided by A&B. A summary of the deviations is provided below.

- TPH-O was added to the COPC list for all soil and groundwater samples.
- 16 DOH PAHs list (including methylnaphthalenes) was included on the COPC list for all soil and groundwater samples.
- B9 – Relocated north of the original boring/monitoring well location due to utility clearance issues and overhead obstructions (i.e. tree).
- B11 – Relocated to the north within the Property boundary. Note that EKNA boring was located outside of the actual Property boundary.
- B20 to B23 – Relocated due to drill rig accessibility. Note that B23 is a monitoring well which was moved east to allow for drill access.
- B24 to B28 – Relocated outside of the fence/bermed area due to drill rig accessibility.
- B29 – Relocated east of original boring located due to utility clearance issues.
- B31 and B32 – Discretionary borings to investigate former UST and associated dispensing pump. Utility clearance activities indicated that there were numerous underground utilities and anomalies in the vicinity of these borings, therefore, the borings were combined and only B31 cleared and advanced.
- B33 – Discretionary boring to investigate current seepage pit area. Note that during drilling activities a seepage pit was apparently encountered, therefore, no samples were collected for B33.
- B34 – Discretionary boring to investigate potential impacts associated with the former oil pump house.
- B35 – Discretionary boring to investigate impacts associated with the former bitumuls AST.
- B36 – Discretionary boring to investigate potential for contaminant migration from off-site bulk petroleum storage facilities south of the Property.
- Two field replicate multi-incremental surface soil samples were collected from DU12 for quality control and soil confirmation purposes.

- The two field replicates were analyzed for PCBs.
- Three additional groundwater monitoring wells were installed along the north and northeast boundary of the Property.
- The additional groundwater monitoring wells (MW6 and MW8) were sampled for VOCs. Note that the additional analysis was included based on discussions with Mr. John Peard of the DOH HEER Office.

6.2 Sample Coordinates

ETC utilized a Trimble GeoExplorer® 2005 series, GeoXT GPS unit to document decision unit boundaries as well as the boring and monitoring well locations. The coordinates were documented using the State Plane coordinate system referencing the North American Datum (NAD), 1983. GPS data is included in Appendix 6.

6.3 Physical Observations/Field Screening

Physical observations of the surface soils were made during sampling activities. In general, the soil throughout the Property was comprised of a brown fill and sand. Physical observations of the subsurface soil were made during boring advancement and are presented in the boring logs and monitoring well diagrams included in Appendix 4. Field water quality data is included Appendix 5. Physical observations of the groundwater and average water quality data are presented in Table 2. Note that the groundwater wells were installed and immediately developed and sampled. Therefore, turbidity was variable throughout the wells. Although elevated turbidity (i.e. >10 NTU) was noted in most of the wells, field measurements indicate that the wells appeared to have stabilized during sample collection. In addition, groundwater samples were not filtered in the field.

Table 2: Physical Observations/Water Quality Data - Groundwater

Sample ID	Depth to GW (ft)	Well Depth (ft)	Temp. (°F)	Conductivity (mS/cm)	pH	Turbidity (NTU)	Notes
2003.B2.GW (MW1)	4.5	11	82.3	6.22	8.23	66.79	Sampled on 5/6/14.
2003.B9.GW (MW2)	6.8	11	80.0	8.79	8.17	62.44	Sampled on 5/6/14.
2003.B19.GW (MW3)	5.88	11	82.4	8.97	7.83	45.14	Sampled on 5/6/14.
2003.B23.GW (MW4)	5.88	11	79.9	10.3	8.31	117.41	Sampled on 5/6/14.
2003.B.30.GW (MW5)	7.88	12	80.5	4.29	8.69	8.76	Sampled on 5/7/14.
2003.MW6.GW (MW6)	6.6	11	80.0	9.10	8.29	781	Sampled on 6/6/18.
2003.MW7.GW (MW7)	--	11	--	--	--	--	No water in well following installation.
2003.MW8.GW (MW8)	5.8	11	84.4	2.62	7.73	200	Sampled on 6/6/18.

6.4 Analytical Data – Surface Soil

Laboratory soil data are summarized in Appendix 3, Tables 1 through 6, and the laboratory data packages have been included in Appendix 7. A total of seventeen (17) surface soil samples were submitted to ALNC for multi-increment subsample processing and analyses of TPH-D, TPH-O MBTEX, PAHs, RCRA8 metals, and organochlorine pesticides. The two replicate multi-incremental surface soil samples were submitted to AAL and analyzed for TPH-D, TPH-O, PAHs, RCRA 8 Metals, and PCBs.

Analytical results indicated that TPH-G, MBTEX, and organochlorine pesticides were either not detected above method detection limits or below applicable EALs. TPH-O, and TPH-D were detected in the surface soils at concentrations exceeding their corresponding EALs throughout Property. In addition, TPH-D and TPH-O concentrations also exceeded the default (lowest) EALs pertaining to commercial/industrial land use.

Cadmium was detected at 18.8 mg/kg in DU1 (2003.SS1) exceeding the default (lowest) EAL of 14 mg/kg pertaining to unrestricted land use. Arsenic was detected at 52.6 mg/kg (DU11) and 24.7 mg/kg (DU12), exceeding the corresponding default EAL of 24 mg/kg pertaining to unrestricted land use. Although bioaccessible arsenic was not analyzed, applying a conservative estimate of 25% bioaccessibility would result in an estimated bioaccessible arsenic concentration of 13.2 mg/kg. As such, in accordance with the DOH TGM, the arsenic concentrations on the site would be classified as Category B soils, which are considered to be minimally impacted and do not pose unacceptable health risks for long-term exposure for unrestricted land use.

Lead was detected at 200 mg/kg (DU12) and 1,400 mg/kg (DU11), exceeding the corresponding default EAL of 200 mg/kg pertaining to unrestricted land use. Note that the reported lead concentration in DU11 of 1,400 mg/kg also exceeds the default EAL pertaining to commercial/industrial land use of 800 mg/kg. Note that the source of lead impacts in DU11 are likely from the lead-based painted surfaces of the former molasses and fuel oil AST located within DU11.

In accordance with EKNA's *Site Work Plan*, provided by the DOT, field replicates were not initially collected; however, based on correspondence with the DOH HEER Office, additional supplemental sampling activities were conducted. Specifically, two field replicate samples were collected for the quality control purposes from DU12. According to A&B, following the initial results in 2014, KT&S was advised of the initial elevated TPH results. KT&S subsequently excavated stained surface soils from DU12. The excavated soils from DU12 were consolidated with soils that had previously been excavated from other areas of the Property. The corresponding consolidated stockpile was subsequently profiled and disposed at the Maalaea Demolition and Construction Landfill. As a result, the field replicates collected from DU12 were not suitable for calculation of relative standard deviations (RSDs). Based on telephone correspondence with Mr. John Peard of the DOH HEER Office, relative percent differences (RPDs) were calculated and used to evaluate data precision for the project. The RPDs ranged from 0% to 57%, which generally indicates moderate precision. As such, no additional adjustment to the soil data was required. Furthermore, the replicate data acquired from DU12 also confirms that the previously detected contaminants (i.e. TPH-D, TPH-O, arsenic, and lead) were sufficiently removed. Disposal documentation for the soil excavated from DU12 is provided in Appendix 8.

6.5 Analytical Data – Subsurface Soil

Underground utilities and drilling refusal (i.e concrete, etc.) was encountered during boring advancement and field activities for B27, B32, and B33; therefore, samples were not collected from these locations. A total of thirty-three (33) discrete subsurface soil samples were submitted to ALNC for analysis of TPH-G, TPH-D, TPH-O, MBTEX, PAHs, RCRA8 metals, and organochlorine pesticides. Note that dilutions were required for several samples. Dilutions are typically required to achieve QA/QC and were likely due to the elevated concentrations of the TPH in samples collected from B5 and B24. As a result, the detection limit for several PAHs and pesticides exceeded their respective DOH EAL.

Analytical results indicated that TPH-D and/or TPH-O were detected above the default unrestricted EALs and the commercial/industrial EALs in B5, B12, B16, B20, and B24. In addition, benzo(a)pyrene was detected in B7 at a concentration of 3.47 mg/kg, which exceeds both the default unrestricted EAL of 1.6 mg/kg and the default commercial/industrial EAL of 2.9 mg/kg. Note that although field observations indicate visual and olfactory signs of petroleum contamination, PID readings were relatively low. PIDs typically detect volatile contaminants such as gasoline related constituents, therefore, the lack of elevated PID readings is considered consistent with the heavier petroleum contaminants detected (i.e. TPH-O and TPH-D) at the site.

6.6 Analytical Data – Groundwater

Laboratory groundwater data are summarized in Appendix 3, Tables 5 and 6, and the laboratory data packages have been included in Appendix 7. Groundwater samples were collected from the seven (7) of the eight (8) newly installed monitoring wells (B2 (MW1), B9 (MW2), B19 (MW3), B23 (MW4), B30 (MW5), MW6, MW8). The groundwater samples collected from MW1, MW2, MW3, MW4, and MW5 were analyzed for TPH-G, TPH-D, TPH-O, MBTEX, PAHs, RCRA 8 Metals, and organochlorine pesticides on a 10-15 day turnaround time. The groundwater samples collected from MW6 and MW8 were analyzed for TPH-G, TPH-D, TPH-O, VOCs (which include MBTEX) PAHs, and RCRA 8 Metals on a 5-7 day turnaround time. VOCs were included based on discussions with Mr. John Peard of the DOH HEER Office regarding chlorinated solvents being potential COPC not initially addressed. As such, the full VOC list was analyzed. No VOCs were detected above laboratory reporting limits indicating that chlorinated solvents are not a significant concern for the project site.

Analytical results indicated that with the exception of the TPH-D, arsenic and silver, all COPCs were either not detected above method detection limits or were below all applicable EALs. TPH-D was detected in B19 at 0.828 mg/L, which exceeds the default EAL of 0.640 mg/L. Arsenic was detected in B2 and B9 at 0.0766 mg/L and 0.0363 mg/L; which exceeds the default EAL of 0.036 mg/L. Silver was detected in B9 and B23 at concentrations exceeding the default EAL of 0.00010 mg/L. Note that the contaminant source for the metal impacts in the groundwater are unknown, however, the site has historically been used for commercial / industrial purposes. Therefore, the metal contaminants may be due to the historic usage of the site. Other potential contaminant sources include injection wells at the Kahului WWTP (located approximately 0.25-miles east of the Property) and high turbidity levels during groundwater sampling activities.

6.7 Summary of Findings

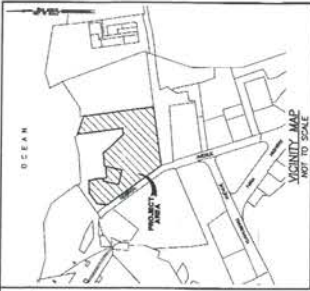
The Property is currently developed and used for commercial/industrial purposes and there are no plans for residential development or development for use by sensitive receptors (i.e. daycare center, school for children, hospital, etc.). Current plans are to continue use of the Property for commercial/industrial purposes indefinitely in accordance with the current zoning designation. Based on analytical results, contaminants on the Property exceeding commercial/industrial EALs appeared to be primarily TPH-O and TPH-D in the surface and subsurface soils, though other contaminants were found at elevated levels in limited areas. Based on the analytical results coupled with the current and planned future usage of the Property, ETC recommends that an environmental hazard evaluation and/or environmental hazard management plan conducted and implemented on the Property. While not specifically addressed or targeted as part of this investigation, ETC understands that potential impacts associated with the lead/asbestos-containing coatings on the former fuel oil/molasses tank (within DU11) and two Maui Agricultural Company molasses tanks (within DU14 and DU15) will be investigated and/or addressed in conjunction with future demolition activities.

7.0 REFERENCES

- Bureau Veritas North America, Inc. (BV) January 17, 2014. *Historical Research Report, Parcel B and Adjoining Areas, 140 Hobron Avenue, (TMK Numbers: [2] 3-7-011: Parcels 017 and 023), Kahului Harbor, Kahului, Maui, Hawaii.*
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- Kevin S. Kennedy Consulting, LLC. January 13, 2012. *Phase I Environmental Site Assessment Report, A&B Acquisition Parcel B at Kahului Harbor, 180 Hobron Ave., Kahului, Maui, Hawaii 96732, TMK: (2)3-7-011: 017.* Prepared for SSFM International.
- Kevin S. Kennedy Consulting, LLC. March 16, 2012. *Additional Parcel Inclusion, Phase I Environmental Site Assessment Report, A&B Acquisition Parcel B at Kahului Harbor, 180 Hobron Ave., Kahului, Maui, Hawaii 96732, TMK: (2)3-7-011: 017.* Prepared for SSFM International.
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- United States Environmental Protection Agency (EPA). November 2003. *Guidance for Obtaining Representative Laboratory Analytical Subsamples from Particulate Laboratory Samples.* EPA/600/R-03/027.
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- United States Department of Interior Geological Survey. 1997. *Wailuku Quadrangle, Island of Oahu, 7.5 Minute Series (Topographic Map)*
- Walker Consultants, Ltd. October 2000. *Site Assessment Report, Tosco's Black Oil Aboveground Storage Tank, Kahului Harbor, Maui, Hawaii, TMK No. 3-7-11:23.* Prepared for Tosco Refining Company.

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APPENDIX 1
SITE PLAN SURVEY

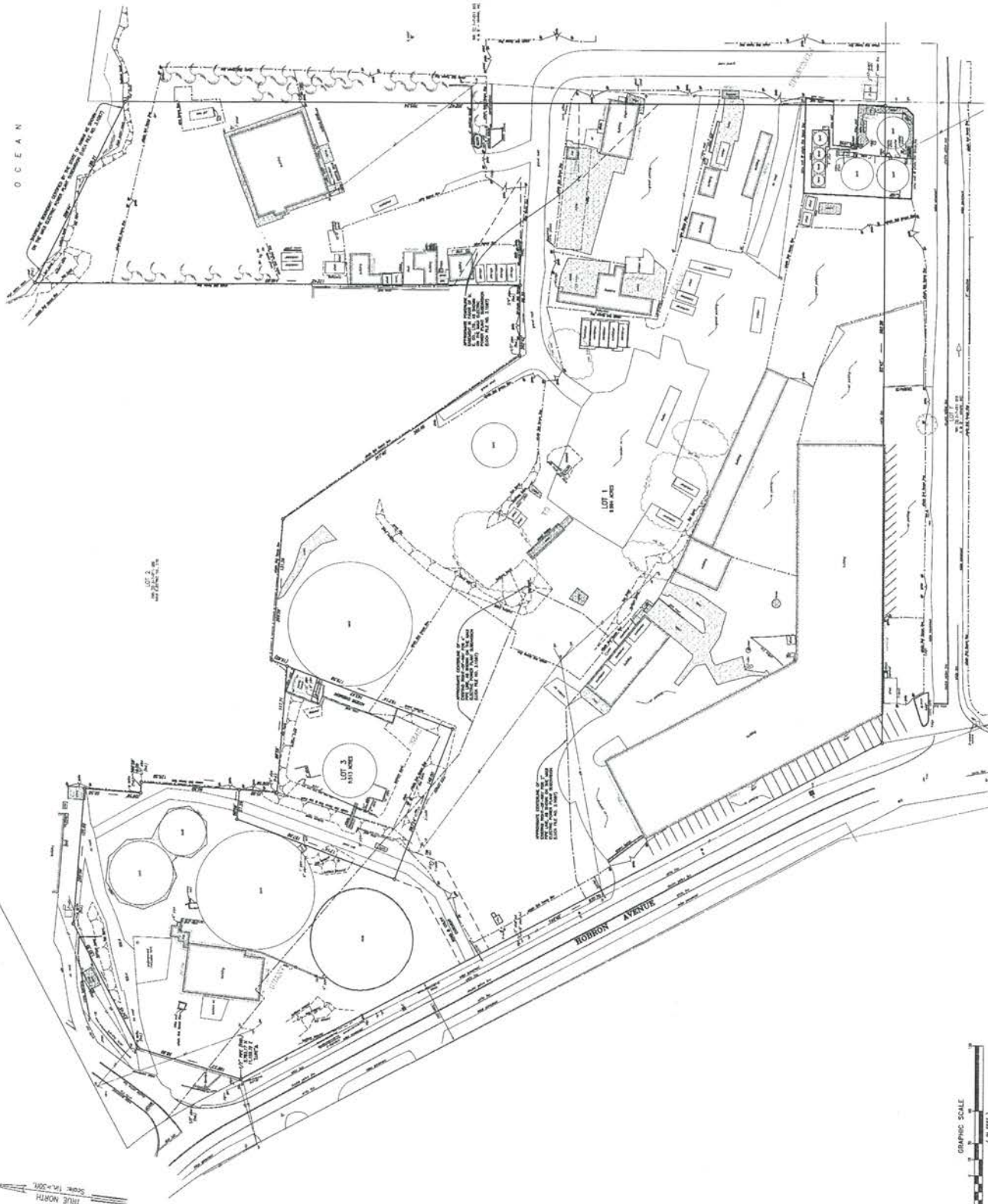


NOTES:

1. THIS MAP IS BASED ON A FIELD SURVEY CONDUCTED ON 10/15/11.
2. DIMENSIONS SHOWN ARE THE DIMENSIONS TO THE CENTERLINE OF THE ROAD.
3. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT.
4. THE SURVEYOR ASSUMES NO LIABILITY FOR ANY UNDISCOVERED UTILITIES OR OBSTRUCTIONS.

LEGEND:

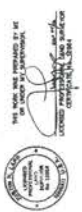
1. Proposed Building Footprint	2. Proposed Driveway
3. Proposed Parking Area	4. Proposed Utility Line
5. Proposed Fencing	6. Proposed Easement
7. Proposed Retention Wall	8. Proposed Storm Drain
9. Proposed Access Road	10. Proposed Survey Line
11. Proposed Utility Pole	12. Proposed Utility Box
13. Proposed Utility Valve	14. Proposed Utility Manhole
15. Proposed Utility Meter	16. Proposed Utility Transformer
17. Proposed Utility Transformer Pad	18. Proposed Utility Transformer Enclosure
19. Proposed Utility Transformer Vault	20. Proposed Utility Transformer Vault Enclosure
21. Proposed Utility Transformer Vault Enclosure Pad	22. Proposed Utility Transformer Vault Enclosure Enclosure
23. Proposed Utility Transformer Vault Enclosure Enclosure Pad	24. Proposed Utility Transformer Vault Enclosure Enclosure Enclosure



TRUE NORTH
SCALE: 1" = 50'

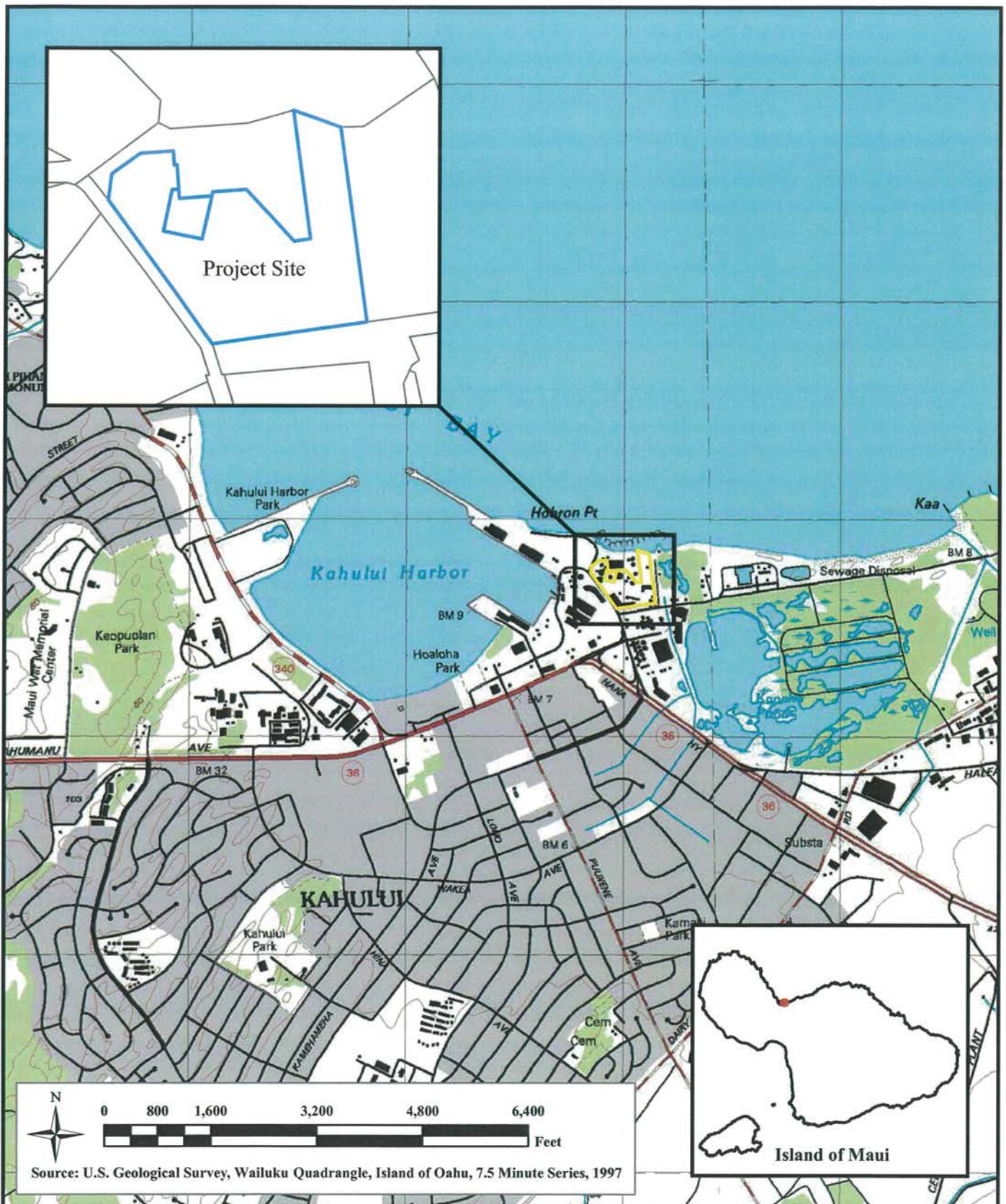


**IMPROVEMENTS LOCATION SURVEY
OF LOTS 1 AND 3
OF THE MAUI ELECTRIC POWER PLANT SUBDIVISION
BEING A PORTION OF GRANT 3343 TO CLAUDS SPRECKELS
SITUATED AT KAHULULU, MAUI, HAWAII**



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APPENDIX 2
FIGURES

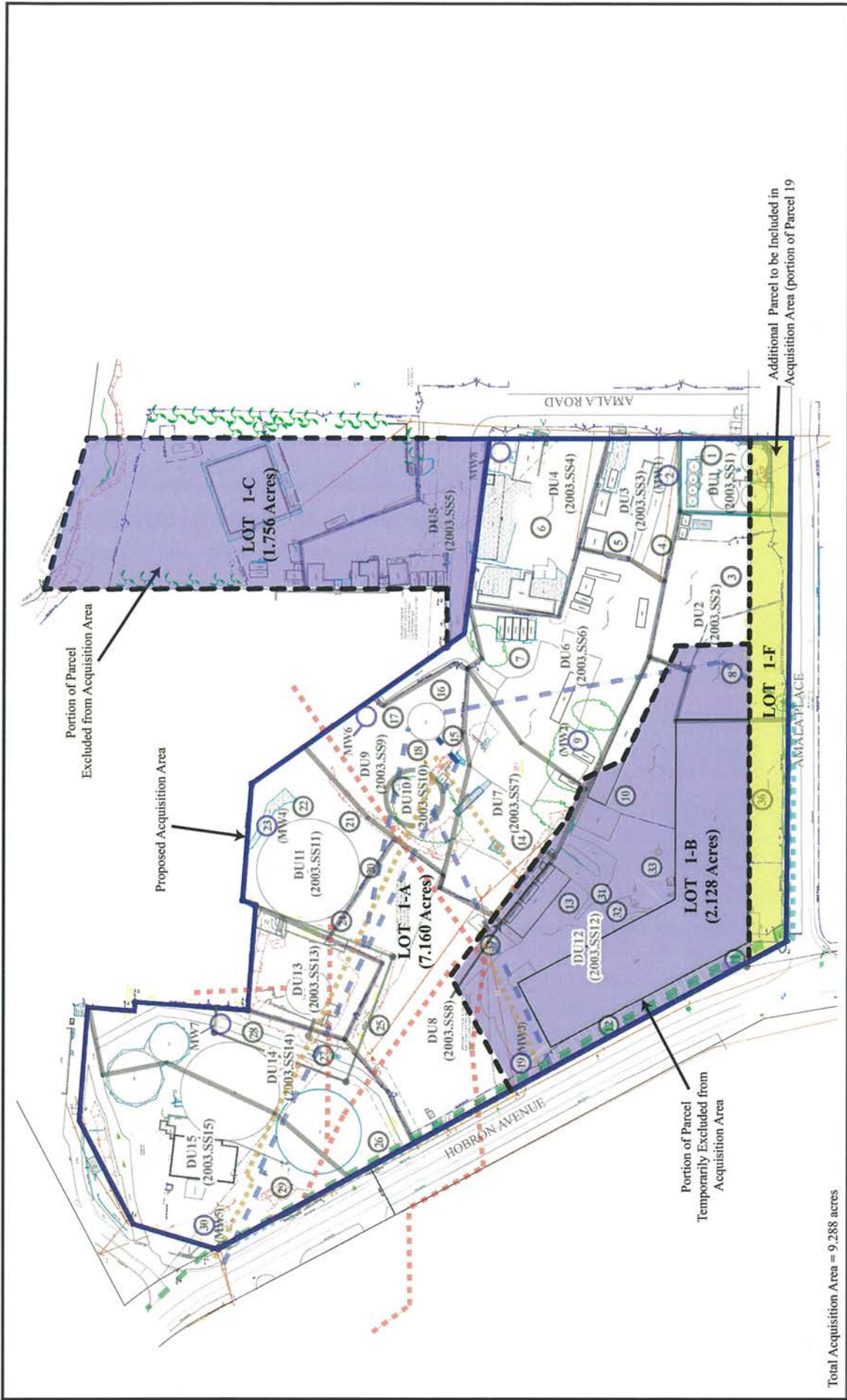


Project No. 14-2003



July 2018

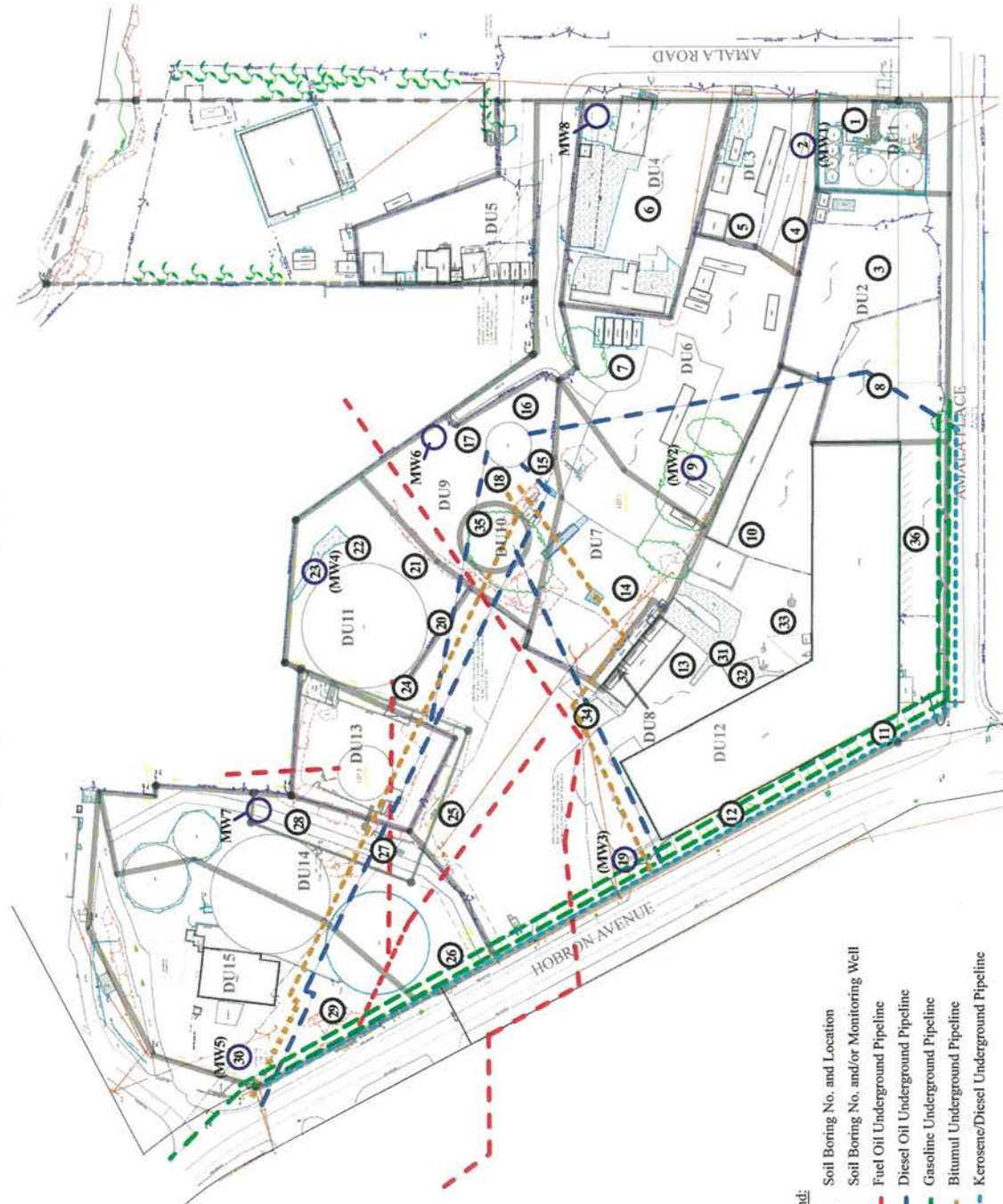
Figure 1 - Site Location Map
 Limited Phase II ESA
 Kahului Harbor Parcel B, Kahului, Maui, Hawaii
 TMK (1) 3-7-11: Parcels 17, 19 (portion) and 23



Total Acquisition Area = 9.288 acres

	Figure 2 - Acquisition Area Map Limited Phase II ESA Kahului Harbor Parcel B, Kahului, Maui, Hawaii TMK (1) 3-7-11: Parcels 17, 19 (portion) and 23	
	Project No. 14-2003	July 2018

Approximate Scale: 1 inch = 100 feet



- Legend:**
- ① Soil Boring No. and Location
 - ① Soil Boring No. and/or Monitoring Well
 - Fuel Oil Underground Pipeline
 - Diesel Oil Underground Pipeline
 - Gasoline Underground Pipeline
 - Bituminal Underground Pipeline
 - Kerosene/Diesel Underground Pipeline

Figure 3 - Historical Pipelines Map
 Limited Phase II ESA
 Kahului Harbor Parcel B, Kahului, Maui, Hawaii
 TMK (1) 3-7-11; Parcels 17, 19 (portion) and 23

Project No. 14-2003

July 2018



Approximate Scale: 1 inch = 100 feet
 Source: BV Historical Research Report (2014)



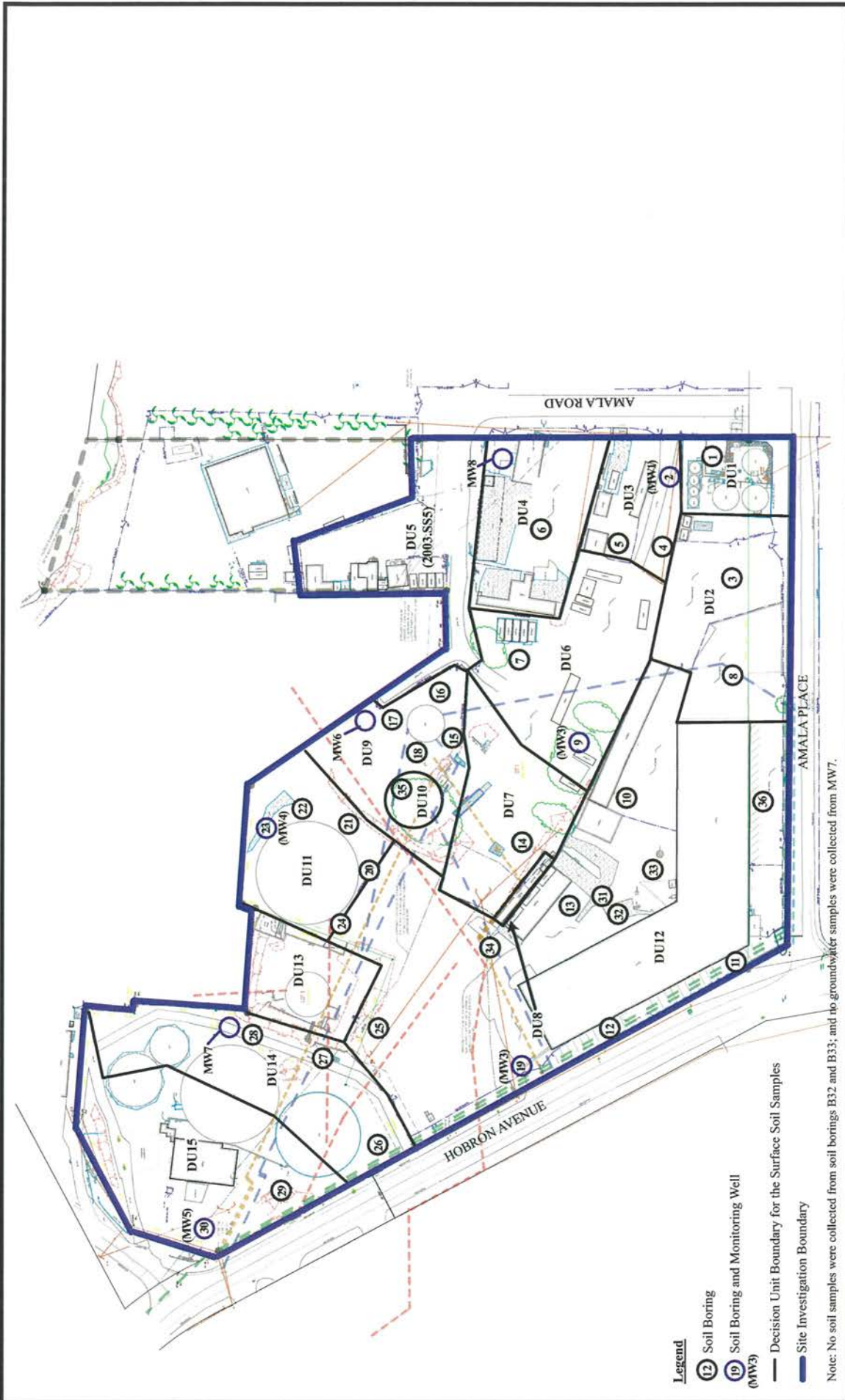


Figure 4 - Sampling Plan
 Limited Phase II ESA
 Kahului Harbor Parcel B, Kahului, Maui, Hawaii
 TMK (1) 3-7-11: Parcels 17, 19 (portion) and 23

Project No. 14-2003
 July 2018



Approximate Scale: 1 inch = 100 feet





- Legend:**
- ① Soil Boring No. and Location
 - ⑱ Soil Boring and/or Monitoring Well (MW3)
 - Site Investigation Boundary
 - Decision Unit Boundary
 - Structures, Pavement, etc. (Unsampled Areas)



Approximate Scale: 1 inch = 100 feet



Project No. 14-2003
July 2018

Figure 5 - Physical Features
Limited Phase II ESA
Kahului Harbor Parcel B, Kahului, Maui, Hawaii
TMK (1) 3-7-11: Parcels 17, 19 (portion) and 23

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APPENDIX 3
DATA TABLES

Table 1: MI Soil Samples – Total Petroleum Hydrocarbons (TPH), PCBs, and RCRA 8 Metals

EPA Method 801.5B Modified / 6010B / 7471A / 8082

All results in milligrams per kilogram (mg/kg)

SAMPLE ID	Decision Unit	TPH as Diesel (D) and Oil (O)			RCRA 8 Metals								PCBs
		TPH-D	TPH-O	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver		
2003.SS1	DU 1	50.8	273	7.4	90.5	18.8	126	35.6	0.08	<2.0	<1.0	NA	
2003.SS2	DU 2	184	1550	11.1	61.4	1.7	26.5	94.6	<0.040	<2.0	<1.0	NA	
2003.SS3	DU 3	795	3890	8.4	107	2.6	31	116	0.058	<2.0	<1.0	NA	
2003.SS4	DU 4	115	471	14.3	65.4	1.0	40.1	64.9	<0.040	<2.0	1.6	NA	
2003.SS5	DU 5	519	845	8.0	68.2	1.1	27.9	76.7	<0.037	<2.0	<0.99	NA	
2003.SS6	DU 6	975	5010	18.8	64.8	2.0	50.6	76.5	<0.037	<2.0	1.0	NA	
2003.SS7	DU 7	332	986	13.3	66.2	1.5	35.2	73.9	<0.038	<2.0	<0.99	NA	
2003.SS8	DU 8	687	1090	10	55.6	2.5	34.0	80.5	0.068	<2.0	<1.0	NA	
2003.SS9	DU 9	266.J	1940	12.5	93.2	1.7	45.3	113	0.15	<2.0	<0.99	NA	
2003.SS10	DU 10	139	861	10.5	78.8	1.8	59.5	102	0.15	<2.0	1.4	NA	
2003.SS11	DU 11	317	1730	52.6	134	4.6	55.6	1400	0.047	<2.0	<1.0	NA	
2003.SS12	DU 12	3660	8470	24.7	134	3.2	50.2	200	0.077	<2.0	2.3	NA	
2003.SS13	DU 13	246	903	11.9	118	1.3	36.0	121	0.16	<2.0	1.5	NA	
2003.SS14	DU 14	77.8	642	17.7	107	1.4	47.4	164	0.085	<2.0	<1.0	NA	
2003.SS15	DU 15	127	744	19.6	254	1.6	54.6	197	0.19	<2.0	1.2	NA	
2003.SS16*	DU 12	<50	230	13	76	1.1	37	95	<0.20	<1.0	<1.0	<0.1	
2003.SS17*	DU 12	<50	350	15	75	1.2	36	95	<0.20	<1.0	<1.0	<0.1	
RPD		0%	41%	14%	1.3%	8.7%	2.7%	0%	0%	0%	0%	0%	
DOH EAL (Unrestricted)		220	500	24	1000	14	1100	200	4.7	78	78	1.2	
DOH EAL (Commercial/Industrial)		680	1500	95	2500	72	1100	800	61	1000	1000	8.6	

DOH EAL = Summer 2016 (Updated Fall 2017) Hawaii Department of Health (DOH) Environmental Action Levels (EALs) for areas where for areas where drinking water source is not threatened and where the nearest surface water body is located

Italicized Values = Not detected at the method detection limit (MDL) or laboratory reporting limit (RL), MDL or RL value listed.

J = Analyte detected above method detection limit but below quantitation limits, estimated value listed.

Boldfaced, shaded values = value exceeds default DOH EAL.

Shaded values = RSD adjusted value exceeds default DOH EAL.

* = Samples 2003.SS16 and 2003.SS17 are field replicates of 2003.SS12. Field replicates were collected on 6/4/2018.

NA = Not Analyzed

Table 2: MI Soil Samples - Polynuclear Aromatic Hydrocarbons (PAHs)

EPA Method 8270C SIM

All results in milligrams per kilogram (mg/kg)

SAMPLE ID	Decision Unit	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	1-Methyl naphthalene	2-Methyl naphthalene	Naphthalene	Phenanthrene	Pyrene
2003.SS1	DU 1	<0.025	<0.025	<0.025	0.0697	0.0983	0.189	0.090	0.101	0.157	0.0179 J	0.284	<0.025	0.0928	<0.050	<0.050	<0.050	0.0847 J	0.218 J
2003.SS2	DU 2	<0.660	<0.660	<0.660	<0.330	<0.230	0.298 J	0.325 J	<0.310	0.277 J	<0.370	<0.660	<0.660	<0.330	<1.300	<1.300	<1.300	<0.660	<0.660
2003.SS3	DU 3	<0.050	<0.050	<0.050	0.0895 J	0.117	0.176	0.132	0.109	0.157	<0.028	0.250	<0.050	0.0981	<0.100	<0.100	<0.100	0.0859 J	0.237 J
2003.SS4	DU 4	<0.0099	<0.0099	<0.0099	0.0377	0.0708	0.115	0.0762	0.0813	0.108	0.0086 J	0.195	<0.0099	0.0696	<0.020	<0.020	<0.020	0.0779	0.160
2003.SS5	DU 5	<0.025	<0.025	<0.025	0.0639	0.100	0.167	0.110	0.0952	0.143	0.0165 J	0.256	<0.025	0.108	<0.050	<0.050	<0.050	0.100 J	0.214 J
2003.SS6	DU 6	<0.083	<0.083	<0.083	0.125 J	0.111 J	0.292	0.119 J	0.122 J	0.304	<0.047	0.495 J	<0.083	0.112 J	<0.170	<0.170	<0.170	0.134 J	0.417 J
2003.SS7	DU 7	<0.050	<0.050	<0.050	0.133	0.192	0.273	0.199	0.229	0.260	0.0391 J	0.407 J	<0.050	0.189	<0.099	<0.099	<0.099	0.165 J	0.361 J
2003.SS8	DU 8	<0.025	<0.025	<0.025	0.0853	0.135	0.177	0.143	0.168	0.215	0.0177 J	0.309	<0.025	0.134	<0.050	<0.050	<0.050	0.222 J	0.328
2003.SS9	DU 9	0.0277 J	0.0311 J	0.0261 J	0.457	0.680	1.150	0.601	0.694	1.040	0.0929	2.000	<0.025	0.624	0.0673 J	<0.050	<0.050	1.420	1.640
2003.SS10	DU 10	<0.083	<0.083	<0.083	0.333	0.495	0.640	0.447	0.613	0.645	0.0647 J	1.330	<0.083	0.407	<0.170	<0.170	<0.170	0.748	1.080
2003.SS11	DU 11	<0.170	<0.170	<0.170	0.624	0.893	1.590	0.749	0.759	1.290	0.133 J	2.570	<0.170	0.694	<0.330	<0.330	<0.330	1.420	2.150
2003.SS12	DU 12	<0.170	<0.170	<0.170	0.247 J	0.311 J	0.486	0.391	0.322 J	0.433	<0.093	0.646 J	<0.170	0.294 J	<0.330	<0.330	<0.330	0.372 J	0.733 J
2003.SS13	DU 13	<0.050	<0.050	<0.050	0.440	0.660	0.849	0.598	0.717	0.836	0.133	1.480	<0.050	0.471	<0.100	<0.100	<0.100	0.734	1.340
2003.SS14	DU 14	<0.050	<0.050	<0.050	0.538	0.749	1.180	0.547	0.656	0.917	0.104	1.680	<0.050	0.583	<0.100	<0.100	<0.100	0.793	1.480
2003.SS15	DU 15	<0.083	<0.083	<0.083	0.527	0.806	1.340	0.599	0.661	1.040	0.115 J	1.720	<0.083	0.615	<0.170	<0.170	<0.170	0.857	1.640
2003.SS16*	DU 12	<0.05	<0.05	<0.05	0.16	0.18	0.23	0.34	0.27	0.35	0.31	0.54	<0.05	0.26	<0.05	<0.05	<0.05	0.23	0.48
2003.SS17*	DU 12	<0.05	<0.05	<0.05	0.11	0.15	0.21	0.32	0.15	0.25	0.33	0.40	<0.05	0.29	<0.05	<0.05	<0.05	0.22	0.35
RPD		0%	0%	0%	37%	18%	9%	6%	57%	33%	6%	30%	0%	11%	0%	0%	0%	4%	31%
DOH EAL (Unrestricted)	120	5.5	5.5	4.2	10	3.6	11	35	39	30	1.1	87	93	11	0.89	1.9	3.1	69	44
DOH EAL (Commercial/Industrial)	120	5.5	5.5	4.2	10	5.9	68	35	39	30	1.8	87	93	31	0.89	1.9	3.1	69	44

DOH EAL = Summer 2016 (Updated Fall 2017) Hawaii Department of Health (DOH) Environmental Action Levels (EALs) for areas where drinking water source is not threatened and where the nearest surface water body is located less than 150-meters from the site.

Italicized values = Not detected at the method detection limit (MDL) or laboratory reporting limit (RL), MDL, or RL, value listed.

J = Analyte detected above method detection limit but below quantitation limits, estimated value listed.

Boldfaced, shaded values = value exceeds default DOH EAL.

Shaded, italicized values = PSD adjusted value exceeds DOH EAL.

* = Samples 2003.SS16 and 2003.SS17 are field replicates of 2003.SS12. Field replicates were collected on 6/4/2018.

Table 3: MI Soil Samples - Organochlorine Pesticides

EPA Method 8081A

All results in milligrams per kilogram (mg/kg)

SAMPLE ID	Decision Unit	Aldrin	Lindane	Technical Chlordane	DDD	DDE	DDT	Dieldrin	Endosulfan	Endrin	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
2003.SS1	DU 1	<0.008	<0.016	<0.067	<0.014	<0.029	<0.012	<0.012	<0.012	<0.012	<0.009	<0.010	<0.011	<0.130
2003.SS2	DU 2	<0.040	<0.080	<0.330	<0.070	<0.060	<0.050	<0.060	<0.060	<0.060	<0.047	<0.050	<0.053	<0.670
2003.SS3	DU 3	<0.020	<0.040	<0.170	<0.035	<0.030	<0.025	<0.030	<0.030	<0.030	<0.023	<0.025	<0.027	<0.330
2003.SS4	DU 4	<0.004	<0.008	<0.033	<0.007	<0.006	<0.005	<0.006	<0.006	<0.006	<0.005	<0.005	<0.005	<0.067
2003.SS5	DU 5	<0.008	<0.016	<0.066	<0.014	<0.012	<0.010	<0.012	<0.012	<0.012	<0.009	<0.010	<0.011	<0.130
2003.SS6	DU 6	<0.080	<0.160	<0.670	<0.140	<0.120	<0.100	<0.120	<0.120	<0.120	<0.093	<0.100	<0.110	<1.300
2003.SS7	DU 7	<0.080	<0.160	<0.670	<0.140	<0.120	<0.100	<0.120	<0.120	<0.120	<0.093	<0.100	<0.110	<1.300
2003.SS8	DU 8	<0.016	<0.032	<0.130	<0.028	<0.024	<0.020	<0.024	<0.024	<0.024	<0.019	<0.020	<0.021	<0.270
2003.SS9	DU 9	<0.040	<0.080	<0.330	<0.070	<0.060	<0.050	<0.060	<0.060	<0.060	<0.047	<0.050	<0.053	<0.670
2003.SS10	DU 10	<0.040	<0.080	<0.330	<0.070	<0.060	<0.050	<0.060	<0.060	<0.060	<0.047	<0.050	<0.053	<0.670
2003.SS11	DU 11	<0.040	<0.080	<0.330	<0.070	<0.060	<0.050	<0.060	<0.060	<0.060	<0.047	<0.050	<0.053	<0.670
2003.SS12	DU 12	<0.080	<0.160	<0.670	<0.140	<0.120	<0.100	<0.120	<0.120	<0.120	<0.093	<0.100	<0.110	<1.300
2003.SS13	DU 13	<0.040	<0.080	<0.330	<0.070	<0.060	<0.050	<0.060	<0.060	<0.060	<0.047	<0.050	<0.053	<0.670
2003.SS14	DU 14	<0.040	<0.080	<0.330	<0.070	<0.060	<0.050	<0.060	<0.060	<0.060	<0.047	<0.050	<0.053	<0.670
2003.SS15	DU 15	<0.040	<0.080	<0.330	<0.070	<0.060	<0.050	<0.060	<0.060	<0.060	<0.047	<0.050	0.053	<0.670
2003.SS16*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2003.SS17*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DOH EAL (Unrestricted)		3.9	0.029	17	2.2	1.9	1.8	2.5	13	3.8	1.3	0.2	16	0.48
DOH EAL (Commercial/Industrial)		8.4	0.029	23	8.4	8.2	5.6	24	13	30	5.6	2.7	16	1.8

DOH EAL = Summer 2016 (Updated Fall 2017) Hawaii Department of Health (DOH) Environmental Action Levels (EALs) for areas where drinking water source is not threatened and where the nearest surface water body is located less than 150-meters from the site.

Italicized Values = Not detected at the method detection limit (MDL) or laboratory reporting limit (RL), IDL, or RL value listed.

Lindane = Sum of Alpha-BHC, Beta BHC, Gamma-BHC, and Delta-BHC; Endosulfan = Sum of Endosulfan I, Endosulfan II, and Endosulfan Sulfate; Endrin = Sum of Endrin, Endrin Alkylide, and Endrin Ketone

* = Samples 2003.SS16 and 2003.SS17 are field replicated of 2003.SS12. Field replicates were collected on 6/4/2018.

NA = Not Analyzed

Table 4: Subsurface Soil Samples - Total Petroleum Hydrocarbons (TPH), BTEX, MIBE, and RCRA 8 Metals

EPA Method 801.5B Modified / 8260B / 6010B / 7471A
 All results in milligrams per kilogram (mg/kg)

SAMPLE ID	TPH as Gasoline (G), Diesel (D), and Oil (O)				BTEX and Methyl Tertiary Butyl Ether (MIBE)								RCRA 8 Metals							
	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Xylenes	MIBE	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver				
2003.B1.48-60	<0.048	1.75 J	4.19 J	<0.00058	<0.00058	<0.00058	<0.0012	<0.0012	10.3	<40	<0.50	3.5	<4.0	<0.038	<4.0	<2.0				
2003.B2.42-54	<0.048	<0.83	<1.7	<0.00053	<0.00053	<0.00053	<0.0011	<0.0011	<4.0	<40	<0.50	2.9	<4.0	<0.040	<4.0	<2.0				
2003.B3.42-54	<0.049	<0.83	1.86 J	<0.00054	<0.00054	<0.00054	<0.0011	<0.0011	6.3	<40	<0.50	3.6	<4.0	<0.039	<4.0	<2.0				
2003.B4.42-54	<0.049	<0.082	<1.6	<0.00057	<0.00057	<0.00057	<0.0011	<0.0011	21.4	<40	<0.50	3.0	<4.0	<0.040	<4.0	<2.0				
2003.B5.48-60	<0.049	1190	7170	<0.029	<0.029	<0.029	<0.057	<0.057	<4.0	<40	<0.50	3.8	<4.0	<0.040	<4.0	<2.0				
2003.B6.48-60	<0.048	<0.82	<1.6	<0.00056	<0.00056	<0.00056	<0.0011	<0.0011	<4.0	<40	<0.50	3.2	<4.0	<0.040	<4.0	<2.0				
2003.B7.48-60	<0.048	239	409	<0.00060	<0.00060	<0.00060	<0.0012	<0.0012	<4.0	<40	<0.50	3.3	<4.0	<0.038	<4.0	<2.0				
2003.B8.48-60	<0.050	10.5	51.2	<0.00055	<0.00055	<0.00055	<0.0011	<0.0011	5.5	<20	<0.99	5.4	4.4	<0.040	<2.0	<0.99				
2003.B9.48-60	<0.048	<0.83	<1.7	<0.00062	<0.00062	<0.00062	<0.0012	<0.0012	5.1	<40	<0.50	3.3	<4.0	<0.036	<4.0	<2.0				
2003.B10.48-60	<0.050	<0.83	1.7 J	<0.00056	<0.00056	<0.00056	<0.0011	<0.0011	<2.0	<20	<0.99	4.2	<2.0	<0.039	<2.0	<0.99				
2003.B11.48-60	<0.050	<0.83	<1.7	<0.00052	<0.00052	<0.00052	<0.0010	<0.0010	<2.0	<20	<1.0	4.1	14.3	<0.037	<2.0	<1.0				
2003.B12.48-60	<0.050	151	1340	<0.00055	<0.00055	<0.00055	<0.0011	<0.0011	<2.0	<20	<1.0	3.8	17.3	<0.040	<2.0	<1.0				
2003.B13.48-60	<0.047	<0.83	<1.7	<0.00060	<0.00060	<0.00060	<0.0012	<0.0012	<2.0	<20	<1.0	2.4	<2.0	<0.038	<2.0	<1.0				
2003.B14.48-60	<0.049	<0.83	2.03 J	<0.00058	<0.00058	<0.00058	<0.0012	<0.0012	<4.0	<40	<0.49	2.5	<4.0	<0.040	<4.0	<2.0				
2003.B15.48-60	<0.049	20.8	33.6	<0.00061	<0.00061	<0.00061	<0.0012	<0.0012	<4.0	<40	<0.50	3.2	17.0	<0.042	<4.0	<2.0				
2003.B16.48-60	<0.048	2350	3440	<0.029	<0.029	<0.029	<0.057	<0.057	<3.9	<39	<0.49	2.6	<3.9	<0.036	<3.9	<2.0				
2003.B17.48-60	<0.045	<0.83	2.67 J	<0.00060	<0.00060	<0.00060	<0.0012	<0.0012	<4.0	<40	<0.50	2.2	<4.0	<0.037	<4.0	<2.0				
2003.B18.48-60	<0.048	53.4	231	<0.00061	<0.00061	<0.00061	<0.0012	<0.0012	<2.0	<20	<0.20	3.2	<2.0	<0.038	<2.0	<0.99				
2003.B19.48-60	<0.049	<0.83	3.04 J	<0.00057	<0.00057	<0.00057	<0.0011	<0.0011	<4.0	<40	<0.49	2.8	<4.0	<0.036	<4.0	<2.0				
2003.B20.48-60	<0.049	217	1400	<0.00054	<0.00054	<0.00054	<0.0011	<0.0011	<2.0	<20	<0.98	2.7	2.5	<0.038	<2.0	<0.98				
2003.B21.48-60	<0.049	1.20 J	4.31 J	<0.00058	<0.00058	<0.00058	<0.0012	<0.0012	<2.0	<20	<1.0	4.3	<2.0	<0.040	<2.0	<1.0				
2003.B22.48-60	<0.050	1.04 J	3.03 J	<0.00060	<0.00060	<0.00060	<0.0012	<0.0012	<2.0	<20	<1.0	3.1	8.4	<0.036	<2.0	<1.0				
2003.B23.48-60	<0.048	<0.83	<1.7	<0.00056	<0.00056	<0.00056	<0.0011	<0.0011	<2.0	<20	<0.99	3.6	<2.0	<0.042	<2.0	<0.99				
2003.B24.48-60	<0.050	1790	9380	<0.027	<0.027	<0.027	<0.055	<0.055	<2.0	<20	<0.99	4.1	2.7	<0.037	<2.0	<0.99				
2003.B25.48-60	<0.049	1.18 J	3.61 J	<0.00051	<0.00051	<0.00051	<0.0010	<0.0010	<2.0	<20	<0.99	3.3	<2.0	<0.039	<2.0	<0.99				
2003.B26.48-60	<0.047	0.842 J	2.30 J	<0.00063	<0.00063	<0.00063	<0.0013	<0.0013	<2.0	<20	<0.99	3.5	<2.0	<0.036	<2.0	<0.99				
B27 - No Sample Collected	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
2003.B28.24-36	<0.049	8.32	42.6	<0.00045	<0.00045	<0.00045	<0.00089	<0.00089	<2.0	136	<0.99	5.2	20.1	0.079	<2.0	<0.99				
2003.B29.48-60	<0.048	<0.83	<1.7	<0.00061	<0.00061	<0.00061	<0.0012	<0.0012	<4.0	<40	<0.49	3.2	<4.0	<0.039	<4.0	<2.0				
2003.B30.48-60	<0.048	<0.83	<1.7	<0.00060	<0.00060	<0.00060	<0.0012	<0.0012	<4.0	<40	<0.50	2.8	<4.0	<0.040	<4.0	<2.0				
2003.B31.48-60	<0.049	1.19 J	4.79 J	<0.00057	<0.00057	<0.00057	<0.0011	<0.0011	<2.0	<20	<1.0	2.2	<2.0	<0.036	<2.0	<1.0				
B32 - No Sample Collected	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
B33 - No Sample Collected	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
2003.B34.48-60	<0.050	1.04 J	2.89 J	<0.00056	<0.00056	<0.00056	<0.0011	<0.0011	<2.0	<20	<0.99	2.9	<2.0	<0.038	<2.0	<0.99				
2003.B35.60-72	<0.049	1.02 J	2.40 J	<0.00058	<0.00058	<0.00058	<0.0012	<0.0012	<2.0	<20	<1.0	3.9	<2.0	<0.040	<2.0	<1.0				
2003.B36.48-60	<0.048	<0.83	2.11 J	<0.00054	<0.00054	<0.00054	<0.0011	<0.0011	<2.0	<20	<0.99	3.2	<2.0	<0.041	<2.0	<0.99				
DOH EAL (Unrestricted)	100	220	500	0.77	0.78	0.90	1.4	2.3	24	1000	14	1100	200	4.7	78	78				
DOH EAL (Commercial/Industrial)	500	680	1500	4.3	4.3	4.3	1.4	4.1	95	2500	72	1100	800	61	1000	1000				

DOH EAL = Summer 2016 (Updated Fall 2017) Hawaii Department of Health (DOH) Environmental Action Levels (EALs) for areas where drinking water source is not threatened and where the nearest surface water body is located less than 150-meters from the site.

Italicized Values = Not Detected at the method detection limit (MDL) or laboratory reporting limit (RL), MDL or RL value listed.

J = Analyte detected above method detection limit but below quantitation limits, estimated value list.

NS = Not Sampled (Note: No samples were collected from B27 and B33; and B32 was combined with B3)

Boldfaced, shaded values = value exceeds default DOH EAL.

Table 5: Subsurface Soil Samples - Polynuclear Aromatic Hydrocarbons (PAHs)

EPA Method 8270C SIM

All results in milligrams per kilogram (mg/kg)

SAMPLE ID	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	1-Methyl naphthalene	2-Methyl naphthalene	Naphthalene	Phenanthrene	Pyrene
2003.B1.48-60	<0.0017	<0.0017	<0.0017	<0.00083	<0.00073	<0.00077	<0.00073	<0.00080	<0.00073	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
2003.B2.42-54	<0.0017	<0.0017	<0.0017	<0.00083	<0.00056	<0.00066	<0.00073	<0.00076	<0.00066	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
2003.B3.42-54	<0.0017	<0.0017	<0.0017	<0.00083	<0.00056	<0.00066	<0.00073	<0.00076	<0.00066	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
2003.B4.42-54	<0.0017	<0.0017	<0.0017	<0.00083	<0.00056	<0.00066	<0.00073	<0.00076	<0.00066	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
2003.B5.48-60	<0.0017	<0.0017	<0.0017	<0.00083	<0.00057	<0.00067	1.930 J	<0.760	<0.660	<0.930	<1.700	<1.700	<0.830	<3.300	<3.300	<3.300	<1.700	<1.700
2003.B6.48-60	<0.0017	<0.0017	<0.0017	<0.00083	<0.00057	<0.00067	<0.00073	<0.00077	<0.00067	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
2003.B7.48-60	0.227 J	0.0663 J	0.672	3.710	3.470	3.800	1.660	3.030	4.340	0.335	9.580	0.291 J	2.240	0.182 J	0.107 J	0.101 J	5.680	7.670
2003.B8.48-60	<0.0017	<0.0017	<0.0017	<0.00083	<0.00056	<0.00066	<0.00073	<0.00076	<0.00066	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
2003.B9.48-60	<0.0017	<0.0017	<0.0017	<0.00083	<0.00056	<0.00066	<0.00073	<0.00076	<0.00066	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
2003.B10.48-60	<0.0017	<0.0017	<0.0017	<0.00083	<0.00056	<0.00066	<0.00073	<0.00076	<0.00066	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
2003.B11.48-60	<0.0017	<0.0017	<0.0017	<0.00083	<0.00056	<0.00066	<0.00073	<0.00076	<0.00066	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
2003.B12.48-60	<0.330	<0.330	<0.330	<0.170	<0.110	<0.130	<0.150	<0.150	<0.130	<0.190	<0.330	<0.330	<0.170	<0.670	<0.670	<0.670	<0.330	<0.330
2003.B13.48-60	<0.0017	<0.0017	<0.0017	<0.00083	<0.00056	<0.00066	<0.00073	<0.00076	<0.00066	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
2003.B14.48-60	<0.0017	<0.0017	<0.0017	<0.00083	<0.00057	<0.00067	<0.00073	<0.00077	<0.00067	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
2003.B15.48-60	<0.0017	<0.0017	<0.0017	<0.00083	0.00096 J	0.00090 J	0.0052	0.0086 J	0.0010 J	<0.00093	<0.0017	<0.0017	0.0014 J	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
2003.B16.48-60	<0.330	<0.330	<0.330	<0.170	<0.110	<0.130	0.241 J	<0.150	<0.150	<0.190	<0.330	<0.330	0.212 J	<0.660	<0.660	<0.660	<0.330	<0.330
2003.B17.48-60	<0.0066	<0.0066	<0.0066	<0.0033	<0.0023	<0.0026	0.0036 J	<0.0030	<0.0026	<0.0037	<0.0066	<0.0066	0.0034 J	<0.013	<0.013	<0.013	<0.0066	<0.0066
2003.B18.48-60	<0.050	<0.050	<0.050	0.215	0.295	0.327	0.298	0.303	0.359	0.0919 J	0.557	<0.050	0.305	<0.100	<0.100	<0.100	0.281 J	0.531
2003.B19.48-60	<0.0017	<0.0017	<0.0017	<0.00083	<0.00057	<0.00067	0.0012 J	<0.00077	<0.00067	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
2003.B20.48-60	<0.170	<0.170	<0.170	<0.083	<0.056	<0.066	0.0744 J	<0.076	<0.066	<0.093	<0.170	<0.170	<0.083	<0.330	<0.330	<0.330	<0.170	<0.170
2003.B21.48-60	<0.0017	<0.0017	<0.0017	<0.00083	<0.00056	<0.00066	<0.00073	<0.00076	<0.00066	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
2003.B22.48-60	<0.0017	<0.0017	<0.0017	<0.00083	<0.00056	<0.00066	<0.00073	<0.00076	<0.00066	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
2003.B23.48-60	<0.0017	<0.0017	<0.0017	<0.00083	<0.00056	<0.00066	<0.00073	<0.00076	<0.00066	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
2003.B24.48-60	<1.700	<1.700	<1.700	<0.830	<0.560	<0.660	0.988 J	<0.760	<0.660	<0.930	<1.700	<1.700	<0.830	<3.300	<3.300	<3.300	<1.700	<1.700
2003.B25.48-60	<0.0017	<0.0017	<0.0017	0.0045	0.0047	0.0045	0.0032 J	0.0046	0.0055	0.00097 J	0.0094 J	<0.0017	0.0034	<0.00033	<0.00033	<0.00033	0.0052 J	0.0105 J
2003.B26.48-60	<0.0017	<0.0017	<0.0017	<0.00083	<0.00057	<0.00067	<0.00073	<0.00076	<0.00067	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
B27 - No Sample Collected	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2003.B28.24-36	<0.0033	0.0038 J	0.0084 J	0.0666	0.0859	0.0856	0.0497	0.0758	0.0993	0.0125	0.151	<0.0033	0.0516	<0.0066	<0.0066	<0.0066	0.0960	0.177
2003.B29.48-60	<0.0017	<0.0017	<0.0017	<0.00083	<0.00057	<0.00067	<0.00073	<0.00077	<0.00067	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
2003.B30.48-60	<0.0017	<0.0017	<0.0017	<0.00083	<0.00057	<0.00067	<0.00073	<0.00077	<0.00067	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
2003.B31.48-60	<0.0017	<0.0017	<0.0017	<0.00083	<0.00057	<0.00067	<0.00073	<0.00077	<0.00067	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
B32 - No Sample Collected	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
B33 - No Sample Collected	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2003.B34.48-60	<0.0017	<0.0017	<0.0017	<0.00083	<0.00056	<0.00066	<0.00073	<0.00076	<0.00066	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
2003.B35.60-72	<0.0017	<0.0017	<0.0017	<0.00083	<0.00056	<0.00066	<0.00073	<0.00076	<0.00066	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
2003.B36.48-60	<0.0017	<0.0017	<0.0017	<0.00083	<0.00057	<0.00067	<0.00073	<0.00076	<0.00067	<0.00093	<0.0017	<0.0017	<0.00083	<0.00033	<0.00033	<0.00033	<0.0017	<0.0017
DOH EAL (Unrestricted)	120	5.5	4.2	10	3.6	11	35	39	30	1.1	87	93	11	0.89	1.9	3.1	69	44
DOH EAL (Commercial/Industrial)	120	5.5	4.2	10	5.9	68	35	39	30	1.8	87	93	31	0.89	1.9	3.1	69	44

DOH EAL = Summer 2016 (Updated Fall 2017) Hawaii Department of Health (DOH) Environmental Action Levels (EALs) for areas where drinking water source is not threatened and where the nearest surface water body is located less than 150-meters from the site.

DOH EALs are based on the Hawaii Department of Health (DOH) Environmental Action Levels (EALs) for areas where drinking water source is not threatened and where the nearest surface water body is located less than 150-meters from the site.

J = Analyte detected above detection limit but below identification limit; concentrations are listed.

NS = Not Sampled (Note: No samples were collected from B27 and B33; and B32 was combined with B31)

Shaded, italicized values = MDL or RL value listed exceeds DOH EAL.

Italicized, shaded values = Not detected at the MDL or RL; MDL or RL exceeds DOH EAL.

Red shaded values = value exceed DOH EAL, given a 30% deviation percentage from the reported concentration (+/-)

Table 7: Groundwater Samples - Total Petroleum Hydrocarbons (TPH), BTEX, MIBE, and RCRA 8 Metals

All results in milligrams per liter (mg/L)

ANALYTE	MW1 (2003.B2.GW)	MW2 (2003.B9.GW)	MW3 (2003.B19.GW)	MW4 (2003.B23.GW)	MW5 (2003.B30.GW)	MW6 (2003.MW6.GW)	MW7 (2003.MW7.GW)	MW8 (2003.MW8.GW)	DOH EAL
TPH as Gasoline (G), Diesel (D), and Oil (O) (EPA Method 8015B)									
TPH-G	<0.020	<0.020	<0.020	<0.020	<0.020	<0.1	NS	<0.1	0.500
TPH-D	0.0462 J	0.0542 J	0.828	0.0816 J	0.0937 J	<0.05	NS	<0.05	0.640
TPH-O	0.0559 J	0.0784 J	0.201	0.0748 J	0.0937 J	<0.1	NS	<0.1	0.640
Benzene / Toluene / Ethylbenzene / Xylenes (BTEX) and Methyl Tertiary Butyl Ether (MTBE) (EPA Method 8260B)									
Benzene	<0.00020	<0.00020	0.0027	<0.00020	<0.00020	<0.0005	NS	<0.0005	0.071
Toluene	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.0005	NS	<0.0005	0.0098
Ethylbenzene	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.0005	NS	<0.0005	0.0073
Xylenes	<0.00046	<0.00046	<0.00046	<0.00046	<0.00046	<0.0005	NS	<0.0005	0.013
MTBE	<0.00020	<0.00020	0.00064 J	<0.00020	<0.00020	<0.0005	NS	<0.0005	0.730
RCRA 8 Metals (EPA Method 6010B / 7470A)									
Arsenic	0.0766	0.0363	<0.010	0.0176	<0.010	0.0051	NS	0.0056	0.036
Barium	<0.200	<0.200	<0.200	<0.200	<0.200	0.013	NS	0.014	0.220
Cadmium	<0.0020	<0.0020	<0.0040	<0.0020	<0.0020	<0.001	NS	<0.001	0.0030
Chromium	<0.010	<0.010	<0.010	<0.010	<0.010	0.0032	NS	0.0035	0.011
Lead	<0.010	<0.010	<0.010	<0.010	<0.010	<0.001	NS	<0.001	0.0056
Mercury	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.0002	NS	<0.0002	0.000025
Selenium	<0.010	<0.010	<0.010	<0.010	<0.010	0.0036	NS	0.0079	0.0050
Silver	<0.0050	0.0052	<0.0050	0.0067	<0.0050	<0.001	NS	<0.001	0.00010

DOH EAL = Summer 2016 (Updated Fall 2017) Hawaii Department of Health (DOH) Environmental Action Levels (EALs) for areas where

drinking water source is not threatened and where the nearest surface water body is located less than 150-meters from the site.

Italicized Values = Not detected at the method detection limit (MDL) or laboratory reporting limit (RL). MDL or RL value listed.

J = Analyte detected above method detection limit but below quantitation limits, estimated value listed.

Boldfaced, shaded values = value exceeds default DOH EAL.

Shaded, italicized values = MDL or RL value listed exceeds DOH EAL.

Italicized, shaded values = Not detected at the MDL or RL. MDL or RL exceeds DOH EAL.

NS = Not Sampled

Table 8: Groundwater Samples - Polynuclear Aromatic Hydrocarbons (PAHs)

EPA Method 8270C SIM

All results in milligrams per liter (mg/L)

SAMPLE ID	MW1 (2003.B2.GW)	MW2 (2003.B9.GW)	MW3 (2003.B19.GW)	MW4 (2003.B23.GW)	MW5 (2003.B30.GW)	MW6 (2003.MW6.GW)	MW7 (2003.MW7.GW)	MW8 (2003.MW8.GW)	DOH EAL
Acenaphthene	<0.000048	<0.000048	<0.000048	<0.000048	<0.000049	<0.000049	NS	<0.000049	0.015
Acenaphthylene	<0.000048	<0.000048	<0.000048	<0.000048	<0.000049	<0.000049	NS	<0.000049	0.013
Anthracene	<0.000048	<0.000048	<0.000048	<0.000048	<0.000049	<0.000049	NS	<0.000049	0.00002
Benz(a)anthracene	<0.000051	<0.000051	<0.000051	<0.000050	<0.000052	<0.000025	NS	<0.000025	0.000027
Benz(a)pyrene	<0.000039	<0.000039	<0.000039	<0.000039	<0.000040	<0.000025	NS	<0.000025	0.00006
Benz(b)fluoranthene	<0.000034	<0.000034	<0.000034	<0.000033	<0.000034	<0.000034	NS	<0.000034	0.00068
Benz(g,h,i)perylene	<0.000035	<0.000035	<0.000035	<0.000034	<0.000035	<0.000035	NS	<0.000035	0.00013
Benz(k)fluoranthene	<0.000037	<0.000037	<0.000037	<0.000037	<0.000038	<0.000038	NS	<0.000038	0.00040
Chrysene	<0.000043	<0.000043	<0.000043	<0.000043	<0.000044	<0.000044	NS	<0.000044	0.001
Dibenzo(a,h)anthracene	<0.000034	<0.000034	<0.000034	<0.000033	<0.000034	<0.000034	NS	<0.000034	0.00008
Fluoranthene	<0.000048	<0.000048	<0.000048	<0.000048	<0.000049	<0.000049	NS	<0.000049	0.00008
Fluorene	<0.000048	<0.000048	<0.000048	<0.000048	<0.000049	<0.000049	NS	<0.000049	0.00039
Indeno(1,2,3-cd)pyrene	<0.000034	<0.000034	<0.000034	<0.000033	<0.000034	<0.000034	NS	<0.000034	0.000095
1-Methylnaphthalene	<0.000096	<0.000096	<0.000096	<0.000096	<0.000098	<0.000098	NS	<0.000098	0.0021
2-Methylnaphthalene	<0.000096	<0.000096	<0.000096	<0.000096	<0.000098	<0.000098	NS	<0.000098	0.0047
Naphthalene	<0.000096	<0.000096	<0.000096	<0.000095	<0.000098	<0.000098	NS	<0.000098	0.012
Phenanthrene	<0.000048	<0.000048	<0.000048	<0.000048	<0.000049	<0.000049	NS	<0.000049	0.0023
Pyrene	<0.000048	<0.000048	<0.000048	<0.000048	<0.000049	<0.000049	NS	<0.000049	0.0046

DOH EAL - Summer 2016 (Updated Fall 2017) Hawaii Department of Health (DOH) Environmental Action Levels (EALs) for areas where drinking water source is not threatened and where the nearest surface water body is located less than 150-meters from the site

Italicized Values = Not detected at the method detection limit (MDL) or laboratory reporting limit (RL)

Shaded, italicized values = MDL or RL value listed exceeds DOH EAL

Italicized, shaded values = Not detected at the MDL or RL, MDL or RL exceeds DOH EAL

NS = Not Sampled

Table 9: Groundwater Samples - Organochlorine Pesticides

EPA Method 8081A

All results in milligrams per liter (ug/L.)

SAMPLE ID	MW1 (2003.B2.GW)	MW2 (2003.B9.GW)	MW3 (2003.B19.GW)	MW4 (2003.B23.GW)	MW5 (2003.B30.GW)	MW6 (2003.MW6.GW)	MW7 (2003.MW7.GW)	MW8 (2003.MW8.GW)	DOH EAL
Aldrin	<0.0020	<0.0019	<0.0019	<0.0019	<0.0020	NA	NS	NA	0.00014
Lindane	<0.0044	<0.0043	<0.0043	<0.0043	<0.0045	NA	NS	NA	0.063
Technical Chlordane	<0.0098	<0.0096	<0.0096	<0.0095	<0.010	NA	NS	NA	0.0040
DDD	<0.0023	<0.0022	<0.0022	<0.0022	<0.0023	NA	NS	NA	0.011
DDE	<0.0029	<0.0029	<0.0029	<0.0029	<0.0030	NA	NS	NA	0.41
DDT	<0.0024	<0.0023	<0.0023	<0.0023	<0.0024	NA	NS	NA	0.001
Dieldrin	<0.0021	<0.0020	<0.0020	<0.0020	<0.0021	NA	NS	NA	0.0019
Endosulfan	<0.0025	<0.0024	<0.0024	<0.0024	<0.0025	NA	NS	NA	0.0087
Endrin	<0.0041	<0.0040	<0.0040	<0.0040	<0.0042	NA	NS	NA	0.0023
Heptachlor	<0.0027	<0.0027	<0.0027	<0.0027	<0.0028	NA	NS	NA	0.0036
Heptachlor Epoxide	<0.0034	<0.0034	<0.0034	<0.0033	<0.0035	NA	NS	NA	0.0036
Methoxychlor	<0.0020	<0.0019	<0.0019	<0.0019	<0.0020	NA	NS	NA	0.030
Toxaphene	<0.059	<0.058	<0.058	<0.057	<0.060	NA	NS	NA	0.0002

DOH EAL = Summer 2016 (Updated Fall 2017) Hawaii Department of Health (DOH) Environmental Action Levels (EALs) for areas where drinking water source is not threatened and where the nearest surface water body is located less than 150-meters from the site.

Italicized Values = Not detected at the method detection limit (MDL) or laboratory reporting limit (RL), MDL or RL value listed.

J = Analyte detected above method detection limit but below quantitation limits, estimated value listed

Shaded, italicized values = MDL or RL value listed exceeds DOH EAL

Lindane = Sum of Alpha-BHC, Beta BHC, Gamma-BHC, and Delta-BHC

Endrin = Sum of Endrin, Endrin Aldehyde, and Endrin Ketone

Endosulfan = Sum of Endosulfan I, Endosulfan II, and Endosulfan Sulfate

NS = Not Sampled

NA = Not Analyzed

Table 10: Groundwater Samples - Volatile Organic Compounds (VOCs)

EPA Method 8260C/5030B

All results in milligrams per liter (mg/L)

SAMPLE ID	MW1 (2003.B1.GW)	MW2 (2003.B9.GW)	MW3 (2003.B19.GW)	MW4 (2003.B23.GW)	MW5 (2003.B30.GW)	MW6 (2003.MW6.GW)	MW7 (2003.MW7.GW)	MW8 (2003.MW8.GW)	DOH EAL
1,1,1 - Trichloroethane	NA	NA	NA	NA	NA	<0.5	NS	<0.5	11
1,1,1,2 - Tetrachloroethane	NA	NA	NA	NA	NA	<0.5	NS	<0.5	11
1,1,2 - Trichloroethane	NA	NA	NA	NA	NA	<0.5	NS	<0.5	110
1,2,3 - Trichloropropane	NA	NA	NA	NA	NA	<0.5	NS	<0.5	14
1,2,4 - Trichlorobenzene	NA	NA	NA	NA	NA	<2.0	NS	<2.0	110
1,1,2,2 - Tetrachloroethane	NA	NA	NA	NA	NA	<0.5	NS	<0.5	200
1,1 - Dichloroethene	NA	NA	NA	NA	NA	<1.0	NS	<1.0	47
1,1 - Dichloroethane	NA	NA	NA	NA	NA	<0.5	NS	<0.5	47
1,1 - Dichloropropene	NA	NA	NA	NA	NA	<0.5	NS	<0.5	71
1,2 - Dichloro-3-chloropropane	NA	NA	NA	NA	NA	<2.0	NS	<2.0	0.04
1,2 - Dichloroethane (EDC)	NA	NA	NA	NA	NA	<0.5	NS	<0.5	180
1,2 - Dibromoethane (EDB)	NA	NA	NA	NA	NA	<0.5	NS	<0.5	19
1,2 - Dichlorobenzene	NA	NA	NA	NA	NA	<0.5	NS	<0.5	14
1,2 - Dichloroethene	NA	NA	NA	NA	NA	<0.5	NS	<0.5	620
1,2 - Dichloropropane	NA	NA	NA	NA	NA	<0.5	NS	<0.5	100
1,3 - Dichlorobenzene	NA	NA	NA	NA	NA	<0.5	NS	<0.5	0.06
1,4 - Dichlorobenzene	NA	NA	NA	NA	NA	<0.5	NS	<0.5	22
Benzene	NA	NA	NA	NA	NA	<0.5	NS	<0.5	9.4
Bromodichloromethane	NA	NA	NA	NA	NA	<0.5	NS	<0.5	71
Bromoform	NA	NA	NA	NA	NA	<0.5	NS	<0.5	110
Bromomethane	NA	NA	NA	NA	NA	<1.0	NS	<1.0	230
Carbon Tetrachloride	NA	NA	NA	NA	NA	<1.0	NS	<1.0	16
Chlorobenzene	NA	NA	NA	NA	NA	<0.5	NS	<0.5	9.8
Chloroethane	NA	NA	NA	NA	NA	<0.5	NS	<0.5	25
Chloroform	NA	NA	NA	NA	NA	<1.0	NS	<1.0	160
Chloromethane	NA	NA	NA	NA	NA	<1.0	NS	<1.0	190
Dibromochloromethane	NA	NA	NA	NA	NA	<0.5	NS	<0.5	28
Ethylbenzene	NA	NA	NA	NA	NA	<0.5	NS	<0.5	34
Hexachlorobutadiene	NA	NA	NA	NA	NA	<2.0	NS	<2.0	7.3
Methylene-chloride	NA	NA	NA	NA	NA	<5.0	NS	<5.0	0.3
Methyl t-butyl ether (MTBE)	NA	NA	NA	NA	NA	<5.0	NS	<5.0	1,500
Naphthalene	NA	NA	NA	NA	NA	<0.5	NS	<0.5	7,300
Styrene	NA	NA	NA	NA	NA	<2.0	NS	<2.0	12
Toluene	NA	NA	NA	NA	NA	<0.5	NS	<0.5	32
Trichloroethene	NA	NA	NA	NA	NA	<0.5	NS	<0.5	9.8
Vinyl Chloride	NA	NA	NA	NA	NA	<0.5	NS	<0.5	53
Xylenes	NA	NA	NA	NA	NA	<0.2	NS	<0.2	18
	NA	NA	NA	NA	NA	<0.5	NS	<0.5	13

DOH EAL - Summer 2016 (Updated Fall 2017) Hawaii Department of Health (DOH) Environmental Action Levels (EAL) for areas where drinking water sources is not threatened and where the nearest surface water body is located less than 150 meters from the site.

Indicated values - Not detected at the method detection limit (MDL) or laboratory reporting limit (RL), MDL or RL value listed.

Indicated, shaded values - Not detected at the MDL, or RL, MDL, or RL exceeds DOH EAL.

NS - Not Sampled

NA - Not Analyzed

DRAFT

APPENDIX 4
BORING LOGS AND MONITORING WELL DIAGRAMS

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B1**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B1.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Brown Fill No visual or olfactory indications of contamination.
-1				
-2				
-3				Light Brown Sand (90%) and Coral (10%) No visual or olfactory indications of contamination.
-4				
-5	935	2003.B1.48-60	0.1	
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B2**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push / 5' MacroCore**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/5/14**
 END OF BORING: **11 feet bgs**
 SAMPLE DESCRIPTION **2003.B2.42-54**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION	WELL INSTALLATION
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 10px;">0</div> <div style="margin-bottom: 10px;">-1</div> <div style="margin-bottom: 10px;">-2</div> <div style="margin-bottom: 10px;">-3</div> <div style="margin-bottom: 10px;">-4</div> <div style="margin-bottom: 10px;">-5</div> <div style="margin-bottom: 10px;">-6</div> <div style="margin-bottom: 10px;">-7</div> <div style="margin-bottom: 10px;">-8</div> <div style="margin-bottom: 10px;">-9</div> <div style="margin-bottom: 10px;">-10</div> <div style="margin-bottom: 10px;">-11</div> <div style="margin-bottom: 10px;">-12</div> </div>	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 10px;">1145</div> </div>	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 10px;">2003.B2.42-54</div> </div>	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 10px;">0.1</div> <div style="margin-bottom: 10px;">0.0</div> <div style="margin-bottom: 10px;"> Groundwater Encountered </div> </div>	<p>2" Asphalt Layer</p> <p>4" Coral Layer (50%) with Light Brown Sand (50%) No visual or olfactory indications of contamination.</p> <p>Dark Brown Fill (80%) with Light Brown Sand (20%) No visual or olfactory indications of contamination.</p> <p>Brown Sand (90%) with coral (10%) No visual or olfactory indications of contamination.</p>	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 10px;"> </div> <div style="margin-bottom: 10px;"> </div> </div>

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B3**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B3.42-54**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Brown Fill No visual or olfactory indications of contamination.
-1				Light Brown Sand (90%) and Coral (10%) No visual or olfactory indications of contamination.
-2				
-3				
-4	950	2003.B3.42-54	0.2	
-5				Saturated Light Brown Sand (90%) and Coral (10%) No visual or olfactory indications of contamination.
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B4**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B4.42-54**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Brown Fill No visual or olfactory indications of contamination.
-1				Light Brown Sand (90%) and Coral (10%) No visual or olfactory indications of contamination.
-2				
-3				
-4	910	2003.B4.42-54	0.1	
-5				Saturated Light Brown Sand (90%) and Coral (10%) No visual or olfactory indications of contamination.
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B5**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B5.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Light Brown Fill (90%) and Light Brown Sand (10%) No visual or olfactory indications of contamination.
-1				Dark Brown Sand (90%) and Apparent Stained Coral (10%) No visual or olfactory indications of contamination.
-2				
-3				
-4	925	2003.B5.48-60	0.1	
-5				
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B6**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION: **2003.B6.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Fine Brown Fill (90%) and Light Brown Sand (10%) No visual or olfactory indications of contamination.
-1				
-2				Light Brown Sand (90%) and Coral (10%) No visual or olfactory indications of contamination.
-3				
-4				
-5	900	2003.B6.48-60	0.3	
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B7**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/5/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B7.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				2" Asphalt layer No visual or olfactory indications of contamination.
-1				Dark Brown Silty Soil (90%) and Rock (10%) No visual or olfactory indications of contamination.
-2				
-3				Fine Brown Fill (80%) and Light Brown Sand (20%) No visual or olfactory indications of contamination.
-4	1545	2003.B7.48-60	0.2	Light Brown Sand (>95%) and Coral (<5%) No visual or olfactory indications of contamination.
-5				
-6				
-7				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: B8



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B8.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Brown Fill No visual or olfactory indications of contamination.
-1				
-2				Light Brown Sand (90%) and Coral (10%) No visual or olfactory indications of contamination.
-3				
-4				
-5				
-5.8		2003.B8.48-60	0.2	
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B9**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push / 5' MacroCore**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/5/14**
 END OF BORING: **11 feet bgs**
 SAMPLE DESCRIPTION **2003.B9.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION	WELL INSTALLATION
0				Asphalt	
-1				Coral No visual or olfactory indications of contamination.	
-2				Dark Brown Fill No visual or olfactory indications of contamination.	
-3				Brown Sand (90%) with coral (10%) No visual or olfactory indications of contamination.	
-4	1440	2003.B9.48-60	0.6	<div style="text-align: center;"> Groundwater Encountered </div>	
-5					
-6					
-7					
-8					
-9					
-10					
-11					
-12					

FIELD BOREHOLE LOG

BOREHOLE NUMBER: B10



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B10.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				2" Asphalt layer mixed with loose gravel No visual or olfactory indications of contamination.
-1				Fine Brown Fill (80%) and Light Brown Sand (20%) No visual or olfactory indications of contamination.
-2				Light Brown Sand (80%) and Coral (20%) No visual or olfactory indications of contamination.
-3				
-4				
-5	1025	2003.B10.48-60	0.2	
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: B11



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B11.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				2" Asphalt layer mixed with loose gravel No visual or olfactory indications of contamination.
-1				Fine Brown Fill (80%) and Light Brown Sand (20%) No visual or olfactory indications of contamination.
-2				Light Brown Sand (80%) and Coral (20%) No visual or olfactory indications of contamination.
-3				
-4				
-5				
-6				
1040		2003.B11.48-60	0.1	

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B12**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B12.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				2" Asphalt layer mixed with loose gravel No visual or olfactory indications of contamination.
-1				Fine Brown Fill (80%) and Light Brown Sand (20%) No visual or olfactory indications of contamination.
-2				Light Brown Sand (80%) and Coral (20%) No visual or olfactory indications of contamination.
-3				
-4				
-5	1055	2003.B12.48-60	0.1	Stained Dark Brown Sand (80%) and Coral (20%) Petroleum odor and staining
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: B13



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B13.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				2" Asphalt layer mixed with loose gravel No visual or olfactory indications of contamination.
-1				Fine Brown Fill (80%) and Light Brown Sand (20%) No visual or olfactory indications of contamination.
-2				Light Brown Sand (80%) and Coral (20%) No visual or olfactory indications of contamination.
-3				
-4				
-5	1125	2003.B13.48-60	0.3	
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B14**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/5/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B14.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Fine Brown Fill (50%) mixed with loose gravel (50%) No visual or olfactory indications of contamination.
-1				Light Brown Sand (80%) and Coral (20%) No visual or olfactory indications of contamination.
-2				
-3				
-4				
-5	1600	2003.B14.48-60	0.1	
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B15**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/5/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B15.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Fine Brown Fill (50%) mixed with loose gravel (50%) No visual or olfactory indications of contamination.
-1				
-2				Fine Reddish/Brown Fill (80%) with Light Brown Sand (20%) No visual or olfactory indications of contamination.
-3				Light Brown Sand (80%) and Coral (20%) No visual or olfactory indications of contamination.
-4				
-5	1645	2003.B15.48-60	0.1	
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B16**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/5/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B16.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Fine Brown Fill No visual or olfactory indications of contamination.
-1				Loose Gravel/Rock (70%) and apparent bitumuls (30%) Black stains and apparent petroleum smell odor
-2				
-3				Light Brown Sand (80%) and Coral (20%) No visual or olfactory indications of contamination.
-4				Dark Black Bitumuls (80%) and Sand (20%) Black stains and slight petroleum odor
-5		2003.B16.48-60	0.3	
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B17**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/5/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B17.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Fine Brown Fill No visual or olfactory indications of contamination.
-1				Light Brown Sand (80%) and Coral (20%) No visual or olfactory indications of contamination.
-2				Loose Gravel (50%) and Reddish/Brown Silty Fill (50%) No visual or olfactory indications of contamination.
-3				Light Brown Sand (80%) and Coral (20%) No visual or olfactory indications of contamination.
-4				
-5	1640	2003.B17.48-60	0.2	
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: B18



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/5/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B18.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Fine Brown Fill (70%) with Loose Gravel (30%) No visual or olfactory indications of contamination.
-1				
-2				
-3				Light Brown Fill (90%) and Light Brown Sand (10%) No visual or olfactory indications of contamination.
-4				Light Brown Sand (90%) and Coral (10%) No visual or olfactory indications of contamination.
-5	1450	2003.B18.48-60	0.1	
-6				

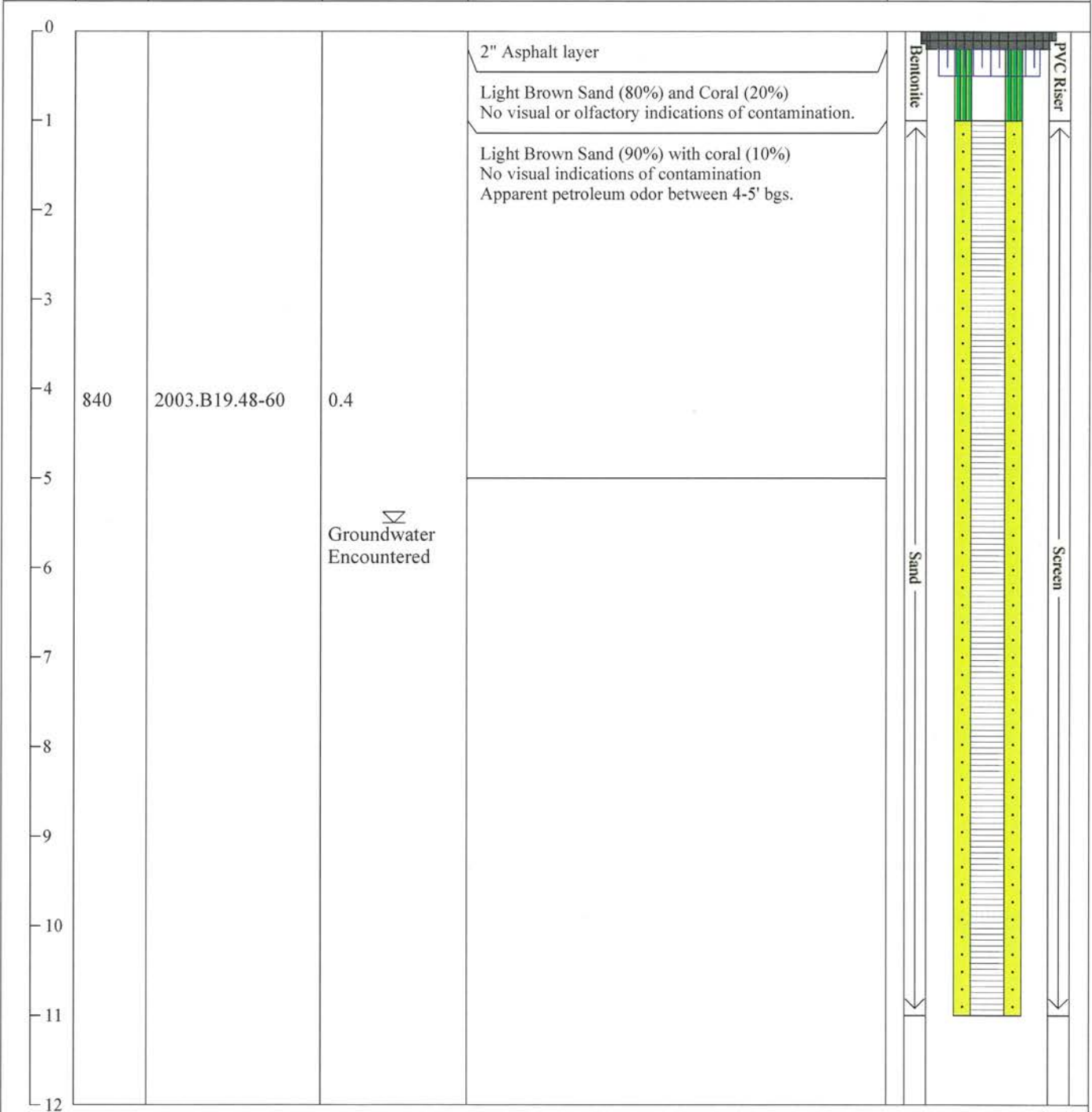
FIELD BOREHOLE LOG

BOREHOLE NUMBER: B19



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push / 5' MacroCore**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/5/14**
 END OF BORING: **11 feet bgs**
 SAMPLE DESCRIPTION **2003.B19.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION	WELL INSTALLATION
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FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B20**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION: **2003.B20.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Light Brown Fill (90%) and Light Brown Sand (10%) No visual or olfactory indications of contamination.
-1				
-2				
-3				
-4				
-5	835	2003.B20.48-60	0.0	
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: B21



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION: **2003.B21.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Light Brown Fill (90%) and Light Brown Sand (10%) No visual or olfactory indications of contamination.
-1				
-2				
-3				
-4				Light Brown Sand (90%) and Coral (10%). No visual or olfactory indications of contamination.
-5	825	2003.B21.48-60	0.4	
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B22**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B22.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Light Brown Fill (90%) and Light Brown Sand (10%) No visual or olfactory indications of contamination.
-1				
-2				
-3				
-4				
-5				
-5.817		2003.B22.48-60	0.3	Light Brown Sand (90%) and Coral (10%). No visual or olfactory indications of contamination.
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B23**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B23.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Light Brown Fill (90%) and Light Brown Sand (10%) No visual or olfactory indications of contamination.
-1				
-2				
-3				Light Brown Sand (90%) and Coral (10%). No visual or olfactory indications of contamination.
-4				
-5	1750	2003.B23.48-60	0.1	
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B23**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push / 5' MacroCore**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/5/14**
 END OF BORING: **11 feet bgs**
 SAMPLE DESCRIPTION **2003.B23.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION	WELL INSTALLATION
0 -1 -2 -3 -4 -5 -6 -7 -8 -9 -10 -11 -12				<p>Light Brown/Reddish Brown Fill (90%) with Sand (10%) No visual indications of contamination.</p> <hr/> <p>Light Brown Sand (90%) with coral (10%) No visual indications of contamination.</p> <hr/> <p style="text-align: center;">∇ Groundwater Encountered</p>	<p>The diagram shows a vertical well installation. At the top, a grey PVC riser is shown with a screen at the surface. Below the riser is a yellow section representing bentonite sealant. Further down is a grey section representing sand. At the bottom of the well is a screen. The well is shown extending from 0 feet to 11 feet depth.</p>
	1750	2003.B23.48-60	0.1		

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B24**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B24.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Light Brown Fill (90%) and Light Brown Sand (10%) No visual or olfactory indications of contamination.
-1				
-2				
-3				Dark Black Sand (90%) and Stain Black Coral (10%) Visual staining of sand and coral, apparent petroleum odor.
-4				
-5				
-6				
		2003.B24.48-60	0.1	

1110

2003.B24.48-60

0.1

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B25**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B25.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Light Brown Fill (90%) and Light Brown Sand (10%) No visual or olfactory indications of contamination.
-1				
-2				Light Brown Sand (90%) and Coral (10%) No visual or olfactory indications of contamination.
-3				Grey Concrete Rubble (100%) Visual staining of sand and coral, apparent petroleum odor.
-4				Light Brown Sand with some staining (90%) and some staining of Black Coral (10%) Visual staining of sand and coral, no olfactory indications of contamination.
-5	1240	2003.B25.48-60	0.2	
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B26**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B26.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Light Brown Fill (90%) and Light Brown Sand (10%) No visual or olfactory indications of contamination.
-1				Light Brown Sand (90%) and Coral (10%) No visual or olfactory indications of contamination.
-2				
-3				
-4				
-5	1225	2003.B26.48-60	0.1	
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B27**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION: **No Sample**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0	1220	No Sample	N/A	Brown Fill No visual or olfactory indications of contamination. <hr/> Encountered Concrete, discontinued boring
-1				
-2				
-3				
-4				
-5				
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B28**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B28.24-36**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Fine Brown Fill (60%) and Rock Rubble (40%) No visual or olfactory indications of contamination.
-1				
-2				Dark Brown Mud (100%) No visual or olfactory indications of contamination.
-3	1215	2003.B28.24-36	0.1	
-4				Light Brown Sand (90%) and Coral (10%) No visual or olfactory indications of contamination.
-5				
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B29**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/5/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B29.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Light Reddish/Brown Fill (90%) and Loose Gravel (10%) No visual or olfactory indications of contamination.
-1				
-2				Light Brown Sand (90%) and Coral (10%) No visual or olfactory indications of contamination.
-3				
-4				
-5	1120	2003.B29.48-60	0.5	
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B30**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push / 5' MacroCore**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/5/14**
 END OF BORING: **11.5 feet bgs**
 SAMPLE DESCRIPTION **2003.B30.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION	WELL INSTALLATION
0				Light Brown/Reddish Brown Fill (90%) with Sand (10%) No visual indications of contamination.	<p style="font-size: small;">Bentonite PVC Riser Screen</p>
-1				Light Brown Sand (90%) with coral (10%) No visual indications of contamination.	
-2					
-3					
-4	1005	2003.B30.48-60	0.2		Sand
-5					
-6					
-7					
-8				Groundwater Encountered	
-9					
-10					
-11					
-12					

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B31**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B31.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Light Brown Fill (90%) and Loose Gravel (10%) No visual or olfactory indications of contamination.
-1				Light Brown Sand (90%) and Coral (10%) No visual or olfactory indications of contamination.
-2				
-3				
-4				
-5	1120	2003.B31.48-60	0.2	
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B33**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION: **No Sample**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				2" Asphalt layer with Dark Brown Fill (90%) and Loose Gravel (10%) No visual or olfactory indications of contamination.
-1				
-2				Void Sapce No visual or olfactory indications of contamination.
-3		1100	N/A	No Sample
-4				
-5				
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B34**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION: **2003.B34.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				2" Asphalt layer with Dark Brown Fill (90%) and Loose Gravel (10%) No visual or olfactory indications of contamination.
-1				
-2				Light Brown Sand (90%) and Coral (10%) No visual or olfactory indications of contamination.
-3				
-4				
-5	1105	2003.B34.48-60	0.1	
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: **B35**



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B35.60-72**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				Dark Brown Fill (90%) and Loose Gravel (10%) No visual or olfactory indications of contamination.
-1				
-2				
-3				
-4				5"-6" of Concrete Rubble (100%) No visual or olfactory indications of contamination.
-5				Light Brown Sand (90%) and Coral (10%) No visual or olfactory indications of contamination.
-6	810	2003.B35.60-72	0.0	
-7				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: B36



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 DRILLING METHOD: **Direct Push**
 SAMPLE COLLECTOR: **M. Moore / S. Nakashima / B. Starks**
 DATE: **5/6/14**
 END OF BORING: **5 feet bgs**
 SAMPLE DESCRIPTION **2003.B36.48-60**

DEPTH	TIME	SAMPLE ID	PID (ppmv)	DESCRIPTION
0				2" Asphalt layer with Dark Brown Fill (90%) and Loose Gravel (10%) No visual or olfactory indications of contamination.
-1				Brown Fill No visual or olfactory indications of contamination.
-2				
-3				Light Brown Sand (90%) and Coral (10%) No visual or olfactory indications of contamination.
-4				
-5	1015	2003.B36.48-60	0.1	
-6				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: MW-06



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 SAMPLE COLLECTOR: **E. Kakone**
 DATE: **6/5/2018**
 END OF BORING **11 feet bgs**
 SAMPLE COLLECTED: **2003.MW.6.GW**

DEPTH	TIME	SAMPLE ID	GW Depth (ft. bgs)	DESCRIPTION	WELL INSTALLATION
0				Fine Brown Fill (90%) and Light Brown Sand (10%). No visual or olfactory indications of contamination.	<p style="text-align: center;">Bentonite</p> <p style="text-align: center;">Sand</p> <p style="text-align: center;">PVC Riser</p> <p style="text-align: center;">PVC Screen</p>
-1					
-2					
-3				Light Brown Sand (80%) and Coral Fragments (20%). No visual or olfactory indications of contamination.	
-4					
-5					
-6				Brown Sand (90%) and Coral Fragments(10%). No visual or olfactory indications of contamination.	
-7			Groundwater Encountered		
-8					
-9					
-10					
-11				<i>End of Boring</i>	
-12					
-13					
-14					
-15					

FIELD BOREHOLE LOG

BOREHOLE NUMBER: MW-08



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 SAMPLE COLLECTOR: **E. Kakone**
 DATE: **6/5/2018**
 END OF BORING **11 feet bgs**
 SAMPLE COLLECTED: **2003.MW8.GW**

DEPTH	TIME	SAMPLE ID	GW Depth (ft. bgs)	DESCRIPTION	WELL INSTALLATION
0				Fine Brown Fill (90%) and Rock (10%). No visual or olfactory indications of contamination.	<p>The well installation diagram shows a vertical cross-section of the borehole. At the top, there is a grey grout seal. Below it is a section of bentonite. A PVC riser pipe runs down the center, containing a PVC screen. The screen is located between approximately 5.5 and 11 feet depth. The area around the screen is filled with sand. The riser pipe is surrounded by bentonite and sand. The diagram is labeled with 'Bentonite', 'Sand', 'PVC Riser', and 'PVC Screen'.</p>
-1					
-2				Light Brown Sand (90%) and Coral Fragments (10%). No visual or olfactory indications of contamination.	
-3					
-4					
-5					
-6			∇ Groundwater Encountered		
-7					
-8					
-9					
-10					
-11				<i>End of Boring</i>	
-12					
-13					
-14					
-15					

FIELD BOREHOLE LOG

BOREHOLE NUMBER: MW-07



PROJECT NUMBER: **14-2003**
 PROJECT NAME: **Kahului Harbor Project**
 DRILLING COMPANY: **GeoTek Hawaii, Inc.**
 SAMPLE COLLECTOR: **E. Kakone**
 DATE: **6/5/2018**
 END OF BORING **11 feet bgs**
 SAMPLE COLLECTED: **No Sample Collected**

DEPTH	TIME	SAMPLE ID	GW Depth (ft. bgs)	DESCRIPTION	WELL INSTALLATION
0				Fine Brown Fill (70%) and Rock (30%). No visual or olfactory indications of contamination.	<p>The diagram shows a vertical well installation. At the top, there is a grey cap. Below it is a blue PVC Riser. A green PVC Screen is located between approximately 2.5 and 10.5 feet depth. The well is surrounded by a sealant consisting of Bentonite (green) from 0 to 2.5 feet and Sand (yellow) from 2.5 to 11 feet. The well ends at 11 feet depth.</p>
-1					
-2				Light Brown Sand (80%) and Coral Fragments (20%). No visual or olfactory indications of contamination.	
-3					
-4					
-5					
-6					
-7					
-8					
-9					
-10					
-11				<i>End of Boring</i>	
-12					
-13					
-14					
-15					

DRAFT

APPENDIX 5
WATER QUALITY DATA



Low Flow Purging and Sampling Log

Project Name: Kahului Harbor ETC Personnel: Bryan Starks, Matt Moore
 Project No.: 14-2003
 Location: Kahului Harbor Date: 5/6/2014

Pump/Tubing Type: Submersible Bladder Pump					Well ID: B23/MW4				
Teflon tubing (0.25 ID, 0.375 OD)					Casing Radius: 2"				
Equipment Decontamination: Alconox/potable water					Total Depth: 11				
Purge Water Disposal: 55-gallon drum					Depth to Water (DTW): 5.88				
Start Pump: 1435					Pump Intake Depth: 9				
Time	Flow (mL/min)	Volume (L)	DTW (ft bgs)	Temp (°F)	pH	Cond (µS/cm)	Turb (NTU)	DO (mg/L)	Comments
1828	450	2.25	-	79.9	8.27	10.3	420	-	
1831	450	3.6	-	79.9	8.29	10.3	194	-	
1834	450	4.95	-	79.9	8.30	10.3	119.0	-	
1837	450	6.3	-	80.0	8.30	10.3	91.3	-	
1840	450	7.65	-	80.0	8.31	10.2	76.6	-	
1843	450	9	-	80.0	8.32	10.3	58.8	-	
1846	450	10.35	-	80.0	8.32	10.2	41.6	-	
1849	450	11.7		79.9	8.32	10.3	31.9		
1852	450	13.05		79.9	8.32	10.3	23.5		
Stop Pump: 1910					Sample Time: 1855				
Laboratory: Accutest					Sample ID: 2003.B23.GW				

Observations/Comments:

DRAFT

APPENDIX 6
GPS DATA

GPS Data - Coordinates

Boring	X (US Survey Feet) / E	Y (US Survey Feet) / N
1	1710685.939	204064.708
2/MW1	1710657.552	204115.666
3	1710554.643	204027.044
4	1710573.734	204102.943
5	171573.946	204155.579
6	1710564.494	204252.637
7	1710429.753	204250.667
8	1710452.853	204014.997
9/MW2	1710349.622	204151.89
10	1710290.853	204115.09
11	1710127.956	203968.414
12	1710036.876	204097.698
13	1710161.708	204164.756
14	1710230.565	201215.393
15	1710345.628	204313.766
16	1710384.965	204333.441
17	1710341.21	204386.379
18	1710314.468	204344.622
19/MW3	1709979.5	204196.557
20	1710125.684	204395.332
21	1710236.017	204438.041
22	1710214.265	204509.828
23/MW4	1710133.664	204512.744
24	1710097.731	204444.719
25	1710001.606	204356.439
26	1709869.984	204343.759

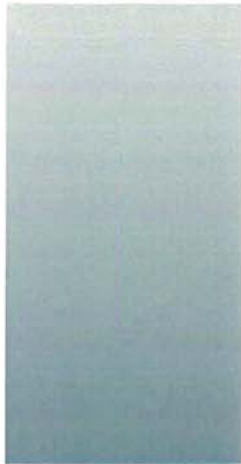
GPS Data - Coordinates

Boring	X (US Survey Feet) / E	Y (US Survey Feet) / N
27	1709959.382	204413.754
28	1709976.998	204494.069
29	1709806.001	204445.68
30/MW5	1709757.743	204511.98
31	1710182.573	204132.582
32	1710166.924	204113.153
33	1710219.306	204074.562
34	1710107.33	204244.532
35	1710275.017	204363.961
36	1710307.793	203960.68
W6	1710326.492	204419.832
W7	1709984.017	204526.24
W8	1710655.814	204306.997

U.S. State Plane, Nad 83, Zone 2, US Survey Feet

DRAFT

APPENDIX 7
LABORATORY RESULTS



Technical Report for

EnviroServices and Training Center

Kahului Harbor Parcel-Maui, HI

14-2003

Accutest Job Number: C33940

Sampling Date: 05/06/14

Report to:

Enviroservices & Training Center
505 Ward Ave Suite 202
Honolulu, HI 96814
sharla@gotoetc.com

ATTN: Sharla Nakashima

Total number of pages in report: **206**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

James J. Rhudy
Lab Director

Client Service contact: Nutan Kabir 408-588-0200

Certifications: OR (CA300006) CA (08258CA) AZ (AZ0762) DoD ELAP (L-A-B L2242)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.
Test results relate only to samples analyzed.



June 4, 2014

Sharla Nakashima
Enviroservices & Training Center
505 Ward Ave Suite 202
Honolulu, HI 96814

Re: Accutest Job # C33940 Reissue

Dear Ms. Nakashima,

The final report for Accutest Job # **C33940**, original report dated 5/16/2014, has been edited to reflect requested corrections.

Additional results for 8015 Oil Range Organics {TPH (>C28-C40)} have been added for all samples as per your request. Revised result pages and associated QC have been incorporated into this revised report.

Please contact us at 408-588-0200 if we can be of further assistance in this matter, or if you have any questions regarding this data report.

Sincerely,

Accutest Laboratories

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Sample Summary

EnviroServices and Training Center

Job No: C33940

Kahului Harbor Parcel-Maui, HI
 Project No: 14-2003

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
C33940-1	05/06/14	09:35 BS	05/09/14	SO	Soil	2003.B1.48-60
C33940-2	05/06/14	09:50 BS	05/09/14	SO	Soil	2003.B3.42-54
C33940-3	05/06/14	09:10 BS	05/09/14	SO	Soil	2003.B4.42-54
C33940-4	05/06/14	09:25 BS	05/09/14	SO	Soil	2003.B5.48-60
C33940-5	05/06/14	09:00 BS	05/09/14	SO	Soil	2003.B6.48-60
C33940-6	05/06/14	09:58 BS	05/09/14	SO	Soil	2003.B8.48-60
C33940-7	05/06/14	10:25 BS	05/09/14	SO	Soil	2003.B10.48-60
C33940-8	05/06/14	10:40 BS	05/09/14	SO	Soil	2003.B11.48-60
C33940-9	05/06/14	10:55 BS	05/09/14	SO	Soil	2003.B12.48-60
C33940-10	05/06/14	11:25 BS	05/09/14	SO	Soil	2003.B13.48-60
C33940-11	05/06/14	08:35 BS	05/09/14	SO	Soil	2003.B20.48-60
C33940-12	05/06/14	08:25 BS	05/09/14	SO	Soil	2003.B21.48-60
C33940-13	05/06/14	08:17 BS	05/09/14	SO	Soil	2003.B22.48-60

Soil samples reported on a dry weight basis unless otherwise indicated on result page.



Sample Summary

(continued)

EnviroServices and Training Center

Job No: C33940

Kahului Harbor Parcel-Maui, HI
 Project No: 14-2003

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
C33940-14	05/06/14	17:50 BS	05/09/14	SO	Soil	2003.B23.48-60
C33940-15	05/06/14	11:10 BS	05/09/14	SO	Soil	2003.B24.48-60
C33940-16	05/06/14	12:40 BS	05/09/14	SO	Soil	2003.B25.48-60
C33940-17	05/06/14	12:25 BS	05/09/14	SO	Soil	2003.B26.48-60
C33940-18	05/06/14	12:15 BS	05/09/14	SO	Soil	2003.B28.24-36
C33940-19	05/06/14	11:20 BS	05/09/14	SO	Soil	2003.B31.48-60
C33940-20	05/06/14	11:05 BS	05/09/14	SO	Soil	2003.B34.48-60
C33940-21	05/06/14	08:10 BS	05/09/14	SO	Soil	2003.B35.60-72
C33940-22	05/06/14	10:15 BS	05/09/14	SO	Soil	2003.B36.48-60

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Summary of Hits

Job Number: C33940
Account: EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI
Collected: 05/06/14

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
C33940-1	2003.B1.48-60					
Benzo(a)pyrene		0.73 J	3.3	0.57	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene		0.77 J	3.3	0.67	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene		0.80 J	3.3	0.77	ug/kg	SW846 8270C BY SIM
Chrysene		0.73 J	3.3	0.67	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)		1.75 J	3.3	0.82	mg/kg	SW846 8015B M
TPH (> C28-C40)		4.19 J	6.6	1.6	mg/kg	SW846 8015B M
Arsenic ^a		10.3	4.0		mg/kg	SW846 6010B
Chromium ^a		3.5	0.50		mg/kg	SW846 6010B
C33940-2	2003.B3.42-54					
TPH (> C28-C40)		1.86 J	6.6	1.7	mg/kg	SW846 8015B M
Arsenic ^a		6.3	4.0		mg/kg	SW846 6010B
Chromium ^a		3.6	0.50		mg/kg	SW846 6010B
C33940-3	2003.B4.42-54					
Arsenic ^a		21.4	4.0		mg/kg	SW846 6010B
Chromium ^a		3.0	0.50		mg/kg	SW846 6010B
C33940-4	2003.B5.48-60					
Benzo(g,h,i)perylene ^b		1930 J	3300	730	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)		1190	660	160	mg/kg	SW846 8015B M
TPH (> C28-C40)		7170	1300	330	mg/kg	SW846 8015B M
Chromium ^a		3.8	0.50		mg/kg	SW846 6010B
C33940-5	2003.B6.48-60					
Chromium ^a		3.2	0.50		mg/kg	SW846 6010B
C33940-6	2003.B8.48-60					
TPH (C10-C28)		10.5	6.6	1.7	mg/kg	SW846 8015B M
TPH (> C28-C40)		51.2	13	3.3	mg/kg	SW846 8015B M
Arsenic ^a		5.5	2.0		mg/kg	SW846 6010B
Chromium ^a		5.4	0.99		mg/kg	SW846 6010B
Lead ^a		4.4	2.0		mg/kg	SW846 6010B
C33940-7	2003.B10.48-60					
TPH (> C28-C40)		1.70 J	6.6	1.7	mg/kg	SW846 8015B M
Chromium ^a		4.2	0.99		mg/kg	SW846 6010B

Summary of Hits

Job Number: C33940
Account: EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI
Collected: 05/06/14

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
C33940-8	2003.B11.48-60					
Chromium ^a		4.1	1.0		mg/kg	SW846 6010B
Lead ^a		14.3	2.0		mg/kg	SW846 6010B
C33940-9	2003.B12.48-60					
TPH (C10-C28)		151	120	31	mg/kg	SW846 8015B M
TPH (> C28-C40)		1340	250	62	mg/kg	SW846 8015B M
Chromium ^a		3.8	1.0		mg/kg	SW846 6010B
Lead ^a		17.3	2.0		mg/kg	SW846 6010B
C33940-10	2003.B13.48-60					
Chromium ^a		2.4	1.0		mg/kg	SW846 6010B
C33940-11	2003.B20.48-60					
Benzo(g,h,i)perylene ^b		74.4 J	330	73	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)		217	170	42	mg/kg	SW846 8015B M
TPH (> C28-C40)		1400	330	83	mg/kg	SW846 8015B M
Chromium ^a		2.7	0.98		mg/kg	SW846 6010B
Lead ^a		2.5	2.0		mg/kg	SW846 6010B
C33940-12	2003.B21.48-60					
TPH (C10-C28)		1.20 J	3.3	0.83	mg/kg	SW846 8015B M
TPH (> C28-C40)		4.31 J	6.6	1.7	mg/kg	SW846 8015B M
Chromium ^a		4.3	1.0		mg/kg	SW846 6010B
C33940-13	2003.B22.48-60					
TPH (C10-C28)		1.04 J	3.3	0.83	mg/kg	SW846 8015B M
TPH (> C28-C40)		3.03 J	6.6	1.7	mg/kg	SW846 8015B M
Chromium ^a		3.1	1.0		mg/kg	SW846 6010B
Lead ^a		8.4	2.0		mg/kg	SW846 6010B
C33940-14	2003.B23.48-60					
Chromium ^a		3.6	0.99		mg/kg	SW846 6010B
C33940-15	2003.B24.48-60					
Benzo(g,h,i)perylene ^b		988 J	3300	730	ug/kg	SW846 8270C BY SIM

Summary of Hits

Job Number: C33940
Account: EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI
Collected: 05/06/14

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

TPH (C10-C28)		1790 J	3300	830	mg/kg	SW846 8015B M
TPH (> C28-C40)		9380	6700	1700	mg/kg	SW846 8015B M
Chromium ^a		4.1	0.99		mg/kg	SW846 6010B
Lead ^a		2.7	2.0		mg/kg	SW846 6010B

C33940-16 2003.B25.48-60

Benzo(a)anthracene		4.5	3.3	0.83	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene		4.7	3.3	0.57	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene		4.5	3.3	0.67	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene		3.2 J	3.3	0.73	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene		4.6	3.3	0.77	ug/kg	SW846 8270C BY SIM
Chrysene		5.5	3.3	0.67	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anthracene		0.97 J	3.3	0.93	ug/kg	SW846 8270C BY SIM
Fluoranthene		9.4 J	17	1.7	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene		3.4	3.3	0.83	ug/kg	SW846 8270C BY SIM
Phenanthrene		5.2 J	17	1.7	ug/kg	SW846 8270C BY SIM
Pyrene		10.5 J	17	1.7	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)		1.18 J	3.3	0.83	mg/kg	SW846 8015B M
TPH (> C28-C40)		3.61 J	6.6	1.7	mg/kg	SW846 8015B M
Chromium ^a		3.3	0.99		mg/kg	SW846 6010B

C33940-17 2003.B26.48-60

TPH (C10-C28)		0.842 J	3.3	0.83	mg/kg	SW846 8015B M
TPH (> C28-C40)		2.30 J	6.6	1.7	mg/kg	SW846 8015B M
Chromium ^a		3.5	0.99		mg/kg	SW846 6010B

C33940-18 2003.B28.24-36

Acenaphthylene ^c		3.8 J	33	3.3	ug/kg	SW846 8270C BY SIM
Anthracene ^c		8.4 J	33	3.3	ug/kg	SW846 8270C BY SIM
Benzo(a)anthracene ^c		66.6	6.6	1.7	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene ^c		85.9	6.6	1.1	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene ^c		85.6	6.6	1.3	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene ^c		49.7	6.6	1.5	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene ^c		75.8	6.6	1.5	ug/kg	SW846 8270C BY SIM
Chrysene ^c		99.3	6.6	1.3	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anthracene ^c		12.5	6.6	1.9	ug/kg	SW846 8270C BY SIM
Fluoranthene ^c		151	33	3.3	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene ^c		51.6	6.6	1.7	ug/kg	SW846 8270C BY SIM
Phenanthrene ^c		96.0	33	3.3	ug/kg	SW846 8270C BY SIM
Pyrene ^c		177	33	3.3	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)		8.32	3.3	0.83	mg/kg	SW846 8015B M
TPH (> C28-C40)		42.6	6.6	1.7	mg/kg	SW846 8015B M

Summary of Hits

Job Number: C33940
Account: EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI
Collected: 05/06/14

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Barium ^a		136	20		mg/kg	SW846 6010B
Chromium ^a		5.2	0.99		mg/kg	SW846 6010B
Lead ^a		20.1	2.0		mg/kg	SW846 6010B
Mercury		0.079	0.041		mg/kg	SW846 7471A
C33940-19		2003.B31.48-60				
TPH (C10-C28)		1.19 J	3.3	0.83	mg/kg	SW846 8015B M
TPH (> C28-C40)		4.79 J	6.6	1.7	mg/kg	SW846 8015B M
Chromium ^a		2.2	1.0		mg/kg	SW846 6010B
C33940-20		2003.B34.48-60				
TPH (C10-C28)		1.04 J	3.3	0.83	mg/kg	SW846 8015B M
TPH (> C28-C40)		2.89 J	6.6	1.7	mg/kg	SW846 8015B M
Chromium ^a		2.9	0.99		mg/kg	SW846 6010B
C33940-21		2003.B35.60-72				
TPH (C10-C28)		1.02 J	3.3	0.83	mg/kg	SW846 8015B M
TPH (> C28-C40)		2.40 J	6.6	1.7	mg/kg	SW846 8015B M
Chromium ^a		3.9	1.0		mg/kg	SW846 6010B
C33940-22		2003.B36.48-60				
TPH (> C28-C40)		2.11 J	6.6	1.7	mg/kg	SW846 8015B M
Chromium ^a		3.2	0.99		mg/kg	SW846 6010B

- (a) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.
- (b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).
- (c) Dilution required due to matrix interference (dark and viscous extract).

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: 2003.B1.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-1	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L32906.D	1	05/10/14	XB	n/a	n/a	VL1012
Run #2							

Run #	Initial Weight
Run #1	4.34 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.8	0.58	ug/kg	
108-88-3	Toluene	ND	5.8	0.58	ug/kg	
100-41-4	Ethylbenzene	ND	5.8	0.58	ug/kg	
1330-20-7	Xylene (total)	ND	12	1.2	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.8	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	114%		70-130%
2037-26-5	Toluene-D8	95%		70-130%
460-00-4	4-Bromofluorobenzene	100%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B1.48-60	Date Sampled:	05/06/14
Lab Sample ID:	C33940-1	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8270C BY SIM SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36435.D	1	05/14/14	AA	05/12/14	OP10018	EX1590
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	0.73	3.3	0.57	ug/kg	J
205-99-2	Benzo(b)fluoranthene	0.77	3.3	0.67	ug/kg	J
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	0.80	3.3	0.77	ug/kg	J
218-01-9	Chrysene	0.73	3.3	0.67	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	83%		13-123%
321-60-8	2-Fluorobiphenyl	87%		17-126%
1718-51-0	Terphenyl-d14	98%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

MDL = Method Detection Limit
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B1.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-1	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44005.D	1	05/12/14	TN	n/a	n/a	GJK1800
Run #2							

Run #	Initial Weight
Run #1	5.20 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.096	0.048	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	70%		60-115%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B1.48-60	Date Sampled:	05/06/14
Lab Sample ID:	C33940-1	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8081A SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021848.D	1	05/10/14	RV	05/09/14	OP10010	GMM647
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.57	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.57	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	96%		49-127%
877-09-8	Tetrachloro-m-xylene	97%		49-127%
2051-24-3	Decachlorobiphenyl	105%		53-145%
2051-24-3	Decachlorobiphenyl	103%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.1
3

Client Sample ID: 2003.B1.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-1	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH312981.D	1	05/09/14	AG	05/09/14	OP10009	GHH1256
Run #2							

	Initial Weight	Final Volume
Run #1	30.4 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	1.75	3.3	0.82	mg/kg	J
	TPH (> C28-C40)	4.19	6.6	1.6	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	119%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.1
3

Client Sample ID: 2003.B1.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-1	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	10.3	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 40	40	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.50	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	3.5	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.038	0.038	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 2.0	2.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3953
- (2) Instrument QC Batch: MA3956
- (3) Prep QC Batch: MP7824
- (4) Prep QC Batch: MP7835

- (a) All results reported on a wet weight basis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B3.42-54	Date Sampled: 05/06/14
Lab Sample ID: C33940-2	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M46074.D	1	05/09/14	XB	n/a	n/a	VM1391
Run #2							

	Initial Weight
Run #1	4.63 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.4	0.54	ug/kg	
108-88-3	Toluene	ND	5.4	0.54	ug/kg	
100-41-4	Ethylbenzene	ND	5.4	0.54	ug/kg	
1330-20-7	Xylene (total)	ND	11	1.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.4	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	121%		70-130%
2037-26-5	Toluene-D8	111%		70-130%
460-00-4	4-Bromofluorobenzene	102%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B3.42-54	Date Sampled: 05/06/14
Lab Sample ID: C33940-2	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36436.D	1	05/14/14	AA	05/12/14	OP10018	EX1590
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.57	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.66	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.76	ug/kg	
218-01-9	Chrysene	ND	3.3	0.66	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	87%		13-123%
321-60-8	2-Fluorobiphenyl	88%		17-126%
1718-51-0	Terphenyl-d14	99%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B3.42-54	Date Sampled: 05/06/14
Lab Sample ID: C33940-2	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui,HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44006.D	1	05/13/14	TN	n/a	n/a	GJK1800
Run #2							

	Initial Weight
Run #1	5.12 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.098	0.049	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	105%		60-115%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.2
3

Client Sample ID: 2003.B3.42-54	Date Sampled: 05/06/14
Lab Sample ID: C33940-2	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021849.D	1	05/10/14	RV	05/09/14	OP10010	GMM647
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.36	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.56	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.56	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.46	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.6	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	90%		49-127%
877-09-8	Tetrachloro-m-xylene	88%		49-127%
2051-24-3	Decachlorobiphenyl	95%		53-145%
2051-24-3	Decachlorobiphenyl	94%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.2
3

Client Sample ID: 2003.B3.42-54	Date Sampled: 05/06/14
Lab Sample ID: C33940-2	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui,HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH312982.D	1	05/09/14	AG	05/09/14	OP10009	GHH1256
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	0.83	mg/kg	
	TPH (> C28-C40)	1.86	6.6	1.7	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	113%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.2
3

Client Sample ID: 2003.B3.42-54	Date Sampled: 05/06/14
Lab Sample ID: C33940-2	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui,HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	6.3	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 40	40	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.50	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	3.6	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.039	0.039	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 2.0	2.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3953
- (2) Instrument QC Batch: MA3956
- (3) Prep QC Batch: MP7824
- (4) Prep QC Batch: MP7835

- (a) All results reported on a wet weight basis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

3.3
3

Client Sample ID: 2003.B4.42-54	Date Sampled: 05/06/14
Lab Sample ID: C33940-3	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L32894.D	1	05/09/14	XB	n/a	n/a	VL1012
Run #2							

	Initial Weight
Run #1	4.37 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.7	0.57	ug/kg	
108-88-3	Toluene	ND	5.7	0.57	ug/kg	
100-41-4	Ethylbenzene	ND	5.7	0.57	ug/kg	
1330-20-7	Xylene (total)	ND	11	1.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.7	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		70-130%
2037-26-5	Toluene-D8	94%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B4.42-54	Date Sampled: 05/06/14
Lab Sample ID: C33940-3	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui,HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36437.D	1	05/14/14	AA	05/12/14	OP10018	EX1590
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.56	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.66	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.76	ug/kg	
218-01-9	Chrysene	ND	3.3	0.66	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	97%		13-123%
321-60-8	2-Fluorobiphenyl	98%		17-126%
1718-51-0	Terphenyl-d14	113%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

33
3

Client Sample ID: 2003.B4.42-54	Date Sampled: 05/06/14
Lab Sample ID: C33940-3	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44007.D	1	05/13/14	TN	n/a	n/a	GJK1800
Run #2							

Run #	Initial Weight
Run #1	5.06 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.099	0.049	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	102%		60-115%		

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B4.42-54	Date Sampled: 05/06/14
Lab Sample ID: C33940-3	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021850.D	1	05/10/14	RV	05/09/14	OP10010	GMM647
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.36	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.56	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.56	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.46	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.6	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	92%		49-127%
877-09-8	Tetrachloro-m-xylene	94%		49-127%
2051-24-3	Decachlorobiphenyl	101%		53-145%
2051-24-3	Decachlorobiphenyl	100%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

MDL = Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

3.3
3

Client Sample ID: 2003.B4.42-54	Date Sampled: 05/06/14
Lab Sample ID: C33940-3	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH312983.D	1	05/09/14	AG	05/09/14	OP10009	GHH1256
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.5 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	0.82	mg/kg	
	TPH (> C28-C40)	ND	6.6	1.6	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
630-01-3	Hexacosane	114%		37-122%		

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B4.42-54	Date Sampled: 05/06/14
Lab Sample ID: C33940-3	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	21.4	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 40	40	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.50	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	3.0	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.040	0.040	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 2.0	2.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³

(1) Instrument QC Batch: MA3953

(2) Instrument QC Batch: MA3956

(3) Prep QC Batch: MP7824

(4) Prep QC Batch: MP7835

(a) All results reported on a wet weight basis.

(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B5.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-4	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	M46076.D	1	05/09/14	XB	n/a	n/a	VM1391
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.37 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	290	29	ug/kg	
108-88-3	Toluene	ND	290	29	ug/kg	
100-41-4	Ethylbenzene	ND	290	29	ug/kg	
1330-20-7	Xylene (total)	ND	570	57	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	290	57	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	115%		70-130%
2037-26-5	Toluene-D8	107%		70-130%
460-00-4	4-Bromofluorobenzene	105%		70-130%

- (a) All results reported on a wet weight basis.
(b) Dilution required due to matrix interference.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

3.4
3

Client Sample ID: 2003.B5.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-4	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	X36499.D	100	05/15/14	AA	05/12/14	OP10018	EX1591
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17000	1700	ug/kg	
208-96-8	Acenaphthylene	ND	17000	1700	ug/kg	
120-12-7	Anthracene	ND	17000	1700	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3300	830	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3300	570	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3300	660	ug/kg	
191-24-2	Benzo(g,h,i)perylene	1930	3300	730	ug/kg	J
207-08-9	Benzo(k)fluoranthene	ND	3300	760	ug/kg	
218-01-9	Chrysene	ND	3300	660	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3300	930	ug/kg	
206-44-0	Fluoranthene	ND	17000	1700	ug/kg	
86-73-7	Fluorene	ND	17000	1700	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3300	830	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17000	3300	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17000	3300	ug/kg	
91-20-3	Naphthalene	ND	17000	3300	ug/kg	
85-01-8	Phenanthrene	ND	17000	1700	ug/kg	
129-00-0	Pyrene	ND	17000	1700	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	75%		13-123%
321-60-8	2-Fluorobiphenyl	92%		17-126%
1718-51-0	Terphenyl-d14	167% ^c		51-146%

- (a) All results reported on a wet weight basis.
- (b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).
- (c) Outside control limits due to dilution/matrix interference.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.4
3

Client Sample ID: 2003.B5.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-4	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44008.D	1	05/13/14	TN	n/a	n/a	GJK1800
Run #2							

	Initial Weight
Run #1	5.06 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.099	0.049	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	61%		60-115%		

(a) All results reported on a wet weight basis.

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B5.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-4	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021845.D	100	05/10/14	RV	05/09/14	OP10010	GMM647
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	330	40	ug/kg	
319-84-6	alpha-BHC	ND	330	37	ug/kg	
319-85-7	beta-BHC	ND	330	80	ug/kg	
319-86-8	delta-BHC	ND	330	40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	330	40	ug/kg	
12789-03-6	Chlordane	ND	3300	330	ug/kg	
60-57-1	Dieldrin	ND	330	60	ug/kg	
72-54-8	4,4'-DDD	ND	330	70	ug/kg	
72-55-9	4,4'-DDE	ND	330	60	ug/kg	
50-29-3	4,4'-DDT	ND	330	50	ug/kg	
72-20-8	Endrin	ND	330	60	ug/kg	
7421-93-4	Endrin aldehyde	ND	330	60	ug/kg	
959-98-8	Endosulfan-I	ND	330	56	ug/kg	
33213-65-9	Endosulfan-II	ND	330	60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	330	56	ug/kg	
76-44-8	Heptachlor	ND	330	47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	330	50	ug/kg	
72-43-5	Methoxychlor	ND	330	53	ug/kg	
8001-35-2	Toxaphene	ND	3300	660	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	62%		49-127%
877-09-8	Tetrachloro-m-xylene	57%		49-127%
2051-24-3	Decachlorobiphenyl	175% ^c		53-145%
2051-24-3	Decachlorobiphenyl	102%		53-145%

(a) All results reported on a wet weight basis.

(b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot at a lower reporting limit but CCV's failed due to carry-over.

(c) Outside control limits due to dilution.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B5.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-4	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH313060.D	40	05/13/14	AG	05/09/14	OP10009	GHH1258
Run #2							

	Initial Weight	Final Volume
Run #1	30.4 g	5.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	1190	660	160	mg/kg	
	TPH (> C28-C40)	7170	1300	330	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	66%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.4
3

Client Sample ID: 2003.B5.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-4	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 40	40	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.50	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	3.8	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.040	0.040	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 2.0	2.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3953
- (2) Instrument QC Batch: MA3956
- (3) Prep QC Batch: MP7824
- (4) Prep QC Batch: MP7835

- (a) All results reported on a wet weight basis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B6.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-5	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L32895.D	1	05/09/14	XB	n/a	n/a	VL1012
Run #2							

Run #	Initial Weight
Run #1	4.48 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.6	0.56	ug/kg	
108-88-3	Toluene	ND	5.6	0.56	ug/kg	
100-41-4	Ethylbenzene	ND	5.6	0.56	ug/kg	
1330-20-7	Xylene (total)	ND	11	1.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.6	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		70-130%
2037-26-5	Toluene-D8	93%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B6.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-5	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36438.D	1	05/14/14	AA	05/12/14	OP10018	EX1590
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.57	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.67	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.77	ug/kg	
218-01-9	Chrysene	ND	3.3	0.67	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	93%		13-123%
321-60-8	2-Fluorobiphenyl	95%		17-126%
1718-51-0	Terphenyl-d14	116%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

MDL = Method Detection Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B6.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-5	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44010.D	1	05/13/14	TN	n/a	n/a	GJK1800
Run #2							

	Initial Weight
Run #1	5.23 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.096	0.048	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	106%		60-115%		

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B6.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-5	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021851.D	1	05/10/14	RV	05/09/14	OP10010	GMM647
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.36	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.79	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.56	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.56	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.46	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.6	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	91%		49-127%
877-09-8	Tetrachloro-m-xylene	94%		49-127%
2051-24-3	Decachlorobiphenyl	98%		53-145%
2051-24-3	Decachlorobiphenyl	95%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

MDL = Method Detection Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.5
3

Client Sample ID: 2003.B6.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-5	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH312985.D	1	05/09/14	AG	05/09/14	OP10009	GHH1256
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	0.82	mg/kg	
	TPH (> C28-C40)	ND	6.6	1.6	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	110%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B6.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-5	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 40	40	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.50	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	3.2	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.040	0.040	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 2.0	2.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³

(1) Instrument QC Batch: MA3953

(2) Instrument QC Batch: MA3956

(3) Prep QC Batch: MP7824

(4) Prep QC Batch: MP7835

(a) All results reported on a wet weight basis.

(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B8.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-6	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L32896.D	1	05/09/14	XB	n/a	n/a	VL1012
Run #2							

Run #	Initial Weight
Run #1	4.54 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.5	0.55	ug/kg	
108-88-3	Toluene	ND	5.5	0.55	ug/kg	
100-41-4	Ethylbenzene	ND	5.5	0.55	ug/kg	
1330-20-7	Xylene (total)	ND	11	1.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.5	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		70-130%
2037-26-5	Toluene-D8	95%		70-130%
460-00-4	4-Bromofluorobenzene	96%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B8.48-60	Date Sampled:	05/06/14
Lab Sample ID:	C33940-6	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8270C BY SIM SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	X36504.D	2	05/16/14	AA	05/12/14	OP10018	EX1591
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	5.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	170	17	ug/kg	
208-96-8	Acenaphthylene	ND	170	17	ug/kg	
120-12-7	Anthracene	ND	170	17	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	8.3	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	5.6	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	6.6	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	7.3	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	7.6	ug/kg	
218-01-9	Chrysene	ND	33	6.6	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	9.3	ug/kg	
206-44-0	Fluoranthene	ND	170	17	ug/kg	
86-73-7	Fluorene	ND	170	17	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	8.3	ug/kg	
90-12-0	1-Methylnaphthalene	ND	170	33	ug/kg	
91-57-6	2-Methylnaphthalene	ND	170	33	ug/kg	
91-20-3	Naphthalene	ND	170	33	ug/kg	
85-01-8	Phenanthrene	ND	170	17	ug/kg	
129-00-0	Pyrene	ND	170	17	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	79%		13-123%
321-60-8	2-Fluorobiphenyl	89%		17-126%
1718-51-0	Terphenyl-d14	110%		51-146%

(a) All results reported on a wet weight basis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B8.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-6	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44011.D	1	05/13/14	TN	n/a	n/a	GJK1800
Run #2							

Run #	Initial Weight
Run #1	5.00 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	99%		60-115%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.6
3

Client Sample ID: 2003.B8.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-6	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021847.D	5	05/10/14	RV	05/09/14	OP10010	GMM647
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.3 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	16	2.0	ug/kg	
319-84-6	alpha-BHC	ND	16	1.8	ug/kg	
319-85-7	beta-BHC	ND	16	4.0	ug/kg	
319-86-8	delta-BHC	ND	16	2.0	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	16	2.0	ug/kg	
12789-03-6	Chlordane	ND	160	16	ug/kg	
60-57-1	Dieldrin	ND	16	3.0	ug/kg	
72-54-8	4,4'-DDD	ND	16	3.5	ug/kg	
72-55-9	4,4'-DDE	ND	16	3.0	ug/kg	
50-29-3	4,4'-DDT	ND	16	2.5	ug/kg	
72-20-8	Endrin	ND	16	3.0	ug/kg	
7421-93-4	Endrin aldehyde	ND	16	3.0	ug/kg	
959-98-8	Endosulfan-I	ND	16	2.8	ug/kg	
33213-65-9	Endosulfan-II	ND	16	3.0	ug/kg	
1031-07-8	Endosulfan sulfate	ND	16	2.8	ug/kg	
76-44-8	Heptachlor	ND	16	2.3	ug/kg	
1024-57-3	Heptachlor epoxide	ND	16	2.5	ug/kg	
72-43-5	Methoxychlor	ND	16	2.6	ug/kg	
8001-35-2	Toxaphene	ND	160	33	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	83%		49-127%
877-09-8	Tetrachloro-m-xylene	81%		49-127%
2051-24-3	Decachlorobiphenyl	97%		53-145%
2051-24-3	Decachlorobiphenyl	101%		53-145%

- (a) All results reported on a wet weight basis.
- (b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot at a lower reporting limit but CCV's failed due to carry-over.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B8.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-6	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH313005.D	2	05/12/14	AG	05/09/14	OP10009	GHH1257
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	10.5	6.6	1.7	mg/kg	
	TPH (> C28-C40)	51.2	13	3.3	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	110%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B8.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-6	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	5.5	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 20	20	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.99	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	5.4	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	4.4	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.040	0.040	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 0.99	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3954
- (2) Instrument QC Batch: MA3956
- (3) Prep QC Batch: MP7833
- (4) Prep QC Batch: MP7836

- (a) All results reported on a wet weight basis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	2003.B10.48-60	Date Sampled:	05/06/14
Lab Sample ID:	C33940-7	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8260B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L32897.D	1	05/09/14	XB	n/a	n/a	VL1012
Run #2							

Run #	Initial Weight
Run #1	4.46 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.6	0.56	ug/kg	
108-88-3	Toluene	ND	5.6	0.56	ug/kg	
100-41-4	Ethylbenzene	ND	5.6	0.56	ug/kg	
1330-20-7	Xylene (total)	ND	11	1.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.6	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		70-130%
2037-26-5	Toluene-D8	94%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.7
3

Client Sample ID: 2003.B10.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-7	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36475.D	1	05/15/14	AA	05/12/14	OP10018	EX1591
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.56	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.66	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.76	ug/kg	
218-01-9	Chrysene	ND	3.3	0.66	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	88%		13-123%
321-60-8	2-Fluorobiphenyl	91%		17-126%
1718-51-0	Terphenyl-d14	100%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.7
3

Client Sample ID: 2003.B10.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-7	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44012.D	1	05/13/14	TN	n/a	n/a	GJK1800
Run #2							

Run #	Initial Weight
Run #1	5.00 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	104%		60-115%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.7
3

Client Sample ID: 2003.B10.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-7	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021852.D	1	05/10/14	RV	05/09/14	OP10010	GMM647
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.56	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.56	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.46	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.6	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	101%		49-127%
877-09-8	Tetrachloro-m-xylene	102%		49-127%
2051-24-3	Decachlorobiphenyl	106%		53-145%
2051-24-3	Decachlorobiphenyl	102%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.7
3

Client Sample ID: 2003.B10.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-7	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH312987.D	1	05/09/14	AG	05/09/14	OP10009	GHH1256
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	0.83	mg/kg	
	TPH (> C28-C40)	1.70	6.6	1.7	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	113%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.7
3

Client Sample ID: 2003.B10.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-7	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 20	20	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.99	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	4.2	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.039	0.039	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 0.99	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3954
- (2) Instrument QC Batch: MA3956
- (3) Prep QC Batch: MP7833
- (4) Prep QC Batch: MP7836

- (a) All results reported on a wet weight basis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

3.8
3

Client Sample ID: 2003.B11.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-8	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L32898.D	1	05/09/14	XB	n/a	n/a	VL1012
Run #2							

Run #	Initial Weight
Run #1	4.78 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.2	0.52	ug/kg	
108-88-3	Toluene	ND	5.2	0.52	ug/kg	
100-41-4	Ethylbenzene	ND	5.2	0.52	ug/kg	
1330-20-7	Xylene (total)	ND	10	1.0	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.2	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		70-130%
2037-26-5	Toluene-D8	92%		70-130%
460-00-4	4-Bromofluorobenzene	97%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B11.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-8	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36440.D	1	05/14/14	AA	05/12/14	OP10018	EX1590
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.56	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.66	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.76	ug/kg	
218-01-9	Chrysene	ND	3.3	0.66	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	86%		13-123%
321-60-8	2-Fluorobiphenyl	88%		17-126%
1718-51-0	Terphenyl-d14	108%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

MDL = Method Detection Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.8
3

Client Sample ID: 2003.B11.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-8	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44013.D	1	05/13/14	TN	n/a	n/a	GJK1800
Run #2							

	Initial Weight
Run #1	5.02 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	107%		60-115%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B11.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-8	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021853.D	1	05/10/14	RV	05/09/14	OP10010	GMM647
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.4 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.36	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.79	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.59	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.69	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.59	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.49	ug/kg	
72-20-8	Endrin	ND	3.3	0.59	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.59	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.56	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.59	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.56	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.46	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.49	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.6	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	91%		49-127%
877-09-8	Tetrachloro-m-xylene	92%		49-127%
2051-24-3	Decachlorobiphenyl	102%		53-145%
2051-24-3	Decachlorobiphenyl	95%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.8
3

Client Sample ID: 2003.B11.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-8	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH312988.D	1	05/09/14	AG	05/09/14	OP10009	GHH1256
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	0.83	mg/kg	
	TPH (> C28-C40)	ND	6.6	1.7	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	118%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B11.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-8	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 20	20	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 1.0	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	4.1	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	14.3	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.037	0.037	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 1.0	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³

(1) Instrument QC Batch: MA3954

(2) Instrument QC Batch: MA3956

(3) Prep QC Batch: MP7833

(4) Prep QC Batch: MP7836

(a) All results reported on a wet weight basis.

(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B12.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-9	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M46098.D	1	05/12/14	XB	n/a	n/a	VM1392
Run #2							

Run #	Initial Weight
Run #1	4.54 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.5	0.55	ug/kg	
108-88-3	Toluene	ND	5.5	0.55	ug/kg	
100-41-4	Ethylbenzene	ND	5.5	0.55	ug/kg	
1330-20-7	Xylene (total)	ND	11	1.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.5	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		70-130%
2037-26-5	Toluene-D8	116%		70-130%
460-00-4	4-Bromofluorobenzene	92%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.9
3

Client Sample ID: 2003.B12.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-9	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	X36503.D	20	05/16/14	AA	05/12/14	OP10018	EX1591
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	3300	330	ug/kg	
208-96-8	Acenaphthylene	ND	3300	330	ug/kg	
120-12-7	Anthracene	ND	3300	330	ug/kg	
56-55-3	Benzo(a)anthracene	ND	670	170	ug/kg	
50-32-8	Benzo(a)pyrene	ND	670	110	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	670	130	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	670	150	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	670	150	ug/kg	
218-01-9	Chrysene	ND	670	130	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	670	190	ug/kg	
206-44-0	Fluoranthene	ND	3300	330	ug/kg	
86-73-7	Fluorene	ND	3300	330	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	670	170	ug/kg	
90-12-0	1-Methylnaphthalene	ND	3300	670	ug/kg	
91-57-6	2-Methylnaphthalene	ND	3300	670	ug/kg	
91-20-3	Naphthalene	ND	3300	670	ug/kg	
85-01-8	Phenanthrene	ND	3300	330	ug/kg	
129-00-0	Pyrene	ND	3300	330	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	68%		13-123%
321-60-8	2-Fluorobiphenyl	73%		17-126%
1718-51-0	Terphenyl-d14	83%		51-146%

(a) All results reported on a wet weight basis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.9
3

Client Sample ID: 2003.B12.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-9	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44014.D	1	05/13/14	TN	n/a	n/a	GJK1800
Run #2							

	Initial Weight
Run #1	5.00 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	93%		60-115%

(a) All results reported on a wet weight basis.

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B12.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-9	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021846.D	100	05/10/14	RV	05/09/14	OP10010	GMM647
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.5 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	330	39	ug/kg	
319-84-6	alpha-BHC	ND	330	36	ug/kg	
319-85-7	beta-BHC	ND	330	79	ug/kg	
319-86-8	delta-BHC	ND	330	39	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	330	39	ug/kg	
12789-03-6	Chlordane	ND	3300	330	ug/kg	
60-57-1	Dieldrin	ND	330	59	ug/kg	
72-54-8	4,4'-DDD	ND	330	69	ug/kg	
72-55-9	4,4'-DDE	ND	330	59	ug/kg	
50-29-3	4,4'-DDT	ND	330	49	ug/kg	
72-20-8	Endrin	ND	330	59	ug/kg	
7421-93-4	Endrin aldehyde	ND	330	59	ug/kg	
959-98-8	Endosulfan-I	ND	330	56	ug/kg	
33213-65-9	Endosulfan-II	ND	330	59	ug/kg	
1031-07-8	Endosulfan sulfate	ND	330	56	ug/kg	
76-44-8	Heptachlor	ND	330	46	ug/kg	
1024-57-3	Heptachlor epoxide	ND	330	49	ug/kg	
72-43-5	Methoxychlor	ND	330	52	ug/kg	
8001-35-2	Toxaphene	ND	3300	660	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	73%		49-127%
877-09-8	Tetrachloro-m-xylene	68%		49-127%
2051-24-3	Decachlorobiphenyl	93%		53-145%
2051-24-3	Decachlorobiphenyl	107%		53-145%

(a) All results reported on a wet weight basis.

(b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot at a lower reporting limit but CCV's failed due to carry-over.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

MDL = Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B12.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-9	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH313061.D	25	05/13/14	AG	05/09/14	OP10009	GHH1258
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	1.5 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	151	120	31	mg/kg	
	TPH (> C28-C40)	1340	250	62	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	69%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B12.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-9	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 20	20	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 1.0	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	3.8	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	17.3	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.040	0.040	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 1.0	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³

(1) Instrument QC Batch: MA3954

(2) Instrument QC Batch: MA3956

(3) Prep QC Batch: MP7833

(4) Prep QC Batch: MP7836

(a) All results reported on a wet weight basis.

(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

3.10
3

Client Sample ID: 2003.B13.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-10	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L32899.D	1	05/09/14	XB	n/a	n/a	VL1012
Run #2							

Run #	Initial Weight
Run #1	4.16 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	6.0	0.60	ug/kg	
108-88-3	Toluene	ND	6.0	0.60	ug/kg	
100-41-4	Ethylbenzene	ND	6.0	0.60	ug/kg	
1330-20-7	Xylene (total)	ND	12	1.2	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.0	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		70-130%
2037-26-5	Toluene-D8	94%		70-130%
460-00-4	4-Bromofluorobenzene	100%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B13.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-10	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36441.D	1	05/14/14	AA	05/12/14	OP10018	EX1590
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.56	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.66	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.76	ug/kg	
218-01-9	Chrysene	ND	3.3	0.66	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	88%		13-123%
321-60-8	2-Fluorobiphenyl	89%		17-126%
1718-51-0	Terphenyl-d14	108%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

MDL = Method Detection Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.10
3

Client Sample ID: 2003.B13.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-10	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44045.D	1	05/14/14	TT	n/a	n/a	GJK1802
Run #2							

Run #	Initial Weight
Run #1	5.29 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.095	0.047	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	108%		60-115%

(a) All results reported on a wet weight basis.

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

Report of Analysis

3.10
3

Client Sample ID: 2003.B13.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-10	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021854.D	1	05/10/14	RV	05/09/14	OP10010	GMM647
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.5 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.39	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.36	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.79	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.39	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.39	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.59	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.69	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.59	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.49	ug/kg	
72-20-8	Endrin	ND	3.3	0.59	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.59	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.56	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.59	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.56	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.46	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.49	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.52	ug/kg	
8001-35-2	Toxaphene	ND	33	6.6	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	86%		49-127%
877-09-8	Tetrachloro-m-xylene	88%		49-127%
2051-24-3	Decachlorobiphenyl	95%		53-145%
2051-24-3	Decachlorobiphenyl	92%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.10
3

Client Sample ID: 2003.B13.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-10	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG51804.D	1	05/13/14	NN	05/09/14	OP10014	GGG1468
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	0.83	mg/kg	
	TPH (> C28-C40)	ND	6.6	1.7	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	120%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.10
3

Client Sample ID: 2003.B13.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-10	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 20	20	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 1.0	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	2.4	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.038	0.038	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 1.0	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3954
- (2) Instrument QC Batch: MA3956
- (3) Prep QC Batch: MP7833
- (4) Prep QC Batch: MP7836

- (a) All results reported on a wet weight basis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B20.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-11	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M46066.D	1	05/09/14	XB	n/a	n/a	VM1391
Run #2							

Run #	Initial Weight
Run #1	4.62 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.4	0.54	ug/kg	
108-88-3	Toluene	ND	5.4	0.54	ug/kg	
100-41-4	Ethylbenzene	ND	5.4	0.54	ug/kg	
1330-20-7	Xylene (total)	ND	11	1.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.4	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	115%		70-130%
2037-26-5	Toluene-D8	114%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B20.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-11	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	X36502.D	10	05/16/14	AA	05/12/14	OP10018	EX1591
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	1700	170	ug/kg	
208-96-8	Acenaphthylene	ND	1700	170	ug/kg	
120-12-7	Anthracene	ND	1700	170	ug/kg	
56-55-3	Benzo(a)anthracene	ND	330	83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	330	56	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	330	66	ug/kg	
191-24-2	Benzo(g,h,i)perylene	74.4	330	73	ug/kg	J
207-08-9	Benzo(k)fluoranthene	ND	330	76	ug/kg	
218-01-9	Chrysene	ND	330	66	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	330	93	ug/kg	
206-44-0	Fluoranthene	ND	1700	170	ug/kg	
86-73-7	Fluorene	ND	1700	170	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	330	83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	1700	330	ug/kg	
91-57-6	2-Methylnaphthalene	ND	1700	330	ug/kg	
91-20-3	Naphthalene	ND	1700	330	ug/kg	
85-01-8	Phenanthrene	ND	1700	170	ug/kg	
129-00-0	Pyrene	ND	1700	170	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	83%		13-123%
321-60-8	2-Fluorobiphenyl	95%		17-126%
1718-51-0	Terphenyl-d14	126%		51-146%

(a) All results reported on a wet weight basis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

MDL = Method Detection Limit
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

3.11
3

Client Sample ID: 2003.B20.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-11	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44062.D	1	05/14/14	TT	n/a	n/a	GJK1802
Run #2 ^b	JK44047.D	1	05/14/14	TT	n/a	n/a	GJK1802

Run #	Initial Weight
Run #1	5.07 g
Run #2	5.45 g

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.099	0.049	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	61%	60%	60-115%

- (a) All results reported on a wet weight basis.
- (b) Confirmation run.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B20.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-11	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021872.D	100	05/12/14	RV	05/12/14	OP10019	GMM648
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	330	40	ug/kg	
319-84-6	alpha-BHC	ND	330	37	ug/kg	
319-85-7	beta-BHC	ND	330	80	ug/kg	
319-86-8	delta-BHC	ND	330	40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	330	40	ug/kg	
12789-03-6	Chlordane	ND	3300	330	ug/kg	
60-57-1	Dieldrin	ND	330	60	ug/kg	
72-54-8	4,4'-DDD	ND	330	70	ug/kg	
72-55-9	4,4'-DDE	ND	330	60	ug/kg	
50-29-3	4,4'-DDT	ND	330	50	ug/kg	
72-20-8	Endrin	ND	330	60	ug/kg	
7421-93-4	Endrin aldehyde	ND	330	60	ug/kg	
959-98-8	Endosulfan-I	ND	330	57	ug/kg	
33213-65-9	Endosulfan-II	ND	330	60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	330	57	ug/kg	
76-44-8	Heptachlor	ND	330	47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	330	50	ug/kg	
72-43-5	Methoxychlor	ND	330	53	ug/kg	
8001-35-2	Toxaphene	ND	3300	670	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	73%		49-127%
877-09-8	Tetrachloro-m-xylene	69%		49-127%
2051-24-3	Decachlorobiphenyl	91%		53-145%
2051-24-3	Decachlorobiphenyl	91%		53-145%

(a) All results reported on a wet weight basis.

(b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot at a lower reporting limit but CCV's failed due to carry-over.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

MDL = Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B20.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-11	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG51805.D	10	05/13/14	NN	05/09/14	OP10014	GGG1468
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	5.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	217	170	42	mg/kg	
	TPH (> C28-C40)	1400	330	83	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	109%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B20.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-11	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 20	20	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.98	0.98	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	2.7	0.98	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	2.5	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.038	0.038	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 0.98	0.98	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³

(1) Instrument QC Batch: MA3954

(2) Instrument QC Batch: MA3956

(3) Prep QC Batch: MP7833

(4) Prep QC Batch: MP7836

(a) All results reported on a wet weight basis.

(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B21.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-12	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L32900.D	1	05/09/14	XB	n/a	n/a	VL1012
Run #2							

	Initial Weight
Run #1	4.33 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.8	0.58	ug/kg	
108-88-3	Toluene	ND	5.8	0.58	ug/kg	
100-41-4	Ethylbenzene	ND	5.8	0.58	ug/kg	
1330-20-7	Xylene (total)	ND	12	1.2	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.8	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		70-130%
2037-26-5	Toluene-D8	93%		70-130%
460-00-4	4-Bromofluorobenzene	97%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B21.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-12	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36476.D	1	05/15/14	AA	05/12/14	OP10018	EX1591
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.56	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.66	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.76	ug/kg	
218-01-9	Chrysene	ND	3.3	0.66	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	81%		13-123%
321-60-8	2-Fluorobiphenyl	84%		17-126%
1718-51-0	Terphenyl-d14	92%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

MDL = Method Detection Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B21.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-12	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44048.D	1	05/14/14	TT	n/a	n/a	GJK1802
Run #2							

Run #	Initial Weight
Run #1	5.15 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.097	0.049	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	106%		60-115%		

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B21.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-12	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui,HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021875.D	1	05/12/14	RV	05/12/14	OP10019	GMM648
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.57	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.57	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	97%		49-127%
877-09-8	Tetrachloro-m-xylene	101%		49-127%
2051-24-3	Decachlorobiphenyl	111%		53-145%
2051-24-3	Decachlorobiphenyl	105%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B21.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-12	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui,HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG51806.D	1	05/13/14	NN	05/09/14	OP10014	GGG1468
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	1.20	3.3	0.83	mg/kg	J
	TPH (> C28-C40)	4.31	6.6	1.7	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	118%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.12
3

Client Sample ID: 2003.B21.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-12	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 20	20	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 1.0	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	4.3	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.040	0.040	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 1.0	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3954
- (2) Instrument QC Batch: MA3956
- (3) Prep QC Batch: MP7833
- (4) Prep QC Batch: MP7836

- (a) All results reported on a wet weight basis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B22.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-13	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L32901.D	1	05/09/14	XB	n/a	n/a	VL1012
Run #2							

	Initial Weight
Run #1	4.15 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	6.0	0.60	ug/kg	
108-88-3	Toluene	ND	6.0	0.60	ug/kg	
100-41-4	Ethylbenzene	ND	6.0	0.60	ug/kg	
1330-20-7	Xylene (total)	ND	12	1.2	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.0	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	115%		70-130%
2037-26-5	Toluene-D8	93%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.13
3

Client Sample ID: 2003.B22.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-13	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36477.D	1	05/15/14	AA	05/12/14	OP10018	EX1591
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.56	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.66	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.76	ug/kg	
218-01-9	Chrysene	ND	3.3	0.66	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	91%		13-123%
321-60-8	2-Fluorobiphenyl	93%		17-126%
1718-51-0	Terphenyl-d14	113%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B22.48-60	Date Sampled:	05/06/14
Lab Sample ID:	C33940-13	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8015B		
Project:	Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44049.D	1	05/14/14	TT	n/a	n/a	GJK1802
Run #2							

	Initial Weight
Run #1	5.00 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	106%		60-115%		

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B22.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-13	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021876.D	1	05/12/14	RV	05/12/14	OP10019	GMM648
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.57	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.57	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.6	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	98%		49-127%
877-09-8	Tetrachloro-m-xylene	99%		49-127%
2051-24-3	Decachlorobiphenyl	100%		53-145%
2051-24-3	Decachlorobiphenyl	103%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.13
3

Client Sample ID: 2003.B22.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-13	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG51807.D	1	05/13/14	NN	05/09/14	OP10014	GGG1468
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	1.04	3.3	0.83	mg/kg	J
	TPH (> C28-C40)	3.03	6.6	1.7	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	118%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B22.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-13	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 20	20	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 1.0	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	3.1	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	8.4	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.036	0.036	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 1.0	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3954
(2) Instrument QC Batch: MA3956
(3) Prep QC Batch: MP7833
(4) Prep QC Batch: MP7836

- (a) All results reported on a wet weight basis.
(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	2003.B23.48-60	Date Sampled:	05/06/14
Lab Sample ID:	C33940-14	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8260B		
Project:	Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L32902.D	1	05/09/14	XB	n/a	n/a	VL1012
Run #2							

	Initial Weight
Run #1	4.47 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.6	0.56	ug/kg	
108-88-3	Toluene	ND	5.6	0.56	ug/kg	
100-41-4	Ethylbenzene	ND	5.6	0.56	ug/kg	
1330-20-7	Xylene (total)	ND	11	1.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.6	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%		70-130%
2037-26-5	Toluene-D8	93%		70-130%
460-00-4	4-Bromofluorobenzene	98%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B23.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-14	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36478.D	1	05/15/14	AA	05/12/14	OP10018	EX1591
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.56	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.66	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.76	ug/kg	
218-01-9	Chrysene	ND	3.3	0.66	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	79%		13-123%
321-60-8	2-Fluorobiphenyl	82%		17-126%
1718-51-0	Terphenyl-d14	89%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B23.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-14	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44050.D	1	05/14/14	TT	n/a	n/a	GJK1802
Run #2							

	Initial Weight
Run #1	5.18 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.097	0.048	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	110%		60-115%		

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B23.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-14	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021877.D	1	05/12/14	RV	05/12/14	OP10019	GMM648
Run #2							

Run #1	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.57	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.57	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	95%		49-127%
877-09-8	Tetrachloro-m-xylene	99%		49-127%
2051-24-3	Decachlorobiphenyl	102%		53-145%
2051-24-3	Decachlorobiphenyl	103%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B23.48-60	Date Sampled:	05/06/14
Lab Sample ID:	C33940-14	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8015B M SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG51808.D	1	05/13/14	NN	05/09/14	OP10014	GGG1468
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	0.83	mg/kg	
	TPH (> C28-C40)	ND	6.6	1.7	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	118%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B23.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-14	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 20	20	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.99	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	3.6	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.042	0.042	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 0.99	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3954
- (2) Instrument QC Batch: MA3956
- (3) Prep QC Batch: MP7833
- (4) Prep QC Batch: MP7836

- (a) All results reported on a wet weight basis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	2003.B24.48-60	Date Sampled:	05/06/14
Lab Sample ID:	C33940-15	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8260B		
Project:	Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	M46077.D	1	05/10/14	XB	n/a	n/a	VM1391
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.55 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	270	27	ug/kg	
108-88-3	Toluene	ND	270	27	ug/kg	
100-41-4	Ethylbenzene	ND	270	27	ug/kg	
1330-20-7	Xylene (total)	ND	550	55	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	270	55	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		70-130%
2037-26-5	Toluene-D8	108%		70-130%
460-00-4	4-Bromofluorobenzene	106%		70-130%

- (a) All results reported on a wet weight basis.
(b) Dilution required due to matrix interference.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B24.48-60	Date Sampled:	05/06/14
Lab Sample ID:	C33940-15	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8270C BY SIM SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	X36500.D	50	05/15/14	AA	05/12/14	OP10018	EX1591
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	20.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17000	1700	ug/kg	
208-96-8	Acenaphthylene	ND	17000	1700	ug/kg	
120-12-7	Anthracene	ND	17000	1700	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3300	830	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3300	560	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3300	660	ug/kg	
191-24-2	Benzo(g,h,i)perylene	988	3300	730	ug/kg	J
207-08-9	Benzo(k)fluoranthene	ND	3300	760	ug/kg	
218-01-9	Chrysene	ND	3300	660	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3300	930	ug/kg	
206-44-0	Fluoranthene	ND	17000	1700	ug/kg	
86-73-7	Fluorene	ND	17000	1700	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3300	830	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17000	3300	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17000	3300	ug/kg	
91-20-3	Naphthalene	ND	17000	3300	ug/kg	
85-01-8	Phenanthrene	ND	17000	1700	ug/kg	
129-00-0	Pyrene	ND	17000	1700	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	67%		13-123%
321-60-8	2-Fluorobiphenyl	73%		17-126%
1718-51-0	Terphenyl-d14	117%		51-146%

(a) All results reported on a wet weight basis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.15
3

Client Sample ID: 2003.B24.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-15	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44063.D	1	05/14/14	TT	n/a	n/a	GJK1802
Run #2 ^b	JK44051.D	1	05/14/14	TT	n/a	n/a	GJK1802

Run #	Initial Weight
Run #1	5.03 g
Run #2	5.15 g

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.099	0.050	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	29% ^c	26% ^c	60-115%		

- (a) All results reported on a wet weight basis.
- (b) Confirmation run.
- (c) Outside control limits due to matrix interference.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B24.48-60	Date Sampled:	05/06/14
Lab Sample ID:	C33940-15	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8081A SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021871.D	100	05/12/14	RV	05/12/14	OP10019	GMM648
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	330	40	ug/kg	
319-84-6	alpha-BHC	ND	330	37	ug/kg	
319-85-7	beta-BHC	ND	330	80	ug/kg	
319-86-8	delta-BHC	ND	330	40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	330	40	ug/kg	
12789-03-6	Chlordane	ND	3300	330	ug/kg	
60-57-1	Dieldrin	ND	330	60	ug/kg	
72-54-8	4,4'-DDD	ND	330	70	ug/kg	
72-55-9	4,4'-DDE	ND	330	60	ug/kg	
50-29-3	4,4'-DDT	ND	330	50	ug/kg	
72-20-8	Endrin	ND	330	60	ug/kg	
7421-93-4	Endrin aldehyde	ND	330	60	ug/kg	
959-98-8	Endosulfan-I	ND	330	57	ug/kg	
33213-65-9	Endosulfan-II	ND	330	60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	330	57	ug/kg	
76-44-8	Heptachlor	ND	330	47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	330	50	ug/kg	
72-43-5	Methoxychlor	ND	330	53	ug/kg	
8001-35-2	Toxaphene	ND	3300	670	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	48% ^c		49-127%
877-09-8	Tetrachloro-m-xylene	42% ^c		49-127%
2051-24-3	Decachlorobiphenyl	137%		53-145%
2051-24-3	Decachlorobiphenyl	217% ^c		53-145%

(a) All results reported on a wet weight basis.

(b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot at a lower reporting limit but CCV's failed due to carry-over.

(c) Outside control limits due to dilution.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.15
3

Client Sample ID: 2003.B24.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-15	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG51809.D	100	05/13/14	NN	05/09/14	OP10014	GGG1468
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	1790	3300	830	mg/kg	J
	TPH (> C28-C40)	9380	6700	1700	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	55%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.15
3

Client Sample ID: 2003.B24.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-15	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 20	20	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.99	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	4.1	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	2.7	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.037	0.037	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 0.99	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3954
- (2) Instrument QC Batch: MA3956
- (3) Prep QC Batch: MP7833
- (4) Prep QC Batch: MP7836

- (a) All results reported on a wet weight basis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B25.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-16	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M46067.D	1	05/09/14	XB	n/a	n/a	VM1391
Run #2							

Run #	Initial Weight
Run #1	4.88 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.1	0.51	ug/kg	
108-88-3	Toluene	ND	5.1	0.51	ug/kg	
100-41-4	Ethylbenzene	ND	5.1	0.51	ug/kg	
1330-20-7	Xylene (total)	ND	10	1.0	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.1	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	115%		70-130%
2037-26-5	Toluene-D8	109%		70-130%
460-00-4	4-Bromofluorobenzene	103%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B25.48-60	Date Sampled:	05/06/14
Lab Sample ID:	C33940-16	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8270C BY SIM SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36445.D	1	05/14/14	AA	05/12/14	OP10018	EX1590
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	4.5	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	4.7	3.3	0.57	ug/kg	
205-99-2	Benzo(b)fluoranthene	4.5	3.3	0.67	ug/kg	
191-24-2	Benzo(g,h,i)perylene	3.2	3.3	0.73	ug/kg	J
207-08-9	Benzo(k)fluoranthene	4.6	3.3	0.77	ug/kg	
218-01-9	Chrysene	5.5	3.3	0.67	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	0.97	3.3	0.93	ug/kg	J
206-44-0	Fluoranthene	9.4	17	1.7	ug/kg	J
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	3.4	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	5.2	17	1.7	ug/kg	J
129-00-0	Pyrene	10.5	17	1.7	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	90%		13-123%
321-60-8	2-Fluorobiphenyl	92%		17-126%
1718-51-0	Terphenyl-d14	111%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

MDL = Method Detection Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B25.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-16	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44052.D	1	05/14/14	TT	n/a	n/a	GJK1802
Run #2							

Run #	Initial Weight
Run #1	5.11 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.098	0.049	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	107%		60-115%		

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.16
3

Client Sample ID: 2003.B25.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-16	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021878.D	1	05/12/14	RV	05/12/14	OP10019	GMM648
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.57	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.57	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	102%		49-127%
877-09-8	Tetrachloro-m-xylene	102%		49-127%
2051-24-3	Decachlorobiphenyl	106%		53-145%
2051-24-3	Decachlorobiphenyl	101%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B25.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-16	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG51810.D	1	05/13/14	NN	05/09/14	OP10014	GGG1468
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	1.18	3.3	0.83	mg/kg	J
	TPH (> C28-C40)	3.61	6.6	1.7	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	114%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B25.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-16	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 20	20	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.99	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	3.3	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.039	0.039	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 0.99	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³

(1) Instrument QC Batch: MA3954

(2) Instrument QC Batch: MA3956

(3) Prep QC Batch: MP7833

(4) Prep QC Batch: MP7836

(a) All results reported on a wet weight basis.

(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B26.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-17	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L32903.D	1	05/09/14	XB	n/a	n/a	VL1012
Run #2							

Run #	Initial Weight
Run #1	3.94 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	6.3	0.63	ug/kg	
108-88-3	Toluene	ND	6.3	0.63	ug/kg	
100-41-4	Ethylbenzene	ND	6.3	0.63	ug/kg	
1330-20-7	Xylene (total)	ND	13	1.3	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.3	1.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	115%		70-130%
2037-26-5	Toluene-D8	95%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B26.48-60	Date Sampled:	05/06/14
Lab Sample ID:	C33940-17	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8270C BY SIM SW846 3550B		
Project:	Kahului Harbor Parcel-Maui,HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36479.D	1	05/15/14	AA	05/12/14	OP10018	EX1591
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.57	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.67	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.77	ug/kg	
218-01-9	Chrysene	ND	3.3	0.67	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	87%		13-123%
321-60-8	2-Fluorobiphenyl	91%		17-126%
1718-51-0	Terphenyl-d14	107%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B26.48-60	Date Sampled:	05/06/14
Lab Sample ID:	C33940-17	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8015B		
Project:	Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44053.D	1	05/14/14	TT	n/a	n/a	GJK1802
Run #2							

	Initial Weight
Run #1	5.33 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.094	0.047	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	111%		60-115%		

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.17
3

Client Sample ID: 2003.B26.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-17	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021873.D	1	05/12/14	RV	05/12/14	OP10019	GMM648
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.57	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.57	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	90%		49-127%
877-09-8	Tetrachloro-m-xylene	93%		49-127%
2051-24-3	Decachlorobiphenyl	98%		53-145%
2051-24-3	Decachlorobiphenyl	98%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B26.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-17	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG51812.D	1	05/14/14	NN	05/09/14	OP10014	GGG1468
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	0.842	3.3	0.83	mg/kg	J
	TPH (> C28-C40)	2.30	6.6	1.7	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	122%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B26.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-17	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 20	20	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.99	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	3.5	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.036	0.036	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 0.99	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3954
(2) Instrument QC Batch: MA3956
(3) Prep QC Batch: MP7833
(4) Prep QC Batch: MP7836

- (a) All results reported on a wet weight basis.
(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

3.18
3

Client Sample ID: 2003.B28.24-36	Date Sampled: 05/06/14
Lab Sample ID: C33940-18	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M46071.D	1	05/09/14	XB	n/a	n/a	VM1391
Run #2							

	Initial Weight
Run #1	5.60 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	4.5	0.45	ug/kg	
108-88-3	Toluene	ND	4.5	0.45	ug/kg	
100-41-4	Ethylbenzene	ND	4.5	0.45	ug/kg	
1330-20-7	Xylene (total)	ND	8.9	0.89	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	4.5	0.89	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%		70-130%
2037-26-5	Toluene-D8	112%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B28.24-36	Date Sampled:	05/06/14
Lab Sample ID:	C33940-18	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8270C BY SIM SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	X36501.D	2	05/16/14	AA	05/12/14	OP10018	EX1591
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	33	3.3	ug/kg	
208-96-8	Acenaphthylene	3.8	33	3.3	ug/kg	J
120-12-7	Anthracene	8.4	33	3.3	ug/kg	J
56-55-3	Benzo(a)anthracene	66.6	6.6	1.7	ug/kg	
50-32-8	Benzo(a)pyrene	85.9	6.6	1.1	ug/kg	
205-99-2	Benzo(b)fluoranthene	85.6	6.6	1.3	ug/kg	
191-24-2	Benzo(g,h,i)perylene	49.7	6.6	1.5	ug/kg	
207-08-9	Benzo(k)fluoranthene	75.8	6.6	1.5	ug/kg	
218-01-9	Chrysene	99.3	6.6	1.3	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	12.5	6.6	1.9	ug/kg	
206-44-0	Fluoranthene	151	33	3.3	ug/kg	
86-73-7	Fluorene	ND	33	3.3	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	51.6	6.6	1.7	ug/kg	
90-12-0	1-Methylnaphthalene	ND	33	6.6	ug/kg	
91-57-6	2-Methylnaphthalene	ND	33	6.6	ug/kg	
91-20-3	Naphthalene	ND	33	6.6	ug/kg	
85-01-8	Phenanthrene	96.0	33	3.3	ug/kg	
129-00-0	Pyrene	177	33	3.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	80%		13-123%
321-60-8	2-Fluorobiphenyl	85%		17-126%
1718-51-0	Terphenyl-d14	107%		51-146%

(a) All results reported on a wet weight basis.

(b) Dilution required due to matrix interference (dark and viscous extract).

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

MDL = Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B28.24-36	Date Sampled: 05/06/14
Lab Sample ID: C33940-18	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44054.D	1	05/14/14	TT	n/a	n/a	GJK1802
Run #2							

	Initial Weight
Run #1	5.10 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.098	0.049	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	88%		60-115%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B28.24-36	Date Sampled: 05/06/14
Lab Sample ID: C33940-18	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021874.D	10	05/12/14	RV	05/12/14	OP10019	GMM648
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	33	4.0	ug/kg	
319-84-6	alpha-BHC	ND	33	3.6	ug/kg	
319-85-7	beta-BHC	ND	33	8.0	ug/kg	
319-86-8	delta-BHC	ND	33	4.0	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	33	4.0	ug/kg	
12789-03-6	Chlordane	ND	330	33	ug/kg	
60-57-1	Dieldrin	ND	33	6.0	ug/kg	
72-54-8	4,4'-DDD	ND	33	7.0	ug/kg	
72-55-9	4,4'-DDE	ND	33	6.0	ug/kg	
50-29-3	4,4'-DDT	ND	33	5.0	ug/kg	
72-20-8	Endrin	ND	33	6.0	ug/kg	
7421-93-4	Endrin aldehyde	ND	33	6.0	ug/kg	
959-98-8	Endosulfan-I	ND	33	5.6	ug/kg	
33213-65-9	Endosulfan-II	ND	33	6.0	ug/kg	
1031-07-8	Endosulfan sulfate	ND	33	5.6	ug/kg	
76-44-8	Heptachlor	ND	33	4.6	ug/kg	
1024-57-3	Heptachlor epoxide	ND	33	5.0	ug/kg	
72-43-5	Methoxychlor	ND	33	5.3	ug/kg	
8001-35-2	Toxaphene	ND	330	66	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	74%		49-127%
877-09-8	Tetrachloro-m-xylene	74%		49-127%
2051-24-3	Decachlorobiphenyl	88%		53-145%
2051-24-3	Decachlorobiphenyl	86%		53-145%

(a) All results reported on a wet weight basis.

(b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot at a lower reporting limit but CCV's failed due to carry-over.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B28.24-36	Date Sampled:	05/06/14
Lab Sample ID:	C33940-18	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8015B M SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG51813.D	1	05/14/14	NN	05/09/14	OP10014	GGG1468
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	8.32	3.3	0.83	mg/kg	
	TPH (> C28-C40)	42.6	6.6	1.7	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	115%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B28.24-36	Date Sampled:	05/06/14
Lab Sample ID:	C33940-18	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Project:	Kahului Harbor Parcel-Maui, HI		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	136	20	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.99	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	5.2	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	20.1	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	0.079	0.041	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 0.99	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³

(1) Instrument QC Batch: MA3954

(2) Instrument QC Batch: MA3956

(3) Prep QC Batch: MP7833

(4) Prep QC Batch: MP7836

(a) All results reported on a wet weight basis.

(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B31.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-19	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L32904.D	1	05/09/14	XB	n/a	n/a	VL1012
Run #2							

	Initial Weight
Run #1	4.39 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.7	0.57	ug/kg	
108-88-3	Toluene	ND	5.7	0.57	ug/kg	
100-41-4	Ethylbenzene	ND	5.7	0.57	ug/kg	
1330-20-7	Xylene (total)	ND	11	1.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.7	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		70-130%
2037-26-5	Toluene-D8	93%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B31.48-60	Date Sampled:	05/06/14
Lab Sample ID:	C33940-19	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8270C BY SIM SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36480.D	1	05/15/14	AA	05/12/14	OP10018	EX1591
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.57	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.67	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.76	ug/kg	
218-01-9	Chrysene	ND	3.3	0.67	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	89%		13-123%
321-60-8	2-Fluorobiphenyl	91%		17-126%
1718-51-0	Terphenyl-d14	105%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

MDL = Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

3.19
3

Client Sample ID: 2003.B31.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-19	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44055.D	1	05/14/14	TT	n/a	n/a	GJK1802
Run #2							

Run #	Initial Weight
Run #1	5.09 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.098	0.049	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	112%		60-115%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B31.48-60	Date Sampled:	05/06/14
Lab Sample ID:	C33940-19	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8081A SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021879.D	1	05/12/14	RV	05/12/14	OP10019	GMM648
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.56	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.56	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.46	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.6	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	98%		49-127%
877-09-8	Tetrachloro-m-xylene	100%		49-127%
2051-24-3	Decachlorobiphenyl	104%		53-145%
2051-24-3	Decachlorobiphenyl	100%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B31.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-19	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG51814.D	1	05/14/14	NN	05/09/14	OP10014	GGG1468
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	1.19	3.3	0.83	mg/kg	J
	TPH (> C28-C40)	4.79	6.6	1.7	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	118%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B31.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-19	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 20	20	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 1.0	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	2.2	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.036	0.036	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 1.0	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3954
- (2) Instrument QC Batch: MA3956
- (3) Prep QC Batch: MP7833
- (4) Prep QC Batch: MP7836

- (a) All results reported on a wet weight basis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	2003.B34.48-60	Date Sampled:	05/06/14
Lab Sample ID:	C33940-20	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8260B		
Project:	Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L32905.D	1	05/09/14	XB	n/a	n/a	VL1012
Run #2							

	Initial Weight
Run #1	4.44 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.6	0.56	ug/kg	
108-88-3	Toluene	ND	5.6	0.56	ug/kg	
100-41-4	Ethylbenzene	ND	5.6	0.56	ug/kg	
1330-20-7	Xylene (total)	ND	11	1.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.6	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		70-130%
2037-26-5	Toluene-D8	94%		70-130%
460-00-4	4-Bromofluorobenzene	98%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B34.48-60	Date Sampled:	05/06/14
Lab Sample ID:	C33940-20	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8270C BY SIM SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36353.D	1	05/13/14	AA	05/12/14	OP10018	EX1588
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.56	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.66	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.76	ug/kg	
218-01-9	Chrysene	ND	3.3	0.66	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.92	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	87%		13-123%
321-60-8	2-Fluorobiphenyl	94%		17-126%
1718-51-0	Terphenyl-d14	102%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

MDL = Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

3.20
3

Client Sample ID: 2003.B34.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-20	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44056.D	1	05/14/14	TT	n/a	n/a	GJK1802
Run #2							

Run #	Initial Weight
Run #1	5.01 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	107%		60-115%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B34.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-20	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021880.D	1	05/12/14	RV	05/12/14	OP10019	GMM648
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.56	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.56	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.6	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	113%		49-127%
877-09-8	Tetrachloro-m-xylene	111%		49-127%
2051-24-3	Decachlorobiphenyl	109%		53-145%
2051-24-3	Decachlorobiphenyl	108%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.20
3

Client Sample ID: 2003.B34.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-20	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG51815.D	1	05/14/14	NN	05/09/14	OP10014	GGG1468
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	1.04	3.3	0.83	mg/kg	J
	TPH (> C28-C40)	2.89	6.6	1.7	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	121%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B34.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-20	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 20	20	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.99	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	2.9	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.038	0.038	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 0.99	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3954
(2) Instrument QC Batch: MA3956
(3) Prep QC Batch: MP7833
(4) Prep QC Batch: MP7836

- (a) All results reported on a wet weight basis.
(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B35.60-72	Date Sampled: 05/06/14
Lab Sample ID: C33940-21	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M46073.D	1	05/09/14	XB	n/a	n/a	VM1391
Run #2							

Run #	Initial Weight
Run #1	4.34 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.8	0.58	ug/kg	
108-88-3	Toluene	ND	5.8	0.58	ug/kg	
100-41-4	Ethylbenzene	ND	5.8	0.58	ug/kg	
1330-20-7	Xylene (total)	ND	12	1.2	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.8	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	117%		70-130%
2037-26-5	Toluene-D8	108%		70-130%
460-00-4	4-Bromofluorobenzene	101%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B35.60-72	
Lab Sample ID: C33940-21	Date Sampled: 05/06/14
Matrix: SO - Soil	Date Received: 05/09/14
Method: SW846 8270C BY SIM SW846 3550B	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36481.D	1	05/15/14	AA	05/12/14	OP10024	EX1591
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.56	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.66	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.76	ug/kg	
218-01-9	Chrysene	ND	3.3	0.66	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	81%		13-123%
321-60-8	2-Fluorobiphenyl	85%		17-126%
1718-51-0	Terphenyl-d14	101%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.21
3

Client Sample ID: 2003.B35.60-72	Date Sampled: 05/06/14
Lab Sample ID: C33940-21	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44058.D	1	05/14/14	TT	n/a	n/a	GJK1802
Run #2							

Run #	Initial Weight
Run #1	5.10 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.098	0.049	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	102%		60-115%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B35.60-72	
Lab Sample ID: C33940-21	Date Sampled: 05/06/14
Matrix: SO - Soil	Date Received: 05/09/14
Method: SW846 8081A SW846 3550B	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021887.D	1	05/12/14	RV	05/12/14	OP10019	GMM648
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.56	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.56	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.6	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	101%		49-127%
877-09-8	Tetrachloro-m-xylene	107%		49-127%
2051-24-3	Decachlorobiphenyl	105%		53-145%
2051-24-3	Decachlorobiphenyl	104%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.21
3

Client Sample ID: 2003.B35.60-72	Date Sampled: 05/06/14
Lab Sample ID: C33940-21	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG51816.D	1	05/14/14	NN	05/09/14	OP10014	GGG1468
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	1.02	3.3	0.83	mg/kg	J
	TPH (> C28-C40)	2.40	6.6	1.7	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	121%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B35.60-72	Date Sampled: 05/06/14
Lab Sample ID: C33940-21	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 20	20	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 1.0	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	3.9	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.040	0.040	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 1.0	1.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3954
- (2) Instrument QC Batch: MA3956
- (3) Prep QC Batch: MP7833
- (4) Prep QC Batch: MP7836

- (a) All results reported on a wet weight basis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B36.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-22	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M46072.D	1	05/09/14	XB	n/a	n/a	VM1391
Run #2							

Run #	Initial Weight
Run #1	4.60 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.4	0.54	ug/kg	
108-88-3	Toluene	ND	5.4	0.54	ug/kg	
100-41-4	Ethylbenzene	ND	5.4	0.54	ug/kg	
1330-20-7	Xylene (total)	ND	11	1.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.4	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	115%		70-130%
2037-26-5	Toluene-D8	110%		70-130%
460-00-4	4-Bromofluorobenzene	102%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.22
3

Client Sample ID: 2003.B36.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-22	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	X36449.D	1	05/15/14	AA	05/12/14	OP10024	EX1590
Run #2 ^c	X36482.D	1	05/15/14	AA	05/12/14	OP10024	EX1591

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2	30.1 g	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.57	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.67	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.76	ug/kg	
218-01-9	Chrysene	ND	3.3	0.67	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	83%	83%	13-123%
321-60-8	2-Fluorobiphenyl	86%	86%	17-126%
1718-51-0	Terphenyl-d14	129%	111%	51-146%

- (a) All results reported on a wet weight basis.
- (b) ISTD#6 outside control limits due to matrix interference. Confirmed by re-analysis.
- (c) Confirmation run for internal standard areas.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.22
3

Client Sample ID: 2003.B36.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-22	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44059.D	1	05/14/14	TT	n/a	n/a	GJK1802
Run #2							

	Initial Weight
Run #1	5.23 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.096	0.048	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	112%		60-115%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B36.48-60	Date Sampled:	05/06/14
Lab Sample ID:	C33940-22	Date Received:	05/09/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8081A SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021888.D	1	05/12/14	RV	05/12/14	OP10019	GMM648
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.36	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.56	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.56	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.46	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.6	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	92%		49-127%
877-09-8	Tetrachloro-m-xylene	96%		49-127%
2051-24-3	Decachlorobiphenyl	106%		53-145%
2051-24-3	Decachlorobiphenyl	103%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.22
3

Client Sample ID: 2003.B36.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-22	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG51817.D	1	05/14/14	NN	05/09/14	OP10014	GGG1468
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	0.83	mg/kg	
	TPH (> C28-C40)	2.11	6.6	1.7	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	122%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.22
3

Client Sample ID: 2003.B36.48-60	Date Sampled: 05/06/14
Lab Sample ID: C33940-22	Date Received: 05/09/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 20	20	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.99	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	3.2	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.041	0.041	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 0.99	0.99	mg/kg	10	05/14/14	05/15/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3954
- (2) Instrument QC Batch: MA3956
- (3) Prep QC Batch: MP7833
- (4) Prep QC Batch: MP7836

- (a) All results reported on a wet weight basis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



ACCUTEST
LABORATORIES

CHAIN OF CUSTODY

2105 Lundy Ave, San Jose, CA 95131
(408) 688-0200 FAX: (408) 688-0201

Client / Reporting Information		Project Information		FED-EX Tracking #	Bottle Order Control #
Company Name: EnviroServices & Training Center, LLC		Project Name: Kahului Harbor		Accession Control #: SPH12_2013_170	Accutest NC Job #: C33940
Address: 505 Ward Avenue, Suite 202		Street:		Requested Analysis:	
City: Honolulu	State: Hawaii	City: Honolulu	State: Hawaii	Matrix Codes:	
Zip: 96789				WW- Wastewater	
Project Contact: Ms. Sharla Nakashima		Project #: 14-2003		GW- Ground Water	
Phone #: 808-839-7222, Ext. 228		EMAIL: sharla@gotoste.com		SW- Surface Water	
Sampler's Name: B. Starks / M. Moore		Client Purchase Order #:		SO- Sol	
Collection		Number of preserved Bottles		OI-OI	
Sample ID / Field Point / Point of Collection	Date	Time	Sampled by	Matrix	# of bottles
1 2003.B1.48-80	6/8/2014	935	BS / MM	SO	5
2 2003.B3.42-54	6/8/2014	950	BS / MM	SO	5
3 2003.B4.42-54	6/8/2014	910	BS / MM	SO	5
4 2003.B5.48-80	6/8/2014	925	BS / MM	SO	5
5 2003.B6.48-80	6/8/2014	900	BS / MM	SO	5
6 2003.B8.48-80	6/8/2014	958	BS / MM	SO	5
7 2003.B10.48-80	6/8/2014	1025	BS / MM	SO	5
8 2003.B11.48-80	6/8/2014	1040	BS / MM	SO	5
9 2003.B12.48-80	6/8/2014	1055	BS / MM	SO	5
10 2003.B13.48-80	6/8/2014	1125	BS / MM	SO	5
Turnaround Time (Business days)		Data Deliverable Information		Comments / Remarks	
STANDARD 7-DAY TAT <input type="checkbox"/> 5 Day <input type="checkbox"/> 3 Day (128% markup) <input type="checkbox"/> 2 Day (180% markup) <input type="checkbox"/> 1 Day (200% markup) <input type="checkbox"/> Same Day (300% markup)		<input type="checkbox"/> Commercial "A" - Results only <input checked="" type="checkbox"/> Commercial "B" - Results with QC summaries <input type="checkbox"/> Commercial "B+" - Results, QC, and chromatograms <input type="checkbox"/> FULL1 - Level 4 data package <input type="checkbox"/> EDP for Geotracker <input type="checkbox"/> EDD Format Provide EDP Global ID: Provide EDP Logcode:		All samples were collected on May 5 and 6, 2014, please make sure all samples are extracted and analyzed in hold. 803625272988	
Emergency T/A data available VIA LabLink					
Sample Custody must be documented below each time samples change possession, including courier delivery.					
Relinquished by Sampler:	Date/Time:	Received By:	Relinquished By:	Date/Time:	Received By:
1 Brian Starks	5/6/14 9:5	[Signature]	2 Fedex	5/9/14 10:23	[Signature]
Relinquished by:	Date/Time:	Received By:	Relinquished By:	Date/Time:	Received By:
3			4		
Relinquished by:	Date/Time:	Received By:	Custody Seal #	Appropriate Bottle / Pres. Y/N	Headspace Y/N
5				Labels match Cool Y / N	Separate Receiving Check List used: Y / N
					Cooling Temp. 3.9, 4.4

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C33940: Chain of Custody

Page 1 of 4



CHAIN OF CUSTODY

2105 Lundy Ave, San Jose, CA 95131
(408) 588-0200 FAX: (408) 588-0201

FED-EX Tracking # _____ Accutest Quote # SPH12_2013_170 Matrix Order Control # _____ Accutest NC Job #: C 333940																																																
Client / Reporting Information Company Name: EnviroServices & Training Center, LLC Address: 505 Ward Avenue, Suite 202 City: Honolulu State: Hawaii Zip: 96789 Project Contact: Ms. Sharla Nakashima Phone #: 808-839-7222, Ext. 228 Sampler's Name: B. Starke / M. Moore		Project Information Project Name: Kahului Harbor Street: _____ City: Kahului State: Hawaii Project #: 14-2003 EMAIL: sharla@gotoest.com Client Purchase Order #: _____																																														
Accutest Sample ID Sample ID / Field Point / Point of Collection	Date	Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles <input type="checkbox"/> ID <input type="checkbox"/> HLN <input type="checkbox"/> PBO <input type="checkbox"/> PSPA <input type="checkbox"/> TOX <input type="checkbox"/> H2O2 <input type="checkbox"/> NH3 <input type="checkbox"/> HCN <input type="checkbox"/> H2S														TPH-C (8015) TPH-D (8015) DOI-16 PAHs+MeqHy/naphthalenes (8270C SIM) RCRA 8 Metals (60167471) Organochlorine Pesticides (6031A) METEX (6035760608)	Requested Analysis	Matrix Codes WW-Wastewater GW-Ground Water SW-Surface Water SO-Soil OI-Oil WP-Wipe LQ-Non-aqueous Liquid AIR DW-Drinking Water (Perchlorate Only) LAB USE ONLY																										
						<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th>TPH-C (8015)</th> <th>TPH-D (8015)</th> <th>DOI-16 PAHs+MeqHy/naphthalenes (8270C SIM)</th> <th>RCRA 8 Metals (60167471)</th> <th>Organochlorine Pesticides (6031A)</th> <th>METEX (6035760608)</th> <th colspan="8"> </th> </tr> <tr> <td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td> </tr> </table>																	TPH-C (8015)	TPH-D (8015)	DOI-16 PAHs+MeqHy/naphthalenes (8270C SIM)	RCRA 8 Metals (60167471)	Organochlorine Pesticides (6031A)	METEX (6035760608)									X	X	X	X	X	X						
TPH-C (8015)	TPH-D (8015)	DOI-16 PAHs+MeqHy/naphthalenes (8270C SIM)	RCRA 8 Metals (60167471)	Organochlorine Pesticides (6031A)	METEX (6035760608)																																											
X	X	X	X	X	X																																											
Turnaround Time (Business days) _____		Data Deliverable Information <input type="checkbox"/> Commercial "A" - Results only <input checked="" type="checkbox"/> Commercial "B" - Results with QC summaries <input type="checkbox"/> Commercial "B*" - Results, QC, and chromatograms <input type="checkbox"/> FULLY - Level 4 data package <input type="checkbox"/> EDF for Geotracker <input type="checkbox"/> EDF Format _____ <input type="checkbox"/> Provides EDF Global ID: _____ <input type="checkbox"/> Provides EDF Logcode: _____																Comments / Remarks All samples were collected on May 6 and 8, 2014, please make sure all samples are extracted and analyzed in hold.																														
STANDARD 7-DAY TAT <input type="checkbox"/> 6 Day <input type="checkbox"/> 3 Day (125% markup) <input type="checkbox"/> 2 Day (166% markup) <input type="checkbox"/> 1 Day (200% markup) <input type="checkbox"/> Same Day (300% markup)		Approved By / Date: _____ _____ _____		Emergency T/A data available VIA LabLink														Sample Custody must be documented below each time samples change possession, including courier delivery.																														
Relinquished by Sample: Brian Stahs Relinquished by: _____ Relinquished by: _____ Relinquished by: _____		Date Time: 5/8/14 9:45 Date Time: _____ Date Time: _____		Received By: SHARLA NAKASHIMA Received By: _____ Received By: _____		Date Time: _____ Date Time: _____		Received By: Fedex Received By: _____ Received By: _____		Date Time: 5/9/14 10:23 Date Time: _____ Date Time: _____		Received By: _____ Received By: _____ Received By: _____		Custody Seal # _____ Appropriate Bottle / Pres. Y / N _____ Labels match Gov? Y / N _____		Headspace Y / N _____ On Ice Y / N _____ Separate Receiving Check List used: Y / N _____		Cooler Temp: 3.5 _____ _____																														

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C33940: Chain of Custody
Page 2 of 4



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LABORATORIES

CHAIN OF CUSTODY

2105 Lundy Ave, San Jose, CA 95131
(408) 588-0200 FAX: (408) 588-0201

FED-EX Tracking #	Order Control #
Accutest Quote #	Accutest Job #
SPH12_2013_170	C33940

Client / Reporting Information		Project Information		Requested Analysis		Matrix Codes																																																																				
Company Name: EnviroServices & Training Center, LLC		Project Name: Kahulul Harbor		TPH-G (8015) TPH-D (8015) DON-16 PAHs-Mealy/naphthalenes (8270C BHM) RCRA 9 Metals (6010/741) Organochlorine Pesticides (8081A) MBTEX (5033/20608)		WW-Wastewater GW- Ground Water SW- Surface Water SO- Soil OI-Os W-W-pe LIQ- Non-aqueous Liquid AIR DW- Drinking Water (Perchlorate Only)																																																																				
Address: 605 Ward Avenue, Suite 202		Site:				<table border="1"> <tr> <th>Sample ID</th> <th>Field Point / Point of Collection</th> <th>Date</th> <th>Time</th> <th>Sampled by</th> <th>Matrix</th> <th># of bottles</th> <th>Q</th> <th>P</th> <th>Y</th> <th>100</th> <th>1000</th> <th>10000</th> <th>100000</th> <th>1000000</th> <th>10000000</th> </tr> <tr> <td>2.1</td> <td>2003.B35.60-72</td> <td>5/8/2014</td> <td>810</td> <td>BS/MM</td> <td>SO</td> <td>8</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2.2</td> <td>2003.B36.48-80</td> <td>6/9/2014</td> <td>1015</td> <td>BS/MM</td> <td>SO</td> <td>8</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="7"></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Sample ID	Field Point / Point of Collection	Date	Time	Sampled by	Matrix	# of bottles	Q	P	Y	100	1000	10000	100000	1000000	10000000	2.1	2003.B35.60-72	5/8/2014	810	BS/MM	SO	8											2.2	2003.B36.48-80	6/9/2014	1015	BS/MM	SO	8																											
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City: Honolulu State: Hawaii Zip: 96799		City: Kahulul State: Hawaii		Comments / Remarks All samples were collected on May 8 and 9, 2014, please make sure all samples are extracted and analyzed in hold.		LAB USE ONLY																																																																				
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Relinquished by Sampler:		Date Time:		Received By:		Date Time:																																																																				
1 Brian Talaris		5/8/14 8:51		Sharla Nakashima		5/9/14 10:23																																																																				
Relinquished by:		Date Time:		Received By:		Date Time:																																																																				
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Custody Seal #		Appropriate Bottle / Pres. Y/N		Headspace Y/N		On Ice Y/N																																																																				
		Labels match Cool? Y / N		Separate Reseaching Check List used: Y / N																																																																						

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C33940: Chain of Custody

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Accutest Laboratories Sample Receipt Summary

Accutest Job Number: C33940 Client: ENVIROSCIENCES & TRAINING CENTER Project: KAHULUI HARBOR

Date / Time Received: 5/9/2014 Delivery Method: FedEx Airbill #'s: 803625272988

Cooler Temps (Initial/Adjusted): #1: (3.9/3.9); #2: (4.4/4.4);

<u>Cooler Security</u>		<u>Y</u>	<u>or</u>	<u>N</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>			3. COC Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Custody Seals Intact:	<input type="checkbox"/>	<input type="checkbox"/>			4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

<u>Cooler Temperature</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
2. Cooler temp verification:				IR2;
3. Cooler media:				Ice (Bag)
4. No. Coolers:				2

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2. Trip Blank listed on COC:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3. Samples preserved properly:	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
4. VOCs headspace free:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

<u>Sample Integrity - Documentation</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
2. Container labeling complete:	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

<u>Sample Integrity - Condition</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
2. All containers accounted for:	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
3. Condition of sample:				Intact

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
2. Bottles received for unspecified tests	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
4. Compositing instructions clear:	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>

Comments

Accutest Laboratories
V:408.588.0200

2105 Lundy Avenue
F: 408.588.0201

San Jose, CA 95131
www.accutest.com

4.1
4

GC/MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: C33940
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM1391-MB	M46059.D	1	05/09/14	XB	n/a	n/a	VM1391

The QC reported here applies to the following samples:

Method: SW846 8260B

C33940-2, C33940-4, C33940-11, C33940-15, C33940-16, C33940-18, C33940-21, C33940-22

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	0.50	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	0.50	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.0	ug/kg	
108-88-3	Toluene	ND	5.0	0.50	ug/kg	
1330-20-7	Xylene (total)	ND	10	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	107% 70-130%
2037-26-5	Toluene-D8	110% 70-130%
460-00-4	4-Bromofluorobenzene	106% 70-130%

5.1.1
5

Method Blank Summary

Page 1 of 1

Job Number: C33940
Account: ETCHIH EnviroServices and Traning Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VL1012-MB	L32892.D	1	05/09/14	XB	n/a	n/a	VL1012

The QC reported here applies to the following samples:

Method: SW846 8260B

C33940-1, C33940-3, C33940-5, C33940-6, C33940-7, C33940-8, C33940-10, C33940-12, C33940-13, C33940-14, C33940-17, C33940-19, C33940-20

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	0.50	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	0.50	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.0	ug/kg	
108-88-3	Toluene	ND	5.0	0.50	ug/kg	
1330-20-7	Xylene (total)	ND	10	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	109% 70-130%
2037-26-5	Toluene-D8	93% 70-130%
460-00-4	4-Bromofluorobenzene	98% 70-130%

5.1.2
5

Method Blank Summary

Page 1 of 1

Job Number: C33940
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM1392-MB	M46087.D	1	05/12/14	XB	n/a	n/a	VM1392

The QC reported here applies to the following samples:

Method: SW846 8260B

C33940-9

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	0.50	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	0.50	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.0	ug/kg	
108-88-3	Toluene	ND	5.0	0.50	ug/kg	
1330-20-7	Xylene (total)	ND	10	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Results	Limits
1868-53-7	Dibromofluoromethane	106%	70-130%
2037-26-5	Toluene-D8	107%	70-130%
460-00-4	4-Bromofluorobenzene	105%	70-130%

5.1.3
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Blank Spike/Blank Spike Duplicate Summary

Job Number: C33940
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM1391-BS	M46055.D	1	05/09/14	XB	n/a	n/a	VM1391
VM1391-BSD	M46056.D	1	05/09/14	XB	n/a	n/a	VM1391

The QC reported here applies to the following samples:

Method: SW846 8260B

C33940-2, C33940-4, C33940-11, C33940-15, C33940-16, C33940-18, C33940-21, C33940-22

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	40	42.6	107	42.4	106	0	81-119/20
100-41-4	Ethylbenzene	40	43.4	109	41.4	104	5	80-119/21
1634-04-4	Methyl Tert Butyl Ether	40	46.5	116	45.1	113	3	79-127/19
108-88-3	Toluene	40	42.9	107	41.6	104	3	80-117/21
1330-20-7	Xylene (total)	120	130	108	125	104	4	81-122/22

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	109%	107%	70-130%
2037-26-5	Toluene-D8	106%	104%	70-130%
460-00-4	4-Bromofluorobenzene	107%	104%	70-130%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33940
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VL1012-BS	L32889.D	1	05/09/14	XB	n/a	n/a	VL1012
VL1012-BSD	L32890.D	1	05/09/14	XB	n/a	n/a	VL1012

The QC reported here applies to the following samples:

Method: SW846 8260B

C33940-1, C33940-3, C33940-5, C33940-6, C33940-7, C33940-8, C33940-10, C33940-12, C33940-13, C33940-14, C33940-17, C33940-19, C33940-20

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	40	40.6	102	44.6	112	9	81-119/20
100-41-4	Ethylbenzene	40	36.6	92	40.1	100	9	80-119/21
1634-04-4	Methyl Tert Butyl Ether	40	43.8	110	47.4	119	8	79-127/19
108-88-3	Toluene	40	36.8	92	39.7	99	8	80-117/21
1330-20-7	Xylene (total)	120	114	95	124	103	8	81-122/22

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	106%	108%	70-130%
2037-26-5	Toluene-D8	93%	95%	70-130%
460-00-4	4-Bromofluorobenzene	100%	101%	70-130%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33940
 Account: ETCHIH EnviroServices and Traning Center
 Project: Kahului Harbor Parcel-Maui,HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM1392-BS	M46084.D	1	05/12/14	XB	n/a	n/a	VM1392
VM1392-BSD	M46085.D	1	05/12/14	XB	n/a	n/a	VM1392

The QC reported here applies to the following samples:

Method: SW846 8260B

C33940-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	40	41.6	104	42.0	105	1	81-119/20
100-41-4	Ethylbenzene	40	41.4	104	41.0	103	1	80-119/21
1634-04-4	Methyl Tert Butyl Ether	40	43.5	109	45.5	114	4	79-127/19
108-88-3	Toluene	40	40.8	102	40.7	102	0	80-117/21
1330-20-7	Xylene (total)	120	126	105	124	103	2	81-122/22

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	108%	109%	70-130%
2037-26-5	Toluene-D8	105%	104%	70-130%
460-00-4	4-Bromofluorobenzene	106%	104%	70-130%

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: C33940
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM1391-LCS	M46058.D	1	05/09/14	XB	n/a	n/a	VM1391

The QC reported here applies to the following samples: Method: SW846 8260B

C33940-2, C33940-4, C33940-11, C33940-15, C33940-16, C33940-18, C33940-21, C33940-22

CAS No.	Compound	Spike ug/kg	LCS ug/kg	LCS %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	107%	70-130%
2037-26-5	Toluene-D8	108%	70-130%
460-00-4	4-Bromofluorobenzene	103%	70-130%

* = Outside of Control Limits.

5.3.1
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Laboratory Control Sample Summary

Job Number: C33940
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM1392-LCS	M46086.D	1	05/12/14	XB	n/a	n/a	VM1392

The QC reported here applies to the following samples:

Method: SW846 8260B

C33940-9

CAS No.	Compound	Spike ug/kg	LCS ug/kg	LCS %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	106%	70-130%
2037-26-5	Toluene-D8	109%	70-130%
460-00-4	4-Bromofluorobenzene	103%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33940
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C33944-5MS	M46069.D	1	05/09/14	XB	n/a	n/a	VM1391
C33944-5MSD	M46070.D	1	05/09/14	XB	n/a	n/a	VM1391
C33944-5 ^a	M46068.D	1	05/09/14	XB	n/a	n/a	VM1391

The QC reported here applies to the following samples:

Method: SW846 8260B

C33940-2, C33940-4, C33940-11, C33940-15, C33940-16, C33940-18, C33940-21, C33940-22

CAS No.	Compound	C33944-5 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	1940	1630	84	1940	1630	84	0	81-119/20
100-41-4	Ethylbenzene	ND	1940	1950	100	1940	1940	100	1	80-119/21
1634-04-4	Methyl Tert Butyl Ether	ND	1940	2060	106	1940	2030	105	1	79-127/19
108-88-3	Toluene	ND	1940	1800	93	1940	1800	93	0	80-117/21
1330-20-7	Xylene (total)	ND	5830	5480	94	5830	5410	93	1	81-122/22

CAS No.	Surrogate Recoveries	MS	MSD	C33944-5	Limits
1868-53-7	Dibromofluoromethane	115%	110%	110%	70-130%
2037-26-5	Toluene-D8	106%	106%	107%	70-130%
460-00-4	4-Bromofluorobenzene	112%	108%	106%	70-130%

(a) 4:1 composite.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33940
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C33940-1MS	L32907.D	1	05/10/14	XB	n/a	n/a	VL1012
C33940-1MSD	L32908.D	1	05/10/14	XB	n/a	n/a	VL1012
C33940-1	L32906.D	1	05/10/14	XB	n/a	n/a	VL1012

The QC reported here applies to the following samples:

Method: SW846 8260B

C33940-1, C33940-3, C33940-5, C33940-6, C33940-7, C33940-8, C33940-10, C33940-12, C33940-13, C33940-14, C33940-17, C33940-19, C33940-20

CAS No.	Compound	C33940-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		39.6	31.7	80* a	39.5	31.1	79* a	2	81-119/20
100-41-4	Ethylbenzene	ND		39.6	31.7	80	39.5	31.4	79* a	1	80-119/21
1634-04-4	Methyl Tert Butyl Ether	ND		39.6	39.6	100	39.5	37.9	96	4	79-127/19
108-88-3	Toluene	ND		39.6	30.4	77* a	39.5	30.0	76* a	1	80-117/21
1330-20-7	Xylene (total)	ND		119	91.3	77* a	119	90.6	76* a	1	81-122/22

CAS No.	Surrogate Recoveries	MS	MSD	C33940-1	Limits
1868-53-7	Dibromofluoromethane	111%	109%	114%	70-130%
2037-26-5	Toluene-D8	94%	93%	95%	70-130%
460-00-4	4-Bromofluorobenzene	101%	101%	100%	70-130%

(a) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33940
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C33953-1MS	M46096.D	1	05/12/14	XB	n/a	n/a	VM1392
C33953-1MSD	M46097.D	1	05/12/14	XB	n/a	n/a	VM1392
C33953-1	M46095.D	1	05/12/14	XB	n/a	n/a	VM1392

The QC reported here applies to the following samples:

Method: SW846 8260B

C33940-9

CAS No.	Compound	C33953-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		1390	1170	84	1390	1170	84	0	81-119/20
100-41-4	Ethylbenzene	ND		1390	1380	99	1390	1330	95	4	80-119/21
1634-04-4	Methyl Tert Butyl Ether	ND		1390	1370	98	1390	1360	98	1	79-127/19
108-88-3	Toluene	ND		1390	1310	94	1390	1240	89	5	80-117/21
1330-20-7	Xylene (total)	ND		4180	3910	93	4180	3750	90	4	81-122/22

CAS No.	Surrogate Recoveries	MS	MSD	C33953-1	Limits
1868-53-7	Dibromofluoromethane	107%	105%	100%	70-130%
2037-26-5	Toluene-D8	106%	103%	107%	70-130%
460-00-4	4-Bromofluorobenzene	107%	104%	105%	70-130%

* = Outside of Control Limits.

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C33940
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10018-MB	X36396.D	1	05/13/14	AA	05/12/14	OP10018	EX1589

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C33940-1, C33940-2, C33940-3, C33940-4, C33940-5, C33940-6, C33940-7, C33940-8, C33940-9, C33940-10, C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.57	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.67	ug/kg	
191-24-2	Benzo(g,h,i)perylene	0.83	3.3	0.73	ug/kg	J
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.77	ug/kg	
218-01-9	Chrysene	ND	3.3	0.67	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Limits
4165-60-0	Nitrobenzene-d5	85% 13-123%
321-60-8	2-Fluorobiphenyl	93% 17-126%
1718-51-0	Terphenyl-d14	114% 51-146%

6.1.1
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Method Blank Summary

Job Number: C33940
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10024-MB	X36397.D	1	05/13/14	AA	05/12/14	OP10024	EX1589

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C33940-21, C33940-22

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.57	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.67	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.77	ug/kg	
218-01-9	Chrysene	ND	3.3	0.67	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
4165-60-0	Nitrobenzene-d5	81%	13-123%
321-60-8	2-Fluorobiphenyl	86%	17-126%
1718-51-0	Terphenyl-d14	114%	51-146%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33940
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui,HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10018-BS	X36348.D	1	05/12/14	AA	05/12/14	OP10018	EX1588
OP10018-BSD	X36349.D	1	05/12/14	AA	05/12/14	OP10018	EX1588

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C33940-1, C33940-2, C33940-3, C33940-4, C33940-5, C33940-6, C33940-7, C33940-8, C33940-9, C33940-10, C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	167	152	91	156	94	3	51-102/33
208-96-8	Acenaphthylene	167	149	89	152	91	2	52-105/32
120-12-7	Anthracene	167	152	91	151	91	1	65-105/29
56-55-3	Benzo(a)anthracene	167	162	97	170	102	5	77-115/25
50-32-8	Benzo(a)pyrene	167	153	92	158	95	3	76-124/27
205-99-2	Benzo(b)fluoranthene	167	174	104	179	107	3	79-123/26
191-24-2	Benzo(g,h,i)perylene	167	161	97	183	110	13	70-125/27
207-08-9	Benzo(k)fluoranthene	167	181	109	172	103	5	78-120/25
218-01-9	Chrysene	167	172	103	180	108	5	79-111/24
53-70-3	Dibenzo(a,h)anthracene	167	164	98	192	115	16	69-128/26
206-44-0	Fluoranthene	167	162	97	163	98	1	70-109/28
86-73-7	Fluorene	167	157	94	156	94	1	52-105/32
193-39-5	Indeno(1,2,3-cd)pyrene	167	164	98	189	113	14	72-122/27
90-12-0	1-Methylnaphthalene	167	141	85	142	85	1	49-96/33
91-57-6	2-Methylnaphthalene	167	145	87	145	87	0	53-102/32
91-20-3	Naphthalene	167	137	82	142	85	4	49-98/31
85-01-8	Phenanthrene	167	158	95	164	98	4	55-104/30
129-00-0	Pyrene	167	165	99	179	107	8	67-108/29

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
4165-60-0	Nitrobenzene-d5	83%	85%	13-123%
321-60-8	2-Fluorobiphenyl	88%	93%	17-126%
1718-51-0	Terphenyl-d14	101%	105%	51-146%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33940
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10024-BS	X36386.D	1	05/13/14	AA	05/12/14	OP10024	EX1589
OP10024-BSD	X36387.D	1	05/13/14	AA	05/12/14	OP10024	EX1589

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C33940-21, C33940-22

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	167	156	94	161	97	3	51-102/33
208-96-8	Acenaphthylene	167	153	92	160	96	4	52-105/32
120-12-7	Anthracene	167	150	90	162	97	8	65-105/29
56-55-3	Benzo(a)anthracene	167	172	103	175	105	2	77-115/25
50-32-8	Benzo(a)pyrene	167	156	94	162	97	4	76-124/27
205-99-2	Benzo(b)fluoranthene	167	176	106	184	110	4	79-123/26
191-24-2	Benzo(g,h,i)perylene	167	199	119	192	115	4	70-125/27
207-08-9	Benzo(k)fluoranthene	167	173	104	172	103	1	78-120/25
218-01-9	Chrysene	167	179	107	182	109	2	79-111/24
53-70-3	Dibenzo(a,h)anthracene	167	204	122	197	118	3	69-128/26
206-44-0	Fluoranthene	167	164	98	189	113* a	14	70-109/28
86-73-7	Fluorene	167	159	95	173	104	8	52-105/32
193-39-5	Indeno(1,2,3-cd)pyrene	167	205	123* a	200	120	2	72-122/27
90-12-0	1-Methylnaphthalene	167	143	86	152	91	6	49-96/33
91-57-6	2-Methylnaphthalene	167	148	89	156	94	5	53-102/32
91-20-3	Naphthalene	167	142	85	147	88	3	49-98/31
85-01-8	Phenanthrene	167	164	98	169	101	3	55-104/30
129-00-0	Pyrene	167	158	95	158	95	0	67-108/29

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
4165-60-0	Nitrobenzene-d5	84%	84%	13-123%
321-60-8	2-Fluorobiphenyl	90%	86%	17-126%
1718-51-0	Terphenyl-d14	105%	103%	51-146%

(a) Outside of in-house control limits; but within method control limits.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33940
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10018-MS	X36354.D	1	05/13/14	AA	05/12/14	OP10018	EX1588
OP10018-MSD	X36355.D	1	05/13/14	AA	05/12/14	OP10018	EX1588
C33940-20	X36353.D	1	05/13/14	AA	05/12/14	OP10018	EX1588

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C33940-1, C33940-2, C33940-3, C33940-4, C33940-5, C33940-6, C33940-7, C33940-8, C33940-9, C33940-10, C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20

CAS No.	Compound	C33940-20 ug/kg	Spike Q	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		166	152	92	166	150	1	51-102/33
208-96-8	Acenaphthylene	ND		166	149	90	166	146	2	52-105/32
120-12-7	Anthracene	ND		166	151	91	166	148	2	65-105/29
56-55-3	Benzo(a)anthracene	ND		166	157	95	166	157	0	77-115/25
50-32-8	Benzo(a)pyrene	ND		166	155	94	166	155	0	76-124/27
205-99-2	Benzo(b)fluoranthene	ND		166	171	103	166	177	3	79-123/26
191-24-2	Benzo(g,h,i)perylene	ND		166	121	73	166	118	3	70-125/27
207-08-9	Benzo(k)fluoranthene	ND		166	177	107	166	170	4	78-120/25
218-01-9	Chrysene	ND		166	163	98	166	163	0	79-111/24
53-70-3	Dibenzo(a,h)anthracene	ND		166	134	81	166	135	1	69-128/26
206-44-0	Fluoranthene	ND		166	171	103	166	161	6	70-109/28
86-73-7	Fluorene	ND		166	156	94	166	152	3	52-105/32
193-39-5	Indeno(1,2,3-cd)pyrene	ND		166	132	80	166	133	1	72-122/27
90-12-0	1-Methylnaphthalene	ND		166	143	86	166	138	4	49-96/33
91-57-6	2-Methylnaphthalene	ND		166	147	89	166	142	3	53-102/32
91-20-3	Naphthalene	ND		166	140	84	166	135	4	49-98/31
85-01-8	Phenanthrene	ND		166	156	94	166	153	2	55-104/30
129-00-0	Pyrene	ND		166	148	89	166	155	5	67-108/29

CAS No.	Surrogate Recoveries	MS	MSD	C33940-20	Limits
4165-60-0	Nitrobenzene-d5	82%	82%	87%	13-123%
321-60-8	2-Fluorobiphenyl	88%	90%	94%	17-126%
1718-51-0	Terphenyl-d14	92%	100%	102%	51-146%

* = Outside of Control Limits.

6.3.1
6

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33940
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10024-MS	X36391.D	1	05/13/14	AA	05/12/14	OP10024	EX1589
OP10024-MSD	X36392.D	1	05/13/14	AA	05/12/14	OP10024	EX1589
C33953-1	X36390.D	1	05/13/14	AA	05/12/14	OP10024	EX1589

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C33940-21, C33940-22

6.3.2

6

CAS No.	Compound	C33953-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		166	141	85	166	176	106* a	22	51-102/33
208-96-8	Acenaphthylene	ND		166	141	85	166	175	105	22	52-105/32
120-12-7	Anthracene	ND		166	142	85	166	177	106* a	22	65-105/29
56-55-3	Benzo(a)anthracene	ND		166	153	92	166	189	114	21	77-115/25
50-32-8	Benzo(a)pyrene	ND		166	145	87	166	182	109	23	76-124/27
205-99-2	Benzo(b)fluoranthene	ND		166	148	89	166	185	111	22	79-123/26
191-24-2	Benzo(g,h,i)perylene	ND		166	163	98	166	191	115	16	70-125/27
207-08-9	Benzo(k)fluoranthene	ND		166	155	93	166	193	116	22	78-120/25
218-01-9	Chrysene	ND		166	156	94	166	192	115* a	21	79-111/24
53-70-3	Dibenzo(a,h)anthracene	ND		166	193	116	166	234	141* a	19	69-128/26
206-44-0	Fluoranthene	ND		166	157	94	166	194	117* a	21	70-109/28
86-73-7	Fluorene	ND		166	151	91	166	188	113* a	22	52-105/32
193-39-5	Indeno(1,2,3-cd)pyrene	ND		166	180	108	166	219	132* a	20	72-122/27
90-12-0	1-Methylnaphthalene	ND		166	132	79	166	166	100* a	23	49-96/33
91-57-6	2-Methylnaphthalene	ND		166	136	82	166	171	103* a	23	53-102/32
91-20-3	Naphthalene	ND		166	126	76	166	159	96	23	49-98/31
85-01-8	Phenanthrene	ND		166	147	88	166	184	111* a	22	55-104/30
129-00-0	Pyrene	ND		166	145	87	166	177	106	20	67-108/29

CAS No.	Surrogate Recoveries	MS	MSD	C33953-1	Limits
4165-60-0	Nitrobenzene-d5	70%	90%	75%	13-123%
321-60-8	2-Fluorobiphenyl	76%	94%	82%	17-126%
1718-51-0	Terphenyl-d14	95%	115%	118%	51-146%

(a) Outside laboratory control limits.

* = Outside of Control Limits.

GC Volatiles

QC Data Summaries

7

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C33940
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1800-MB	JK43987.D	1	05/12/14	TN	n/a	n/a	GJK1800

The QC reported here applies to the following samples: Method: SW846 8015B

C33940-1, C33940-2, C33940-3, C33940-4, C33940-5, C33940-6, C33940-7, C33940-8, C33940-9

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/kg	

CAS No.	Surrogate Recoveries	Limits
98-08-8	aaa-Trifluorotoluene	111% 60-115%

7.1.1
7

Method Blank Summary

Page 1 of 1

Job Number: C33940
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1802-MB	JK44036.D	1	05/13/14	TT	n/a	n/a	GJK1802

The QC reported here applies to the following samples:

Method: SW846 8015B

C33940-10, C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20, C33940-21, C33940-22

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/kg	

CAS No.	Surrogate Recoveries	Limits
98-08-8	aaa-Trifluorotoluene	114% 60-115%

7.1.2
7

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33940
 Account: ETCHIH EnviroServices and Traning Center
 Project: Kahului Harbor Parcel-Maui,HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1800-BS	JK43988.D	1	05/12/14	TN	n/a	n/a	GJK1800
GJK1800-BSD	JK43989.D	1	05/12/14	TN	n/a	n/a	GJK1800

The QC reported here applies to the following samples:

Method: SW846 8015B

C33940-1, C33940-2, C33940-3, C33940-4, C33940-5, C33940-6, C33940-7, C33940-8, C33940-9

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	0.5	0.413	83	0.407	81	1	76-127/32

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
98-08-8	aaa-Trifluorotoluene	103%	102%	60-115%

7.2.1
7

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33940
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui,HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1802-BS	JK44037.D	1	05/13/14	TT	n/a	n/a	GJK1802
GJK1802-BSD	JK44038.D	1	05/13/14	TT	n/a	n/a	GJK1802

The QC reported here applies to the following samples:

Method: SW846 8015B

C33940-10, C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20, C33940-21, C33940-22

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	0.5	0.450	90	0.440	88	2	76-127/32

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
98-08-8	aaa-Trifluorotoluene	98%	102%	60-115%

7.2.2
7

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33940
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C33923-16MS	JK43991.D	1	05/12/14	TN	n/a	n/a	GJK1800
C33923-16MSD	JK43992.D	1	05/12/14	TN	n/a	n/a	GJK1800
C33923-16	JK43990.D	1	05/12/14	TN	n/a	n/a	GJK1800

The QC reported here applies to the following samples:

Method: SW846 8015B

C33940-1, C33940-2, C33940-3, C33940-4, C33940-5, C33940-6, C33940-7, C33940-8, C33940-9

CAS No.	Compound	C33923-16 mg/kg	Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	0.492	0.395	80	0.487	0.393	81	1	76-127/32

CAS No.	Surrogate Recoveries	MS	MSD	C33923-16	Limits
98-08-8	aaa-Trifluorotoluene	102%	103%	103%	60-115%

7.3.1
7

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33940
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C33940-22MS	JK44060.D	1	05/14/14	TT	n/a	n/a	GJK1802
C33940-22MSD	JK44061.D	1	05/14/14	TT	n/a	n/a	GJK1802
C33940-22	JK44059.D	1	05/14/14	TT	n/a	n/a	GJK1802

The QC reported here applies to the following samples:

Method: SW846 8015B

C33940-10, C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20, C33940-21, C33940-22

CAS No.	Compound	C33940-22 mg/kg	Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	0.477	0.392	82	0.476	0.368	77	6	76-127/32

CAS No.	Surrogate Recoveries	MS	MSD	C33940-22	Limits
98-08-8	aaa-Trifluorotoluene	102%	95%	112%	60-115%

* = Outside of Control Limits.

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



Method Blank Summary

Job Number: C33940
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10010-MB	MM021754.D	1	05/09/14	RV	05/08/14	OP10010	GMM644

The QC reported here applies to the following samples:

Method: SW846 8081A

C33940-1, C33940-2, C33940-3, C33940-4, C33940-5, C33940-6, C33940-7, C33940-8, C33940-9, C33940-10

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE ^a	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT ^a	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.57	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.57	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor ^a	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.7	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	96%	49-127%
877-09-8	Tetrachloro-m-xylene	106%	49-127%
2051-24-3	Decachlorobiphenyl	105%	53-145%
2051-24-3	Decachlorobiphenyl	113%	53-145%

(a) Results from signal #2.

8.1.1
8

Method Blank Summary

Job Number: C33940
Account: ETCHIH EnviroServices and Traning Center
Project: Kahului Harbor Parcel-Maui,HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10019-MB	MM021881.D	1	05/12/14	RV	05/12/14	OP10019	GMM648

The QC reported here applies to the following samples:

Method: SW846 8081A

C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20, C33940-21, C33940-22

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.57	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.57	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.7	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	94%	49-127%
877-09-8	Tetrachloro-m-xylene	102%	49-127%
2051-24-3	Decachlorobiphenyl	107%	53-145%
2051-24-3	Decachlorobiphenyl	104%	53-145%

8.1.2
8

Method Blank Summary

Job Number: C33940
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10009-MB	HH312946.D	1	05/08/14	AG	05/08/14	OP10009	GHH1255

The QC reported here applies to the following samples:

Method: SW846 8015B M

C33940-1, C33940-2, C33940-3, C33940-4, C33940-5, C33940-6, C33940-7, C33940-8, C33940-9

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	0.83	mg/kg	
	TPH (> C28-C40)	ND	6.7	1.7	mg/kg	

CAS No.	Surrogate Recoveries	Limits
630-01-3	Hexacosane	105% 37-122%

8.1.3
8

Method Blank Summary

Job Number: C33940
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10014-MB	GG51803.D	1	05/13/14	NN	05/09/14	OP10014	GGG1468

The QC reported here applies to the following samples:

Method: SW846 8015B M

C33940-10, C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20, C33940-21, C33940-22

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	0.83	mg/kg	
	TPH (> C28-C40)	ND	6.7	1.7	mg/kg	

CAS No.	Surrogate Recoveries	Limits
630-01-3	Hexacosane	120% 37-122%

8.1.4
8

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33940
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui,HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10010-BS	MM021755.D	1	05/09/14	RV	05/08/14	OP10010	GMM644
OP10010-BSD	MM021756.D	1	05/09/14	RV	05/08/14	OP10010	GMM644

The QC reported here applies to the following samples:

Method: SW846 8081A

C33940-1, C33940-2, C33940-3, C33940-4, C33940-5, C33940-6, C33940-7, C33940-8, C33940-9, C33940-10

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	33.3	30.0	90	30.1	90	0	74-124/20
319-84-6	alpha-BHC	33.3	32.8	98	32.1	96	2	70-127/20
319-85-7	beta-BHC	33.3	31.8	95	31.9	96	0	76-137/20
319-86-8	delta-BHC	33.3	31.8	95	31.7	95	0	69-132/20
58-89-9	gamma-BHC (Lindane)	33.3	32.9	99	32.8	98	0	75-130/20
60-57-1	Dieldrin	33.3	32.2	97	32.1	96	0	75-135/13
72-54-8	4,4'-DDD	33.3	32.4	97	31.7	95	2	74-134/20
72-55-9	4,4'-DDE	33.3	33.9	102 ^a	32.1	96 ^a	5 ^a	73-131/20
50-29-3	4,4'-DDT	33.3	33.0	99 ^a	31.5	95 ^a	5 ^a	66-129/20
72-20-8	Endrin	33.3	31.9	96	31.3	94	2	80-143/20
7421-93-4	Endrin aldehyde	33.3	34.1	102	34.3	103	1	71-133/20
959-98-8	Endosulfan-I	33.3	33.2	100	33.3	100	0	77-135/20
33213-65-9	Endosulfan-II	33.3	33.4	100	32.8	98	2	75-134/20
1031-07-8	Endosulfan sulfate	33.3	37.9	114	37.9	114	0	69-137/20
76-44-8	Heptachlor	33.3	33.3	100	33.4	100	0	82-132/20
1024-57-3	Heptachlor epoxide	33.3	31.6	95	31.7	95	0	79-127/20
72-43-5	Methoxychlor	33.3	34.4	103 ^a	35.9	108 ^a	4 ^a	70-137/20

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
877-09-8	Tetrachloro-m-xylene	94%	97%	49-127%
877-09-8	Tetrachloro-m-xylene	106%	105%	49-127%
2051-24-3	Decachlorobiphenyl	111%	106%	53-145%
2051-24-3	Decachlorobiphenyl	116%	110%	53-145%

(a) Results from signal #2.

* = Outside of Control Limits.

8.2.1
8

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33940
 Account: ETCHIH EnviroServices and Traning Center
 Project: Kahului Harbor Parcel-Maui,HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10019-BS	MM021882.D	1	05/12/14	RV	05/12/14	OP10019	GMM648
OP10019-BSD	MM021883.D	1	05/12/14	RV	05/12/14	OP10019	GMM648

The QC reported here applies to the following samples:

Method: SW846 8081A

C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20, C33940-21, C33940-22

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	33.3	32.9	99	32.6	98	1	74-124/20
319-84-6	alpha-BHC	33.3	31.7	95	31.6	95	0	70-127/20
319-85-7	beta-BHC	33.3	37.3	112	37.6	113	1	76-137/20
319-86-8	delta-BHC	33.3	37.9	114	38.3	115	1	69-132/20
58-89-9	gamma-BHC (Lindane)	33.3	35.9	108	36.2	109	1	75-130/20
60-57-1	Dieldrin	33.3	38.2	115	38.7	116	1	75-135/13
72-54-8	4,4'-DDD	33.3	38.6	116	38.8	116	1	74-134/20
72-55-9	4,4'-DDE	33.3	39.1	117	39.2	118	0	73-131/20
50-29-3	4,4'-DDT	33.3	37.7	113	37.8	113	0	66-129/20
72-20-8	Endrin	33.3	38.3	115	38.3	115	0	80-143/20
7421-93-4	Endrin aldehyde	33.3	36.4	109	36.3	109	0	71-133/20
959-98-8	Endosulfan-I	33.3	35.1	105	35.5	107	1	77-135/20
33213-65-9	Endosulfan-II	33.3	36.8	110	36.8	110	0	75-134/20
1031-07-8	Endosulfan sulfate	33.3	38.9	117	39.0	117	0	69-137/20
76-44-8	Heptachlor	33.3	34.2	103	34.4	103	1	82-132/20
1024-57-3	Heptachlor epoxide	33.3	37.4	112	37.9	114	1	79-127/20
72-43-5	Methoxychlor	33.3	38.0	114	37.7	113	1	70-137/20

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
877-09-8	Tetrachloro-m-xylene	92%	88%	49-127%
877-09-8	Tetrachloro-m-xylene	95%	93%	49-127%
2051-24-3	Decachlorobiphenyl	108%	109%	53-145%
2051-24-3	Decachlorobiphenyl	106%	105%	53-145%

* = Outside of Control Limits.

8.2.2
8

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33940
 Account: ETCHIH EnviroServices and Traning Center
 Project: Kahului Harbor Parcel-Maui,HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10009-BS	HH312954.D	1	05/08/14	AG	05/08/14	OP10009	GHH1255
OP10009-BSD	HH312955.D	1	05/08/14	AG	05/08/14	OP10009	GHH1255

The QC reported here applies to the following samples:

Method: SW846 8015B M

C33940-1, C33940-2, C33940-3, C33940-4, C33940-5, C33940-6, C33940-7, C33940-8, C33940-9

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	33.3	28.6	86	29.2	88	2	39-102/29
	TPH (> C28-C40)	33.3	34.6	104	35.1	105	1	42-111/26

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
630-01-3	Hexacosane	109%	109%	37-122%

8.2.3
8

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33940
 Account: ETCHIH EnviroServices and Traning Center
 Project: Kahului Harbor Parcel-Maui,HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10014-BS	GG51801.D	1	05/13/14	NN	05/09/14	OP10014	GGG1468
OP10014-BSD	GG51802.D	1	05/13/14	NN	05/09/14	OP10014	GGG1468

The QC reported here applies to the following samples:

Method: SW846 8015B M

C33940-10, C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20, C33940-21, C33940-22

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	33.3	30.3	91	30.2	91	0	39-102/29
	TPH (> C28-C40)	33.3	35.8	107	35.8	107	0	42-111/26

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
630-01-3	Hexacosane	111%	109%	37-122%

8.2.4

8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33940
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10010-MS	MM021749.D	10	05/08/14	RV	05/08/14	OP10010	GMM644
OP10010-MSD	MM021750.D	10	05/08/14	RV	05/08/14	OP10010	GMM644
C33928-7 ^a	MM021748.D	10	05/08/14	RV	05/08/14	OP10010	GMM644

The QC reported here applies to the following samples:

Method: SW846 8081A

C33940-1, C33940-2, C33940-3, C33940-4, C33940-5, C33940-6, C33940-7, C33940-8, C33940-9, C33940-10

CAS No.	Compound	C33928-7 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	ND	33.1	25.6	77	33.1	26.2	79	2	74-124/20
319-84-6	alpha-BHC	ND	33.1	25.3	76	33.1	25.4	77	0	70-127/20
319-85-7	beta-BHC	ND	33.1	25.2	76	33.1	25.3	76	0	76-137/20
319-86-8	delta-BHC	ND	33.1	22.9	69	33.1	23.0	69	0	69-132/20
58-89-9	gamma-BHC (Lindane)	ND	33.1	25.0	75	33.1	25.3	76	1	75-130/20
60-57-1	Dieldrin	ND	33.1	28.4	86	33.1	26.6	80	7	45-132/24
72-54-8	4,4'-DDD	ND	33.1	26.8	81	33.1	27.2	82	1	74-134/20
72-55-9	4,4'-DDE	ND	33.1	25.4	77 ^b	33.1	24.4	74 ^b	4 ^b	73-131/20
50-29-3	4,4'-DDT	ND	33.1	23.6	71 ^b	33.1	22.3	67 ^b	6 ^b	66-129/20
72-20-8	Endrin	ND	33.1	32.3	97	33.1	30.8	93	5	80-143/20
7421-93-4	Endrin aldehyde	ND	33.1	26.5	80	33.1	25.2	76	5	71-133/20
959-98-8	Endosulfan-I	ND	33.1	27.2	82	33.1	26.9	81	1	77-135/20
33213-65-9	Endosulfan-II	ND	33.1	27.1	82	33.1	26.7	81	1	75-134/20
1031-07-8	Endosulfan sulfate	ND	33.1	34.6	104	33.1	32.9	99	5	69-137/20
76-44-8	Heptachlor	ND	33.1	27.1	82	33.1	27.5	83	1	82-132/20
1024-57-3	Heptachlor epoxide	ND	33.1	26.8	81	33.1	26.7	81	0	79-127/20
72-43-5	Methoxychlor	ND	33.1	30.1	91 ^b	33.1	26.9	81 ^b	11 ^b	70-137/20

CAS No.	Surrogate Recoveries	MS	MSD	C33928-7	Limits
877-09-8	Tetrachloro-m-xylene	82%	83%	88%	49-127%
877-09-8	Tetrachloro-m-xylene	89%	89%	92%	49-127%
2051-24-3	Decachlorobiphenyl	104%	98%	111%	53-145%
2051-24-3	Decachlorobiphenyl	112%	115%	131%	53-145%

(a) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot at a lower reporting limit but CCV's failed due to carry-over.

(b) Results from signal #2.

* = Outside of Control Limits.

8.3.1
8

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33940
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10019-MS	MM021889.D	5	05/12/14	RV	05/12/14	OP10019	GMM648
OP10019-MSD	MM021890.D	5	05/12/14	RV	05/12/14	OP10019	GMM648
C33940-22	MM021888.D	1	05/12/14	RV	05/12/14	OP10019	GMM648

The QC reported here applies to the following samples:

Method: SW846 8081A

C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20, C33940-21, C33940-22

CAS No.	Compound	C33940-22 ug/kg	Spike Q	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	ND	33.2	30.4	92	33.2	30.1	91	1	74-124/20
319-84-6	alpha-BHC	ND	33.2	27.5	83	33.2	27.1	82	1	70-127/20
319-85-7	beta-BHC	ND	33.2	32.4	98	33.2	32.4	98	0	76-137/20
319-86-8	delta-BHC	ND	33.2	30.7	92	33.2	30.4	92	1	69-132/20
58-89-9	gamma-BHC (Lindane)	ND	33.2	31.1	94	33.2	30.5	92	2	75-130/20
60-57-1	Dieldrin	ND	33.2	33.7	102	33.2	33.5	101	1	45-132/24
72-54-8	4,4'-DDD	ND	33.2	32.0	96	33.2	31.4	95	2	74-134/20
72-55-9	4,4'-DDE	ND	33.2	32.3	97	33.2	32.0	96	1	73-131/20
50-29-3	4,4'-DDT	ND	33.2	31.0	93	33.2	29.6	89	5	66-129/20
72-20-8	Endrin	ND	33.2	32.9	99	33.2	31.7	96	4	80-143/20
7421-93-4	Endrin aldehyde	ND	33.2	34.7	105	33.2	33.8	102	3	71-133/20
959-98-8	Endosulfan-I	ND	33.2	32.2	97	33.2	32.0	96	1	77-135/20
33213-65-9	Endosulfan-II	ND	33.2	32.3	97	33.2	31.7	96	2	75-134/20
1031-07-8	Endosulfan sulfate	ND	33.2	33.7	102	33.2	33.0	99	2	69-137/20
76-44-8	Heptachlor	ND	33.2	30.3	91	33.2	30.1	91	1	82-132/20
1024-57-3	Heptachlor epoxide	ND	33.2	34.1	103	33.2	33.6	101	1	79-127/20
72-43-5	Methoxychlor	ND	33.2	34.9	105	33.2	30.9	93	12	70-137/20

CAS No.	Surrogate Recoveries	MS	MSD	C33940-22	Limits
877-09-8	Tetrachloro-m-xylene	84%	82%	92%	49-127%
877-09-8	Tetrachloro-m-xylene	82%	82%	96%	49-127%
2051-24-3	Decachlorobiphenyl	102%	96%	106%	53-145%
2051-24-3	Decachlorobiphenyl	93%	94%	103%	53-145%

* = Outside of Control Limits.

8.3.2
8

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33940
 Account: ETCHIH EnviroServices and Traning Center
 Project: Kahului Harbor Parcel-Maui,HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10009-MS	HH312961.D	1	05/09/14	AG	05/08/14	OP10009	GHH1255
OP10009-MSD	HH312962.D	1	05/09/14	AG	05/08/14	OP10009	GHH1255
C33923-16	HH312947.D	1	05/08/14	AG	05/08/14	OP10009	GHH1255

The QC reported here applies to the following samples:

Method: SW846 8015B M

C33940-1, C33940-2, C33940-3, C33940-4, C33940-5, C33940-6, C33940-7, C33940-8, C33940-9

CAS No.	Compound	C33923-16 mg/kg	Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	ND	33.2	28.8	87	33.1	28.2	85	2	39-102/29
	TPH (> C28-C40)	ND	33.2	34.2	103	33.1	34.6	104	1	42-111/26

CAS No.	Surrogate Recoveries	MS	MSD	C33923-16	Limits
630-01-3	Hexacosane	112%	108%	106%	37-122%

8.3.3
8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33940
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10014-MS	GG51818.D	1	05/14/14	NN	05/09/14	OP10014	GGG1468
OP10014-MSD	GG51819.D	1	05/14/14	NN	05/09/14	OP10014	GGG1468
C33940-22	GG51817.D	1	05/14/14	NN	05/09/14	OP10014	GGG1468

The QC reported here applies to the following samples:

Method: SW846 8015B M

C33940-10, C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20, C33940-21, C33940-22

CAS No.	Compound	C33940-22 mg/kg	Spike Q	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD	
	TPH (C10-C28)	ND		33.2	30.5	92	33.2	30.0	90	2	39-102/29
	TPH (> C28-C40)	2.11	J	33.2	36.1	103	33.2	36.8	105	2	42-111/26

CAS No.	Surrogate Recoveries	MS	MSD	C33940-22	Limits
630-01-3	Hexacosane	114%	119%	122%	37-122%

8.3.4
8

* = Outside of Control Limits.

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C33940
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7824
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 05/13/14

Metal	RL	IDL	MDL	MB raw	final
Aluminum	20	1.3	2		
Antimony	2.0	.07	.087		
Arsenic	2.0	.07	.07	-0.22	<2.0
Barium	20	.04	.035	0.20	<20
Beryllium	1.0	.02	.012		
Boron	10	.09	.2		
Cadmium	1.0	.02	.015	-0.060	<1.0
Calcium	500	.71	7.6		
Chromium	1.0	.03	.054	-0.42	<1.0
Cobalt	1.0	.02	.022		
Copper	2.5	.12	.19		
Iron	20	.64	1.6		
Lead	2.0	.07	.054	-0.060	<2.0
Magnesium	500	2.7	1.5		
Manganese	1.5	.01	.054		
Molybdenum	2.0	.02	.024		
Nickel	1.0	.02	.024		
Potassium	1000	1.8	1.3		
Selenium	2.0	.18	.23	0.65	<2.0
Silicon		.12			
Silver	1.0	.03	.044	-0.11	<1.0
Sodium	1000	1.5	4.8		
Strontium	1.0	.02	.017		
Thallium	2.0	.05	.073		
Tin	50	.02	.41		
Titanium	1.0	.04	.079		
Vanadium	1.0	.03	.025		
Zinc	2.0	.03	.098		

Associated samples MP7824: C33940-1, C33940-2, C33940-3, C33940-4, C33940-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

9.1.1
9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C33940
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7824
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 05/13/14

Metal	C33923-16 Original MS		Spikelot MPIR5	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	1.7	6.6	4.94	99.2	75-125
Barium	3.0	7.6	4.94	93.1	75-125
Beryllium					
Boron					
Cadmium	0.095	5.2	4.94	103.3	75-125
Calcium					
Chromium	2.9	8.2	4.94	107.3	75-125
Cobalt					
Copper					
Iron					
Lead	0.0	3.7	4.94	74.9N(a)	75-125
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium	1.0	5.9	4.94	99.2	75-125
Silicon					
Silver	0.0	4.6	4.94	93.1	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP7824: C33940-1, C33940-2, C33940-3, C33940-4, C33940-5

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

9.1.2
9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C33940
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7824
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 05/13/14

Metal	C33923-16 Original MSD		Spikelot MPIR5 % Rec		MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	1.7	5.8	4.98	82.4	12.9	20
Barium	3.0	8.4	4.98	108.5	10.0	20
Beryllium						
Boron						
Cadmium	0.095	5.4	4.98	106.6	3.8	20
Calcium						
Chromium	2.9	8.4	4.98	110.6	2.4	20
Cobalt						
Copper						
Iron						
Lead	0.0	3.9	4.98	78.4	5.3	20
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium	1.0	6.2	4.98	104.5	5.0	20
Silicon						
Silver	0.0	4.0	4.98	80.4	14.0	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP7824: C33940-1, C33940-2, C33940-3, C33940-4, C33940-5

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

9.1.2
9

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C33940
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7824
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 05/13/14

Metal	BSP Result	Spikelot MPIR5	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	45.8	50	91.6	80-120
Barium	47.2	50	94.4	80-120
Beryllium				
Boron				
Cadmium	44.9	50	89.8	80-120
Calcium				
Chromium	50.7	50	101.4	80-120
Cobalt				
Copper				
Iron				
Lead	47.6	50	95.2	80-120
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium	45.2	50	90.4	80-120
Silicon				
Silver	44.6	50	89.2	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP7824: C33940-1, C33940-2, C33940-3, C33940-4, C33940-5

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

9.1.3
9

SERIAL DILUTION RESULTS SUMMARY

Login Number: C33940
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7824
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: ug/l

Prep Date: 05/13/14

Metal	C33923-16	Original SDL 5:25 %DIF	QC Limits
Aluminum			
Antimony			
Arsenic	167	0.00	100.0 (a) 0-10
Barium	300	268	10.6 (a) 0-10
Beryllium			
Boron			
Cadmium	9.50	53.7	465.3 (a) 0-10
Calcium			
Chromium	292	231	21.0* (b) 0-10
Cobalt			
Copper			
Iron			
Lead	0.00	0.00	NC 0-10
Magnesium			
Manganese			
Molybdenum			
Nickel			
Potassium			
Selenium	101	259	156.7 (a) 0-10
Silicon			
Silver	0.00	0.00	NC 0-10
Sodium			
Strontium			
Thallium			
Tin			
Titanium			
Vanadium			
Zinc			

Associated samples MP7824: C33940-1, C33940-2, C33940-3, C33940-4, C33940-5

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

(b) Serial dilution indicates possible matrix interference.

9.1.4
9

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C33940
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7833
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 05/14/14

Metal	RL	IDL	MDL	MB raw	final
Aluminum	20	1.3	2		
Antimony	2.0	.07	.087		
Arsenic	2.0	.07	.07	-0.31	<2.0
Barium	20	.04	.035	0.27	<20
Beryllium	1.0	.02	.012		
Boron	10	.09	.2		
Cadmium	1.0	.02	.015	0.030	<1.0
Calcium	500	.71	7.6		
Chromium	1.0	.03	.054	-0.20	<1.0
Cobalt	1.0	.02	.022		
Copper	2.5	.12	.19		
Iron	20	.64	1.6		
Lead	2.0	.07	.054	0.10	<2.0
Magnesium	500	2.7	1.5		
Manganese	1.5	.01	.054		
Molybdenum	2.0	.02	.024		
Nickel	1.0	.02	.024		
Potassium	1000	1.8	1.3		
Selenium	2.0	.18	.23	0.65	<2.0
Silicon		.12			
Silver	1.0	.03	.044	-0.010	<1.0
Sodium	1000	1.5	4.8		
Strontium	1.0	.02	.017		
Thallium	2.0	.05	.073		
Tin	50	.02	.41		
Titanium	1.0	.04	.079		
Vanadium	1.0	.03	.025		
Zinc	2.0	.03	.098		

Associated samples MP7833: C33940-6, C33940-7, C33940-8, C33940-9, C33940-10, C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20, C33940-21, C33940-22

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

9.2.1
9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C33940
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7833
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 05/14/14

Metal	C33940-6 Original MS		Spikelot MPIR5	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	5.5	11.3	4.94	117.5	75-125
Barium	3.2	7.6	4.94	89.1	75-125
Beryllium					
Boron					
Cadmium	0.13	5.3	4.94	104.7	75-125
Calcium					
Chromium	5.4	7.3	4.94	38.5N(a)	75-125
Cobalt					
Copper					
Iron					
Lead	4.4	9.7	4.94	107.4	75-125
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium	0.52	5.1	4.94	92.8	75-125
Silicon					
Silver	0.0	3.6	4.94	72.9N(a)	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP7833: C33940-6, C33940-7, C33940-8, C33940-9, C33940-10, C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20, C33940-21, C33940-22

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

9.2.2
9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C33940
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7833
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 05/14/14

Metal	C33940-6 Original MSD		Spikelot MPIR5	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	5.5	14.9	4.98	188.9N(a)	27.5 (b)	20
Barium	3.2	9.1	4.98	118.6	18.0	20
Beryllium						
Boron						
Cadmium	0.13	5.9	4.98	116.0	10.7	20
Calcium						
Chromium	5.4	9.4	4.98	80.4	25.1 (b)	20
Cobalt						
Copper						
Iron						
Lead	4.4	11.5	4.98	142.7N(a)	17.0	20
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium	0.52	6.4	4.98	118.2	22.6 (b)	20
Silicon						
Silver	0.0	5.6	4.98	112.6	43.5 (b)	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

9.2.2
9

Associated samples MP7833: C33940-6, C33940-7, C33940-8, C33940-9, C33940-10, C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20, C33940-21, C33940-22

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested
 (a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
 (b) High RPD indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C33940
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7833
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 05/14/14

Metal	BSP Result	Spikelet MPIR5	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	40.0	50	80.0	80-120
Barium	44.7	50	89.4	80-120
Beryllium				
Boron				
Cadmium	41.4	50	82.8	80-120
Calcium				
Chromium	45.3	50	90.6	80-120
Cobalt				
Copper				
Iron				
Lead	43.0	50	86.0	80-120
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium	40.8	50	81.6	80-120
Silicon				
Silver	41.1	50	82.2	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP7833: C33940-6, C33940-7, C33940-8, C33940-9, C33940-10, C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20, C33940-21, C33940-22

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

9.2.3
9

SERIAL DILUTION RESULTS SUMMARY

Login Number: C33940
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7833
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: ug/l

Prep Date: 05/14/14

Metal	C33940-6 Original SDL 10:50%DIF		QC Limits
Aluminum			
Antimony			
Arsenic	551	282	48.8* (a) 0-10
Barium	324	299	7.8 0-10
Beryllium			
Boron			
Cadmium	13.1	86.7	561.8 (b) 0-10
Calcium			
Chromium	549	180	67.2* (a) 0-10
Cobalt			
Copper			
Iron			
Lead	444	380	14.5* (a) 0-10
Magnesium			
Manganese			
Molybdenum			
Nickel			
Potassium			
Selenium	52.4	0.00	100.0 (b) 0-10
Silicon			
Silver	0.00	0.00	NC 0-10
Sodium			
Strontium			
Thallium			
Tin			
Titanium			
Vanadium			
Zinc			

Associated samples MP7833: C33940-6, C33940-7, C33940-8, C33940-9, C33940-10, C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20, C33940-21, C33940-22

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested
 (a) Serial dilution indicates possible matrix interference.
 (b) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

9.2.4
9

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C33940
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7835
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 05/13/14

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.042	.00035	.0043	0.0052	<0.042

Associated samples MP7835: C33940-1, C33940-2, C33940-3, C33940-4, C33940-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

9.3.1
9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C33940
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7835
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 05/13/14

Metal	C33951-4 Original MS	Spikelot HGPWS1	QC % Rec	QC Limits
Mercury	0.047	0.35	0.313	97.0 75-125

Associated samples MP7835: C33940-1, C33940-2, C33940-3, C33940-4, C33940-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

9.3.2
9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C33940
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7835
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 05/13/14

Metal	C33951-4 Original MSD	Spikelot HGPWS1	% Rec	MSD RPD	QC Limit
Mercury	0.047	0.36	0.308	101.7	2.8 20

Associated samples MP7835: C33940-1, C33940-2, C33940-3, C33940-4, C33940-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

9.3.2
9

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C33940
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7835
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 05/13/14

Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits
Mercury	0.16	0.167	96.0	80-120

Associated samples MP7835: C33940-1, C33940-2, C33940-3, C33940-4, C33940-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

9.3.3
9

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C33940
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7836
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 05/13/14

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.042	.00035	.0043	0.0053	<0.042

Associated samples MP7836: C33940-6, C33940-7, C33940-8, C33940-9, C33940-10, C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20, C33940-21, C33940-22

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C33940
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7836
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 05/13/14

Metal	C33940-6 Original MS	Spikelot HGPWS1	QC % Rec	QC Limits
Mercury	0.0051 0.31	0.294	103.7	75-125

Associated samples MP7836: C33940-6, C33940-7, C33940-8, C33940-9, C33940-10, C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20, C33940-21, C33940-22

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

9.4.2
9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C33940
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7836
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 05/13/14

Metal	C33940-6 Original MSD	Spikelot HGPWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0051	0.33	0.299	108.8	6.3 20

Associated samples MP7836: C33940-6, C33940-7, C33940-8, C33940-9, C33940-10, C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20, C33940-21, C33940-22

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

9.4.2
9

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C33940
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7836
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 05/13/14

Metal	BSP Result	Spikelet HGPWS1	% Rec	QC Limits
Mercury	0.16	0.167	96.0	80-120

Associated samples MP7836: C33940-6, C33940-7, C33940-8, C33940-9, C33940-10, C33940-11, C33940-12, C33940-13, C33940-14, C33940-15, C33940-16, C33940-17, C33940-18, C33940-19, C33940-20, C33940-21, C33940-22

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

9.4.3
9

Technical Report for

EnviroServices and Training Center

Kahului Harbor Parcel-Maui, HI

KAHULUI HARBOR PARCEL

Accutest Job Number: C33923

Sampling Date: 05/05/14

Report to:

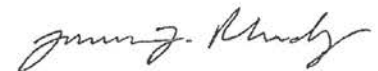
EnviroServices & Training Center
505 Ward Ave Suite 202
Honolulu, HI 96814
sharla@gotoetc.com

ATTN: Sharla Nakashima

Total number of pages in report: **208**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.



James J. Rhudy
Lab Director

Client Service contact: Nutan Kabir 408-588-0200

Certifications: OR (CA300006) CA (08258CA) AZ (AZ0762) DoD ELAP (L-A-B L2242)

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Test results relate only to samples analyzed.



June 2, 2014

Sharla Nakashima
Enviroservices & Training Center
505 Ward Ave Suite 202
Honolulu, HI 96814

Re: Accutest Job # C33923 Reissue

Dear Ms. Nakashima,

The final report for Accutest Job # **C33923**, original report dated 5/21/2014, has been edited to reflect requested corrections.

Additional results for 8015 Oil Range Organics {TPH (>C28-C40)} have been added for all samples as per your request. Revised result pages and associated QC have been incorporated into this revised report.

Please contact us at 408-588-0200 if we can be of further assistance in this matter, or if you have any questions regarding this data report.

Sincerely,

Accutest Laboratories

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Sample Summary

EnviroServices and Training Center

Job No: C33923

Kahului Harbor Parcel-Maui, HI
 Project No: KAHULUI HARBOR PARCEL

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
C33923-1	05/05/14	00:00 SN	05/08/14	SO	Soil	2003.SS1
C33923-2	05/05/14	08:40 SN	05/08/14	SO	Soil	2003.SS2
C33923-3	05/05/14	08:40 SN	05/08/14	SO	Soil	2003.SS3
C33923-4	05/05/14	08:25 SN	05/08/14	SO	Soil	2003.SS4
C33923-5	05/05/14	08:55 SN	05/08/14	SO	Soil	2003.SS5
C33923-6	05/05/14	09:25 SN	05/08/14	SO	Soil	2003.SS6
C33923-7	05/05/14	09:25 SN	05/08/14	SO	Soil	2003.SS7
C33923-8	05/05/14	10:30 SN	05/08/14	SO	Soil	2003.SS8
C33923-9	05/05/14	09:50 SN	05/08/14	SO	Soil	2003.SS9
C33923-10	05/05/14	09:50 SN	05/08/14	SO	Soil	2003.SS10
C33923-11	05/05/14	10:10 SN	05/08/14	SO	Soil	2003.SS11
C33923-12	05/05/14	10:30 SN	05/08/14	SO	Soil	2003.SS12
C33923-13	05/05/14	11:20 SN	05/08/14	SO	Soil	2003.SS13

Soil samples reported on a dry weight basis unless otherwise indicated on result page.



Sample Summary

(continued)

EnviroServices and Training Center

Job No: C33923

Kahului Harbor Parcel-Maui, HI
Project No: KAHULUI HARBOR PARCEL

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
C33923-14	05/05/14	11:10 SN	05/08/14	SO	Soil	2003.SS14
C33923-15	05/05/14	11:00 SN	05/08/14	SO	Soil	2003.SS15
C33923-16	05/05/14	11:45 SN	05/08/14	SO	Soil	2003.B2.42-54
C33923-17	05/05/14	15:45 SN	05/08/14	SO	Soil	2003.B7.48-60
C33923-18	05/05/14	14:40 SN	05/08/14	SO	Soil	2003.B9.48-60
C33923-19	05/05/14	16:00 SN	05/08/14	SO	Soil	2003.B14.48-60
C33923-20	05/05/14	16:45 SN	05/08/14	SO	Soil	2003.B15.48-60
C33923-21	05/05/14	10:10 SN	05/08/14	SO	Soil	2003.B16.48-60
C33923-22	05/05/14	10:30 SN	05/08/14	SO	Soil	2003.B17.48-60
C33923-23	05/05/14	11:20 SN	05/08/14	SO	Soil	2003.B18.48-60
C33923-24	05/05/14	11:10 SN	05/08/14	SO	Soil	2003.B19.48-60
C33923-25	05/05/14	11:00 SN	05/08/14	SO	Soil	2003.B29.48-60
C33923-26	05/05/14	11:45 SN	05/08/14	SO	Soil	2003.B30.48-60

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Summary of Hits

Job Number: C33923
 Account: EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI
 Collected: 05/05/14

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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C33923-1 2003.SS1

Benzo(a)anthracene ^a	69.7	50	12	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene ^a	98.3	50	8.5	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene ^a	189	50	10	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene ^a	90.0	50	11	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene ^a	101	50	11	ug/kg	SW846 8270C BY SIM
Chrysene ^a	157	50	10	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anthracene ^a	17.9 J	50	14	ug/kg	SW846 8270C BY SIM
Fluoranthene ^a	284	250	25	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene ^a	92.8	50	12	ug/kg	SW846 8270C BY SIM
Phenanthrene ^a	84.7 J	250	25	ug/kg	SW846 8270C BY SIM
Pyrene ^a	218 J	250	25	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)	50.8	50	12	mg/kg	SW846 8015B M
TPH (> C28-C40)	273	100	25	mg/kg	SW846 8015B M
Arsenic ^b	7.4	2.0		mg/kg	SW846 6010B
Barium ^b	90.5	20		mg/kg	SW846 6010B
Cadmium ^b	18.8	1.0		mg/kg	SW846 6010B
Chromium ^b	126	1.0		mg/kg	SW846 6010B
Lead ^b	35.6	2.0		mg/kg	SW846 6010B
Mercury	0.080	0.040		mg/kg	SW846 7471A

C33923-2 2003.SS2

Benzo(b)fluoranthene ^a	298 J	1300	270	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene ^a	325 J	1300	290	ug/kg	SW846 8270C BY SIM
Chrysene ^a	277 J	1300	270	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)	184	170	42	mg/kg	SW846 8015B M
TPH (> C28-C40)	1550	330	83	mg/kg	SW846 8015B M
Arsenic ^b	11.1	2.0		mg/kg	SW846 6010B
Barium ^b	61.4	20		mg/kg	SW846 6010B
Cadmium ^b	1.7	1.0		mg/kg	SW846 6010B
Chromium ^b	26.5	1.0		mg/kg	SW846 6010B
Lead ^b	94.6	2.0		mg/kg	SW846 6010B

C33923-3 2003.SS3

Benzo(a)anthracene ^a	89.5 J	100	25	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene ^a	117	100	17	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene ^a	176	100	20	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene ^a	132	100	22	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene ^a	109	100	23	ug/kg	SW846 8270C BY SIM
Chrysene ^a	157	100	20	ug/kg	SW846 8270C BY SIM
Fluoranthene ^a	250 J	500	50	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene ^a	98.1 J	100	25	ug/kg	SW846 8270C BY SIM

Summary of Hits

Job Number: C33923
 Account: EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI
 Collected: 05/05/14

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Phenanthrene ^a		85.9 J	500	50	ug/kg	SW846 8270C BY SIM
Pyrene ^a		237 J	500	50	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)		795	500	120	mg/kg	SW846 8015B M
TPH (> C28-C40)		3890	990	250	mg/kg	SW846 8015B M
Arsenic		8.4	2.0		mg/kg	SW846 6010B
Barium		107	20		mg/kg	SW846 6010B
Cadmium		2.6	0.99		mg/kg	SW846 6010B
Chromium		31.0	0.99		mg/kg	SW846 6010B
Lead		116	2.0		mg/kg	SW846 6010B
Mercury		0.058	0.036		mg/kg	SW846 7471A

C33923-4 2003.SS4

Benzo(a)anthracene ^a		37.7	20	5.0	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene ^a		70.8	20	3.4	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene ^a		115	20	4.0	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene ^a		76.2	20	4.4	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene ^a		81.3	20	4.6	ug/kg	SW846 8270C BY SIM
Chrysene ^a		108	20	4.0	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anthracene ^a		8.6 J	20	5.5	ug/kg	SW846 8270C BY SIM
Fluoranthene ^a		195	99	9.9	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene ^a		69.6	20	5.0	ug/kg	SW846 8270C BY SIM
Phenanthrene ^a		77.9 J	99	9.9	ug/kg	SW846 8270C BY SIM
Pyrene ^a		160	99	9.9	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)		115	66	17	mg/kg	SW846 8015B M
TPH (> C28-C40)		471	130	33	mg/kg	SW846 8015B M
Arsenic ^b		14.3	2.0		mg/kg	SW846 6010B
Barium ^b		65.4	20		mg/kg	SW846 6010B
Cadmium ^b		1.0	1.0		mg/kg	SW846 6010B
Chromium ^b		40.1	1.0		mg/kg	SW846 6010B
Lead ^b		64.9	2.0		mg/kg	SW846 6010B
Silver ^b		1.6	1.0		mg/kg	SW846 6010B

C33923-5 2003.SS5

Benzo(a)anthracene ^a		63.9	50	12	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene ^a		100	50	8.5	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene ^a		167	50	10	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene ^a		110	50	11	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene ^a		95.2	50	11	ug/kg	SW846 8270C BY SIM
Chrysene ^a		143	50	10	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anthracene ^a		16.5 J	50	14	ug/kg	SW846 8270C BY SIM
Fluoranthene ^a		256	250	25	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene ^a		108	50	12	ug/kg	SW846 8270C BY SIM
Phenanthrene ^a		100 J	250	25	ug/kg	SW846 8270C BY SIM

Summary of Hits

Job Number: C33923
 Account: EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI
 Collected: 05/05/14

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Pyrene ^a		214 J	250	25	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)		519	83	21	mg/kg	SW846 8015B M
TPH (> C28-C40)		845	170	42	mg/kg	SW846 8015B M
Arsenic ^b		8.0	2.0		mg/kg	SW846 6010B
Barium ^b		68.2	20		mg/kg	SW846 6010B
Cadmium ^b		1.1	0.99		mg/kg	SW846 6010B
Chromium ^b		27.9	0.99		mg/kg	SW846 6010B
Lead ^b		76.7	2.0		mg/kg	SW846 6010B

C33923-6 2003.SS6

Benzo(a)anthracene ^a		125 J	170	42	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene ^a		111 J	170	28	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene ^a		292	170	33	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene ^a		119 J	170	37	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene ^a		122 J	170	38	ug/kg	SW846 8270C BY SIM
Chrysene ^a		304	170	33	ug/kg	SW846 8270C BY SIM
Fluoranthene ^a		495 J	830	83	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene ^a		112 J	170	42	ug/kg	SW846 8270C BY SIM
Phenanthrene ^a		134 J	830	83	ug/kg	SW846 8270C BY SIM
Pyrene ^a		417 J	830	83	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)		975	410	100	mg/kg	SW846 8015B M
TPH (> C28-C40)		5010	830	210	mg/kg	SW846 8015B M
Arsenic ^b		18.8	2.0		mg/kg	SW846 6010B
Barium ^b		64.8	20		mg/kg	SW846 6010B
Cadmium ^b		2.0	1.0		mg/kg	SW846 6010B
Chromium ^b		50.6	1.0		mg/kg	SW846 6010B
Lead ^b		76.5	2.0		mg/kg	SW846 6010B
Silver ^b		1.0	1.0		mg/kg	SW846 6010B

C33923-7 2003.SS7

Benzo(a)anthracene ^a		133	99	25	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene ^a		192	99	17	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene ^a		273	99	20	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene ^a		199	99	22	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene ^a		229	99	23	ug/kg	SW846 8270C BY SIM
Chrysene ^a		260	99	20	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anthracene ^a		39.1 J	99	28	ug/kg	SW846 8270C BY SIM
Fluoranthene ^a		407 J	500	50	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene ^a		189	99	25	ug/kg	SW846 8270C BY SIM
Phenanthrene ^a		165 J	500	50	ug/kg	SW846 8270C BY SIM
Pyrene ^a		361 J	500	50	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)		332	83	21	mg/kg	SW846 8015B M
TPH (> C28-C40)		986	170	41	mg/kg	SW846 8015B M

Summary of Hits

Job Number: C33923
Account: EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI
Collected: 05/05/14

Lab Sample ID	Client Sample ID	Result/ Analyte	Qual	RL	MDL	Units	Method
		Arsenic ^b	13.3	2.0		mg/kg	SW846 6010B
		Barium ^b	66.2	20		mg/kg	SW846 6010B
		Cadmium ^b	1.5	0.99		mg/kg	SW846 6010B
		Chromium ^b	35.2	0.99		mg/kg	SW846 6010B
		Lead ^b	73.9	2.0		mg/kg	SW846 6010B

C33923-8 2003.SS8

		Benzo(a)anthracene ^a	85.3	50	12	ug/kg	SW846 8270C BY SIM
		Benzo(a)pyrene ^a	135	50	8.5	ug/kg	SW846 8270C BY SIM
		Benzo(b)fluoranthene ^a	177	50	10	ug/kg	SW846 8270C BY SIM
		Benzo(g,h,i)perylene ^a	143	50	11	ug/kg	SW846 8270C BY SIM
		Benzo(k)fluoranthene ^a	168	50	11	ug/kg	SW846 8270C BY SIM
		Chrysene ^a	215	50	10	ug/kg	SW846 8270C BY SIM
		Dibenzo(a,h)anthracene ^a	17.7 J	50	14	ug/kg	SW846 8270C BY SIM
		Fluoranthene ^a	309	250	25	ug/kg	SW846 8270C BY SIM
		Indeno(1,2,3-cd)pyrene ^a	134	50	12	ug/kg	SW846 8270C BY SIM
		Phenanthrene ^a	222 J	250	25	ug/kg	SW846 8270C BY SIM
		Pyrene ^a	328	250	25	ug/kg	SW846 8270C BY SIM
		TPH (C10-C28)	687	83	21	mg/kg	SW846 8015B M
		TPH (> C28-C40)	1090	170	42	mg/kg	SW846 8015B M
		Arsenic ^b	10	2.0		mg/kg	SW846 6010B
		Barium ^b	55.6	20		mg/kg	SW846 6010B
		Cadmium ^b	2.5	1.0		mg/kg	SW846 6010B
		Chromium ^b	34.0	1.0		mg/kg	SW846 6010B
		Lead ^b	80.5	2.0		mg/kg	SW846 6010B
		Mercury	0.068	0.041		mg/kg	SW846 7471A

C33923-9 2003.SS9

		Acenaphthene ^a	27.7 J	250	25	ug/kg	SW846 8270C BY SIM
		Acenaphthylene ^a	31.1 J	250	25	ug/kg	SW846 8270C BY SIM
		Anthracene ^a	26.1 J	250	25	ug/kg	SW846 8270C BY SIM
		Benzo(a)anthracene ^a	457	50	12	ug/kg	SW846 8270C BY SIM
		Benzo(a)pyrene ^a	680	50	8.5	ug/kg	SW846 8270C BY SIM
		Benzo(b)fluoranthene ^a	1150	50	10	ug/kg	SW846 8270C BY SIM
		Benzo(g,h,i)perylene ^a	601	50	11	ug/kg	SW846 8270C BY SIM
		Benzo(k)fluoranthene ^a	694	50	11	ug/kg	SW846 8270C BY SIM
		Chrysene ^a	1040	50	10	ug/kg	SW846 8270C BY SIM
		Dibenzo(a,h)anthracene ^a	92.9	50	14	ug/kg	SW846 8270C BY SIM
		Fluoranthene ^a	2000	250	25	ug/kg	SW846 8270C BY SIM
		Indeno(1,2,3-cd)pyrene ^a	624	50	12	ug/kg	SW846 8270C BY SIM
		1-Methylnaphthalene ^a	67.3 J	250	50	ug/kg	SW846 8270C BY SIM
		Phenanthrene ^a	1420	250	25	ug/kg	SW846 8270C BY SIM
		Pyrene ^a	1640	250	25	ug/kg	SW846 8270C BY SIM

Summary of Hits

Job Number: C33923
 Account: EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI
 Collected: 05/05/14

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TPH (C10-C28)		266 J	330	83	mg/kg	SW846 8015B M
TPH (> C28-C40)		1940	670	170	mg/kg	SW846 8015B M
Arsenic ^b		12.5	2.0		mg/kg	SW846 6010B
Barium ^b		93.2	20		mg/kg	SW846 6010B
Cadmium ^b		1.7	0.99		mg/kg	SW846 6010B
Chromium ^b		45.3	0.99		mg/kg	SW846 6010B
Lead ^b		113	2.0		mg/kg	SW846 6010B
Mercury		0.15	0.042		mg/kg	SW846 7471A

C33923-10 2003.SS10

Benzo(a)anthracene ^a		333	170	42	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene ^a		495	170	28	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene ^a		640	170	33	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene ^a		447	170	37	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene ^a		613	170	38	ug/kg	SW846 8270C BY SIM
Chrysene ^a		645	170	33	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anthracene ^a		64.7 J	170	47	ug/kg	SW846 8270C BY SIM
Fluoranthene ^a		1330	830	83	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene ^a		407	170	42	ug/kg	SW846 8270C BY SIM
Phenanthrene ^a		748 J	830	83	ug/kg	SW846 8270C BY SIM
Pyrene ^a		1080	830	83	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)		139	83	21	mg/kg	SW846 8015B M
TPH (> C28-C40)		861	170	41	mg/kg	SW846 8015B M
Arsenic ^b		10.5	2.0		mg/kg	SW846 6010B
Barium ^b		78.8	20		mg/kg	SW846 6010B
Cadmium ^b		1.8	1.0		mg/kg	SW846 6010B
Chromium ^b		59.5	1.0		mg/kg	SW846 6010B
Lead ^b		102	2.0		mg/kg	SW846 6010B
Mercury		0.15	0.041		mg/kg	SW846 7471A
Silver ^b		1.4	1.0		mg/kg	SW846 6010B

C33923-11 2003.SS11

Benzo(a)anthracene ^a		624	330	83	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene ^a		893	330	57	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene ^a		1590	330	67	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene ^a		749	330	73	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene ^a		759	330	77	ug/kg	SW846 8270C BY SIM
Chrysene ^a		1290	330	67	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anthracene ^a		133 J	330	93	ug/kg	SW846 8270C BY SIM
Fluoranthene ^a		2570	1700	170	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene ^a		694	330	83	ug/kg	SW846 8270C BY SIM
Phenanthrene ^a		1420 J	1700	170	ug/kg	SW846 8270C BY SIM
Pyrene ^a		2150	1700	170	ug/kg	SW846 8270C BY SIM

Summary of Hits

Job Number: C33923
 Account: EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI
 Collected: 05/05/14

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TPH (C10-C28)		317	160	41	mg/kg	SW846 8015B M
TPH (> C28-C40)		1730	330	82	mg/kg	SW846 8015B M
Arsenic ^b		52.6	2.0		mg/kg	SW846 6010B
Barium ^b		134	20		mg/kg	SW846 6010B
Cadmium ^b		4.6	1.0		mg/kg	SW846 6010B
Chromium ^b		55.6	1.0		mg/kg	SW846 6010B
Lead ^b		1400	2.0		mg/kg	SW846 6010B
Mercury		0.047	0.036		mg/kg	SW846 7471A

C33923-12 2003.SS12

Benzo(a)anthracene ^a	247 J	330	83	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene ^a	311 J	330	56	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene ^a	486	330	66	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene ^a	391	330	73	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene ^a	322 J	330	76	ug/kg	SW846 8270C BY SIM
Chrysene ^a	433	330	66	ug/kg	SW846 8270C BY SIM
Fluoranthene ^a	646 J	1700	170	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene ^a	294 J	330	83	ug/kg	SW846 8270C BY SIM
Phenanthrene ^a	372 J	1700	170	ug/kg	SW846 8270C BY SIM
Pyrene ^a	733 J	1700	170	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)	3660	660	170	mg/kg	SW846 8015B M
TPH (> C28-C40)	8470	1300	330	mg/kg	SW846 8015B M
Arsenic ^b	24.7	2.0		mg/kg	SW846 6010B
Barium ^b	134	20		mg/kg	SW846 6010B
Cadmium ^b	3.2	1.0		mg/kg	SW846 6010B
Chromium ^b	50.2	1.0		mg/kg	SW846 6010B
Lead ^b	200	2.0		mg/kg	SW846 6010B
Mercury	0.077	0.041		mg/kg	SW846 7471A
Silver ^b	2.3	1.0		mg/kg	SW846 6010B

C33923-13 2003.SS13

Benzo(a)anthracene ^a	440	100	25	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene ^a	660	100	17	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene ^a	849	100	20	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene ^a	598	100	22	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene ^a	717	100	23	ug/kg	SW846 8270C BY SIM
Chrysene ^a	836	100	20	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anthracene ^a	133	100	28	ug/kg	SW846 8270C BY SIM
Fluoranthene ^a	1480	500	50	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene ^a	471	100	25	ug/kg	SW846 8270C BY SIM
Phenanthrene ^a	734	500	50	ug/kg	SW846 8270C BY SIM
Pyrene ^a	1340	500	50	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)	246	83	21	mg/kg	SW846 8015B M

Summary of Hits

Job Number: C33923
 Account: EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI
 Collected: 05/05/14

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TPH (> C28-C40)		903	170	41	mg/kg	SW846 8015B M
Arsenic ^b		11.9	2.0		mg/kg	SW846 6010B
Barium ^b		118	20		mg/kg	SW846 6010B
Cadmium ^b		1.3	1.0		mg/kg	SW846 6010B
Chromium ^b		36.0	1.0		mg/kg	SW846 6010B
Lead ^b		121	2.0		mg/kg	SW846 6010B
Mercury		0.16	0.037		mg/kg	SW846 7471A
Silver ^b		1.5	1.0		mg/kg	SW846 6010B

C33923-14 2003.SS14

Benzo(a)anthracene ^a		538	100	25	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene ^a		749	100	17	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene ^a		1180	100	20	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene ^a		547	100	22	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene ^a		656	100	23	ug/kg	SW846 8270C BY SIM
Chrysene ^a		917	100	20	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anthracene ^a		104	100	28	ug/kg	SW846 8270C BY SIM
Fluoranthene ^a		1680	500	50	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene ^a		583	100	25	ug/kg	SW846 8270C BY SIM
Phenanthrene ^a		793	500	50	ug/kg	SW846 8270C BY SIM
Pyrene ^a		1480	500	50	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)		77.8	66	17	mg/kg	SW846 8015B M
TPH (> C28-C40)		642	130	33	mg/kg	SW846 8015B M
Arsenic ^b		17.7	2.0		mg/kg	SW846 6010B
Barium ^b		107	20		mg/kg	SW846 6010B
Cadmium ^b		1.4	1.0		mg/kg	SW846 6010B
Chromium ^b		47.4	1.0		mg/kg	SW846 6010B
Lead ^b		164	2.0		mg/kg	SW846 6010B
Mercury		0.085	0.039		mg/kg	SW846 7471A

C33923-15 2003.SS15

Benzo(a)anthracene ^a		527	170	41	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene ^a		806	170	28	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene ^a		1340	170	33	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene ^a		599	170	36	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene ^a		661	170	38	ug/kg	SW846 8270C BY SIM
Chrysene ^a		1040	170	33	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anthracene ^a		115 J	170	46	ug/kg	SW846 8270C BY SIM
Fluoranthene ^a		1720	830	83	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene ^a		615	170	41	ug/kg	SW846 8270C BY SIM
Phenanthrene ^a		857	830	83	ug/kg	SW846 8270C BY SIM
Pyrene ^a		1640	830	83	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)		127	66	17	mg/kg	SW846 8015B M

Summary of Hits

Job Number: C33923
 Account: EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI
 Collected: 05/05/14

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TPH (> C28-C40)		744	130	33	mg/kg	SW846 8015B M
Arsenic ^b		19.6	2.0		mg/kg	SW846 6010B
Barium ^b		254	20		mg/kg	SW846 6010B
Cadmium ^b		1.6	0.99		mg/kg	SW846 6010B
Chromium ^b		54.6	0.99		mg/kg	SW846 6010B
Lead ^b		197	2.0		mg/kg	SW846 6010B
Mercury		0.19	0.037		mg/kg	SW846 7471A
Silver ^b		1.2	0.99		mg/kg	SW846 6010B
C33923-16 2003.B2.42-54						
Benzo(g,h,i)perylene ^c		0.87 J	3.3	0.73	ug/kg	SW846 8270C BY SIM
Chromium ^b		2.9	0.50		mg/kg	SW846 6010B
C33923-17 2003.B7.48-60						
Acenaphthene ^d		227 J	500	50	ug/kg	SW846 8270C BY SIM
Acenaphthylene ^d		66.3 J	500	50	ug/kg	SW846 8270C BY SIM
Anthracene ^d		672	500	50	ug/kg	SW846 8270C BY SIM
Benzo(a)anthracene ^d		3710	99	25	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene ^d		3470	99	17	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene ^d		3800	99	20	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene ^d		1660	99	22	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene ^d		3030	99	23	ug/kg	SW846 8270C BY SIM
Chrysene ^d		4340	99	20	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anthracene ^d		335	99	28	ug/kg	SW846 8270C BY SIM
Fluoranthene ^d		9580	500	50	ug/kg	SW846 8270C BY SIM
Fluorene ^d		291 J	500	50	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene ^d		2240	99	25	ug/kg	SW846 8270C BY SIM
1-Methylnaphthalene ^d		182 J	500	99	ug/kg	SW846 8270C BY SIM
2-Methylnaphthalene ^d		107 J	500	99	ug/kg	SW846 8270C BY SIM
Naphthalene ^d		101 J	500	99	ug/kg	SW846 8270C BY SIM
Phenanthrene ^d		5680	500	50	ug/kg	SW846 8270C BY SIM
Pyrene ^d		7670	500	50	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)		239	50	12	mg/kg	SW846 8015B M
TPH (> C28-C40)		409	99	25	mg/kg	SW846 8015B M
Chromium ^b		3.3	0.50		mg/kg	SW846 6010B
C33923-18 2003.B9.48-60						
Arsenic ^b		5.1	4.0		mg/kg	SW846 6010B
Chromium ^b		3.3	0.50		mg/kg	SW846 6010B

Summary of Hits

Job Number: C33923
Account: EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI
Collected: 05/05/14

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
C33923-19		2003.B14.48-60				
TPH (> C28-C40)		2.03 J	6.6	1.7	mg/kg	SW846 8015B M
Chromium ^b		2.5	0.49		mg/kg	SW846 6010B
C33923-20		2003.B15.48-60				
Benzo(a)pyrene		0.96 J	3.3	0.56	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene		0.90 J	3.3	0.66	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene		5.2	3.3	0.73	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene		0.86 J	3.3	0.76	ug/kg	SW846 8270C BY SIM
Chrysene		1.0 J	3.3	0.66	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene		1.4 J	3.3	0.83	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)		20.8	3.3	0.83	mg/kg	SW846 8015B M
TPH (> C28-C40)		33.6	6.7	1.7	mg/kg	SW846 8015B M
Chromium ^b		3.2	0.50		mg/kg	SW846 6010B
Lead ^b		17.0	4.0		mg/kg	SW846 6010B
C33923-21		2003.B16.48-60				
Benzo(g,h,i)perylene ^a		241 J	660	150	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene ^a		212 J	660	170	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)		2350	830	210	mg/kg	SW846 8015B M
TPH (> C28-C40)		3440	1700	420	mg/kg	SW846 8015B M
Chromium ^b		2.6	0.49		mg/kg	SW846 6010B
C33923-22		2003.B17.48-60				
Benzo(g,h,i)perylene ^c		3.6 J	13	2.9	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene ^c		3.4 J	13	3.3	ug/kg	SW846 8270C BY SIM
TPH (> C28-C40)		2.67 J	6.6	1.7	mg/kg	SW846 8015B M
Chromium ^b		2.2	0.50		mg/kg	SW846 6010B
C33923-23		2003.B18.48-60				
Benzo(a)anthracene ^a		215	100	25	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene ^a		295	100	17	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene ^a		327	100	20	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene ^a		298	100	22	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene ^a		303	100	23	ug/kg	SW846 8270C BY SIM
Chrysene ^a		359	100	20	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anthracene ^a		91.9 J	100	28	ug/kg	SW846 8270C BY SIM
Fluoranthene ^a		557	500	50	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene ^a		305	100	25	ug/kg	SW846 8270C BY SIM
Phenanthrene ^a		281 J	500	50	ug/kg	SW846 8270C BY SIM

Summary of Hits

Job Number: C33923
Account: EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI
Collected: 05/05/14

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Pyrene ^a		531	500	50	ug/kg	SW846 8270C BY SIM
TPH (C10-C28)		53.4	50	12	mg/kg	SW846 8015B M
TPH (> C28-C40)		231	99	25	mg/kg	SW846 8015B M
Chromium ^b		3.2	0.20		mg/kg	SW846 6010B
C33923-24 2003.B19.48-60						
Benzo(g,h,i)perylene		1.2 J	3.3	0.73	ug/kg	SW846 8270C BY SIM
TPH (> C28-C40)		3.04 J	6.6	1.7	mg/kg	SW846 8015B M
Chromium ^b		2.8	0.49		mg/kg	SW846 6010B
C33923-25 2003.B29.48-60						
Chromium ^b		3.2	0.49		mg/kg	SW846 6010B
C33923-26 2003.B30.48-60						
Chromium ^b		2.8	0.50		mg/kg	SW846 6010B

- (a) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.
- (c) ISTD #6 outside of control limits due to matrix interference. Confirmed by re-analysis.
- (d) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).
- (e) Dilution required due to matrix interference (dark and viscous extract).

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: 2003.SS1		Date Sampled: 05/05/14
Lab Sample ID: C33923-1		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	T14199.D	10	05/20/14	MT	05/13/14	OP10029	ET629
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.5 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	250	25	ug/kg	
208-96-8	Acenaphthylene	ND	250	25	ug/kg	
120-12-7	Anthracene	ND	250	25	ug/kg	
56-55-3	Benzo(a)anthracene	69.7	50	12	ug/kg	
50-32-8	Benzo(a)pyrene	98.3	50	8.5	ug/kg	
205-99-2	Benzo(b)fluoranthene	189	50	10	ug/kg	
191-24-2	Benzo(g,h,i)perylene	90.0	50	11	ug/kg	
207-08-9	Benzo(k)fluoranthene	101	50	11	ug/kg	
218-01-9	Chrysene	157	50	10	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	17.9	50	14	ug/kg	J
206-44-0	Fluoranthene	284	250	25	ug/kg	
86-73-7	Fluorene	ND	250	25	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	92.8	50	12	ug/kg	
90-12-0	1-Methylnaphthalene	ND	250	50	ug/kg	
91-57-6	2-Methylnaphthalene	ND	250	50	ug/kg	
91-20-3	Naphthalene	ND	250	50	ug/kg	
85-01-8	Phenanthrene	84.7	250	25	ug/kg	J
129-00-0	Pyrene	218	250	25	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	68%		13-123%
321-60-8	2-Fluorobiphenyl	75%		17-126%
1718-51-0	Terphenyl-d14	109%		51-146%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS1		Date Sampled: 05/05/14
Lab Sample ID: C33923-1		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021908.D	20	05/13/14	RV	05/13/14	OP10030	GMM649
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	67	8.0	ug/kg	
319-84-6	alpha-BHC	ND	67	7.3	ug/kg	
319-85-7	beta-BHC	ND	67	16	ug/kg	
319-86-8	delta-BHC	ND	67	8.0	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	67	8.0	ug/kg	
12789-03-6	Chlordane	ND	670	67	ug/kg	
60-57-1	Dieldrin	ND	67	12	ug/kg	
72-54-8	4,4'-DDD	ND	67	14	ug/kg	
72-55-9	4,4'-DDE	ND	67	12	ug/kg	
50-29-3	4,4'-DDT	ND	67	10	ug/kg	
72-20-8	Endrin	ND	67	12	ug/kg	
7421-93-4	Endrin aldehyde	ND	67	12	ug/kg	
959-98-8	Endosulfan-I	ND	67	11	ug/kg	
33213-65-9	Endosulfan-II	ND	67	12	ug/kg	
1031-07-8	Endosulfan sulfate	ND	67	11	ug/kg	
76-44-8	Heptachlor	ND	67	9.3	ug/kg	
1024-57-3	Heptachlor epoxide	ND	67	10	ug/kg	
72-43-5	Methoxychlor	ND	67	11	ug/kg	
8001-35-2	Toxaphene	ND	670	130	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	77%		49-127%
877-09-8	Tetrachloro-m-xylene	74%		49-127%
2051-24-3	Decachlorobiphenyl	80%		53-145%
2051-24-3	Decachlorobiphenyl	92%		53-145%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot at a lower reporting limit but CCV's failed due to carry-over.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.1
3

Client Sample ID: 2003.SS1		Date Sampled: 05/05/14
Lab Sample ID: C33923-1		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH313093.D	10	05/14/14	AG	05/13/14	OP10027	GHH1259
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.5 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	50.8	50	12	mg/kg	
	TPH (> C28-C40)	273	100	25	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	91%		37-122%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS1	Date Sampled: 05/05/14
Lab Sample ID: C33923-1	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	7.4	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Barium ^b	90.5	20	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Cadmium ^b	18.8	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Chromium ^b	126	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Lead ^b	35.6	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Mercury	0.080	0.040	mg/kg	1	05/14/14	05/15/14 EB	SW846 7471A ¹	SW846 7471A ³
Selenium ^b	< 2.0	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Silver ^b	< 1.0	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴

- (1) Instrument QC Batch: MA3958
(2) Instrument QC Batch: MA3964
(3) Prep QC Batch: MP7841
(4) Prep QC Batch: MP7843

- (a) Percent solids not analyzed. Sample was air dried prior to analysis.
(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.SS2		Date Sampled: 05/05/14
Lab Sample ID: C33923-2		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	T14185.D	40	05/19/14	MT	05/13/14	OP10029	ET629
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	6600	660	ug/kg	
208-96-8	Acenaphthylene	ND	6600	660	ug/kg	
120-12-7	Anthracene	ND	6600	660	ug/kg	
56-55-3	Benzo(a)anthracene	ND	1300	330	ug/kg	
50-32-8	Benzo(a)pyrene	ND	1300	230	ug/kg	
205-99-2	Benzo(b)fluoranthene	298	1300	270	ug/kg	J
191-24-2	Benzo(g,h,i)perylene	325	1300	290	ug/kg	J
207-08-9	Benzo(k)fluoranthene	ND	1300	310	ug/kg	
218-01-9	Chrysene	277	1300	270	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	1300	370	ug/kg	
206-44-0	Fluoranthene	ND	6600	660	ug/kg	
86-73-7	Fluorene	ND	6600	660	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1300	330	ug/kg	
90-12-0	1-Methylnaphthalene	ND	6600	1300	ug/kg	
91-57-6	2-Methylnaphthalene	ND	6600	1300	ug/kg	
91-20-3	Naphthalene	ND	6600	1300	ug/kg	
85-01-8	Phenanthrene	ND	6600	660	ug/kg	
129-00-0	Pyrene	ND	6600	660	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	82%		13-123%
321-60-8	2-Fluorobiphenyl	93%		17-126%
1718-51-0	Terphenyl-d14	92%		51-146%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS2		Date Sampled: 05/05/14
Lab Sample ID: C33923-2		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021906.D	100	05/13/14	RV	05/13/14	OP10030	GMM649
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	330	40	ug/kg	
319-84-6	alpha-BHC	ND	330	37	ug/kg	
319-85-7	beta-BHC	ND	330	80	ug/kg	
319-86-8	delta-BHC	ND	330	40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	330	40	ug/kg	
12789-03-6	Chlordane	ND	3300	330	ug/kg	
60-57-1	Dieldrin	ND	330	60	ug/kg	
72-54-8	4,4'-DDD	ND	330	70	ug/kg	
72-55-9	4,4'-DDE	ND	330	60	ug/kg	
50-29-3	4,4'-DDT	ND	330	50	ug/kg	
72-20-8	Endrin	ND	330	60	ug/kg	
7421-93-4	Endrin aldehyde	ND	330	60	ug/kg	
959-98-8	Endosulfan-I	ND	330	57	ug/kg	
33213-65-9	Endosulfan-II	ND	330	60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	330	57	ug/kg	
76-44-8	Heptachlor	ND	330	47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	330	50	ug/kg	
72-43-5	Methoxychlor	ND	330	53	ug/kg	
8001-35-2	Toxaphene	ND	3300	670	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	57%		49-127%
877-09-8	Tetrachloro-m-xylene	53%		49-127%
2051-24-3	Decachlorobiphenyl	88%		53-145%
2051-24-3	Decachlorobiphenyl	52% ^c		53-145%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot at a lower reporting limit but CCV's failed due to carry-over.

(c) Outside control limits due to dilution.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

3.2
3

Client Sample ID: 2003.SS2	Date Sampled: 05/05/14
Lab Sample ID: C33923-2	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui,HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH313065.D	5	05/13/14	AG	05/13/14	OP10027	GHH1258
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	184	170	42	mg/kg	
	TPH (> C28-C40)	1550	330	83	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	57%		37-122%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.2
3

Client Sample ID: 2003.SS2	Date Sampled: 05/05/14
Lab Sample ID: C33923-2	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui,HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	11.1	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Barium ^b	61.4	20	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Cadmium ^b	1.7	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Chromium ^b	26.5	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Lead ^b	94.6	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Mercury	< 0.040	0.040	mg/kg	1	05/14/14	05/15/14 EB	SW846 7471A ¹	SW846 7471A ³
Selenium ^b	< 2.0	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Silver ^b	< 1.0	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴

- (1) Instrument QC Batch: MA3958
- (2) Instrument QC Batch: MA3964
- (3) Prep QC Batch: MP7841
- (4) Prep QC Batch: MP7843

- (a) Percent solids not analyzed. Sample was air dried prior to analysis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.SS3		Date Sampled: 05/05/14
Lab Sample ID: C33923-3		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	T14186.D	20	05/19/14	MT	05/13/14	OP10029	ET629
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.5 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	500	50	ug/kg	
208-96-8	Acenaphthylene	ND	500	50	ug/kg	
120-12-7	Anthracene	ND	500	50	ug/kg	
56-55-3	Benzo(a)anthracene	89.5	100	25	ug/kg	J
50-32-8	Benzo(a)pyrene	117	100	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	176	100	20	ug/kg	
191-24-2	Benzo(g,h,i)perylene	132	100	22	ug/kg	
207-08-9	Benzo(k)fluoranthene	109	100	23	ug/kg	
218-01-9	Chrysene	157	100	20	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	100	28	ug/kg	
206-44-0	Fluoranthene	250	500	50	ug/kg	J
86-73-7	Fluorene	ND	500	50	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	98.1	100	25	ug/kg	J
90-12-0	1-Methylnaphthalene	ND	500	100	ug/kg	
91-57-6	2-Methylnaphthalene	ND	500	100	ug/kg	
91-20-3	Naphthalene	ND	500	100	ug/kg	
85-01-8	Phenanthrene	85.9	500	50	ug/kg	J
129-00-0	Pyrene	237	500	50	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	72%		13-123%
321-60-8	2-Fluorobiphenyl	81%		17-126%
1718-51-0	Terphenyl-d14	92%		51-146%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.3
3

Client Sample ID: 2003.SS3		Date Sampled: 05/05/14
Lab Sample ID: C33923-3		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021907.D	50	05/13/14	RV	05/13/14	OP10030	GMM649
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	170	20	ug/kg	
319-84-6	alpha-BHC	ND	170	18	ug/kg	
319-85-7	beta-BHC	ND	170	40	ug/kg	
319-86-8	delta-BHC	ND	170	20	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	170	20	ug/kg	
12789-03-6	Chlordane	ND	1700	170	ug/kg	
60-57-1	Dieldrin	ND	170	30	ug/kg	
72-54-8	4,4'-DDD	ND	170	35	ug/kg	
72-55-9	4,4'-DDE	ND	170	30	ug/kg	
50-29-3	4,4'-DDT	ND	170	25	ug/kg	
72-20-8	Endrin	ND	170	30	ug/kg	
7421-93-4	Endrin aldehyde	ND	170	30	ug/kg	
959-98-8	Endosulfan-I	ND	170	28	ug/kg	
33213-65-9	Endosulfan-II	ND	170	30	ug/kg	
1031-07-8	Endosulfan sulfate	ND	170	28	ug/kg	
76-44-8	Heptachlor	ND	170	23	ug/kg	
1024-57-3	Heptachlor epoxide	ND	170	25	ug/kg	
72-43-5	Methoxychlor	ND	170	27	ug/kg	
8001-35-2	Toxaphene	ND	1700	330	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	93%		49-127%
877-09-8	Tetrachloro-m-xylene	85%		49-127%
2051-24-3	Decachlorobiphenyl	105%		53-145%
2051-24-3	Decachlorobiphenyl	123%		53-145%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot at a lower reporting limit but CCV's failed due to carry-over.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.3
3

Client Sample ID: 2003.SS3		Date Sampled: 05/05/14
Lab Sample ID: C33923-3		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH313066.D	100	05/13/14	AG	05/13/14	OP10027	GHH1258
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	1.5 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	795	500	120	mg/kg	
	TPH (> C28-C40)	3890	990	250	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	69%		37-122%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.3
3

Client Sample ID: 2003.SS3	Date Sampled: 05/05/14
Lab Sample ID: C33923-3	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	8.4	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Barium	107	20	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Cadmium	2.6	0.99	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Chromium	31.0	0.99	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Lead	116	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Mercury	0.058	0.036	mg/kg	1	05/14/14	05/15/14 EB	SW846 7471A ¹	SW846 7471A ³
Selenium	< 2.0	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Silver	< 0.99	0.99	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴

- (1) Instrument QC Batch: MA3958
- (2) Instrument QC Batch: MA3964
- (3) Prep QC Batch: MP7841
- (4) Prep QC Batch: MP7843

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.SS4	Date Sampled: 05/05/14
Lab Sample ID: C33923-4	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui,HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	T14187.D	4	05/19/14	MT	05/13/14	OP10029	ET629
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	1.5 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	99	9.9	ug/kg	
208-96-8	Acenaphthylene	ND	99	9.9	ug/kg	
120-12-7	Anthracene	ND	99	9.9	ug/kg	
56-55-3	Benzo(a)anthracene	37.7	20	5.0	ug/kg	
50-32-8	Benzo(a)pyrene	70.8	20	3.4	ug/kg	
205-99-2	Benzo(b)fluoranthene	115	20	4.0	ug/kg	
191-24-2	Benzo(g,h,i)perylene	76.2	20	4.4	ug/kg	
207-08-9	Benzo(k)fluoranthene	81.3	20	4.6	ug/kg	
218-01-9	Chrysene	108	20	4.0	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	8.6	20	5.5	ug/kg	J
206-44-0	Fluoranthene	195	99	9.9	ug/kg	
86-73-7	Fluorene	ND	99	9.9	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	69.6	20	5.0	ug/kg	
90-12-0	1-Methylnaphthalene	ND	99	20	ug/kg	
91-57-6	2-Methylnaphthalene	ND	99	20	ug/kg	
91-20-3	Naphthalene	ND	99	20	ug/kg	
85-01-8	Phenanthrene	77.9	99	9.9	ug/kg	J
129-00-0	Pyrene	160	99	9.9	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	73%		13-123%
321-60-8	2-Fluorobiphenyl	84%		17-126%
1718-51-0	Terphenyl-d14	94%		51-146%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS4		Date Sampled: 05/05/14
Lab Sample ID: C33923-4		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021910.D	10	05/13/14	RV	05/13/14	OP10030	GMM649
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	33	4.0	ug/kg	
319-84-6	alpha-BHC	ND	33	3.7	ug/kg	
319-85-7	beta-BHC	ND	33	8.0	ug/kg	
319-86-8	delta-BHC	ND	33	4.0	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	33	4.0	ug/kg	
12789-03-6	Chlordane	ND	330	33	ug/kg	
60-57-1	Dieldrin	ND	33	6.0	ug/kg	
72-54-8	4,4'-DDD	ND	33	7.0	ug/kg	
72-55-9	4,4'-DDE	ND	33	6.0	ug/kg	
50-29-3	4,4'-DDT	ND	33	5.0	ug/kg	
72-20-8	Endrin	ND	33	6.0	ug/kg	
7421-93-4	Endrin aldehyde	ND	33	6.0	ug/kg	
959-98-8	Endosulfan-I	ND	33	5.7	ug/kg	
33213-65-9	Endosulfan-II	ND	33	6.0	ug/kg	
1031-07-8	Endosulfan sulfate	ND	33	5.7	ug/kg	
76-44-8	Heptachlor	ND	33	4.7	ug/kg	
1024-57-3	Heptachlor epoxide	ND	33	5.0	ug/kg	
72-43-5	Methoxychlor	ND	33	5.3	ug/kg	
8001-35-2	Toxaphene	ND	330	67	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	78%		49-127%
877-09-8	Tetrachloro-m-xylene	76%		49-127%
2051-24-3	Decachlorobiphenyl	117%		53-145%
2051-24-3	Decachlorobiphenyl	88%		53-145%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot at a lower reporting limit but CCV's failed due to carry-over.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS4		Date Sampled: 05/05/14
Lab Sample ID: C33923-4		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH313094.D	20	05/14/14	AG	05/13/14	OP10027	GHH1259
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	115	66	17	mg/kg	
	TPH (> C28-C40)	471	130	33	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	78%		37-122%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS4	Date Sampled: 05/05/14
Lab Sample ID: C33923-4	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui,HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	14.3	2.0	mg/kg	10	05/15/14	05/21/14 RS	SW846 6010B ³	SW846 3050B ⁵
Barium ^b	65.4	20	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Cadmium ^b	1.0	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Chromium ^b	40.1	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Lead ^b	64.9	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Mercury	< 0.040	0.040	mg/kg	1	05/14/14	05/15/14 EB	SW846 7471A ¹	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/15/14	05/21/14 RS	SW846 6010B ³	SW846 3050B ⁵
Silver ^b	1.6	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵

- (1) Instrument QC Batch: MA3958
- (2) Instrument QC Batch: MA3964
- (3) Instrument QC Batch: MA3967
- (4) Prep QC Batch: MP7841
- (5) Prep QC Batch: MP7843

- (a) Percent solids not analyzed. Sample was air dried prior to analysis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.SS5		Date Sampled: 05/05/14
Lab Sample ID: C33923-5		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	T14188.D	10	05/19/14	MT	05/13/14	OP10029	ET629
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.5 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	250	25	ug/kg	
208-96-8	Acenaphthylene	ND	250	25	ug/kg	
120-12-7	Anthracene	ND	250	25	ug/kg	
56-55-3	Benzo(a)anthracene	63.9	50	12	ug/kg	
50-32-8	Benzo(a)pyrene	100	50	8.5	ug/kg	
205-99-2	Benzo(b)fluoranthene	167	50	10	ug/kg	
191-24-2	Benzo(g,h,i)perylene	110	50	11	ug/kg	
207-08-9	Benzo(k)fluoranthene	95.2	50	11	ug/kg	
218-01-9	Chrysene	143	50	10	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	16.5	50	14	ug/kg	J
206-44-0	Fluoranthene	256	250	25	ug/kg	
86-73-7	Fluorene	ND	250	25	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	108	50	12	ug/kg	
90-12-0	1-Methylnaphthalene	ND	250	50	ug/kg	
91-57-6	2-Methylnaphthalene	ND	250	50	ug/kg	
91-20-3	Naphthalene	ND	250	50	ug/kg	
85-01-8	Phenanthrene	100	250	25	ug/kg	J
129-00-0	Pyrene	214	250	25	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	69%		13-123%
321-60-8	2-Fluorobiphenyl	80%		17-126%
1718-51-0	Terphenyl-d14	104%		51-146%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS5		Date Sampled: 05/05/14
Lab Sample ID: C33923-5		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021909.D	20	05/13/14	RV	05/13/14	OP10030	GMM649
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	66	8.0	ug/kg	
319-84-6	alpha-BHC	ND	66	7.3	ug/kg	
319-85-7	beta-BHC	ND	66	16	ug/kg	
319-86-8	delta-BHC	ND	66	8.0	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	66	8.0	ug/kg	
12789-03-6	Chlordane	ND	660	66	ug/kg	
60-57-1	Dieldrin	ND	66	12	ug/kg	
72-54-8	4,4'-DDD	ND	66	14	ug/kg	
72-55-9	4,4'-DDE	ND	66	12	ug/kg	
50-29-3	4,4'-DDT	ND	66	10	ug/kg	
72-20-8	Endrin	ND	66	12	ug/kg	
7421-93-4	Endrin aldehyde	ND	66	12	ug/kg	
959-98-8	Endosulfan-I	ND	66	11	ug/kg	
33213-65-9	Endosulfan-II	ND	66	12	ug/kg	
1031-07-8	Endosulfan sulfate	ND	66	11	ug/kg	
76-44-8	Heptachlor	ND	66	9.3	ug/kg	
1024-57-3	Heptachlor epoxide	ND	66	10	ug/kg	
72-43-5	Methoxychlor	ND	66	11	ug/kg	
8001-35-2	Toxaphene	ND	660	130	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	67%		49-127%
877-09-8	Tetrachloro-m-xylene	66%		49-127%
2051-24-3	Decachlorobiphenyl	78%		53-145%
2051-24-3	Decachlorobiphenyl	80%		53-145%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot at a lower reporting limit but CCV's failed due to carry-over.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.5
3

Client Sample ID: 2003.SS5	Date Sampled: 05/05/14
Lab Sample ID: C33923-5	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH313068.D	5	05/13/14	AG	05/13/14	OP10027	GHH1258
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	5.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	519	83	21	mg/kg	
	TPH (> C28-C40)	845	170	42	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	151% ^b		37-122%

- (a) Percent solids not analyzed. Sample was air dried prior to analysis.
- (b) Outside control limits due to dilution.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.5
3

Client Sample ID: 2003.SS5	Date Sampled: 05/05/14
Lab Sample ID: C33923-5	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	8.0	2.0	mg/kg	10	05/15/14	05/21/14 RS	SW846 6010B ³	SW846 3050B ⁵
Barium ^b	68.2	20	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Cadmium ^b	1.1	0.99	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Chromium ^b	27.9	0.99	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Lead ^b	76.7	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Mercury	< 0.037	0.037	mg/kg	1	05/14/14	05/15/14 EB	SW846 7471A ¹	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/15/14	05/21/14 RS	SW846 6010B ³	SW846 3050B ⁵
Silver ^b	< 0.99	0.99	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵

- (1) Instrument QC Batch: MA3958
- (2) Instrument QC Batch: MA3964
- (3) Instrument QC Batch: MA3967
- (4) Prep QC Batch: MP7841
- (5) Prep QC Batch: MP7843

- (a) Percent solids not analyzed. Sample was air dried prior to analysis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.SS6		Date Sampled: 05/05/14
Lab Sample ID: C33923-6		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	T14189.D	10	05/19/14	MT	05/13/14	OP10029	ET629
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	5.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	830	83	ug/kg	
208-96-8	Acenaphthylene	ND	830	83	ug/kg	
120-12-7	Anthracene	ND	830	83	ug/kg	
56-55-3	Benzo(a)anthracene	125	170	42	ug/kg	J
50-32-8	Benzo(a)pyrene	111	170	28	ug/kg	J
205-99-2	Benzo(b)fluoranthene	292	170	33	ug/kg	
191-24-2	Benzo(g,h,i)perylene	119	170	37	ug/kg	J
207-08-9	Benzo(k)fluoranthene	122	170	38	ug/kg	J
218-01-9	Chrysene	304	170	33	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	170	47	ug/kg	
206-44-0	Fluoranthene	495	830	83	ug/kg	J
86-73-7	Fluorene	ND	830	83	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	112	170	42	ug/kg	J
90-12-0	1-Methylnaphthalene	ND	830	170	ug/kg	
91-57-6	2-Methylnaphthalene	ND	830	170	ug/kg	
91-20-3	Naphthalene	ND	830	170	ug/kg	
85-01-8	Phenanthrene	134	830	83	ug/kg	J
129-00-0	Pyrene	417	830	83	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	65%		13-123%
321-60-8	2-Fluorobiphenyl	73%		17-126%
1718-51-0	Terphenyl-d14	86%		51-146%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS6		Date Sampled: 05/05/14
Lab Sample ID: C33923-6		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021962.D	200	05/14/14	RV	05/13/14	OP10030	GMM650
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	670	80	ug/kg	
319-84-6	alpha-BHC	ND	670	73	ug/kg	
319-85-7	beta-BHC	ND	670	160	ug/kg	
319-86-8	delta-BHC	ND	670	80	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	670	80	ug/kg	
12789-03-6	Chlordane	ND	6700	670	ug/kg	
60-57-1	Dieldrin	ND	670	120	ug/kg	
72-54-8	4,4'-DDD	ND	670	140	ug/kg	
72-55-9	4,4'-DDE	ND	670	120	ug/kg	
50-29-3	4,4'-DDT	ND	670	100	ug/kg	
72-20-8	Endrin	ND	670	120	ug/kg	
7421-93-4	Endrin aldehyde	ND	670	120	ug/kg	
959-98-8	Endosulfan-I	ND	670	110	ug/kg	
33213-65-9	Endosulfan-II	ND	670	120	ug/kg	
1031-07-8	Endosulfan sulfate	ND	670	110	ug/kg	
76-44-8	Heptachlor	ND	670	93	ug/kg	
1024-57-3	Heptachlor epoxide	ND	670	100	ug/kg	
72-43-5	Methoxychlor	ND	670	110	ug/kg	
8001-35-2	Toxaphene	ND	6700	1300	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	99%		49-127%
877-09-8	Tetrachloro-m-xylene	98%		49-127%
2051-24-3	Decachlorobiphenyl	150% ^c		53-145%
2051-24-3	Decachlorobiphenyl	94%		53-145%

- (a) Percent solids not analyzed. Sample was air dried prior to analysis.
- (b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot originally at a lower reporting limit but CCV's failed due to carry-over.
- (c) Outside control limits due to dilution and matrix interference.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS6	Date Sampled: 05/05/14
Lab Sample ID: C33923-6	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH313095.D	25	05/14/14	AG	05/13/14	OP10027	GHH1259
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	5.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	975	410	100	mg/kg	
	TPH (> C28-C40)	5010	830	210	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	57%		37-122%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS6	Date Sampled: 05/05/14
Lab Sample ID: C33923-6	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	18.8	2.0	mg/kg	10	05/15/14	05/21/14 RS	SW846 6010B ³	SW846 3050B ⁵
Barium ^b	64.8	20	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Cadmium ^b	2.0	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Chromium ^b	50.6	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Lead ^b	76.5	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Mercury	< 0.037	0.037	mg/kg	1	05/14/14	05/15/14 EB	SW846 7471A ¹	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/15/14	05/21/14 RS	SW846 6010B ³	SW846 3050B ⁵
Silver ^b	1.0	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵

- (1) Instrument QC Batch: MA3958
(2) Instrument QC Batch: MA3964
(3) Instrument QC Batch: MA3967
(4) Prep QC Batch: MP7841
(5) Prep QC Batch: MP7843

- (a) Percent solids not analyzed. Sample was air dried prior to analysis.
(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.SS7		Date Sampled: 05/05/14
Lab Sample ID: C33923-7		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	T14190.D	20	05/19/14	MT	05/13/14	OP10029	ET629
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.5 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	500	50	ug/kg	
208-96-8	Acenaphthylene	ND	500	50	ug/kg	
120-12-7	Anthracene	ND	500	50	ug/kg	
56-55-3	Benzo(a)anthracene	133	99	25	ug/kg	
50-32-8	Benzo(a)pyrene	192	99	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	273	99	20	ug/kg	
191-24-2	Benzo(g,h,i)perylene	199	99	22	ug/kg	
207-08-9	Benzo(k)fluoranthene	229	99	23	ug/kg	
218-01-9	Chrysene	260	99	20	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	39.1	99	28	ug/kg	J
206-44-0	Fluoranthene	407	500	50	ug/kg	J
86-73-7	Fluorene	ND	500	50	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	189	99	25	ug/kg	
90-12-0	1-Methylnaphthalene	ND	500	99	ug/kg	
91-57-6	2-Methylnaphthalene	ND	500	99	ug/kg	
91-20-3	Naphthalene	ND	500	99	ug/kg	
85-01-8	Phenanthrene	165	500	50	ug/kg	J
129-00-0	Pyrene	361	500	50	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	70%		13-123%
321-60-8	2-Fluorobiphenyl	79%		17-126%
1718-51-0	Terphenyl-d14	98%		51-146%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.7
3

Client Sample ID: 2003.SS7		Date Sampled: 05/05/14
Lab Sample ID: C33923-7		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021963.D	200	05/14/14	RV	05/13/14	OP10030	GMM650
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	670	80	ug/kg	
319-84-6	alpha-BHC	ND	670	73	ug/kg	
319-85-7	beta-BHC	ND	670	160	ug/kg	
319-86-8	delta-BHC	ND	670	80	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	670	80	ug/kg	
12789-03-6	Chlordane	ND	6700	670	ug/kg	
60-57-1	Dieldrin	ND	670	120	ug/kg	
72-54-8	4,4'-DDD	ND	670	140	ug/kg	
72-55-9	4,4'-DDE	ND	670	120	ug/kg	
50-29-3	4,4'-DDT	ND	670	100	ug/kg	
72-20-8	Endrin	ND	670	120	ug/kg	
7421-93-4	Endrin aldehyde	ND	670	120	ug/kg	
959-98-8	Endosulfan-I	ND	670	110	ug/kg	
33213-65-9	Endosulfan-II	ND	670	120	ug/kg	
1031-07-8	Endosulfan sulfate	ND	670	110	ug/kg	
76-44-8	Heptachlor	ND	670	93	ug/kg	
1024-57-3	Heptachlor epoxide	ND	670	100	ug/kg	
72-43-5	Methoxychlor	ND	670	110	ug/kg	
8001-35-2	Toxaphene	ND	6700	1300	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	90%		49-127%
877-09-8	Tetrachloro-m-xylene	90%		49-127%
2051-24-3	Decachlorobiphenyl	102%		53-145%
2051-24-3	Decachlorobiphenyl	103%		53-145%

- (a) Percent solids not analyzed. Sample was air dried prior to analysis.
- (b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot originally at a lower reporting limit but CCV's failed due to carry-over.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.7
3

Client Sample ID: 2003.SS7	Date Sampled: 05/05/14
Lab Sample ID: C33923-7	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH313070.D	5	05/13/14	AG	05/13/14	OP10027	GHH1258
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	5.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	332	83	21	mg/kg	
	TPH (> C28-C40)	986	170	41	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	26% ^b		37-122%

- (a) Percent solids not analyzed. Sample was air dried prior to analysis.
- (b) Outside control limits due to dilution.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS7	Date Sampled: 05/05/14
Lab Sample ID: C33923-7	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	13.3	2.0	mg/kg	10	05/15/14	05/21/14 RS	SW846 6010B ³	SW846 3050B ⁵
Barium ^b	66.2	20	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Cadmium ^b	1.5	0.99	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Chromium ^b	35.2	0.99	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Lead ^b	73.9	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Mercury	< 0.038	0.038	mg/kg	1	05/14/14	05/15/14 EB	SW846 7471A ¹	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/15/14	05/21/14 RS	SW846 6010B ³	SW846 3050B ⁵
Silver ^b	< 0.99	0.99	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵

- (1) Instrument QC Batch: MA3958
(2) Instrument QC Batch: MA3964
(3) Instrument QC Batch: MA3967
(4) Prep QC Batch: MP7841
(5) Prep QC Batch: MP7843

- (a) Percent solids not analyzed. Sample was air dried prior to analysis.
(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.SS8		Date Sampled: 05/05/14
Lab Sample ID: C33923-8		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	T14191.D	10	05/19/14	MT	05/13/14	OP10029	ET629
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.5 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	250	25	ug/kg	
208-96-8	Acenaphthylene	ND	250	25	ug/kg	
120-12-7	Anthracene	ND	250	25	ug/kg	
56-55-3	Benzo(a)anthracene	85.3	50	12	ug/kg	
50-32-8	Benzo(a)pyrene	135	50	8.5	ug/kg	
205-99-2	Benzo(b)fluoranthene	177	50	10	ug/kg	
191-24-2	Benzo(g,h,i)perylene	143	50	11	ug/kg	
207-08-9	Benzo(k)fluoranthene	168	50	11	ug/kg	
218-01-9	Chrysene	215	50	10	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	17.7	50	14	ug/kg	J
206-44-0	Fluoranthene	309	250	25	ug/kg	
86-73-7	Fluorene	ND	250	25	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	134	50	12	ug/kg	
90-12-0	1-Methylnaphthalene	ND	250	50	ug/kg	
91-57-6	2-Methylnaphthalene	ND	250	50	ug/kg	
91-20-3	Naphthalene	ND	250	50	ug/kg	
85-01-8	Phenanthrene	222	250	25	ug/kg	J
129-00-0	Pyrene	328	250	25	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	73%		13-123%
321-60-8	2-Fluorobiphenyl	81%		17-126%
1718-51-0	Terphenyl-d14	93%		51-146%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS8		Date Sampled: 05/05/14
Lab Sample ID: C33923-8		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021971.D	40	05/14/14	RV	05/13/14	OP10030	GMM650
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	130	16	ug/kg	
319-84-6	alpha-BHC	ND	130	15	ug/kg	
319-85-7	beta-BHC	ND	130	32	ug/kg	
319-86-8	delta-BHC	ND	130	16	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	130	16	ug/kg	
12789-03-6	Chlordane	ND	1300	130	ug/kg	
60-57-1	Dieldrin	ND	130	24	ug/kg	
72-54-8	4,4'-DDD	ND	130	28	ug/kg	
72-55-9	4,4'-DDE	ND	130	24	ug/kg	
50-29-3	4,4'-DDT	ND	130	20	ug/kg	
72-20-8	Endrin	ND	130	24	ug/kg	
7421-93-4	Endrin aldehyde	ND	130	24	ug/kg	
959-98-8	Endosulfan-I	ND	130	23	ug/kg	
33213-65-9	Endosulfan-II	ND	130	24	ug/kg	
1031-07-8	Endosulfan sulfate	ND	130	23	ug/kg	
76-44-8	Heptachlor	ND	130	19	ug/kg	
1024-57-3	Heptachlor epoxide	ND	130	20	ug/kg	
72-43-5	Methoxychlor	ND	130	21	ug/kg	
8001-35-2	Toxaphene	ND	1300	270	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	84%		49-127%
877-09-8	Tetrachloro-m-xylene	84%		49-127%
2051-24-3	Decachlorobiphenyl	98%		53-145%
2051-24-3	Decachlorobiphenyl	113%		53-145%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot originally at a lower reporting limit but CCV's failed due to carry-over.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

MDL = Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS8	Date Sampled: 05/05/14
Lab Sample ID: C33923-8	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH313075.D	5	05/13/14	AG	05/13/14	OP10027	GHH1258
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	5.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	687	83	21	mg/kg	
	TPH (> C28-C40)	1090	170	42	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	96%		37-122%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS8	Date Sampled: 05/05/14
Lab Sample ID: C33923-8	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	10	2.0	mg/kg	10	05/15/14	05/21/14 RS	SW846 6010B ³	SW846 3050B ⁵
Barium ^b	55.6	20	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Cadmium ^b	2.5	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Chromium ^b	34.0	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Lead ^b	80.5	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Mercury	0.068	0.041	mg/kg	1	05/14/14	05/15/14 EB	SW846 7471A ¹	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/15/14	05/21/14 RS	SW846 6010B ³	SW846 3050B ⁵
Silver ^b	< 1.0	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵

- (1) Instrument QC Batch: MA3958
- (2) Instrument QC Batch: MA3964
- (3) Instrument QC Batch: MA3967
- (4) Prep QC Batch: MP7841
- (5) Prep QC Batch: MP7843

- (a) Percent solids not analyzed. Sample was air dried prior to analysis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.SS9		Date Sampled: 05/05/14
Lab Sample ID: C33923-9		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	T14192.D	10	05/19/14	MT	05/13/14	OP10029	ET629
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	1.5 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	27.7	250	25	ug/kg	J
208-96-8	Acenaphthylene	31.1	250	25	ug/kg	J
120-12-7	Anthracene	26.1	250	25	ug/kg	J
56-55-3	Benzo(a)anthracene	457	50	12	ug/kg	
50-32-8	Benzo(a)pyrene	680	50	8.5	ug/kg	
205-99-2	Benzo(b)fluoranthene	1150	50	10	ug/kg	
191-24-2	Benzo(g,h,i)perylene	601	50	11	ug/kg	
207-08-9	Benzo(k)fluoranthene	694	50	11	ug/kg	
218-01-9	Chrysene	1040	50	10	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	92.9	50	14	ug/kg	
206-44-0	Fluoranthene	2000	250	25	ug/kg	
86-73-7	Fluorene	ND	250	25	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	624	50	12	ug/kg	
90-12-0	1-Methylnaphthalene	67.3	250	50	ug/kg	J
91-57-6	2-Methylnaphthalene	ND	250	50	ug/kg	
91-20-3	Naphthalene	ND	250	50	ug/kg	
85-01-8	Phenanthrene	1420	250	25	ug/kg	
129-00-0	Pyrene	1640	250	25	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	75%		13-123%
321-60-8	2-Fluorobiphenyl	81%		17-126%
1718-51-0	Terphenyl-d14	93%		51-146%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

MDL = Method Detection Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.SS9	Date Sampled:	05/05/14
Lab Sample ID:	C33923-9	Date Received:	05/08/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8081A SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021968.D	100	05/14/14	RV	05/13/14	OP10030	GMM650
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	330	40	ug/kg	
319-84-6	alpha-BHC	ND	330	37	ug/kg	
319-85-7	beta-BHC	ND	330	80	ug/kg	
319-86-8	delta-BHC	ND	330	40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	330	40	ug/kg	
12789-03-6	Chlordane	ND	3300	330	ug/kg	
60-57-1	Dieldrin	ND	330	60	ug/kg	
72-54-8	4,4'-DDD	ND	330	70	ug/kg	
72-55-9	4,4'-DDE	ND	330	60	ug/kg	
50-29-3	4,4'-DDT	ND	330	50	ug/kg	
72-20-8	Endrin	ND	330	60	ug/kg	
7421-93-4	Endrin aldehyde	ND	330	60	ug/kg	
959-98-8	Endosulfan-I	ND	330	57	ug/kg	
33213-65-9	Endosulfan-II	ND	330	60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	330	57	ug/kg	
76-44-8	Heptachlor	ND	330	47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	330	50	ug/kg	
72-43-5	Methoxychlor	ND	330	53	ug/kg	
8001-35-2	Toxaphene	ND	3300	670	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	88%		49-127%
877-09-8	Tetrachloro-m-xylene	88%		49-127%
2051-24-3	Decachlorobiphenyl	101%		53-145%
2051-24-3	Decachlorobiphenyl	92%		53-145%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot originally at a lower reporting limit but CCV's failed due to carry-over.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

3.9
3

Client Sample ID: 2003.SS9	Date Sampled: 05/05/14
Lab Sample ID: C33923-9	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH313103.D	20	05/14/14	AG	05/13/14	OP10027	GHH1259
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	5.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	266	330	83	mg/kg	J
	TPH (> C28-C40)	1940	670	170	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	57%		37-122%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS9	Date Sampled: 05/05/14
Lab Sample ID: C33923-9	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	12.5	2.0	mg/kg	10	05/15/14	05/21/14 RS	SW846 6010B ³	SW846 3050B ⁵
Barium ^b	93.2	20	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Cadmium ^b	1.7	0.99	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Chromium ^b	45.3	0.99	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Lead ^b	113	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Mercury	0.15	0.042	mg/kg	1	05/14/14	05/15/14 EB	SW846 7471A ¹	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/15/14	05/21/14 RS	SW846 6010B ³	SW846 3050B ⁵
Silver ^b	< 0.99	0.99	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵

- (1) Instrument QC Batch: MA3958
- (2) Instrument QC Batch: MA3964
- (3) Instrument QC Batch: MA3967
- (4) Prep QC Batch: MP7841
- (5) Prep QC Batch: MP7843

- (a) Percent solids not analyzed. Sample was air dried prior to analysis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

3.10
3

Client Sample ID: 2003.SS10		Date Sampled: 05/05/14
Lab Sample ID: C33923-10		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B		
Project: Kahului Harbor Parcel-Maui,HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	T14193.D	10	05/19/14	MT	05/13/14	OP10029	ET629
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	5.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	830	83	ug/kg	
208-96-8	Acenaphthylene	ND	830	83	ug/kg	
120-12-7	Anthracene	ND	830	83	ug/kg	
56-55-3	Benzo(a)anthracene	333	170	42	ug/kg	
50-32-8	Benzo(a)pyrene	495	170	28	ug/kg	
205-99-2	Benzo(b)fluoranthene	640	170	33	ug/kg	
191-24-2	Benzo(g,h,i)perylene	447	170	37	ug/kg	
207-08-9	Benzo(k)fluoranthene	613	170	38	ug/kg	
218-01-9	Chrysene	645	170	33	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	64.7	170	47	ug/kg	J
206-44-0	Fluoranthene	1330	830	83	ug/kg	
86-73-7	Fluorene	ND	830	83	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	407	170	42	ug/kg	
90-12-0	1-Methylnaphthalene	ND	830	170	ug/kg	
91-57-6	2-Methylnaphthalene	ND	830	170	ug/kg	
91-20-3	Naphthalene	ND	830	170	ug/kg	
85-01-8	Phenanthrene	748	830	83	ug/kg	J
129-00-0	Pyrene	1080	830	83	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	68%		13-123%
321-60-8	2-Fluorobiphenyl	78%		17-126%
1718-51-0	Terphenyl-d14	102%		51-146%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.
 (b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.10
3

Client Sample ID: 2003.SS10		Date Sampled: 05/05/14
Lab Sample ID: C33923-10		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021969.D	100	05/14/14	RV	05/13/14	OP10030	GMM650
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	330	40	ug/kg	
319-84-6	alpha-BHC	ND	330	37	ug/kg	
319-85-7	beta-BHC	ND	330	80	ug/kg	
319-86-8	delta-BHC	ND	330	40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	330	40	ug/kg	
12789-03-6	Chlordane	ND	3300	330	ug/kg	
60-57-1	Dieldrin	ND	330	60	ug/kg	
72-54-8	4,4'-DDD	ND	330	70	ug/kg	
72-55-9	4,4'-DDE	ND	330	60	ug/kg	
50-29-3	4,4'-DDT	ND	330	50	ug/kg	
72-20-8	Endrin	ND	330	60	ug/kg	
7421-93-4	Endrin aldehyde	ND	330	60	ug/kg	
959-98-8	Endosulfan-I	ND	330	57	ug/kg	
33213-65-9	Endosulfan-II	ND	330	60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	330	57	ug/kg	
76-44-8	Heptachlor	ND	330	47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	330	50	ug/kg	
72-43-5	Methoxychlor	ND	330	53	ug/kg	
8001-35-2	Toxaphene	ND	3300	670	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	97%		49-127%
877-09-8	Tetrachloro-m-xylene	92%		49-127%
2051-24-3	Decachlorobiphenyl	118%		53-145%
2051-24-3	Decachlorobiphenyl	136%		53-145%

- (a) Percent solids not analyzed. Sample was air dried prior to analysis.
- (b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot originally at a lower reporting limit but CCV's failed due to carry-over.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.10
3

Client Sample ID: 2003.SS10	Date Sampled: 05/05/14
Lab Sample ID: C33923-10	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH313077.D	5	05/14/14	AG	05/13/14	OP10027	GHH1258
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	5.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	139	83	21	mg/kg	
	TPH (> C28-C40)	861	170	41	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	87%		37-122%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS10	Date Sampled: 05/05/14
Lab Sample ID: C33923-10	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	10.5	2.0	mg/kg	10	05/15/14	05/21/14 RS	SW846 6010B ³	SW846 3050B ⁵
Barium ^b	78.8	20	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Cadmium ^b	1.8	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Chromium ^b	59.5	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Lead ^b	102	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Mercury	0.15	0.041	mg/kg	1	05/14/14	05/15/14 EB	SW846 7471A ¹	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/15/14	05/21/14 RS	SW846 6010B ³	SW846 3050B ⁵
Silver ^b	1.4	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵

(1) Instrument QC Batch: MA3958

(2) Instrument QC Batch: MA3964

(3) Instrument QC Batch: MA3967

(4) Prep QC Batch: MP7841

(5) Prep QC Batch: MP7843

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	2003.SS11	Date Sampled:	05/05/14
Lab Sample ID:	C33923-11	Date Received:	05/08/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8270C BY SIM SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	T14194.D	20	05/20/14	MT	05/13/14	OP10029	ET629
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	5.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	1700	170	ug/kg	
208-96-8	Acenaphthylene	ND	1700	170	ug/kg	
120-12-7	Anthracene	ND	1700	170	ug/kg	
56-55-3	Benzo(a)anthracene	624	330	83	ug/kg	
50-32-8	Benzo(a)pyrene	893	330	57	ug/kg	
205-99-2	Benzo(b)fluoranthene	1590	330	67	ug/kg	
191-24-2	Benzo(g,h,i)perylene	749	330	73	ug/kg	
207-08-9	Benzo(k)fluoranthene	759	330	77	ug/kg	
218-01-9	Chrysene	1290	330	67	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	133	330	93	ug/kg	J
206-44-0	Fluoranthene	2570	1700	170	ug/kg	
86-73-7	Fluorene	ND	1700	170	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	694	330	83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	1700	330	ug/kg	
91-57-6	2-Methylnaphthalene	ND	1700	330	ug/kg	
91-20-3	Naphthalene	ND	1700	330	ug/kg	
85-01-8	Phenanthrene	1420	1700	170	ug/kg	J
129-00-0	Pyrene	2150	1700	170	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	52%		13-123%
321-60-8	2-Fluorobiphenyl	63%		17-126%
1718-51-0	Terphenyl-d14	71%		51-146%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS11	Date Sampled: 05/05/14
Lab Sample ID: C33923-11	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021965.D	100	05/14/14	RV	05/13/14	OP10030	GMM650
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	330	40	ug/kg	
319-84-6	alpha-BHC	ND	330	37	ug/kg	
319-85-7	beta-BHC	ND	330	80	ug/kg	
319-86-8	delta-BHC	ND	330	40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	330	40	ug/kg	
12789-03-6	Chlordane	ND	3300	330	ug/kg	
60-57-1	Dieldrin	ND	330	60	ug/kg	
72-54-8	4,4'-DDD	ND	330	70	ug/kg	
72-55-9	4,4'-DDE	ND	330	60	ug/kg	
50-29-3	4,4'-DDT	ND	330	50	ug/kg	
72-20-8	Endrin	ND	330	60	ug/kg	
7421-93-4	Endrin aldehyde	ND	330	60	ug/kg	
959-98-8	Endosulfan-I	ND	330	57	ug/kg	
33213-65-9	Endosulfan-II	ND	330	60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	330	57	ug/kg	
76-44-8	Heptachlor	ND	330	47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	330	50	ug/kg	
72-43-5	Methoxychlor	ND	330	53	ug/kg	
8001-35-2	Toxaphene	ND	3300	670	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	75%		49-127%
877-09-8	Tetrachloro-m-xylene	70%		49-127%
2051-24-3	Decachlorobiphenyl	67%		53-145%
2051-24-3	Decachlorobiphenyl	71%		53-145%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot originally at a lower reporting limit but CCV's failed due to carry-over.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.11
3

Client Sample ID: 2003.SS11	Date Sampled: 05/05/14
Lab Sample ID: C33923-11	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH313078.D	5	05/14/14	AG	05/13/14	OP10027	GHH1258
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.4 g	10.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	317	160	41	mg/kg	
	TPH (> C28-C40)	1730	330	82	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	75%		37-122%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS11	Date Sampled: 05/05/14
Lab Sample ID: C33923-11	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	52.6	2.0	mg/kg	10	05/15/14	05/21/14 RS	SW846 6010B ³	SW846 3050B ⁵
Barium ^b	134	20	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Cadmium ^b	4.6	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Chromium ^b	55.6	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Lead ^b	1400	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵
Mercury	0.047	0.036	mg/kg	1	05/14/14	05/15/14 EB	SW846 7471A ¹	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/15/14	05/21/14 RS	SW846 6010B ³	SW846 3050B ⁵
Silver ^b	< 1.0	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁵

- (1) Instrument QC Batch: MA3958
- (2) Instrument QC Batch: MA3964
- (3) Instrument QC Batch: MA3967
- (4) Prep QC Batch: MP7841
- (5) Prep QC Batch: MP7843

- (a) Percent solids not analyzed. Sample was air dried prior to analysis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	2003.SS12	Date Sampled:	05/05/14
Lab Sample ID:	C33923-12	Date Received:	05/08/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8270C BY SIM SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	T14195.D	20	05/20/14	MT	05/13/14	OP10029	ET629
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	5.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	1700	170	ug/kg	
208-96-8	Acenaphthylene	ND	1700	170	ug/kg	
120-12-7	Anthracene	ND	1700	170	ug/kg	
56-55-3	Benzo(a)anthracene	247	330	83	ug/kg	J
50-32-8	Benzo(a)pyrene	311	330	56	ug/kg	J
205-99-2	Benzo(b)fluoranthene	486	330	66	ug/kg	
191-24-2	Benzo(g,h,i)perylene	391	330	73	ug/kg	
207-08-9	Benzo(k)fluoranthene	322	330	76	ug/kg	J
218-01-9	Chrysene	433	330	66	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	330	93	ug/kg	
206-44-0	Fluoranthene	646	1700	170	ug/kg	J
86-73-7	Fluorene	ND	1700	170	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	294	330	83	ug/kg	J
90-12-0	1-Methylnaphthalene	ND	1700	330	ug/kg	
91-57-6	2-Methylnaphthalene	ND	1700	330	ug/kg	
91-20-3	Naphthalene	ND	1700	330	ug/kg	
85-01-8	Phenanthrene	372	1700	170	ug/kg	J
129-00-0	Pyrene	733	1700	170	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	57%		13-123%
321-60-8	2-Fluorobiphenyl	67%		17-126%
1718-51-0	Terphenyl-d14	74%		51-146%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS12	Date Sampled: 05/05/14
Lab Sample ID: C33923-12	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021964.D	200	05/14/14	RV	05/13/14	OP10030	GMM650
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	670	80	ug/kg	
319-84-6	alpha-BHC	ND	670	73	ug/kg	
319-85-7	beta-BHC	ND	670	160	ug/kg	
319-86-8	delta-BHC	ND	670	80	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	670	80	ug/kg	
12789-03-6	Chlordane	ND	6700	670	ug/kg	
60-57-1	Dieldrin	ND	670	120	ug/kg	
72-54-8	4,4'-DDD	ND	670	140	ug/kg	
72-55-9	4,4'-DDE	ND	670	120	ug/kg	
50-29-3	4,4'-DDT	ND	670	100	ug/kg	
72-20-8	Endrin	ND	670	120	ug/kg	
7421-93-4	Endrin aldehyde	ND	670	120	ug/kg	
959-98-8	Endosulfan-I	ND	670	110	ug/kg	
33213-65-9	Endosulfan-II	ND	670	120	ug/kg	
1031-07-8	Endosulfan sulfate	ND	670	110	ug/kg	
76-44-8	Heptachlor	ND	670	93	ug/kg	
1024-57-3	Heptachlor epoxide	ND	670	100	ug/kg	
72-43-5	Methoxychlor	ND	670	110	ug/kg	
8001-35-2	Toxaphene	ND	6700	1300	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	89%		49-127%
877-09-8	Tetrachloro-m-xylene	77%		49-127%
2051-24-3	Decachlorobiphenyl	83%		53-145%
2051-24-3	Decachlorobiphenyl	94%		53-145%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot originally at a lower reporting limit but CCV's failed due to carry-over.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.SS12	Date Sampled:	05/05/14
Lab Sample ID:	C33923-12	Date Received:	05/08/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8015B M SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH313104.D	20	05/14/14	AG	05/13/14	OP10027	GHH1259
Run #2 ^b	HH313387.D	10	05/19/14	AG	05/13/14	OP10027	GHH1264

	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2	30.1 g	10.0 ml

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	3660	660	170	mg/kg	
	TPH (> C28-C40)	8470	1300	330	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	265% ^c	270% ^d	37-122%

- (a) Percent solids not analyzed. Sample was air dried prior to analysis.
 (b) Confirmation run for surrogate recoveries.
 (c) Surrogate recoveries out control limits due to matrix interference and dilution. Confirm by re-dilution and re-analysis.
 (d) Outside control limits due to dilution and matrix interference.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS12	Date Sampled: 05/05/14
Lab Sample ID: C33923-12	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	24.7	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Barium ^b	134	20	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Cadmium ^b	3.2	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Chromium ^b	50.2	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Lead ^b	200	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Mercury	0.077	0.041	mg/kg	1	05/14/14	05/15/14 EB	SW846 7471A ¹	SW846 7471A ³
Selenium ^b	< 2.0	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Silver ^b	2.3	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴

- (1) Instrument QC Batch: MA3958
- (2) Instrument QC Batch: MA3964
- (3) Prep QC Batch: MP7841
- (4) Prep QC Batch: MP7843

- (a) Percent solids not analyzed. Sample was air dried prior to analysis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.SS13	Date Sampled: 05/05/14
Lab Sample ID: C33923-13	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	T14196.D	20	05/20/14	MT	05/13/14	OP10029	ET629
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.5 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	500	50	ug/kg	
208-96-8	Acenaphthylene	ND	500	50	ug/kg	
120-12-7	Anthracene	ND	500	50	ug/kg	
56-55-3	Benzo(a)anthracene	440	100	25	ug/kg	
50-32-8	Benzo(a)pyrene	660	100	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	849	100	20	ug/kg	
191-24-2	Benzo(g,h,i)perylene	598	100	22	ug/kg	
207-08-9	Benzo(k)fluoranthene	717	100	23	ug/kg	
218-01-9	Chrysene	836	100	20	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	133	100	28	ug/kg	
206-44-0	Fluoranthene	1480	500	50	ug/kg	
86-73-7	Fluorene	ND	500	50	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	471	100	25	ug/kg	
90-12-0	1-Methylnaphthalene	ND	500	100	ug/kg	
91-57-6	2-Methylnaphthalene	ND	500	100	ug/kg	
91-20-3	Naphthalene	ND	500	100	ug/kg	
85-01-8	Phenanthrene	734	500	50	ug/kg	
129-00-0	Pyrene	1340	500	50	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	60%		13-123%
321-60-8	2-Fluorobiphenyl	73%		17-126%
1718-51-0	Terphenyl-d14	88%		51-146%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS13	Date Sampled: 05/05/14
Lab Sample ID: C33923-13	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021966.D	100	05/14/14	RV	05/13/14	OP10030	GMM650
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	330	40	ug/kg	
319-84-6	alpha-BHC	ND	330	37	ug/kg	
319-85-7	beta-BHC	ND	330	80	ug/kg	
319-86-8	delta-BHC	ND	330	40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	330	40	ug/kg	
12789-03-6	Chlordane	ND	3300	330	ug/kg	
60-57-1	Dieldrin	ND	330	60	ug/kg	
72-54-8	4,4'-DDD	ND	330	70	ug/kg	
72-55-9	4,4'-DDE	ND	330	60	ug/kg	
50-29-3	4,4'-DDT	ND	330	50	ug/kg	
72-20-8	Endrin	ND	330	60	ug/kg	
7421-93-4	Endrin aldehyde	ND	330	60	ug/kg	
959-98-8	Endosulfan-I	ND	330	57	ug/kg	
33213-65-9	Endosulfan-II	ND	330	60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	330	57	ug/kg	
76-44-8	Heptachlor	ND	330	47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	330	50	ug/kg	
72-43-5	Methoxychlor	ND	330	53	ug/kg	
8001-35-2	Toxaphene	ND	3300	670	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	91%		49-127%
877-09-8	Tetrachloro-m-xylene	82%		49-127%
2051-24-3	Decachlorobiphenyl	96%		53-145%
2051-24-3	Decachlorobiphenyl	87%		53-145%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot originally at a lower reporting limit but CCV's failed due to carry-over.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS13	Date Sampled: 05/05/14
Lab Sample ID: C33923-13	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH313080.D	5	05/14/14	AG	05/13/14	OP10027	GHH1258
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	5.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	246	83	21	mg/kg	
	TPH (> C28-C40)	903	170	41	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	95%		37-122%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS13	Date Sampled: 05/05/14
Lab Sample ID: C33923-13	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	11.9	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Barium ^b	118	20	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Cadmium ^b	1.3	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Chromium ^b	36.0	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Lead ^b	121	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Mercury	0.16	0.037	mg/kg	1	05/14/14	05/15/14 EB	SW846 7471A ¹	SW846 7471A ³
Selenium ^b	< 2.0	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Silver ^b	1.5	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴

- (1) Instrument QC Batch: MA3958
(2) Instrument QC Batch: MA3964
(3) Prep QC Batch: MP7841
(4) Prep QC Batch: MP7843

- (a) Percent solids not analyzed. Sample was air dried prior to analysis.
(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.SS14	Date Sampled: 05/05/14
Lab Sample ID: C33923-14	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	T14197.D	20	05/20/14	MT	05/13/14	OP10029	ET629
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.5 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	500	50	ug/kg	
208-96-8	Acenaphthylene	ND	500	50	ug/kg	
120-12-7	Anthracene	ND	500	50	ug/kg	
56-55-3	Benzo(a)anthracene	538	100	25	ug/kg	
50-32-8	Benzo(a)pyrene	749	100	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	1180	100	20	ug/kg	
191-24-2	Benzo(g,h,i)perylene	547	100	22	ug/kg	
207-08-9	Benzo(k)fluoranthene	656	100	23	ug/kg	
218-01-9	Chrysene	917	100	20	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	104	100	28	ug/kg	
206-44-0	Fluoranthene	1680	500	50	ug/kg	
86-73-7	Fluorene	ND	500	50	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	583	100	25	ug/kg	
90-12-0	1-Methylnaphthalene	ND	500	100	ug/kg	
91-57-6	2-Methylnaphthalene	ND	500	100	ug/kg	
91-20-3	Naphthalene	ND	500	100	ug/kg	
85-01-8	Phenanthrene	793	500	50	ug/kg	
129-00-0	Pyrene	1480	500	50	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	73%		13-123%
321-60-8	2-Fluorobiphenyl	86%		17-126%
1718-51-0	Terphenyl-d14	94%		51-146%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS14	Date Sampled: 05/05/14
Lab Sample ID: C33923-14	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021967.D	100	05/14/14	RV	05/13/14	OP10030	GMM650
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	330	40	ug/kg	
319-84-6	alpha-BHC	ND	330	37	ug/kg	
319-85-7	beta-BHC	ND	330	80	ug/kg	
319-86-8	delta-BHC	ND	330	40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	330	40	ug/kg	
12789-03-6	Chlordane	ND	3300	330	ug/kg	
60-57-1	Dieldrin	ND	330	60	ug/kg	
72-54-8	4,4'-DDD	ND	330	70	ug/kg	
72-55-9	4,4'-DDE	ND	330	60	ug/kg	
50-29-3	4,4'-DDT	ND	330	50	ug/kg	
72-20-8	Endrin	ND	330	60	ug/kg	
7421-93-4	Endrin aldehyde	ND	330	60	ug/kg	
959-98-8	Endosulfan-I	ND	330	57	ug/kg	
33213-65-9	Endosulfan-II	ND	330	60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	330	57	ug/kg	
76-44-8	Heptachlor	ND	330	47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	330	50	ug/kg	
72-43-5	Methoxychlor	ND	330	53	ug/kg	
8001-35-2	Toxaphene	ND	3300	670	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	95%		49-127%
877-09-8	Tetrachloro-m-xylene	85%		49-127%
2051-24-3	Decachlorobiphenyl	95%		53-145%
2051-24-3	Decachlorobiphenyl	91%		53-145%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot originally at a lower reporting limit but CCV's failed due to carry-over.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.14
3

Client Sample ID: 2003.SS14	Date Sampled: 05/05/14
Lab Sample ID: C33923-14	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH313105.D	2	05/14/14	AG	05/13/14	OP10027	GHH1259
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	10.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	77.8	66	17	mg/kg	
	TPH (> C28-C40)	642	130	33	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	98%		37-122%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS14	Date Sampled: 05/05/14
Lab Sample ID: C33923-14	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	17.7	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Barium ^b	107	20	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Cadmium ^b	1.4	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Chromium ^b	47.4	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Lead ^b	164	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Mercury	0.085	0.039	mg/kg	1	05/14/14	05/15/14 EB	SW846 7471A ¹	SW846 7471A ³
Selenium ^b	< 2.0	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Silver ^b	< 1.0	1.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴

(1) Instrument QC Batch: MA3958

(2) Instrument QC Batch: MA3964

(3) Prep QC Batch: MP7841

(4) Prep QC Batch: MP7843

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.SS15		Date Sampled: 05/05/14
Lab Sample ID: C33923-15		Date Received: 05/08/14
Matrix: SO - Soil		Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B		
Project: Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	T14198.D	10	05/20/14	MT	05/13/14	OP10029	ET629
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	5.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	830	83	ug/kg	
208-96-8	Acenaphthylene	ND	830	83	ug/kg	
120-12-7	Anthracene	ND	830	83	ug/kg	
56-55-3	Benzo(a)anthracene	527	170	41	ug/kg	
50-32-8	Benzo(a)pyrene	806	170	28	ug/kg	
205-99-2	Benzo(b)fluoranthene	1340	170	33	ug/kg	
191-24-2	Benzo(g,h,i)perylene	599	170	36	ug/kg	
207-08-9	Benzo(k)fluoranthene	661	170	38	ug/kg	
218-01-9	Chrysene	1040	170	33	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	115	170	46	ug/kg	J
206-44-0	Fluoranthene	1720	830	83	ug/kg	
86-73-7	Fluorene	ND	830	83	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	615	170	41	ug/kg	
90-12-0	1-Methylnaphthalene	ND	830	170	ug/kg	
91-57-6	2-Methylnaphthalene	ND	830	170	ug/kg	
91-20-3	Naphthalene	ND	830	170	ug/kg	
85-01-8	Phenanthrene	857	830	83	ug/kg	
129-00-0	Pyrene	1640	830	83	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	74%		13-123%
321-60-8	2-Fluorobiphenyl	93%		17-126%
1718-51-0	Terphenyl-d14	112%		51-146%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.15
3

Client Sample ID: 2003.SS15	Date Sampled: 05/05/14
Lab Sample ID: C33923-15	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021970.D	100	05/14/14	RV	05/13/14	OP10030	GMM650
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	330	40	ug/kg	
319-84-6	alpha-BHC	ND	330	37	ug/kg	
319-85-7	beta-BHC	ND	330	80	ug/kg	
319-86-8	delta-BHC	ND	330	40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	330	40	ug/kg	
12789-03-6	Chlordane	ND	3300	330	ug/kg	
60-57-1	Dieldrin	ND	330	60	ug/kg	
72-54-8	4,4'-DDD	ND	330	70	ug/kg	
72-55-9	4,4'-DDE	ND	330	60	ug/kg	
50-29-3	4,4'-DDT	ND	330	50	ug/kg	
72-20-8	Endrin	ND	330	60	ug/kg	
7421-93-4	Endrin aldehyde	ND	330	60	ug/kg	
959-98-8	Endosulfan-I	ND	330	57	ug/kg	
33213-65-9	Endosulfan-II	ND	330	60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	330	57	ug/kg	
76-44-8	Heptachlor	ND	330	47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	330	50	ug/kg	
72-43-5	Methoxychlor	ND	330	53	ug/kg	
8001-35-2	Toxaphene	ND	3300	670	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	88%		49-127%
877-09-8	Tetrachloro-m-xylene	87%		49-127%
2051-24-3	Decachlorobiphenyl	130%		53-145%
2051-24-3	Decachlorobiphenyl	112%		53-145%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot originally at a lower reporting limit but CCV's failed due to carry-over.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS15	Date Sampled: 05/05/14
Lab Sample ID: C33923-15	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH313106.D	2	05/14/14	AG	05/13/14	OP10027	GHH1259
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	10.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	127	66	17	mg/kg	
	TPH (> C28-C40)	744	130	33	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	100%		37-122%

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.SS15	Date Sampled: 05/05/14
Lab Sample ID: C33923-15	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	19.6	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Barium ^b	254	20	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Cadmium ^b	1.6	0.99	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Chromium ^b	54.6	0.99	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Lead ^b	197	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Mercury	0.19	0.037	mg/kg	1	05/14/14	05/15/14 EB	SW846 7471A ¹	SW846 7471A ³
Selenium ^b	< 2.0	2.0	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴
Silver ^b	1.2	0.99	mg/kg	10	05/15/14	05/20/14 RS	SW846 6010B ²	SW846 3050B ⁴

(1) Instrument QC Batch: MA3958

(2) Instrument QC Batch: MA3964

(3) Prep QC Batch: MP7841

(4) Prep QC Batch: MP7843

(a) Percent solids not analyzed. Sample was air dried prior to analysis.

(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B2.42-54	Date Sampled: 05/05/14
Lab Sample ID: C33923-16	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M46039.D	1	05/08/14	XB	n/a	n/a	VM1390
Run #2							

	Initial Weight
Run #1	4.74 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.3	0.53	ug/kg	
108-88-3	Toluene	ND	5.3	0.53	ug/kg	
100-41-4	Ethylbenzene	ND	5.3	0.53	ug/kg	
1330-20-7	Xylene (total)	ND	11	1.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.3	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		70-130%
2037-26-5	Toluene-D8	108%		70-130%
460-00-4	4-Bromofluorobenzene	105%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B2.42-54	Date Sampled: 05/05/14
Lab Sample ID: C33923-16	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	X36403.D	1	05/13/14	AA	05/08/14	OP9999	EX1589
Run #2 ^c	X36450.D	1	05/15/14	AA	05/08/14	OP9999	EX1590

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2	30.2 g	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.56	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.66	ug/kg	
191-24-2	Benzo(g,h,i)perylene	0.87	3.3	0.73	ug/kg	J
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.76	ug/kg	
218-01-9	Chrysene	ND	3.3	0.66	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	80%	81%	13-123%
321-60-8	2-Fluorobiphenyl	90%	86%	17-126%
1718-51-0	Terphenyl-d14	114%	132%	51-146%

(a) All results reported on a wet weight basis.

(b) ISTD #6 outside of control limits due to matrix interference. Confirmed by re-analysis.

(c) Confirmation run for internal standard areas.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B2.42-54	Date Sampled: 05/05/14
Lab Sample ID: C33923-16	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK43990.D	1	05/12/14	TN	n/a	n/a	GJK1800
Run #2							

	Initial Weight
Run #1	5.16 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.097	0.048	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	103%		60-115%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B2.42-54	Date Sampled: 05/05/14
Lab Sample ID: C33923-16	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021760.D	1	05/09/14	RV	05/08/14	OP10003	GMM644
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.57	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.57	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	94%		49-127%
877-09-8	Tetrachloro-m-xylene	106%		49-127%
2051-24-3	Decachlorobiphenyl	110%		53-145%
2051-24-3	Decachlorobiphenyl	111%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.16
3

Client Sample ID: 2003.B2.42-54	Date Sampled: 05/05/14
Lab Sample ID: C33923-16	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH312947.D	1	05/08/14	AG	05/08/14	OP10009	GHH1255
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	0.83	mg/kg	
	TPH (> C28-C40)	ND	6.6	1.7	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	106%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B2.42-54	Date Sampled: 05/05/14
Lab Sample ID: C33923-16	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 40	40	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.50	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	2.9	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.040	0.040	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 2.0	2.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³

(1) Instrument QC Batch: MA3953

(2) Instrument QC Batch: MA3956

(3) Prep QC Batch: MP7824

(4) Prep QC Batch: MP7835

(a) All results reported on a wet weight basis.

(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B7.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-17	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M46040.D	1	05/08/14	XB	n/a	n/a	VM1390
Run #2							

	Initial Weight
Run #1	4.20 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	6.0	0.60	ug/kg	
108-88-3	Toluene	ND	6.0	0.60	ug/kg	
100-41-4	Ethylbenzene	ND	6.0	0.60	ug/kg	
1330-20-7	Xylene (total)	ND	12	1.2	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.0	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	117%		70-130%
2037-26-5	Toluene-D8	108%		70-130%
460-00-4	4-Bromofluorobenzene	103%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B7.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-17	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	X36412.D	20	05/14/14	AA	05/08/14	OP9999	EX1589
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.3 g	1.5 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	227	500	50	ug/kg	J
208-96-8	Acenaphthylene	66.3	500	50	ug/kg	J
120-12-7	Anthracene	672	500	50	ug/kg	
56-55-3	Benzo(a)anthracene	3710	99	25	ug/kg	
50-32-8	Benzo(a)pyrene	3470	99	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	3800	99	20	ug/kg	
191-24-2	Benzo(g,h,i)perylene	1660	99	22	ug/kg	
207-08-9	Benzo(k)fluoranthene	3030	99	23	ug/kg	
218-01-9	Chrysene	4340	99	20	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	335	99	28	ug/kg	
206-44-0	Fluoranthene	9580	500	50	ug/kg	
86-73-7	Fluorene	291	500	50	ug/kg	J
193-39-5	Indeno(1,2,3-cd)pyrene	2240	99	25	ug/kg	
90-12-0	1-Methylnaphthalene	182	500	99	ug/kg	J
91-57-6	2-Methylnaphthalene	107	500	99	ug/kg	J
91-20-3	Naphthalene	101	500	99	ug/kg	J
85-01-8	Phenanthrene	5680	500	50	ug/kg	
129-00-0	Pyrene	7670	500	50	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	73%		13-123%
321-60-8	2-Fluorobiphenyl	81%		17-126%
1718-51-0	Terphenyl-d14	115%		51-146%

(a) All results reported on a wet weight basis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B7.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-17	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK43994.D	1	05/12/14	TN	n/a	n/a	GJK1800
Run #2							

	Initial Weight
Run #1	5.18 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.097	0.048	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	93%		60-115%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B7.48-60	Date Sampled:	05/05/14
Lab Sample ID:	C33923-17	Date Received:	05/08/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8081A SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021761.D	10	05/09/14	RV	05/08/14	OP10003	GMM644
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.3 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	33	4.0	ug/kg	
319-84-6	alpha-BHC	ND	33	3.6	ug/kg	
319-85-7	beta-BHC	ND	33	7.9	ug/kg	
319-86-8	delta-BHC	ND	33	4.0	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	33	4.0	ug/kg	
12789-03-6	Chlordane	ND	330	33	ug/kg	
60-57-1	Dieldrin	ND	33	6.0	ug/kg	
72-54-8	4,4'-DDD	ND	33	6.9	ug/kg	
72-55-9	4,4'-DDE	ND	33	6.0	ug/kg	
50-29-3	4,4'-DDT	ND	33	5.0	ug/kg	
72-20-8	Endrin	ND	33	6.0	ug/kg	
7421-93-4	Endrin aldehyde	ND	33	6.0	ug/kg	
959-98-8	Endosulfan-I	ND	33	5.6	ug/kg	
33213-65-9	Endosulfan-II	ND	33	6.0	ug/kg	
1031-07-8	Endosulfan sulfate	ND	33	5.6	ug/kg	
76-44-8	Heptachlor	ND	33	4.6	ug/kg	
1024-57-3	Heptachlor epoxide	ND	33	5.0	ug/kg	
72-43-5	Methoxychlor	ND	33	5.3	ug/kg	
8001-35-2	Toxaphene	ND	330	66	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	78%		49-127%
877-09-8	Tetrachloro-m-xylene	85%		49-127%
2051-24-3	Decachlorobiphenyl	115%		53-145%
2051-24-3	Decachlorobiphenyl	85%		53-145%

(a) All results reported on a wet weight basis.

(b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot at a lower reporting limit but CCV's failed due to carry-over.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B7.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-17	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH312948.D	10	05/08/14	AG	05/08/14	OP10009	GHH1255
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	1.5 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	239	50	12	mg/kg	
	TPH (> C28-C40)	409	99	25	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	106%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B7.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-17	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 40	40	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.50	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	3.3	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.038	0.038	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 2.0	2.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3953
(2) Instrument QC Batch: MA3956
(3) Prep QC Batch: MP7824
(4) Prep QC Batch: MP7835

- (a) All results reported on a wet weight basis.
(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B9.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-18	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M46043.D	1	05/08/14	XB	n/a	n/a	VM1390
Run #2							

	Initial Weight
Run #1	4.01 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	6.2	0.62	ug/kg	
108-88-3	Toluene	ND	6.2	0.62	ug/kg	
100-41-4	Ethylbenzene	ND	6.2	0.62	ug/kg	
1330-20-7	Xylene (total)	ND	12	1.2	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.2	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	115%		70-130%
2037-26-5	Toluene-D8	109%		70-130%
460-00-4	4-Bromofluorobenzene	102%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B9.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-18	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36406.D	1	05/13/14	AA	05/08/14	OP9999	EX1589
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.57	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.67	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.77	ug/kg	
218-01-9	Chrysene	ND	3.3	0.67	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	77%		13-123%
321-60-8	2-Fluorobiphenyl	84%		17-126%
1718-51-0	Terphenyl-d14	113%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B9.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-18	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK43995.D	1	05/12/14	TN	n/a	n/a	GJK1800
Run #2							

	Initial Weight
Run #1	5.18 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.097	0.048	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	99%		60-115%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B9.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-18	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021762.D	1	05/09/14	RV	05/08/14	OP10003	GMM644
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.57	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.57	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	90%		49-127%
877-09-8	Tetrachloro-m-xylene	101%		49-127%
2051-24-3	Decachlorobiphenyl	112%		53-145%
2051-24-3	Decachlorobiphenyl	111%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.18
3

Client Sample ID: 2003.B9.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-18	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH312949.D	1	05/08/14	AG	05/08/14	OP10009	GHH1255
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	0.83	mg/kg	
	TPH (> C28-C40)	ND	6.7	1.7	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	108%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.18
3

Client Sample ID: 2003.B9.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-18	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	5.1	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 40	40	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.50	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	3.3	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.036	0.036	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 2.0	2.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3953
- (2) Instrument QC Batch: MA3956
- (3) Prep QC Batch: MP7824
- (4) Prep QC Batch: MP7835

- (a) All results reported on a wet weight basis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B14.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-19	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M46044.D	1	05/08/14	XB	n/a	n/a	VM1390
Run #2							

Run #	Initial Weight
Run #1	4.31 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.8	0.58	ug/kg	
108-88-3	Toluene	ND	5.8	0.58	ug/kg	
100-41-4	Ethylbenzene	ND	5.8	0.58	ug/kg	
1330-20-7	Xylene (total)	ND	12	1.2	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.8	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	116%		70-130%
2037-26-5	Toluene-D8	106%		70-130%
460-00-4	4-Bromofluorobenzene	102%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B14.48-60	Date Sampled:	05/05/14
Lab Sample ID:	C33923-19	Date Received:	05/08/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8270C BY SIM SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36407.D	1	05/14/14	AA	05/08/14	OP9999	EX1589
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.57	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.67	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.77	ug/kg	
218-01-9	Chrysene	ND	3.3	0.67	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	81%		13-123%
321-60-8	2-Fluorobiphenyl	90%		17-126%
1718-51-0	Terphenyl-d14	116%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.19
3

Client Sample ID: 2003.B14.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-19	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK43996.D	1	05/12/14	TN	n/a	n/a	GJK1800
Run #2							

	Initial Weight
Run #1	5.12 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.098	0.049	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	99%		60-115%		

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B14.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-19	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021763.D	1	05/09/14	RV	05/08/14	OP10003	GMM644
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.57	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.57	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	87%		49-127%
877-09-8	Tetrachloro-m-xylene	98%		49-127%
2051-24-3	Decachlorobiphenyl	113%		53-145%
2051-24-3	Decachlorobiphenyl	107%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.19
3

Client Sample ID: 2003.B14.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-19	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH312950.D	1	05/08/14	AG	05/08/14	OP10009	GHH1255
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	0.83	mg/kg	
	TPH (> C28-C40)	2.03	6.6	1.7	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	114%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.19
3

Client Sample ID: 2003.B14.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-19	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 40	40	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.49	0.49	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	2.5	0.49	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.040	0.040	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 2.0	2.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3953
- (2) Instrument QC Batch: MA3956
- (3) Prep QC Batch: MP7824
- (4) Prep QC Batch: MP7835

- (a) All results reported on a wet weight basis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

3.20
3

Client Sample ID: 2003.B15.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-20	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L32868.D	1	05/08/14	XB	n/a	n/a	VL1011
Run #2							

	Initial Weight
Run #1	4.11 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	6.1	0.61	ug/kg	
108-88-3	Toluene	ND	6.1	0.61	ug/kg	
100-41-4	Ethylbenzene	ND	6.1	0.61	ug/kg	
1330-20-7	Xylene (total)	ND	12	1.2	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.1	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		70-130%
2037-26-5	Toluene-D8	93%		70-130%
460-00-4	4-Bromofluorobenzene	97%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B15.48-60	Date Sampled:	05/05/14
Lab Sample ID:	C33923-20	Date Received:	05/08/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8270C BY SIM SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36408.D	1	05/14/14	AA	05/08/14	OP9999	EX1589
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	0.96	3.3	0.56	ug/kg	J
205-99-2	Benzo(b)fluoranthene	0.90	3.3	0.66	ug/kg	J
191-24-2	Benzo(g,h,i)perylene	5.2	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	0.86	3.3	0.76	ug/kg	J
218-01-9	Chrysene	1.0	3.3	0.66	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	1.4	3.3	0.83	ug/kg	J
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	78%		13-123%
321-60-8	2-Fluorobiphenyl	86%		17-126%
1718-51-0	Terphenyl-d14	113%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.20
3

Client Sample ID: 2003.B15.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-20	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK43997.D	1	05/12/14	TN	n/a	n/a	GJK1800
Run #2							

	Initial Weight
Run #1	5.12 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.098	0.049	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	96%		60-115%		

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B15.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-20	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021764.D	1	05/09/14	RV	05/08/14	OP10003	GMM644
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.36	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.79	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.69	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.56	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.56	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.46	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.6	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	90%		49-127%
877-09-8	Tetrachloro-m-xylene	102%		49-127%
2051-24-3	Decachlorobiphenyl	107%		53-145%
2051-24-3	Decachlorobiphenyl	112%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B15.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-20	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH312951.D	1	05/08/14	AG	05/08/14	OP10009	GHH1255
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	20.8	3.3	0.83	mg/kg	
	TPH (> C28-C40)	33.6	6.7	1.7	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	108%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B15.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-20	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 40	40	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.50	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	3.2	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	17.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.042	0.042	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 2.0	2.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3953
(2) Instrument QC Batch: MA3956
(3) Prep QC Batch: MP7824
(4) Prep QC Batch: MP7835

- (a) All results reported on a wet weight basis.
(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

3.21
3

Client Sample ID: 2003.B16.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-21	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	M46075.D	1	05/09/14	XB	n/a	n/a	VM1391
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.36 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	290	29	ug/kg	
108-88-3	Toluene	ND	290	29	ug/kg	
100-41-4	Ethylbenzene	ND	290	29	ug/kg	
1330-20-7	Xylene (total)	ND	570	57	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	290	57	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		70-130%
2037-26-5	Toluene-D8	110%		70-130%
460-00-4	4-Bromofluorobenzene	106%		70-130%

- (a) All results reported on a wet weight basis.
- (b) Dilution required due to matrix interference.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B16.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-21	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	X36415.D	40	05/14/14	AA	05/08/14	OP9999	EX1589
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	5.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	3300	330	ug/kg	
208-96-8	Acenaphthylene	ND	3300	330	ug/kg	
120-12-7	Anthracene	ND	3300	330	ug/kg	
56-55-3	Benzo(a)anthracene	ND	660	170	ug/kg	
50-32-8	Benzo(a)pyrene	ND	660	110	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	660	130	ug/kg	
191-24-2	Benzo(g,h,i)perylene	241	660	150	ug/kg	J
207-08-9	Benzo(k)fluoranthene	ND	660	150	ug/kg	
218-01-9	Chrysene	ND	660	130	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	660	190	ug/kg	
206-44-0	Fluoranthene	ND	3300	330	ug/kg	
86-73-7	Fluorene	ND	3300	330	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	212	660	170	ug/kg	J
90-12-0	1-Methylnaphthalene	ND	3300	660	ug/kg	
91-57-6	2-Methylnaphthalene	ND	3300	660	ug/kg	
91-20-3	Naphthalene	ND	3300	660	ug/kg	
85-01-8	Phenanthrene	ND	3300	330	ug/kg	
129-00-0	Pyrene	ND	3300	330	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	47%		13-123%
321-60-8	2-Fluorobiphenyl	60%		17-126%
1718-51-0	Terphenyl-d14	72%		51-146%

(a) All results reported on a wet weight basis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

MDL = Method Detection Limit
 J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.21
3

Client Sample ID: 2003.B16.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-21	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK43999.D	1	05/12/14	TN	n/a	n/a	GJK1800
Run #2							

Run #	Initial Weight
Run #1	5.25 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.095	0.048	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	86%		60-115%		

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.21
3

Client Sample ID:	2003.B16.48-60	Date Sampled:	05/05/14
Lab Sample ID:	C33923-21	Date Received:	05/08/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8081A SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021765.D	100	05/09/14	RV	05/08/14	OP10003	GMM644
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	330	40	ug/kg	
319-84-6	alpha-BHC	ND	330	37	ug/kg	
319-85-7	beta-BHC	ND	330	80	ug/kg	
319-86-8	delta-BHC	ND	330	40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	330	40	ug/kg	
12789-03-6	Chlordane	ND	3300	330	ug/kg	
60-57-1	Dieldrin	ND	330	60	ug/kg	
72-54-8	4,4'-DDD	ND	330	70	ug/kg	
72-55-9	4,4'-DDE	ND	330	60	ug/kg	
50-29-3	4,4'-DDT	ND	330	50	ug/kg	
72-20-8	Endrin	ND	330	60	ug/kg	
7421-93-4	Endrin aldehyde	ND	330	60	ug/kg	
959-98-8	Endosulfan-I	ND	330	56	ug/kg	
33213-65-9	Endosulfan-II	ND	330	60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	330	56	ug/kg	
76-44-8	Heptachlor	ND	330	46	ug/kg	
1024-57-3	Heptachlor epoxide	ND	330	50	ug/kg	
72-43-5	Methoxychlor	ND	330	53	ug/kg	
8001-35-2	Toxaphene	ND	3300	660	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	50%		49-127%
877-09-8	Tetrachloro-m-xylene	47% ^c		49-127%
2051-24-3	Decachlorobiphenyl	84%		53-145%
2051-24-3	Decachlorobiphenyl	127%		53-145%

- (a) All results reported on a wet weight basis.
- (b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot at a lower reporting limit but CCV's failed due to carry-over.
- (c) Outside control limits due to dilution.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.21
3

Client Sample ID: 2003.B16.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-21	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH312952.D	50	05/08/14	AG	05/08/14	OP10009	GHH1255
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	5.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	2350	830	210	mg/kg	
	TPH (> C28-C40)	3440	1700	420	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	38%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B16.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-21	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 3.9	3.9	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 39	39	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.49	0.49	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	2.6	0.49	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 3.9	3.9	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.036	0.036	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 3.9	3.9	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 2.0	2.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³

(1) Instrument QC Batch: MA3953

(2) Instrument QC Batch: MA3956

(3) Prep QC Batch: MP7824

(4) Prep QC Batch: MP7835

(a) All results reported on a wet weight basis.

(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B17.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-22	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L32869.D	1	05/08/14	XB	n/a	n/a	VL1011
Run #2							

Run #	Initial Weight
Run #1	4.16 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	6.0	0.60	ug/kg	
108-88-3	Toluene	ND	6.0	0.60	ug/kg	
100-41-4	Ethylbenzene	ND	6.0	0.60	ug/kg	
1330-20-7	Xylene (total)	ND	12	1.2	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.0	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		70-130%
2037-26-5	Toluene-D8	96%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B17.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-22	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	X36413.D	4	05/14/14	AA	05/08/14	OP9999	EX1589
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	66	6.6	ug/kg	
208-96-8	Acenaphthylene	ND	66	6.6	ug/kg	
120-12-7	Anthracene	ND	66	6.6	ug/kg	
56-55-3	Benzo(a)anthracene	ND	13	3.3	ug/kg	
50-32-8	Benzo(a)pyrene	ND	13	2.3	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	13	2.6	ug/kg	
191-24-2	Benzo(g,h,i)perylene	3.6	13	2.9	ug/kg	J
207-08-9	Benzo(k)fluoranthene	ND	13	3.0	ug/kg	
218-01-9	Chrysene	ND	13	2.6	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	13	3.7	ug/kg	
206-44-0	Fluoranthene	ND	66	6.6	ug/kg	
86-73-7	Fluorene	ND	66	6.6	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	3.4	13	3.3	ug/kg	J
90-12-0	1-Methylnaphthalene	ND	66	13	ug/kg	
91-57-6	2-Methylnaphthalene	ND	66	13	ug/kg	
91-20-3	Naphthalene	ND	66	13	ug/kg	
85-01-8	Phenanthrene	ND	66	6.6	ug/kg	
129-00-0	Pyrene	ND	66	6.6	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	83%		13-123%
321-60-8	2-Fluorobiphenyl	96%		17-126%
1718-51-0	Terphenyl-d14	127%		51-146%

- (a) All results reported on a wet weight basis.
- (b) Dilution required due to matrix interference (dark and viscous extract).

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.22
3

Client Sample ID: 2003.B17.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-22	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44000.D	1	05/12/14	TN	n/a	n/a	GJK1800
Run #2							

Run #	Initial Weight
Run #1	5.50 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.091	0.045	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	103%		60-115%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B17.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-22	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021766.D	10	05/09/14	RV	05/08/14	OP10003	GMM644
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	33	4.0	ug/kg	
319-84-6	alpha-BHC	ND	33	3.7	ug/kg	
319-85-7	beta-BHC	ND	33	8.0	ug/kg	
319-86-8	delta-BHC	ND	33	4.0	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	33	4.0	ug/kg	
12789-03-6	Chlordane	ND	330	33	ug/kg	
60-57-1	Dieldrin	ND	33	6.0	ug/kg	
72-54-8	4,4'-DDD	ND	33	7.0	ug/kg	
72-55-9	4,4'-DDE	ND	33	6.0	ug/kg	
50-29-3	4,4'-DDT	ND	33	5.0	ug/kg	
72-20-8	Endrin	ND	33	6.0	ug/kg	
7421-93-4	Endrin aldehyde	ND	33	6.0	ug/kg	
959-98-8	Endosulfan-I	ND	33	5.7	ug/kg	
33213-65-9	Endosulfan-II	ND	33	6.0	ug/kg	
1031-07-8	Endosulfan sulfate	ND	33	5.7	ug/kg	
76-44-8	Heptachlor	ND	33	4.7	ug/kg	
1024-57-3	Heptachlor epoxide	ND	33	5.0	ug/kg	
72-43-5	Methoxychlor	ND	33	5.3	ug/kg	
8001-35-2	Toxaphene	ND	330	67	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	83%		49-127%
877-09-8	Tetrachloro-m-xylene	90%		49-127%
2051-24-3	Decachlorobiphenyl	99%		53-145%
2051-24-3	Decachlorobiphenyl	120%		53-145%

- (a) All results reported on a wet weight basis.
- (b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot at a lower reporting limit but CCV's failed due to carry-over.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B17.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-22	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH312968.D	1	05/09/14	AG	05/08/14	OP10009	GHH1256
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	0.83	mg/kg	
	TPH (> C28-C40)	2.67	6.6	1.7	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	108%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B17.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-22	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 40	40	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.50	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	2.2	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.037	0.037	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 2.0	2.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3953
- (2) Instrument QC Batch: MA3956
- (3) Prep QC Batch: MP7824
- (4) Prep QC Batch: MP7835

- (a) All results reported on a wet weight basis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B18.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-23	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L32870.D	1	05/08/14	XB	n/a	n/a	VL1011
Run #2							

Run #	Initial Weight
Run #1	4.10 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	6.1	0.61	ug/kg	
108-88-3	Toluene	ND	6.1	0.61	ug/kg	
100-41-4	Ethylbenzene	ND	6.1	0.61	ug/kg	
1330-20-7	Xylene (total)	ND	12	1.2	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.1	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		70-130%
2037-26-5	Toluene-D8	96%		70-130%
460-00-4	4-Bromofluorobenzene	96%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B18.48-60	Date Sampled:	05/05/14
Lab Sample ID:	C33923-23	Date Received:	05/08/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8270C BY SIM SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	X36414.D	20	05/14/14	AA	05/08/14	OP9999	EX1589
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.5 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	500	50	ug/kg	
208-96-8	Acenaphthylene	ND	500	50	ug/kg	
120-12-7	Anthracene	ND	500	50	ug/kg	
56-55-3	Benzo(a)anthracene	215	100	25	ug/kg	
50-32-8	Benzo(a)pyrene	295	100	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	327	100	20	ug/kg	
191-24-2	Benzo(g,h,i)perylene	298	100	22	ug/kg	
207-08-9	Benzo(k)fluoranthene	303	100	23	ug/kg	
218-01-9	Chrysene	359	100	20	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	91.9	100	28	ug/kg	J
206-44-0	Fluoranthene	557	500	50	ug/kg	
86-73-7	Fluorene	ND	500	50	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	305	100	25	ug/kg	
90-12-0	1-Methylnaphthalene	ND	500	100	ug/kg	
91-57-6	2-Methylnaphthalene	ND	500	100	ug/kg	
91-20-3	Naphthalene	ND	500	100	ug/kg	
85-01-8	Phenanthrene	281	500	50	ug/kg	J
129-00-0	Pyrene	531	500	50	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	68%		13-123%
321-60-8	2-Fluorobiphenyl	81%		17-126%
1718-51-0	Terphenyl-d14	110%		51-146%

(a) All results reported on a wet weight basis.

(b) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.23
3

Client Sample ID: 2003.B18.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-23	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44001.D	1	05/12/14	TN	n/a	n/a	GJK1800
Run #2							

	Initial Weight
Run #1	5.26 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.095	0.048	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	99%		60-115%		

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B18.48-60	Date Sampled:	05/05/14
Lab Sample ID:	C33923-23	Date Received:	05/08/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8081A SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^b	MM021767.D	100	05/09/14	RV	05/08/14	OP10003	GMM644
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	330	40	ug/kg	
319-84-6	alpha-BHC	ND	330	37	ug/kg	
319-85-7	beta-BHC	ND	330	80	ug/kg	
319-86-8	delta-BHC	ND	330	40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	330	40	ug/kg	
12789-03-6	Chlordane	ND	3300	330	ug/kg	
60-57-1	Dieldrin	ND	330	60	ug/kg	
72-54-8	4,4'-DDD	ND	330	70	ug/kg	
72-55-9	4,4'-DDE	ND	330	60	ug/kg	
50-29-3	4,4'-DDT	ND	330	50	ug/kg	
72-20-8	Endrin	ND	330	60	ug/kg	
7421-93-4	Endrin aldehyde	ND	330	60	ug/kg	
959-98-8	Endosulfan-I	ND	330	56	ug/kg	
33213-65-9	Endosulfan-II	ND	330	60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	330	56	ug/kg	
76-44-8	Heptachlor	ND	330	46	ug/kg	
1024-57-3	Heptachlor epoxide	ND	330	50	ug/kg	
72-43-5	Methoxychlor	ND	330	53	ug/kg	
8001-35-2	Toxaphene	ND	3300	660	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	70%		49-127%
877-09-8	Tetrachloro-m-xylene	72%		49-127%
2051-24-3	Decachlorobiphenyl	112%		53-145%
2051-24-3	Decachlorobiphenyl	109%		53-145%

(a) All results reported on a wet weight basis.

(b) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot at a lower reporting limit but CCV's failed due to carry-over.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B18.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-23	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH312957.D	10	05/08/14	AG	05/08/14	OP10009	GHH1255
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.5 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	53.4	50	12	mg/kg	
	TPH (> C28-C40)	231	99	25	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	93%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B18.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-23	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 2.0	2.0	mg/kg	10	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 20	20	mg/kg	10	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.20	0.20	mg/kg	2	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	3.2	0.20	mg/kg	2	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 2.0	2.0	mg/kg	10	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.038	0.038	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 2.0	2.0	mg/kg	10	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 0.99	0.99	mg/kg	10	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³

(1) Instrument QC Batch: MA3953

(2) Instrument QC Batch: MA3956

(3) Prep QC Batch: MP7824

(4) Prep QC Batch: MP7835

(a) All results reported on a wet weight basis.

(b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B19.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-24	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L32871.D	1	05/08/14	XB	n/a	n/a	VL1011
Run #2							

Run #	Initial Weight
Run #1	4.41 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.7	0.57	ug/kg	
108-88-3	Toluene	ND	5.7	0.57	ug/kg	
100-41-4	Ethylbenzene	ND	5.7	0.57	ug/kg	
1330-20-7	Xylene (total)	ND	11	1.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.7	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		70-130%
2037-26-5	Toluene-D8	95%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.24
3

Client Sample ID: 2003.B19.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-24	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8270C BY SIM SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36409.D	1	05/14/14	AA	05/08/14	OP9999	EX1589
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.57	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.67	ug/kg	
191-24-2	Benzo(g,h,i)perylene	1.2	3.3	0.73	ug/kg	J
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.77	ug/kg	
218-01-9	Chrysene	ND	3.3	0.67	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	80%		13-123%
321-60-8	2-Fluorobiphenyl	84%		17-126%
1718-51-0	Terphenyl-d14	107%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B19.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-24	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44002.D	1	05/12/14	TN	n/a	n/a	GJK1800
Run #2							

	Initial Weight
Run #1	5.13 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.097	0.049	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	102%		60-115%		

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B19.48-60	Date Sampled:	05/05/14
Lab Sample ID:	C33923-24	Date Received:	05/08/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8081A SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021751.D	1	05/08/14	RV	05/08/14	OP10010	GMM644
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.57	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.57	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	95%		49-127%
877-09-8	Tetrachloro-m-xylene	102%		49-127%
2051-24-3	Decachlorobiphenyl	102%		53-145%
2051-24-3	Decachlorobiphenyl	111%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B19.48-60	Date Sampled:	05/05/14
Lab Sample ID:	C33923-24	Date Received:	05/08/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8015B M SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH312958.D	1	05/09/14	AG	05/08/14	OP10009	GHH1255
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	0.83	mg/kg	
	TPH (> C28-C40)	3.04	6.6	1.7	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	103%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.24
3

Client Sample ID: 2003.B19.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-24	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 40	40	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.49	0.49	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	2.8	0.49	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.036	0.036	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 2.0	2.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3953
- (2) Instrument QC Batch: MA3956
- (3) Prep QC Batch: MP7824
- (4) Prep QC Batch: MP7835

- (a) All results reported on a wet weight basis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

3.25
3

Client Sample ID: 2003.B29.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-25	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L32872.D	1	05/08/14	XB	n/a	n/a	VL1011
Run #2							

Run #	Initial Weight
Run #1	4.09 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	6.1	0.61	ug/kg	
108-88-3	Toluene	ND	6.1	0.61	ug/kg	
100-41-4	Ethylbenzene	ND	6.1	0.61	ug/kg	
1330-20-7	Xylene (total)	ND	12	1.2	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.1	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	114%		70-130%
2037-26-5	Toluene-D8	95%		70-130%
460-00-4	4-Bromofluorobenzene	98%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B29.48-60	Date Sampled:	05/05/14
Lab Sample ID:	C33923-25	Date Received:	05/08/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8270C BY SIM SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36410.D	1	05/14/14	AA	05/08/14	OP9999	EX1589
Run #2							

Run #1	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.57	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.67	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.77	ug/kg	
218-01-9	Chrysene	ND	3.3	0.67	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	84%		13-123%
321-60-8	2-Fluorobiphenyl	91%		17-126%
1718-51-0	Terphenyl-d14	111%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.25
3

Client Sample ID: 2003.B29.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-25	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44003.D	1	05/12/14	TN	n/a	n/a	GJK1800
Run #2							

	Initial Weight
Run #1	5.21 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.096	0.048	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	103%		60-115%		

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B29.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-25	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8081A SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021752.D	1	05/08/14	RV	05/08/14	OP10010	GMM644
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.57	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.57	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	97%		49-127%
877-09-8	Tetrachloro-m-xylene	104%		49-127%
2051-24-3	Decachlorobiphenyl	103%		53-145%
2051-24-3	Decachlorobiphenyl	111%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.25
3

Client Sample ID: 2003.B29.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-25	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH312959.D	1	05/09/14	AG	05/08/14	OP10009	GHH1255
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	0.83	mg/kg	
	TPH (> C28-C40)	ND	6.6	1.7	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	106%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.25
3

Client Sample ID: 2003.B29.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-25	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 40	40	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.49	0.49	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	3.2	0.49	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.039	0.039	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 2.0	2.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3953
- (2) Instrument QC Batch: MA3956
- (3) Prep QC Batch: MP7824
- (4) Prep QC Batch: MP7835

- (a) All results reported on a wet weight basis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	2003.B30.48-60	Date Sampled:	05/05/14
Lab Sample ID:	C33923-26	Date Received:	05/08/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8260B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L32873.D	1	05/08/14	XB	n/a	n/a	VL1011
Run #2							

Run #	Initial Weight
Run #1	4.14 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	6.0	0.60	ug/kg	
108-88-3	Toluene	ND	6.0	0.60	ug/kg	
100-41-4	Ethylbenzene	ND	6.0	0.60	ug/kg	
1330-20-7	Xylene (total)	ND	12	1.2	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.0	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		70-130%
2037-26-5	Toluene-D8	93%		70-130%
460-00-4	4-Bromofluorobenzene	96%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B30.48-60	Date Sampled:	05/05/14
Lab Sample ID:	C33923-26	Date Received:	05/08/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8270C BY SIM SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36411.D	1	05/14/14	AA	05/08/14	OP9999	EX1589
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.57	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.67	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.77	ug/kg	
218-01-9	Chrysene	ND	3.3	0.67	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	90%		13-123%
321-60-8	2-Fluorobiphenyl	98%		17-126%
1718-51-0	Terphenyl-d14	123%		51-146%

(a) All results reported on a wet weight basis.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

MDL = Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B30.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-26	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44004.D	1	05/12/14	TN	n/a	n/a	GJK1800
Run #2							

Run #	Initial Weight
Run #1	5.20 g
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.096	0.048	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	108%		60-115%		

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	2003.B30.48-60	Date Sampled:	05/05/14
Lab Sample ID:	C33923-26	Date Received:	05/08/14
Matrix:	SO - Soil	Percent Solids:	n/a ^a
Method:	SW846 8081A SW846 3550B		
Project:	Kahului Harbor Parcel-Maui, HI		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021753.D	1	05/09/14	RV	05/08/14	OP10010	GMM644
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	10.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.57	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.57	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.6	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	89%		49-127%
877-09-8	Tetrachloro-m-xylene	97%		49-127%
2051-24-3	Decachlorobiphenyl	102%		53-145%
2051-24-3	Decachlorobiphenyl	113%		53-145%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B30.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-26	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Method: SW846 8015B M SW846 3550B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH312960.D	1	05/09/14	AG	05/08/14	OP10009	GHH1255
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	0.83	mg/kg	
	TPH (> C28-C40)	ND	6.6	1.7	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	103%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.26
3

Client Sample ID: 2003.B30.48-60	Date Sampled: 05/05/14
Lab Sample ID: C33923-26	Date Received: 05/08/14
Matrix: SO - Soil	Percent Solids: n/a ^a
Project: Kahului Harbor Parcel-Maui, HI	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Barium ^b	< 40	40	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Cadmium ^b	< 0.50	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Chromium ^b	2.8	0.50	mg/kg	5	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Lead ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Mercury	< 0.040	0.040	mg/kg	1	05/13/14	05/14/14 EB	SW846 7471A ²	SW846 7471A ⁴
Selenium ^b	< 4.0	4.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³
Silver ^b	< 2.0	2.0	mg/kg	20	05/13/14	05/14/14 RS	SW846 6010B ¹	SW846 3050B ³

- (1) Instrument QC Batch: MA3953
- (2) Instrument QC Batch: MA3956
- (3) Prep QC Batch: MP7824
- (4) Prep QC Batch: MP7835

- (a) All results reported on a wet weight basis.
- (b) Elevated reporting limit(s) due to matrix interference and/or dilution required for high interfering element.

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



ACCUTEST
LABORATORIES

CHAIN OF CUSTODY

2105 Lundy Ave, San Jose, CA 95131
(408) 588-0200 FAX: (408) 588-0201

8036 2527 2977

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FED-EX Tracking #	Bottle Order Control #
803625272977	
Accutest Quote #	Accutest NC Job #:
SPH13_2013_170	C33923

Client / Reporting Information		Project Information			Requested Analysis														Matrix Codes				
Company Name EnviroServices & Training Center, LLC		Project Name: Kahului Harbor			MIS Subsampling w/ Percent Moisture TPH-D (8015) DOH-16 PAHs+Methylnaphthalenes (8270C SIM) RCRA 8 Metals (60107471) Organochlorine Pesticides (6081A) TPH-G (8015) MBTEX (90356260B)														WV- Wastewater				
Address 505 Ward Avenue, Suite 202		Street																	GW- Ground Water				
City State Zip		City State																	SW- Surface Water				
Honolulu Hawaii 96783		Kahului Hawaii																	SO- Soil				
Project Contact: Ms. Sharla Nakashima		Project # 14-2003																	OI-OI WP-Wipe				
Phone # 808-839-7222, Ext. 228		EMAIL: sharla@gotoetc.com																	LIQ- Non-queous Liquid				
Sampler's Name S. Nakashima / B. Starks / M. Moore		Client Purchase Order #			AIR																		
					DW- Drinking Water (Perchlorate Only)																		
Accutest Sample ID	Sample ID / Field Point / Point of Collection	Date	Time	Sampled by	Matrix	# of bottles	AD	NOH	NH3	NO3	NO2	CU	ZN	AS	PB	MM	OTHER	LAB USE ONLY					
1	2003.SS1	5/5/2014	800	SN/MB/BS	SO	1 bag					1												
2	2003.SS2	5/5/2014	840	SN/MB/BS	SO	1 bag					1												
3	2003.SS3	5/5/2014	840	SN/MB/BS	SO	1 bag					1												
4	2003.SS4	5/5/2014	825	SN/MB/BS	SO	1 bag					1												
5	2003.SS5	5/5/2014	855	SN/MB/BS	SO	1 bag					1												
6	2003.SS6	5/5/2014	925	SN/MB/BS	SO	1 bag					1												
7	2003.SS7	5/5/2014	925	SN/MB/BS	SO	1 bag					1												
8	2003.SS8	5/5/2014	1030	SN/MB/BS	SO	1 bag					1												
9	2003.SS9	5/5/2014	950	SN/MB/BS	SO	1 bag					1												
10	2003.SS10	5/5/2014	950	SN/MB/BS	SO	1 bag					1												
Turnaround Time (Business days)		Data Deliverable Information																Comments / Remarks					
Standard 7-Day TAT 5 Day 3 Day (125% markup) 2 Day (150% markup) 1 Day (200% markup) Same Day (300% markup)		Approved By/ Date:		<input type="checkbox"/> Commercial "A" - Results only <input checked="" type="checkbox"/> Commercial "B" - Results with QC summaries <input type="checkbox"/> Commercial "B+" - Results, QC, and chromatograms <input type="checkbox"/> FULT1 - Level 4 data package <input type="checkbox"/> EDF for Geotracker <input type="checkbox"/> EDD Format Provide EDF Global ID Provide EDF Logcode:						All samples were collected on May 5, 2014, please make sure all samples are extracted and analyzed in hold. Soil particle size 2mm for MI samples.													
Emergency TIA data available VIA LabLink																							
Sample Custody must be documented below each time samples change possession, including courier delivery.																							
Relinquished by: S. Nakashima		Date Time: 5/5/14 1140		Received By: [Signature]		Date Time: 5/8/14 1020		Relinquished By: [Signature]		Date Time: 5/8/14 1020		Received By: [Signature]											
3		Date Time: 3		Received By: 4		Date Time: 4		Relinquished By: 4		Date Time: 4		Received By: 4		Custody Seal #		Appropriate Bottle / Pres. Y/N		Headspace Y/N					
5		Date Time: 5		Received By: 5		Date Time: 5		Relinquished By: 5		Date Time: 5		Received By: 5		Labels match Coc? Y / N		Separate Receiving Check List used: Y (D)		Cooler Temp. 17°C/1.6°C					

4.1
4

C33923: Chain of Custody
Page 1 of 5

CHAIN OF CUSTODY

2105 Lundy Ave, San Jose, CA 95131
(408) 588-0200 FAX: (408) 588-0201

FED-EX Tracking #		Bottle Order Control #	
Accutest Quote # SPH12_2013_170		Accutest NC Job #: C 33923	

Client / Reporting Information			Project Information										Requested Analytes						Matrix Codes																			
Company Name: EnviroServices & Training Center, LLC			Project Name: Kahuloi Harbor										MIS Subsampling w/ Percent Moisture						Matrix Codes: WW- Wastewater GW- Ground Water SW- Surface Water SO- Soil OI- Oil WP- Wipe LIQ- Non-aqueous Liquid AIR DW- Drinking Water (Percolate Only)																			
Address: 505 Ward Avenue, Suite 202, Honolulu, Hawaii 96789			City: Kahului, State: Hawaii										TPH-D (8015) DOH-16 PAHs-Methylnaphthalenes (8270C SIM) RCBA & Metals (65107471) Organochlorine Pesticides (8081A) TPH-G (8015) MBTEX (5035/8260B)						LAB USE ONLY																			
Project Contact: Ms. Sharla Nakashima			Project #: 14-2003																																			
Phone #: 808-939-7222, Ext. 228			EMAIL: sharla@egoloec.com																																			
Samplers Name: S. Nakashima / B. Starks / M. Moore			Client Purchase Order #																																			
Accutest Sample ID	Sample ID / Field Point / Point of Collection	Date	Time	Sampled by	Matrix	# of bottles	Number of preserved bottles										MIS Subsampling w/ Percent Moisture <th rowspan="2">TPH-D (8015) <th rowspan="2">DOH-16 PAHs-Methylnaphthalenes (8270C SIM) <th rowspan="2">RCBA & Metals (65107471) <th rowspan="2">Organochlorine Pesticides (8081A) <th rowspan="2">TPH-G (8015) <th rowspan="2">MBTEX (5035/8260B) <th rowspan="2"> <th rowspan="2"> <th rowspan="2"> <th rowspan="2"> </th></th></th></th></th></th></th></th></th></th>	TPH-D (8015) <th rowspan="2">DOH-16 PAHs-Methylnaphthalenes (8270C SIM) <th rowspan="2">RCBA & Metals (65107471) <th rowspan="2">Organochlorine Pesticides (8081A) <th rowspan="2">TPH-G (8015) <th rowspan="2">MBTEX (5035/8260B) <th rowspan="2"> <th rowspan="2"> <th rowspan="2"> <th rowspan="2"> </th></th></th></th></th></th></th></th></th>	DOH-16 PAHs-Methylnaphthalenes (8270C SIM) <th rowspan="2">RCBA & Metals (65107471) <th rowspan="2">Organochlorine Pesticides (8081A) <th rowspan="2">TPH-G (8015) <th rowspan="2">MBTEX (5035/8260B) <th rowspan="2"> <th rowspan="2"> <th rowspan="2"> <th rowspan="2"> </th></th></th></th></th></th></th></th>	RCBA & Metals (65107471) <th rowspan="2">Organochlorine Pesticides (8081A) <th rowspan="2">TPH-G (8015) <th rowspan="2">MBTEX (5035/8260B) <th rowspan="2"> <th rowspan="2"> <th rowspan="2"> <th rowspan="2"> </th></th></th></th></th></th></th>	Organochlorine Pesticides (8081A) <th rowspan="2">TPH-G (8015) <th rowspan="2">MBTEX (5035/8260B) <th rowspan="2"> <th rowspan="2"> <th rowspan="2"> <th rowspan="2"> </th></th></th></th></th></th>	TPH-G (8015) <th rowspan="2">MBTEX (5035/8260B) <th rowspan="2"> <th rowspan="2"> <th rowspan="2"> <th rowspan="2"> </th></th></th></th></th>	MBTEX (5035/8260B) <th rowspan="2"> <th rowspan="2"> <th rowspan="2"> <th rowspan="2"> </th></th></th></th>	<th rowspan="2"> <th rowspan="2"> <th rowspan="2"> </th></th></th>	<th rowspan="2"> <th rowspan="2"> </th></th>	<th rowspan="2"> </th>												
							Q	SO	MEQ	MSO	SP	SO	FO	MSO	MDH	MSO												MDH	MSO									
11	2003.SS11	5/5/2014	1010	SNMM/BS	SO	1 bag																																
12	2003.SS12	5/5/2014	1030	SNMM/BS	SO	1 bag																																
13	2003.SS13	5/5/2014	1120	SNMM/BS	SO	1 bag																																
14	2003.SS14	5/5/2014	1110	SNMM/BS	SO	1 bag																																
15	2003.SS15	5/5/2014	1100	SNMM/BS	SO	1 BAG																																
16	2003.B2.42-54	5/5/2014	1145	SNMM/BS	SO	5																																
17	2003.B7.48-60	5/5/2014	1545	SNMM/BS	SO	5																																
18	2003.B9.48-60	5/5/2014	1440	SNMM/BS	SO	5																																
19	2003.B14.48-60	5/5/2014	1600	SNMM/BS	SO	5																																
20	2003.B15.48-60	5/5/2014	1645	SNMM/BS	SO	5																																

Turnaround Time (Business days)										Data Deliverable Information										Comments / Remarks									
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Approved By / Date: _____ Standard 7-Day TAT: <input type="checkbox"/> 5 Day <input type="checkbox"/> 3 Day (125% markup) <input type="checkbox"/> 2 Day (150% markup) <input type="checkbox"/> 1 Day (200% markup) <input type="checkbox"/> Same Day (300% markup)		<input type="checkbox"/> Commercial "A" - Results only <input checked="checked" type="checkbox"/> Commercial "B" - Results with QC summaries <input type="checkbox"/> Commercial "B+" - Results, QC, and chromatograms <input type="checkbox"/> FULT1 - Level 4 data package <input type="checkbox"/> EDF for Geotracker <input type="checkbox"/> EDF Form # _____ Provide EDF Global ID: _____ Provide EDF Logcode: _____										All samples were collected on May 5, 2014, please make sure all samples are extracted and analyzed in hold. Soil particle size 2mm for all samples.																	
Emergency T/A data available VIA Lablink																													
Sample Custody must be documented below each time samples change possession, including courier delivery.																													
Relinquished by: <i>Sharla Nakashima</i>	Date Time: 5/5/14 1140	Received By: _____	Relinquished By: _____	Date Time: 5/8/14 1020	Received By: _____																								
Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:	Custody Seal #	Appropriate Bottle / Pres. Y/N	Headspace Y/N	On Ice Y/N	Cooler Temp.																			
3			4																										
5			5																										

4.1
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C33923: Chain of Custody
Page 2 of 5



ACCUTEST LABORATORIES

CHAIN OF CUSTODY

2105 Lundy Ave, San Jose, CA 95131
 (408) 688-0200 FAX: (408) 688-0201

Page 3 of 3

FED-EX Tracking #
 Accutest Quote # 8PH12_2013_170
 Bottle Order Control #
 Accutest NC Job #: C **033923**

Client / Reporting Information			Project Information								Requested Analysis						Matrix Codes							
Company Name: EnviroServices & Training Center, LLC			Project Name: Kahului Harbor								MIS Subsampling w/ Percent Moisture	TPH-D (8015)	DOH-16 PAHs+Methylnaphthalenes (8270C SIM)	ECRA 8 Metals (0107471)	Organochlorine Pesticides (8051A)	TPH-G (8015)	MBTEX (60350260B)	WW- Wastewater	GW- Ground Water					
Address: 505 Ward Avenue, Suite 202			Street															SW- Surface Water	SO- Soil					
City: Honolulu State: Hawaii Zip: 96789			City: Kahului State: Hawaii															OI- Oil WP- Wipe						
Project Contact: Ms. Sharla Nakashima			Project #: 14-2003															LIQ - Non-aqueous Liquids						
Phone #: 808-839-7222 Ext. 228			EMAIL: sharla@qgloestc.com															AIR						
Sampplers Name: S. Nakashima / B. Starks / M. Moore			Client Purchase Order #															DW- Drinking Water (Packaging Only)						
Accutest Sample ID	Sample ID / Field Point / Point of Collection	Date	Time	Sampled by	Matrix	Number of preserved Bottles										LAB USE ONLY								
						# of bottles	PC	MS	ML	MO	MT	MS	ML	MO	MT		MS							
21	2003.B16.48-60	5/5/2014	1010	SN/MM/BS	SO	5																		
22	2003.B17.48-60	5/5/2014	1030	SN/MM/BS	SO	5																		
23	2003.B18.48-60	5/5/2014	1120	SN/MM/BS	SO	5																		
24	2003.B19.48-60	5/5/2014	1110	SN/MM/BS	SO	5																		
25	2003.B29.48-60	5/5/2014	1100	SN/MM/BS	SO	5																		
26	2003.B30.48-60	5/5/2014	1145	SN/MM/BS	SO	5																		
Turnaround Time (Business days)			Data Deliverable Information								Comments / Remarks													
Standard 7-Day TAT <input type="checkbox"/> 5 Day <input type="checkbox"/> 3 Day (125% markup) <input type="checkbox"/> 2 Day (150% markup) <input type="checkbox"/> 1 Day (200% markup) <input type="checkbox"/> Same Day (300% markup) Emergency T/A data available VIA Lablink			Approved By/ Date:			<input type="checkbox"/> Commercial "A" - Results only <input checked="" type="checkbox"/> Commercial "B" - Results with QC summaries <input type="checkbox"/> Commercial "B+" - Results, QC, and chromatograms <input type="checkbox"/> FULLY - Level 4 data package <input type="checkbox"/> EDF for Geotracker <input type="checkbox"/> EDD Format Provide EDF Global ID _____ Provide EDF Logcode: _____								All samples were collected on May 5, 2014, please make sure all samples are extracted and analyzed in hold. Soil particle size 2mm for MI samples.										
Sample Custody must be documented below each time samples change possession, including courier delivery.			Relinquished by: [Signature]			Received by: [Signature]			Relinquished by: [Signature]			Received by: [Signature]			Date Time: 5/8/14 1020									
Relinquished by:			Date Time: 5/5/14 1140			Received by:			Relinquished by:			Received by:			Date Time: 5/8/14 1020									
Relinquished by:			Date Time:			Received by:			Relinquished by:			Received by:			Date Time:									
Relinquished by:			Date Time:			Received by:			Relinquished by:			Received by:			Date Time:									
Relinquished by:			Date Time:			Received by:			Relinquished by:			Received by:			Date Time:									
Relinquished by:			Date Time:			Received by:			Relinquished by:			Received by:			Date Time:									
Relinquished by:			Date Time:			Received by:			Relinquished by:			Received by:			Date Time:									
Relinquished by:			Date Time:			Received by:			Relinquished by:			Received by:			Date Time:									
Relinquished by:			Date Time:			Received by:			Relinquished by:			Received by:			Date Time:									
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Relinquished by:			Date Time:			Received by:			Relinquished by:			Received by:			Date Time:									
Relinquished by:			Date Time:			Received by:			Relinquished by:			Received by:			Date Time:									

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Accutest Laboratories Sample Receipt Summary

Accutest Job Number: C33923 **Client:** ENVIROSERVICES & TRAINING CENTER **Project:** KAHULUI HARBOR
Date / Time Received: 5/8/2014 **Delivery Method:** FedEx **Airbill #s:** 803625272977

Cooler Temps (Initial/Adjusted): #1: (1.7/1.7); #2: (1.6/1.6);

Cooler Security

- | | | | | | | | |
|---|---|---------------|--|--|--|---|--|
| <table border="0"> <tr> <td style="width: 50%;">Y or N</td> <td style="width: 50%;">Y or N</td> </tr> <tr> <td>1. Custody Seals Present: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N</td> <td>3. COC Present: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N</td> </tr> <tr> <td>2. Custody Seals Intact: <input type="checkbox"/> Y <input type="checkbox"/> N</td> <td>4. Smpl Dates/Time OK: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N</td> </tr> </table> | Y or N | Y or N | 1. Custody Seals Present: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N | 3. COC Present: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | 2. Custody Seals Intact: <input type="checkbox"/> Y <input type="checkbox"/> N | 4. Smpl Dates/Time OK: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |
| Y or N | Y or N | | | | | | |
| 1. Custody Seals Present: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N | 3. COC Present: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | | | | | | |
| 2. Custody Seals Intact: <input type="checkbox"/> Y <input type="checkbox"/> N | 4. Smpl Dates/Time OK: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | | | | | | |

Cooler Temperature

- | | |
|------------------------------|--|
| | Y or N |
| 1. Temp criteria achieved: | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N |
| 2. Cooler temp verification: | IR Gun |
| 3. Cooler media: | Ice (Bag) |
| 4. No. Coolers | 2 |

Quality Control Preservation

- | | | | |
|---------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| | Y | N | N/A |
| 1. Trip Blank present / cooler: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Trip Blank listed on COC: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Samples preserved properly: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. VOCs headspace free: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Sample Integrity - Documentation

- | | | | |
|--|-------------------------------------|-----------|--------------------------|
| | Y | or | N |
| 1. Sample labels present on bottles: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |
| 2. Container labeling complete: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |

Sample Integrity - Condition

- | | | | |
|----------------------------------|-------------------------------------|-----------|-------------------------------------|
| | Y | or | N |
| 1. Sample recvd within HT: | <input checked="" type="checkbox"/> | | <input type="checkbox"/> |
| 2. All containers accounted for: | <input type="checkbox"/> | | <input checked="" type="checkbox"/> |
| 3. Condition of sample: | Intact | | |

Sample Integrity - Instructions

- | | | | |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| | Y | N | N/A |
| 1. Analysis requested is clear: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Bottles received for unspecified tests: | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sufficient volume recvd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Compositing instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Comments: Sample 15(2003.SS15) came in a ziplock bag. NO TERRACORE KIT.

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Sample Receipt Summary - Problem Resolution

Accutest Job Number: C33923

CSR: Nutan Kabir

Response Date: 5/12/2014

Response: Per client's response this sample SS15 is MI sample and should be analyzed similar to the other MI samples (Sharla 5/9/14)

4.1
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Accutest Laboratories
V:408.588.0200

2105 Lundy Avenue
F: 408.588.0201

San Jose, CA 95131
www.accutest.com

C33923: Chain of Custody
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GC/MS Volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VL1011-MB	L32856.D	1	05/08/14	XB	n/a	n/a	VL1011

The QC reported here applies to the following samples:

Method: SW846 8260B

C33923-20, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	0.50	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	0.50	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.0	ug/kg	
108-88-3	Toluene	ND	5.0	0.50	ug/kg	
1330-20-7	Xylene (total)	ND	10	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Result	Limits
1868-53-7	Dibromofluoromethane	98%	70-130%
2037-26-5	Toluene-D8	96%	70-130%
460-00-4	4-Bromofluorobenzene	97%	70-130%

Method Blank Summary

Page 1 of 1

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM1390-MB	M46036.D	1	05/08/14	XB	n/a	n/a	VM1390

The QC reported here applies to the following samples:

Method: SW846 8260B

C33923-16, C33923-17, C33923-18, C33923-19

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	0.50	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	0.50	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.0	ug/kg	
108-88-3	Toluene	ND	5.0	0.50	ug/kg	
1330-20-7	Xylene (total)	ND	10	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Result	Limits
1868-53-7	Dibromofluoromethane	108%	70-130%
2037-26-5	Toluene-D8	109%	70-130%
460-00-4	4-Bromofluorobenzene	102%	70-130%

5.1.2
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Method Blank Summary

Page 1 of 1

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM1391-MB	M46059.D	1	05/09/14	XB	n/a	n/a	VM1391

The QC reported here applies to the following samples:

Method: SW846 8260B

C33923-21

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	0.50	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	0.50	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.0	ug/kg	
108-88-3	Toluene	ND	5.0	0.50	ug/kg	
1330-20-7	Xylene (total)	ND	10	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Results	Limits
1868-53-7	Dibromofluoromethane	107%	70-130%
2037-26-5	Toluene-D8	110%	70-130%
460-00-4	4-Bromofluorobenzene	106%	70-130%

5.1.3
5

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VL1011-BS	L32853.D	1	05/08/14	XB	n/a	n/a	VL1011
VL1011-BSD	L32854.D	1	05/08/14	XB	n/a	n/a	VL1011

The QC reported here applies to the following samples:

Method: SW846 8260B

C33923-20, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	40	41.0	103	41.1	103	0	81-119/20
100-41-4	Ethylbenzene	40	37.3	93	37.3	93	0	80-119/21
1634-04-4	Methyl Tert Butyl Ether	40	44.6	112	43.9	110	2	79-127/19
108-88-3	Toluene	40	37.2	93	37.6	94	1	80-117/21
1330-20-7	Xylene (total)	120	116	97	115	96	1	81-122/22

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	109%	107%	70-130%
2037-26-5	Toluene-D8	94%	95%	70-130%
460-00-4	4-Bromofluorobenzene	101%	99%	70-130%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM1390-BS	M46033.D	1	05/08/14	XB	n/a	n/a	VM1390
VM1390-BSD	M46034.D	1	05/08/14	XB	n/a	n/a	VM1390

The QC reported here applies to the following samples:

Method: SW846 8260B

C33923-16, C33923-17, C33923-18, C33923-19

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	40	42.4	106	41.8	105	1	81-119/20
100-41-4	Ethylbenzene	40	41.0	103	41.2	103	0	80-119/21
1634-04-4	Methyl Tert Butyl Ether	40	44.6	112	42.8	107	4	79-127/19
108-88-3	Toluene	40	40.4	101	41.0	103	1	80-117/21
1330-20-7	Xylene (total)	120	123	103	126	105	2	81-122/22

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	108%	105%	70-130%
2037-26-5	Toluene-D8	104%	106%	70-130%
460-00-4	4-Bromofluorobenzene	104%	104%	70-130%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM1391-BS	M46055.D	1	05/09/14	XB	n/a	n/a	VM1391
VM1391-BSD	M46056.D	1	05/09/14	XB	n/a	n/a	VM1391

The QC reported here applies to the following samples:

Method: SW846 8260B

C33923-21

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	40	42.6	107	42.4	106	0	81-119/20
100-41-4	Ethylbenzene	40	43.4	109	41.4	104	5	80-119/21
1634-04-4	Methyl Tert Butyl Ether	40	46.5	116	45.1	113	3	79-127/19
108-88-3	Toluene	40	42.9	107	41.6	104	3	80-117/21
1330-20-7	Xylene (total)	120	130	108	125	104	4	81-122/22

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	109%	107%	70-130%
2037-26-5	Toluene-D8	106%	104%	70-130%
460-00-4	4-Bromofluorobenzene	107%	104%	70-130%

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VL1011-LCS	L32855.D	1	05/08/14	XB	n/a	n/a	VL1011

The QC reported here applies to the following samples: Method: SW846 8260B

C33923-20, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

CAS No.	Compound	Spike ug/kg	LCS ug/kg	LCS %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	105%	70-130%
2037-26-5	Toluene-D8	94%	70-130%
460-00-4	4-Bromofluorobenzene	97%	70-130%

* = Outside of Control Limits.

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Laboratory Control Sample Summary

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM1390-LCS	M46035.D	1	05/08/14	XB	n/a	n/a	VM1390

The QC reported here applies to the following samples:

Method: SW846 8260B

C33923-16, C33923-17, C33923-18, C33923-19

CAS No.	Compound	Spike ug/kg	LCS ug/kg	LCS %	Limits
---------	----------	----------------	--------------	----------	--------

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	108%	70-130%
2037-26-5	Toluene-D8	110%	70-130%
460-00-4	4-Bromofluorobenzene	105%	70-130%

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM1391-LCS	M46058.D	1	05/09/14	XB	n/a	n/a	VM1391

The QC reported here applies to the following samples:

Method: SW846 8260B

C33923-21

CAS No.	Compound	Spike ug/kg	LCS ug/kg	LCS %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	107%	70-130%
2037-26-5	Toluene-D8	108%	70-130%
460-00-4	4-Bromofluorobenzene	103%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33923
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C33926-6MS	L32866.D	1	05/08/14	XB	n/a	n/a	VL1011
C33926-6MSD	L32867.D	1	05/08/14	XB	n/a	n/a	VL1011
C33926-6	L32865.D	1	05/08/14	XB	n/a	n/a	VL1011

The QC reported here applies to the following samples:

Method: SW846 8260B

C33923-20, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

CAS No.	Compound	C33926-6 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		39.7	33.1	83	39.8	32.5	82	2	81-119/20
100-41-4	Ethylbenzene	ND		39.7	33.3	84	39.8	32.4	81	3	80-119/21
1634-04-4	Methyl Tert Butyl Ether	ND		39.7	40.8	103	39.8	40.5	102	1	79-127/19
108-88-3	Toluene	ND		39.7	32.5	82	39.8	32.2	81	1	80-117/21
1330-20-7	Xylene (total)	ND		119	96.6	81	119	94.4	79* a	2	81-122/22

CAS No.	Surrogate Recoveries	MS	MSD	C33926-6	Limits
1868-53-7	Dibromofluoromethane	110%	110%	112%	70-130%
2037-26-5	Toluene-D8	94%	94%	93%	70-130%
460-00-4	4-Bromofluorobenzene	103%	102%	98%	70-130%

(a) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C33917-4MS	M46041.D	1	05/08/14	XB	n/a	n/a	VM1390
C33917-4MSD	M46042.D	1	05/08/14	XB	n/a	n/a	VM1390
C33917-4	M46037.D	1	05/08/14	XB	n/a	n/a	VM1390

The QC reported here applies to the following samples:

Method: SW846 8260B

C33923-16, C33923-17, C33923-18, C33923-19

CAS No.	Compound	C33917-4 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		39.4	33.0	84	39.5	33.1	84	0	81-119/20
100-41-4	Ethylbenzene	ND		39.4	38.2	97	39.5	38.6	98	1	80-119/21
1634-04-4	Methyl Tert Butyl Ether	ND		39.4	43.2	110	39.5	43.8	111	1	79-127/19
108-88-3	Toluene	ND		39.4	35.8	91	39.5	36.5	92	2	80-117/21
1330-20-7	Xylene (total)	ND		118	109	92	119	109	92	0	81-122/22

CAS No.	Surrogate Recoveries	MS	MSD	C33917-4	Limits
1868-53-7	Dibromofluoromethane	114%	111%	107%	70-130%
2037-26-5	Toluene-D8	105%	103%	109%	70-130%
460-00-4	4-Bromofluorobenzene	107%	103%	104%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C33944-5MS	M46069.D	1	05/09/14	XB	n/a	n/a	VM1391
C33944-5MSD	M46070.D	1	05/09/14	XB	n/a	n/a	VM1391
C33944-5 ^a	M46068.D	1	05/09/14	XB	n/a	n/a	VM1391

The QC reported here applies to the following samples:

Method: SW846 8260B

C33923-21

CAS No.	Compound	C33944-5 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		1940	1630	84	1940	1630	84	0	81-119/20
100-41-4	Ethylbenzene	ND		1940	1950	100	1940	1940	100	1	80-119/21
1634-04-4	Methyl Tert Butyl Ether	ND		1940	2060	106	1940	2030	105	1	79-127/19
108-88-3	Toluene	ND		1940	1800	93	1940	1800	93	0	80-117/21
1330-20-7	Xylene (total)	ND		5830	5480	94	5830	5410	93	1	81-122/22

CAS No.	Surrogate Recoveries	MS	MSD	C33944-5	Limits
1868-53-7	Dibromofluoromethane	115%	110%	110%	70-130%
2037-26-5	Toluene-D8	106%	106%	107%	70-130%
460-00-4	4-Bromofluorobenzene	112%	108%	106%	70-130%

(a) 4:1 composite.

* = Outside of Control Limits.

GC/MS Semi-volatiles



QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9999-MB	X36356.D	1	05/13/14	AA	05/07/14	OP9999	EX1588

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.57	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.67	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.77	ug/kg	
218-01-9	Chrysene	ND	3.3	0.67	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Limits
4165-60-0	Nitrobenzene-d5	86% 13-123%
321-60-8	2-Fluorobiphenyl	91% 17-126%
1718-51-0	Terphenyl-d14	114% 51-146%

6.1.1

6

Method Blank Summary

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10029-MB	X36472.D	1	05/15/14	AA	05/13/14	OP10029	EX1591

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C33923-1, C33923-2, C33923-3, C33923-4, C33923-5, C33923-6, C33923-7, C33923-8, C33923-9, C33923-10, C33923-11, C33923-12, C33923-13, C33923-14, C33923-15

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene	ND	3.3	0.57	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.67	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.77	ug/kg	
218-01-9	Chrysene	ND	3.3	0.67	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Limits
4165-60-0	Nitrobenzene-d5	84% 13-123%
321-60-8	2-Fluorobiphenyl	88% 17-126%
1718-51-0	Terphenyl-d14	88% 51-146%

6.1.2

6

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33923
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9999-BS	X36256.D	1	05/07/14	MT	05/07/14	OP9999	EX1584
OP9999-BSD	X36257.D	1	05/08/14	MT	05/07/14	OP9999	EX1584

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	167	174	104* a	165	99	5	51-102/33
208-96-8	Acenaphthylene	167	154	92	150	90	3	52-105/32
120-12-7	Anthracene	167	153	92	146	88	5	65-105/29
56-55-3	Benzo(a)anthracene	167	153	92	165	99	8	77-115/25
50-32-8	Benzo(a)pyrene	167	151	91	151	91	0	76-124/27
205-99-2	Benzo(b)fluoranthene	167	203	122	193	116	5	79-123/26
191-24-2	Benzo(g,h,i)perylene	167	168	101	154	92	9	70-125/27
207-08-9	Benzo(k)fluoranthene	167	195	117	191	115	2	78-120/25
218-01-9	Chrysene	167	183	110	180	108	2	79-111/24
53-70-3	Dibenzo(a,h)anthracene	167	174	104	159	95	9	69-128/26
206-44-0	Fluoranthene	167	171	103	172	103	1	70-109/28
86-73-7	Fluorene	167	184	110* a	178	107* a	3	52-105/32
193-39-5	Indeno(1,2,3-cd)pyrene	167	178	107	169	101	5	72-122/27
90-12-0	1-Methylnaphthalene	167	162	97* a	154	92	5	49-96/33
91-57-6	2-Methylnaphthalene	167	150	90	145	87	3	53-102/32
91-20-3	Naphthalene	167	157	94	145	87	8	49-98/31
85-01-8	Phenanthrene	167	179	107* a	169	101	6	55-104/30
129-00-0	Pyrene	167	184	110* a	158	95	15	67-108/29

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
4165-60-0	Nitrobenzene-d5	91%	86%	13-123%
321-60-8	2-Fluorobiphenyl	101%	96%	17-126%
1718-51-0	Terphenyl-d14	112%	101%	51-146%

(a) Outside of in-house control limits; but within the method control limits. AZ:L1

* = Outside of Control Limits.

6.2.1
6

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33923
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10029-BS	X36492.D	1	05/15/14	AA	05/13/14	OP10029	EX1591
OP10029-BSD	X36493.D	1	05/15/14	AA	05/13/14	OP10029	EX1591

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C33923-1, C33923-2, C33923-3, C33923-4, C33923-5, C33923-6, C33923-7, C33923-8, C33923-9, C33923-10, C33923-11, C33923-12, C33923-13, C33923-14, C33923-15

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	167	144	86	141	85	2	51-102/33
208-96-8	Acenaphthylene	167	142	85	138	83	3	52-105/32
120-12-7	Anthracene	167	146	88	141	85	3	65-105/29
56-55-3	Benzo(a)anthracene	167	153	92	150	90	2	77-115/25
50-32-8	Benzo(a)pyrene	167	138	83	134	80	3	76-124/27
205-99-2	Benzo(b)fluoranthene	167	177	106	178	107	1	79-123/26
191-24-2	Benzo(g,h,i)perylene	167	134	80	129	77	4	70-125/27
207-08-9	Benzo(k)fluoranthene	167	171	103	167	100	2	78-120/25
218-01-9	Chrysene	167	163	98	161	97	1	79-111/24
53-70-3	Dibenzo(a,h)anthracene	167	132	79	124	74	6	69-128/26
206-44-0	Fluoranthene	167	164	98	165	99	1	70-109/28
86-73-7	Fluorene	167	153	92	151	91	1	52-105/32
193-39-5	Indeno(1,2,3-cd)pyrene	167	132	79	128	77	3	72-122/27
90-12-0	1-Methylnaphthalene	167	137	82	134	80	2	49-96/33
91-57-6	2-Methylnaphthalene	167	138	83	135	81	2	53-102/32
91-20-3	Naphthalene	167	132	79	129	77	2	49-98/31
85-01-8	Phenanthrene	167	151	91	148	89	2	55-104/30
129-00-0	Pyrene	167	165	99	165	99	0	67-108/29

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
4165-60-0	Nitrobenzene-d5	83%	81%	13-123%
321-60-8	2-Fluorobiphenyl	87%	85%	17-126%
1718-51-0	Terphenyl-d14	104%	105%	51-146%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9999-MS	X36262.D	1	05/08/14	MT	05/07/14	OP9999	EX1584
OP9999-MSD	X36263.D	1	05/08/14	MT	05/07/14	OP9999	EX1584
C33876-1	X36260.D	1	05/08/14	MT	05/07/14	OP9999	EX1584

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

CAS No.	Compound	C33876-1 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND	166	170	102	166	172	104* a	1	51-102/33
208-96-8	Acenaphthylene	ND	166	163	98	166	164	99	1	52-105/32
120-12-7	Anthracene	ND	166	156	94	166	158	95	1	65-105/29
56-55-3	Benzo(a)anthracene	ND	166	193	116* b	166	194	117* b	1	77-115/25
50-32-8	Benzo(a)pyrene	ND	166	159	96	166	162	98	2	76-124/27
205-99-2	Benzo(b)fluoranthene	ND	166	193	116	166	189	114	2	79-123/26
191-24-2	Benzo(g,h,i)perylene	0.80	J 166	159	95	166	167	100	5	70-125/27
207-08-9	Benzo(k)fluoranthene	ND	166	153	92	166	161	97	5	78-120/25
218-01-9	Chrysene	ND	166	182	110	166	186	112* b	2	79-111/24
53-70-3	Dibenzo(a,h)anthracene	ND	166	170	102	166	177	107	4	69-128/26
206-44-0	Fluoranthene	ND	166	166	100	166	167	101	1	70-109/28
86-73-7	Fluorene	ND	166	180	108* a	166	183	110* a	2	52-105/32
193-39-5	Indeno(1,2,3-cd)pyrene	ND	166	185	111	166	189	114	2	72-122/27
90-12-0	1-Methylnaphthalene	ND	166	166	100* a	166	167	101* a	1	49-96/33
91-57-6	2-Methylnaphthalene	ND	166	159	96	166	161	97	1	53-102/32
91-20-3	Naphthalene	ND	166	154	93	166	155	93	1	49-98/31
85-01-8	Phenanthrene	ND	166	170	102	166	173	104	2	55-104/30
129-00-0	Pyrene	ND	166	187	113* a	166	190	114* a	2	67-108/29

CAS No.	Surrogate Recoveries	MS	MSD	C33876-1	Limits
4165-60-0	Nitrobenzene-d5	106%	107%	96%	13-123%
321-60-8	2-Fluorobiphenyl	111%	112%	101%	17-126%
1718-51-0	Terphenyl-d14	131%	132%	129%	51-146%

(a) Outside laboratory control limits. AZ:L1
 (b) Outside laboratory control limits. AZ:M1

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10029-MS ^a	T14200.D	20	05/20/14	MT	05/13/14	OP10029	ET629
OP10029-MSD ^a	T14201.D	20	05/20/14	MT	05/13/14	OP10029	ET629
C33923-1 ^a	T14199.D	10	05/20/14	MT	05/13/14	OP10029	ET629

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C33923-1, C33923-2, C33923-3, C33923-4, C33923-5, C33923-6, C33923-7, C33923-8, C33923-9, C33923-10, C33923-11, C33923-12, C33923-13, C33923-14, C33923-15

CAS No.	Compound	C33923-1 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND	166	145	87	166	125	75	15	51-102/33
208-96-8	Acenaphthylene	ND	166	142	85	166	136	82	4	52-105/32
120-12-7	Anthracene	ND	166	165	99	166	154	93	7	65-105/29
56-55-3	Benzo(a)anthracene	69.7	166	238	101	166	215	87	10	77-115/25
50-32-8	Benzo(a)pyrene	98.3	166	228	78	166	214	70* ^b	6	76-124/27
205-99-2	Benzo(b)fluoranthene	189	166	384	117	166	341	91	12	79-123/26
191-24-2	Benzo(g,h,i)perylene	90.0	166	220	78	166	198	65* ^b	11	70-125/27
207-08-9	Benzo(k)fluoranthene	101	166	250	90	166	248	88	1	78-120/25
218-01-9	Chrysene	157	166	312	93	166	289	79	8	79-111/24
53-70-3	Dibenzo(a,h)anthracene	17.9	J 166	163	87	166	133	69	20	69-128/26
206-44-0	Fluoranthene	284	166	465	109	166	413	78	12	70-109/28
86-73-7	Fluorene	ND	166	140	84	166	143	86	2	52-105/32
193-39-5	Indeno(1,2,3-cd)pyrene	92.8	166	226	80	166	215	73	5	72-122/27
90-12-0	1-Methylnaphthalene	ND	166	131	79	166	126	76	4	49-96/33
91-57-6	2-Methylnaphthalene	ND	166	129	78	166	119	72	8	53-102/32
91-20-3	Naphthalene	ND	166	123	74	166	117	70	5	49-98/31
85-01-8	Phenanthrene	84.7	J 166	230	87	166	215	78	7	55-104/30
129-00-0	Pyrene	218	J 166	402	111* ^c	166	368	90	9	67-108/29

CAS No.	Surrogate Recoveries	MS	MSD	C33923-1	Limits
4165-60-0	Nitrobenzene-d5	71%	66%	68%	13-123%
321-60-8	2-Fluorobiphenyl	82%	80%	75%	17-126%
1718-51-0	Terphenyl-d14	119%	108%	109%	51-146%

(a) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous).

(b) Outside control limits due to matrix interference/dilution. AZ:M2

(c) Outside control limits due to matrix interference/dilution. AZ:M1

* = Outside of Control Limits.

GC Volatiles

QC Data Summaries

7

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1800-MB	JK43987.D	1	05/12/14	TN	n/a	n/a	GJK1800

The QC reported here applies to the following samples:

Method: SW846 8015B

C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/kg	

CAS No.	Surrogate Recoveries	Limits
98-08-8	aaa-Trifluorotoluene	111% 60-115%

7.11
7

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33923
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1800-BS	JK43988.D	1	05/12/14	TN	n/a	n/a	GJK1800
GJK1800-BSD	JK43989.D	1	05/12/14	TN	n/a	n/a	GJK1800

The QC reported here applies to the following samples: Method: SW846 8015B

C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	0.5	0.413	83	0.407	81	1	76-127/32

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
98-08-8	aaa-Trifluorotoluene	103%	102%	60-115%

7.2.1
7

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C33923-16MS	JK43991.D	1	05/12/14	TN	n/a	n/a	GJK1800
C33923-16MSD	JK43992.D	1	05/12/14	TN	n/a	n/a	GJK1800
C33923-16	JK43990.D	1	05/12/14	TN	n/a	n/a	GJK1800

The QC reported here applies to the following samples:

Method: SW846 8015B

C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

CAS No.	Compound	C33923-16 mg/kg	Spike Q	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	0.492	0.395	80	0.487	0.393	81	1	76-127/32
CAS No.	Surrogate Recoveries	MS	MSD	C33923-16	Limits					
98-08-8	aaa-Trifluorotoluene	102%	103%	103%	60-115%					

7.3.1
7

* = Outside of Control Limits.

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



Method Blank Summary

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui,HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10003-MB	MM021706.D	1	05/07/14	RV	05/07/14	OP10003	GMM643

The QC reported here applies to the following samples:

Method: SW846 8081A

C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.57	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.57	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.7	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	110%	49-127%
877-09-8	Tetrachloro-m-xylene	117%	49-127%
2051-24-3	Decachlorobiphenyl	125%	53-145%
2051-24-3	Decachlorobiphenyl	135%	53-145%

Method Blank Summary

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10010-MB	MM021754.D	1	05/09/14	RV	05/08/14	OP10010	GMM644

The QC reported here applies to the following samples:

Method: SW846 8081A

C33923-24, C33923-25, C33923-26

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE ^a	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT ^a	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.57	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.57	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor ^a	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.7	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	96%	49-127%
877-09-8	Tetrachloro-m-xylene	106%	49-127%
2051-24-3	Decachlorobiphenyl	105%	53-145%
2051-24-3	Decachlorobiphenyl	113%	53-145%

(a) Results from signal #2.

8.1.2
8

Method Blank Summary

Job Number: C33923
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10030-MB	MM021916.D	1	05/13/14	RV	05/13/14	OP10030	GMM649

The QC reported here applies to the following samples:

Method: SW846 8081A

C33923-1, C33923-2, C33923-3, C33923-4, C33923-5, C33923-6, C33923-7, C33923-8, C33923-9, C33923-10, C33923-11, C33923-12, C33923-13, C33923-14, C33923-15

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	3.3	0.40	ug/kg	
319-84-6	alpha-BHC	ND	3.3	0.37	ug/kg	
319-85-7	beta-BHC	ND	3.3	0.80	ug/kg	
319-86-8	delta-BHC	ND	3.3	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	3.3	0.40	ug/kg	
12789-03-6	Chlordane	ND	33	3.3	ug/kg	
60-57-1	Dieldrin	ND	3.3	0.60	ug/kg	
72-54-8	4,4'-DDD	ND	3.3	0.70	ug/kg	
72-55-9	4,4'-DDE	ND	3.3	0.60	ug/kg	
50-29-3	4,4'-DDT	ND	3.3	0.50	ug/kg	
72-20-8	Endrin	ND	3.3	0.60	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.3	0.60	ug/kg	
959-98-8	Endosulfan-I	ND	3.3	0.57	ug/kg	
33213-65-9	Endosulfan-II	ND	3.3	0.60	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.3	0.57	ug/kg	
76-44-8	Heptachlor	ND	3.3	0.47	ug/kg	
1024-57-3	Heptachlor epoxide	ND	3.3	0.50	ug/kg	
72-43-5	Methoxychlor	ND	3.3	0.53	ug/kg	
8001-35-2	Toxaphene	ND	33	6.7	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	89%	49-127%
877-09-8	Tetrachloro-m-xylene	95%	49-127%
2051-24-3	Decachlorobiphenyl	101%	53-145%
2051-24-3	Decachlorobiphenyl	99%	53-145%

8.13
8

Method Blank Summary

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui,HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10009-MB	HH312946.D	1	05/08/14	AG	05/08/14	OP10009	GHH1255

The QC reported here applies to the following samples: Method: SW846 8015B M

C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	0.83	mg/kg	
	TPH (> C28-C40)	ND	6.7	1.7	mg/kg	

CAS No.	Surrogate Recoveries	Limits
630-01-3	Hexacosane	105% 37-122%

8.1.4
8

Method Blank Summary

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui,HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10027-MB	HH313102.D	1	05/14/14	AG	05/13/14	OP10027	GHH1259

The QC reported here applies to the following samples:

Method: SW846 8015B M

C33923-1, C33923-2, C33923-3, C33923-4, C33923-5, C33923-6, C33923-7, C33923-8, C33923-9, C33923-10, C33923-11, C33923-12, C33923-13, C33923-14, C33923-15

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	0.83	mg/kg	
	TPH (> C28-C40)	ND	6.7	1.7	mg/kg	

CAS No.	Surrogate Recoveries	Limits
630-01-3	Hexacosane	96% 37-122%

8.1.5
8

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33923
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10003-BS	MM021707.D	1	05/07/14	RV	05/07/14	OP10003	GMM643
OP10003-BSD	MM021708.D	1	05/07/14	RV	05/07/14	OP10003	GMM643

The QC reported here applies to the following samples: Method: SW846 8081A

C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	33.3	35.5	107	34.0	102	4	74-124/20
319-84-6	alpha-BHC	33.3	39.5	119	37.2	112	6	70-127/20
319-85-7	beta-BHC	33.3	39.3	118	37.7	113	4	76-137/20
319-86-8	delta-BHC	33.3	37.7	113	35.1	105	7	69-132/20
58-89-9	gamma-BHC (Lindane)	33.3	39.6	119	37.0	111	7	75-130/20
60-57-1	Dieldrin	33.3	40.9	123	38.3	115	7	75-135/13
72-54-8	4,4'-DDD	33.3	41.9	126	38.7	116	8	74-134/20
72-55-9	4,4'-DDE	33.3	35.8	107	32.8	98	9	73-131/20
50-29-3	4,4'-DDT	33.3	37.3	112	34.3	103	8	66-129/20
72-20-8	Endrin	33.3	42.8	128	39.4	118	8	80-143/20
7421-93-4	Endrin aldehyde	33.3	40.8	122	38.4	115	6	71-133/20
959-98-8	Endosulfan-I	33.3	42.1	126	39.6	119	6	77-135/20
33213-65-9	Endosulfan-II	33.3	41.5	125	38.5	116	8	75-134/20
1031-07-8	Endosulfan sulfate	33.3	45.0	135	41.3	124	9	69-137/20
76-44-8	Heptachlor	33.3	40.7	122	38.0	114	7	82-132/20
1024-57-3	Heptachlor epoxide	33.3	39.8	119	37.3	112	6	79-127/20
72-43-5	Methoxychlor	33.3	40.2	121	37.4	112	7	70-137/20

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
877-09-8	Tetrachloro-m-xylene	109%	100%	49-127%
877-09-8	Tetrachloro-m-xylene	123%	115%	49-127%
2051-24-3	Decachlorobiphenyl	132%	125%	53-145%
2051-24-3	Decachlorobiphenyl	139%	127%	53-145%

* = Outside of Control Limits.

8.2.1 8

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33923
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10010-BS	MM021755.D	1	05/09/14	RV	05/08/14	OP10010	GMM644
OP10010-BSD	MM021756.D	1	05/09/14	RV	05/08/14	OP10010	GMM644

The QC reported here applies to the following samples:

Method: SW846 8081A

C33923-24, C33923-25, C33923-26

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	33.3	30.0	90	30.1	90	0	74-124/20
319-84-6	alpha-BHC	33.3	32.8	98	32.1	96	2	70-127/20
319-85-7	beta-BHC	33.3	31.8	95	31.9	96	0	76-137/20
319-86-8	delta-BHC	33.3	31.8	95	31.7	95	0	69-132/20
58-89-9	gamma-BHC (Lindane)	33.3	32.9	99	32.8	98	0	75-130/20
60-57-1	Dieldrin	33.3	32.2	97	32.1	96	0	75-135/13
72-54-8	4,4'-DDD	33.3	32.4	97	31.7	95	2	74-134/20
72-55-9	4,4'-DDE	33.3	33.9	102 ^a	32.1	96 ^a	5 ^a	73-131/20
50-29-3	4,4'-DDT	33.3	33.0	99 ^a	31.5	95 ^a	5 ^a	66-129/20
72-20-8	Endrin	33.3	31.9	96	31.3	94	2	80-143/20
7421-93-4	Endrin aldehyde	33.3	34.1	102	34.3	103	1	71-133/20
959-98-8	Endosulfan-I	33.3	33.2	100	33.3	100	0	77-135/20
33213-65-9	Endosulfan-II	33.3	33.4	100	32.8	98	2	75-134/20
1031-07-8	Endosulfan sulfate	33.3	37.9	114	37.9	114	0	69-137/20
76-44-8	Heptachlor	33.3	33.3	100	33.4	100	0	82-132/20
1024-57-3	Heptachlor epoxide	33.3	31.6	95	31.7	95	0	79-127/20
72-43-5	Methoxychlor	33.3	34.4	103 ^a	35.9	108 ^a	4 ^a	70-137/20

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
877-09-8	Tetrachloro-m-xylene	94%	97%	49-127%
877-09-8	Tetrachloro-m-xylene	106%	105%	49-127%
2051-24-3	Decachlorobiphenyl	111%	106%	53-145%
2051-24-3	Decachlorobiphenyl	116%	110%	53-145%

(a) Results from signal #2.

* = Outside of Control Limits.

8.2.2
8

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33923
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui,HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10030-BS	MM021917.D	1	05/13/14	RV	05/13/14	OP10030	GMM649
OP10030-BSD	MM021918.D	1	05/13/14	RV	05/13/14	OP10030	GMM649

The QC reported here applies to the following samples: Method: SW846 8081A

C33923-1, C33923-2, C33923-3, C33923-4, C33923-5, C33923-6, C33923-7, C33923-8, C33923-9, C33923-10, C33923-11, C33923-12, C33923-13, C33923-14, C33923-15

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	33.3	27.3	82	27.5	83	1	74-124/20
319-84-6	alpha-BHC	33.3	30.7	92	31.4	94	2	70-127/20
319-85-7	beta-BHC	33.3	34.1	102	34.6	104	1	76-137/20
319-86-8	delta-BHC	33.3	34.7	104	35.3	106	2	69-132/20
58-89-9	gamma-BHC (Lindane)	33.3	33.4	100	33.9	102	1	75-130/20
60-57-1	Dieldrin	33.3	34.3	103	34.9	105	2	75-135/13
72-54-8	4,4'-DDD	33.3	36.7	110	37.1	111	1	74-134/20
72-55-9	4,4'-DDE	33.3	35.0	105	35.4	106	1	73-131/20
50-29-3	4,4'-DDT	33.3	33.4	100	34.5	104	3	66-129/20
72-20-8	Endrin	33.3	33.3	100	34.2	103	3	80-143/20
7421-93-4	Endrin aldehyde	33.3	34.6	104	34.7	104	0	71-133/20
959-98-8	Endosulfan-I	33.3	31.4	94	32.0	96	2	77-135/20
33213-65-9	Endosulfan-II	33.3	33.7	101	34.1	102	1	75-134/20
1031-07-8	Endosulfan sulfate	33.3	36.2	109	35.8	107	1	69-137/20
76-44-8	Heptachlor	33.3	31.6	95	32.3	97	2	82-132/20
1024-57-3	Heptachlor epoxide	33.3	33.4	100	34.1	102	2	79-127/20
72-43-5	Methoxychlor	33.3	32.6	98	33.0	99	1	70-137/20

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
877-09-8	Tetrachloro-m-xylene	91%	90%	49-127%
877-09-8	Tetrachloro-m-xylene	93%	94%	49-127%
2051-24-3	Decachlorobiphenyl	103%	107%	53-145%
2051-24-3	Decachlorobiphenyl	100%	102%	53-145%

* = Outside of Control Limits.

8.2.3
8

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33923
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10009-BS	HH312954.D	1	05/08/14	AG	05/08/14	OP10009	GHH1255
OP10009-BSD	HH312955.D	1	05/08/14	AG	05/08/14	OP10009	GHH1255

The QC reported here applies to the following samples:

Method: SW846 8015B M

C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	33.3	28.6	86	29.2	88	2	39-102/29
	TPH (> C28-C40)	33.3	34.6	104	35.1	105	1	42-111/26

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
630-01-3	Hexacosane	109%	109%	37-122%

8.2.4
8

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33923
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10027-BS	HH313071.D	1	05/13/14	AG	05/13/14	OP10027	GHH1258
OP10027-BSD	HH313072.D	1	05/13/14	AG	05/13/14	OP10027	GHH1258

The QC reported here applies to the following samples:

Method: SW846 8015B M

C33923-1, C33923-2, C33923-3, C33923-4, C33923-5, C33923-6, C33923-7, C33923-8, C33923-9, C33923-10, C33923-11, C33923-12, C33923-13, C33923-14, C33923-15

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	33.3	27.4	82	26.6	80	3	39-102/29
	TPH (> C28-C40)	33.3	34.8	104	33.4	100	4	42-111/26

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
630-01-3	Hexacosane	110%	114%	37-122%

8.2.5
8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33923
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui,HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10003-MS	MM021704.D	10	05/07/14	RV	05/07/14	OP10003	GMM643
OP10003-MSD	MM021705.D	10	05/07/14	RV	05/07/14	OP10003	GMM643
C33898-12	MM021731.D	1	05/08/14	RV	05/07/14	OP10003	GMM644

The QC reported here applies to the following samples: Method: SW846 8081A

C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23

CAS No.	Compound	C33898-12 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	ND	33.1	27.6	83	33.1	28.8	87	4	74-124/20
319-84-6	alpha-BHC	ND	33.1	27.0	81	33.1	27.1	82	0	70-127/20
319-85-7	beta-BHC	ND	33.1	28.3	85	33.1	27.7	84	2	76-137/20
319-86-8	delta-BHC	ND	33.1	25.4	77	33.1	24.6	74	3	69-132/20
58-89-9	gamma-BHC (Lindane)	ND	33.1	27.9	84	33.1	27.8	84	0	75-130/20
60-57-1	Dieldrin	ND	33.1	31.6	95	33.1	31.7	96	0	45-132/24
72-54-8	4,4'-DDD	ND	33.1	28.7	87	33.1	29.3	88	2	74-134/20
72-55-9	4,4'-DDE	ND	33.1	25.1	76	33.1	24.6	74	2	73-131/20
50-29-3	4,4'-DDT	ND	33.1	19.2	58*	33.1	20.2	61*	5	66-129/20
72-20-8	Endrin	ND	33.1	32.4	98	33.1	32.6	98	1	80-143/20
7421-93-4	Endrin aldehyde	ND	33.1	26.4	80	33.1	25.8	78	2	71-133/20
959-98-8	Endosulfan-I	ND	33.1	32.9	99	33.1	29.8	90	10	77-135/20
33213-65-9	Endosulfan-II	ND	33.1	27.7	84	33.1	28.6	86	3	75-134/20
1031-07-8	Endosulfan sulfate	ND	33.1	30.7	93	33.1	32.1	97	4	69-137/20
76-44-8	Heptachlor	ND	33.1	29.9	90	33.1	29.5	89	1	82-132/20
1024-57-3	Heptachlor epoxide	ND	33.1	31.0	94	33.1	31.2	94	1	79-127/20
72-43-5	Methoxychlor	ND	33.1	24.0	72	33.1	24.6	74	2	70-137/20

CAS No.	Surrogate Recoveries	MS	MSD	C33898-12	Limits
877-09-8	Tetrachloro-m-xylene	81%	87%	89%	49-127%
877-09-8	Tetrachloro-m-xylene	92%	90%	110%	49-127%
2051-24-3	Decachlorobiphenyl	114%	108%	107%	53-145%
2051-24-3	Decachlorobiphenyl	125%	124%	108%	53-145%

* = Outside of Control Limits.

8.3.1
8

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33923
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui,HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10010-MS	MM021749.D	10	05/08/14	RV	05/08/14	OP10010	GMM644
OP10010-MSD	MM021750.D	10	05/08/14	RV	05/08/14	OP10010	GMM644
C33928-7 ^a	MM021748.D	10	05/08/14	RV	05/08/14	OP10010	GMM644

The QC reported here applies to the following samples:

Method: SW846 8081A

C33923-24, C33923-25, C33923-26

CAS No.	Compound	C33928-7 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	ND	33.1	25.6	77	33.1	26.2	79	2	74-124/20
319-84-6	alpha-BHC	ND	33.1	25.3	76	33.1	25.4	77	0	70-127/20
319-85-7	beta-BHC	ND	33.1	25.2	76	33.1	25.3	76	0	76-137/20
319-86-8	delta-BHC	ND	33.1	22.9	69	33.1	23.0	69	0	69-132/20
58-89-9	gamma-BHC (Lindane)	ND	33.1	25.0	75	33.1	25.3	76	1	75-130/20
60-57-1	Dieldrin	ND	33.1	28.4	86	33.1	26.6	80	7	45-132/24
72-54-8	4,4'-DDD	ND	33.1	26.8	81	33.1	27.2	82	1	74-134/20
72-55-9	4,4'-DDE	ND	33.1	25.4	77 ^b	33.1	24.4	74 ^b	4 ^b	73-131/20
50-29-3	4,4'-DDT	ND	33.1	23.6	71 ^b	33.1	22.3	67 ^b	6 ^b	66-129/20
72-20-8	Endrin	ND	33.1	32.3	97	33.1	30.8	93	5	80-143/20
7421-93-4	Endrin aldehyde	ND	33.1	26.5	80	33.1	25.2	76	5	71-133/20
959-98-8	Endosulfan-I	ND	33.1	27.2	82	33.1	26.9	81	1	77-135/20
33213-65-9	Endosulfan-II	ND	33.1	27.1	82	33.1	26.7	81	1	75-134/20
1031-07-8	Endosulfan sulfate	ND	33.1	34.6	104	33.1	32.9	99	5	69-137/20
76-44-8	Heptachlor	ND	33.1	27.1	82	33.1	27.5	83	1	82-132/20
1024-57-3	Heptachlor epoxide	ND	33.1	26.8	81	33.1	26.7	81	0	79-127/20
72-43-5	Methoxychlor	ND	33.1	30.1	91 ^b	33.1	26.9	81 ^b	11 ^b	70-137/20

CAS No.	Surrogate Recoveries	MS	MSD	C33928-7	Limits
877-09-8	Tetrachloro-m-xylene	82%	83%	88%	49-127%
877-09-8	Tetrachloro-m-xylene	89%	89%	92%	49-127%
2051-24-3	Decachlorobiphenyl	104%	98%	111%	53-145%
2051-24-3	Decachlorobiphenyl	112%	115%	131%	53-145%

(a) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot at a lower reporting limit but CCV's failed due to carry-over.

(b) Results from signal #2.

* = Outside of Control Limits.

8.3.2
8

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33923
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10030-MS	MM021972.D	200	05/14/14	RV	05/13/14	OP10030	GMM650
OP10030-MSD	MM021973.D	200	05/14/14	RV	05/13/14	OP10030	GMM650
C33923-7 ^a	MM021963.D	200	05/14/14	RV	05/13/14	OP10030	GMM650

The QC reported here applies to the following samples: Method: SW846 8081A

C33923-1, C33923-2, C33923-3, C33923-4, C33923-5, C33923-6, C33923-7, C33923-8, C33923-9, C33923-10, C33923-11, C33923-12, C33923-13, C33923-14, C33923-15

CAS No.	Compound	C33923-7 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	ND	33.3	ND	66* b	33.3	ND	63* b	4	74-124/20
319-84-6	alpha-BHC	ND	33.3	ND	61* b	33.3	ND	58* b	6	70-127/20
319-85-7	beta-BHC	ND	33.3	ND	90	33.3	ND	63* b	36* b	76-137/20
319-86-8	delta-BHC	ND	33.3	ND	59* b	33.3	ND	50* b	15	69-132/20
60-57-1	Dieldrin	ND	33.3	ND	75	33.3	ND	71	5	45-132/24
72-54-8	4,4'-DDD	ND	33.3	ND	78	33.3	ND	74	5	74-134/20
72-55-9	4,4'-DDE	ND	33.3	ND	93	33.3	ND	74	23* b	73-131/20
50-29-3	4,4'-DDT	ND	33.3	ND	45* b	33.3	ND	44* b	1	66-129/20
72-20-8	Endrin	ND	33.3	ND	83	33.3	ND	77* b	7	80-143/20
7421-93-4	Endrin aldehyde	ND	33.3	ND	74	33.3	ND	74	0	71-133/20
959-98-8	Endosulfan-I	ND	33.3	ND	72* b	33.3	ND	63* b	14	77-135/20
33213-65-9	Endosulfan-II	ND	33.3	ND	75	33.3	ND	60* b	22* b	75-134/20
1031-07-8	Endosulfan sulfate	ND	33.3	ND	101	33.3	ND	116	14	69-137/20
76-44-8	Heptachlor	ND	33.3	ND	80* b	33.3	ND	69* b	15	82-132/20
1024-57-3	Heptachlor epoxide	ND	33.3	ND	89	33.3	ND	76* b	16	79-127/20
72-43-5	Methoxychlor	ND	33.3	ND	35* b	33.3	ND	42* b	18	70-137/20

CAS No.	Surrogate Recoveries	MS	MSD	C33923-7	Limits
877-09-8	Tetrachloro-m-xylene	86%	86%	90%	49-127%
877-09-8	Tetrachloro-m-xylene	78%	76%	90%	49-127%
2051-24-3	Decachlorobiphenyl	80%	82%	102%	53-145%
2051-24-3	Decachlorobiphenyl	91%	93%	103%	53-145%

- (a) Reporting Limits raised due to high concentration of non-target compounds (hydrocarbons). Shot originally at a lower reporting limit but CCV's failed due to carry-over.
- (b) Outside control limits due to matrix interference and dilution.

* = Outside of Control Limits.

8.3.3
8

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33923
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10009-MS	HH312961.D	1	05/09/14	AG	05/08/14	OP10009	GHH1255
OP10009-MSD	HH312962.D	1	05/09/14	AG	05/08/14	OP10009	GHH1255
C33923-16	HH312947.D	1	05/08/14	AG	05/08/14	OP10009	GHH1255

The QC reported here applies to the following samples:

Method: SW846 8015B M

C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

CAS No.	Compound	C33923-16 mg/kg	Spike Q	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	ND	33.2	28.8	87	33.1	28.2	85	2	39-102/29
	TPH (> C28-C40)	ND	33.2	34.2	103	33.1	34.6	104	1	42-111/26

8.3.4

8

CAS No.	Surrogate Recoveries	MS	MSD	C33923-16	Limits
630-01-3	Hexacosane	112%	108%	106%	37-122%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33923
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10027-MS	HH313107.D	20	05/14/14	AG	05/13/14	OP10027	GHH1259
OP10027-MSD	HH313108.D	20	05/14/14	AG	05/13/14	OP10027	GHH1259
C33923-4	HH313094.D	20	05/14/14	AG	05/13/14	OP10027	GHH1259

The QC reported here applies to the following samples:

Method: SW846 8015B M

C33923-1, C33923-2, C33923-3, C33923-4, C33923-5, C33923-6, C33923-7, C33923-8, C33923-9, C33923-10, C33923-11, C33923-12, C33923-13, C33923-14, C33923-15

CAS No.	Compound	C33923-4 mg/kg	Spike Q mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	115	33.1	136	63	33.1	113	-6* a	18	39-102/29
	TPH (> C28-C40)	471	33.1	531	181* a	33.1	428	-130* a	21	42-111/26

8.3.5
8

CAS No.	Surrogate Recoveries	MS	MSD	C33923-4	Limits
630-01-3	Hexacosane	90%	79%	78%	37-122%

(a) Outside control limits due to high level in sample relative to spike amount and matrix interference.

* = Outside of Control Limits.

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C33923
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7824
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 05/13/14

Metal	RL	IDL	MDL	MB	
				raw	final
Aluminum	20	1.3	2		
Antimony	2.0	.07	.087		
Arsenic	2.0	.07	.07	-0.22	<2.0
Barium	20	.04	.035	0.20	<20
Beryllium	1.0	.02	.012		
Boron	10	.09	.2		
Cadmium	1.0	.02	.015	-0.060	<1.0
Calcium	500	.71	7.6		
Chromium	1.0	.03	.054	-0.42	<1.0
Cobalt	1.0	.02	.022		
Copper	2.5	.12	.19		
Iron	20	.64	1.6		
Lead	2.0	.07	.054	-0.060	<2.0
Magnesium	500	2.7	1.5		
Manganese	1.5	.01	.054		
Molybdenum	2.0	.02	.024		
Nickel	1.0	.02	.024		
Potassium	1000	1.8	1.3		
Selenium	2.0	.18	.23	0.65	<2.0
Silicon		.12			
Silver	1.0	.03	.044	-0.11	<1.0
Sodium	1000	1.5	4.8		
Strontium	1.0	.02	.017		
Thallium	2.0	.05	.073		
Tin	50	.02	.41		
Titanium	1.0	.04	.079		
Vanadium	1.0	.03	.025		
Zinc	2.0	.03	.098		

Associated samples MP7824: C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

9.1.1
9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C33923
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7824
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 05/13/14

Metal	C33923-16 Original MS		Spikelot MPIR5	QC % Rec	QC Limits
Aluminum					
Antimony					
Arsenic	1.7	6.6	4.94	99.2	75-125
Barium	3.0	7.6	4.94	93.1	75-125
Beryllium					
Boron					
Cadmium	0.095	5.2	4.94	103.3	75-125
Calcium					
Chromium	2.9	8.2	4.94	107.3	75-125
Cobalt					
Copper					
Iron					
Lead	0.0	3.7	4.94	74.9N(a)	75-125
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium	1.0	5.9	4.94	99.2	75-125
Silicon					
Silver	0.0	4.6	4.94	93.1	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

9.1.2
9

Associated samples MP7824: C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C33923
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7824
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 05/13/14

Metal	C33923-16 Original MSD		Spikelot MPIR5 % Rec		MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	1.7	5.8	4.98	82.4	12.9	20
Barium	3.0	8.4	4.98	108.5	10.0	20
Beryllium						
Boron						
Cadmium	0.095	5.4	4.98	106.6	3.8	20
Calcium						
Chromium	2.9	8.4	4.98	110.6	2.4	20
Cobalt						
Copper						
Iron						
Lead	0.0	3.9	4.98	78.4	5.3	20
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium	1.0	6.2	4.98	104.5	5.0	20
Silicon						
Silver	0.0	4.0	4.98	80.4	14.0	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP7824: C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

9.1.2
9

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C33923
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7824
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 05/13/14

Metal	BSP Result	Spikelot MPIR5	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	45.8	50	91.6	80-120
Barium	47.2	50	94.4	80-120
Beryllium				
Boron				
Cadmium	44.9	50	89.8	80-120
Calcium				
Chromium	50.7	50	101.4	80-120
Cobalt				
Copper				
Iron				
Lead	47.6	50	95.2	80-120
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium	45.2	50	90.4	80-120
Silicon				
Silver	44.6	50	89.2	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP7824: C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

9.1.3
9

SERIAL DILUTION RESULTS SUMMARY

Login Number: C33923
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7824
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: ug/l

Prep Date: 05/13/14

Metal	C33923-16		QC	
	Original	SDL 5:25	%DIF	Limits
Aluminum				
Antimony				
Arsenic	167	0.00	100.0 (a)	0-10
Barium	300	268	10.6 (a)	0-10
Beryllium				
Boron				
Cadmium	9.50	53.7	465.3 (a)	0-10
Calcium				
Chromium	292	231	21.0* (b)	0-10
Cobalt				
Copper				
Iron				
Lead	0.00	0.00	NC	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium	101	259	156.7 (a)	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP7824: C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

(b) Serial dilution indicates possible matrix interference.

9.1.4
9

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C33923
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7835
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 05/13/14

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.042	.00035	.0043	0.0052	<0.042

Associated samples MP7835: C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

9.2.1
9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C33923
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7835
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 05/13/14

Metal	C33951-4 Original MS	Spikelot HGPWS1	% Rec	QC Limits
Mercury	0.047	0.35	0.313	97.0 75-125

Associated samples MP7835: C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

9.2.2
9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C33923
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7835
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 05/13/14

Metal	C33951-4 Original MSD	Spikelot HGPWS1	% Rec	MSD RPD	QC Limit
Mercury	0.047	0.36	0.308	101.7	2.8 20

Associated samples MP7835: C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

9.2.2
9

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C33923
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7835
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 05/13/14

Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits
Mercury	0.16	0.167	96.0	80-120

Associated samples MP7835: C33923-16, C33923-17, C33923-18, C33923-19, C33923-20, C33923-21, C33923-22, C33923-23, C33923-24, C33923-25, C33923-26

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

9.2.3
9

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C33923
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7841
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 05/14/14

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.042	.00035	.0043	0.0098	<0.042

Associated samples MP7841: C33923-1, C33923-2, C33923-3, C33923-4, C33923-5, C33923-6, C33923-7, C33923-8, C33923-9, C33923-10, C33923-11, C33923-12, C33923-13, C33923-14, C33923-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

9.3.1
9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C33923
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7841
 Matrix Type: SOLID

Methods: SW846 7471A
 Units: mg/kg

Prep Date: 05/14/14

Metal	C34007-1 Original MS	Spikelot HGPWS1	% Rec	QC Limits
Mercury	0.024	0.34	0.317	99.5% 75-125

Associated samples MP7841: C33923-1, C33923-2, C33923-3, C33923-4, C33923-5, C33923-6, C33923-7, C33923-8, C33923-9, C33923-10, C33923-11, C33923-12, C33923-13, C33923-14, C33923-15

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

9.3.2
9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C33923
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7841
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 05/14/14

Metal	C34007-1 Original MSD	Spikelot HGPWS1	% Rec	MSD RPD	QC Limit
Mercury	0.024	0.33	0.313	97.9	3.0 20

Associated samples MP7841: C33923-1, C33923-2, C33923-3, C33923-4, C33923-5, C33923-6, C33923-7, C33923-8, C33923-9, C33923-10, C33923-11, C33923-12, C33923-13, C33923-14, C33923-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

9.3.2
9

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C33923
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7841
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 05/14/14

Metal	BSP Result	Spikelot HGWS1	% Rec	QC Limits
Mercury	0.15	0.167	90.0	80-120

Associated samples MP7841: C33923-1, C33923-2, C33923-3, C33923-4, C33923-5, C33923-6, C33923-7, C33923-8, C33923-9, C33923-10, C33923-11, C33923-12, C33923-13, C33923-14, C33923-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

9.3.3
9

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C33923
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7843
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 05/15/14

Metal	RL	IDL	MDL	MB raw	final
Aluminum	20	1.3	2		
Antimony	2.0	.07	.087		
Arsenic	2.0	.07	.07	0.040	<2.0
Barium	20	.04	.035	0.22	<20
Beryllium	1.0	.02	.012		
Boron	10	.09	.2		
Cadmium	1.0	.02	.015	-0.040	<1.0
Calcium	500	.71	7.6		
Chromium	1.0	.03	.054	0.17	<1.0
Cobalt	1.0	.02	.022		
Copper	2.5	.12	.19		
Iron	20	.64	1.6		
Lead	2.0	.07	.054	0.070	<2.0
Magnesium	500	2.7	1.5		
Manganese	1.5	.01	.054		
Molybdenum	2.0	.02	.024		
Nickel	1.0	.02	.024		
Potassium	1000	1.8	1.3		
Selenium	2.0	.18	.23	0.43	<2.0
Silicon		.12			
Silver	1.0	.03	.044	-0.19	<1.0
Sodium	1000	1.5	4.8		
Strontium	1.0	.02	.017		
Thallium	2.0	.05	.073		
Tin	50	.02	.41		
Titanium	1.0	.04	.079		
Vanadium	1.0	.03	.025		
Zinc	2.0	.03	.098		

Associated samples MP7843: C33923-1, C33923-2, C33923-3, C33923-4, C33923-5, C33923-6, C33923-7, C33923-8, C33923-9, C33923-10, C33923-11, C33923-12, C33923-13, C33923-14, C33923-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

9.4.1
9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C33923
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7843
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 05/15/14

Metal	C33923-1 Original MS		Spikelot MPIR5	QC % Rec	QC Limits
Aluminum					
Antimony					
Arsenic	7.4	11.2	4.96	76.6	75-125
Barium	90.5	94.8	4.96	86.7	75-125
Beryllium					
Boron					
Cadmium	18.8	22.6	4.96	76.6	75-125
Calcium					
Chromium	126	130	4.96	80.6	75-125
Cobalt					
Copper					
Iron					
Lead	35.6	39.3	4.96	74.6 (a)	75-125
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium	0.40	3.7	4.96	66.5N(b)	75-125
Silicon					
Silver	0.0	3.7	4.96	74.6N(b)	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

9.4.2
9

Associated samples MP7843: C33923-1, C33923-2, C33923-3, C33923-4, C33923-5, C33923-6, C33923-7, C33923-8, C33923-9, C33923-10, C33923-11, C33923-12, C33923-13, C33923-14, C33923-15

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

(b) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C33923
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7843
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 05/15/14

Metal	C33923-1 Original MSD		SpikeLot MPIR5 % Rec		MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	7.4	11.7	4.97	86.5	4.4	20
Barium	90.5	99.1	4.97	173.0(a)	4.4	20
Beryllium						
Boron						
Cadmium	18.8	23.3	4.97	90.5	3.1	20
Calcium						
Chromium	126	133	4.97	140.8(a)	2.3	20
Cobalt						
Copper						
Iron						
Lead	35.6	40.0	4.97	88.5	1.8	20
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium	0.40	4.1	4.97	74.4N(b)	10.3	20
Silicon						
Silver	0.0	4.0	4.97	80.5	7.8	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

9.4.2
9

Associated samples MP7843: C33923-1, C33923-2, C33923-3, C33923-4, C33923-5, C33923-6, C33923-7, C33923-8, C33923-9, C33923-10, C33923-11, C33923-12, C33923-13, C33923-14, C33923-15

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

(b) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C33923
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7843
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: mg/kg

Prep Date: 05/15/14

Metal	BSP Result	Spikelot MPIR5	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	47.5	50	95.0	80-120
Barium	48.7	50	97.4	80-120
Beryllium				
Boron				
Cadmium	47.4	50	94.8	80-120
Calcium				
Chromium	48.6	50	97.2	80-120
Cobalt				
Copper				
Iron				
Lead	47.3	50	94.6	80-120
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium	44.8	50	89.6	80-120
Silicon				
Silver	46.0	50	92.0	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP7843: C33923-1, C33923-2, C33923-3, C33923-4, C33923-5, C33923-6, C33923-7, C33923-8, C33923-9, C33923-10, C33923-11, C33923-12, C33923-13, C33923-14, C33923-15

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

9.4.3
9

SERIAL DILUTION RESULTS SUMMARY

Login Number: C33923
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7843
 Matrix Type: SOLID

Methods: SW846 6010B
 Units: ug/l

Prep Date: 05/15/14

Metal	C33923-1 Original SDL 10:50%DIF		QC Limits	
Aluminum				
Antimony				
Arsenic	738	806	9.2	0-10
Barium	9060	10100	11.5* (a)	0-10
Beryllium				
Boron				
Cadmium	1880	2040	8.6	0-10
Calcium				
Chromium	12600	15100	20.0* (a)	0-10
Cobalt				
Copper				
Iron				
Lead	3560	3260	8.5	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium	40.2	166	311.9 (b)	0-10
Silicon				
Silver	0.00	246	NC	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP7843: C33923-1, C33923-2, C33923-3, C33923-4, C33923-5, C33923-6, C33923-7, C33923-8, C33923-9, C33923-10, C33923-11, C33923-12, C33923-13, C33923-14, C33923-15

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Serial dilution indicates possible matrix interference.

(b) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

9.4.4
9

Technical Report for

EnviroServices and Training Center

Kahului Harbor Parcel-Maui, HI

14-2003

Accutest Job Number: C33924

Sampling Dates: 05/06/14 - 05/07/14

Report to:


Enviroservices & Training Center
505 Ward Ave Suite 202
Honolulu, HI 96814
sharla@gotoetc.com

ATTN: Sharla Nakashima

Total number of pages in report: **73**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.



James J. Rhudy
Lab Director

Client Service contact: Nutan Kabir 408-588-0200

Certifications: OR (CA300006) CA (08258CA) AZ (AZ0762) DoD ELAP (L-A-B L2242)

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Test results relate only to samples analyzed.



June 4, 2014

Sharla Nakashima
Enviroservices & Training Center
505 Ward Ave Suite 202
Honolulu, HI 96814

Re: Accutest Job # C33924 Reissue

Dear Ms. Nakashima,

The final report for Accutest Job # **C33924**, original report dated 5/16/2014, has been edited to reflect requested corrections.

Additional results for 8015 Oil Range Organics {TPH (>C28-C40)} have been added for all samples as per your request. Revised result pages and associated QC have been incorporated into this revised report.

Please contact us at 408-588-0200 if we can be of further assistance in this matter, or if you have any questions regarding this data report.

Sincerely,

Accutest Laboratories

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Sample Summary

EnviroServices and Training Center

Job No: C33924

Kahului Harbor Parcel-Maui, HI
Project No: 14-2003

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
C33924-1	05/06/14	16:15 BS	05/08/14	AQ	Ground Water	2003.B2.GW
C33924-1F	05/06/14	16:15 BS	05/08/14	AQ	Groundwater Filtered	2003.B2.GW
C33924-2	05/06/14	17:45 BS	05/08/14	AQ	Ground Water	2003.B9.GW
C33924-2F	05/06/14	17:45 BS	05/08/14	AQ	Groundwater Filtered	2003.B9.GW
C33924-3	05/06/14	15:00 BS	05/08/14	AQ	Ground Water	2003.B19.GW
C33924-3F	05/06/14	15:00 BS	05/08/14	AQ	Groundwater Filtered	2003.B19.GW
C33924-4	05/07/14	07:50 BS	05/08/14	AQ	Ground Water	2003.B30.GW
C33924-4F	05/07/14	07:50 BS	05/08/14	AQ	Groundwater Filtered	2003.B30.GW
C33924-5	05/06/14	00:00 BS	05/09/14	AQ	Ground Water	2003.B23.GW
C33924-5F	05/06/14	00:00 BS	05/09/14	AQ	Groundwater Filtered	2003.B23.GW

Summary of Hits

Job Number: C33924
Account: EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI
Collected: 05/06/14 thru 05/07/14

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
C33924-1	2003.B2.GW					
TPH (C10-C28)		0.0462 J	0.097	0.024	mg/l	SW846 8015B M
TPH (> C28-C40)		0.0559 J	0.19	0.049	mg/l	SW846 8015B M
C33924-1F	2003.B2.GW					
Arsenic		76.6	10		ug/l	SW846 6010B
C33924-2	2003.B9.GW					
TPH (C10-C28)		0.0542 J	0.096	0.024	mg/l	SW846 8015B M
TPH (> C28-C40)		0.0784 J	0.19	0.048	mg/l	SW846 8015B M
C33924-2F	2003.B9.GW					
Arsenic		36.3	10		ug/l	SW846 6010B
Silver		5.2	5.0		ug/l	SW846 6010B
C33924-3	2003.B19.GW					
Benzene		2.7	1.0	0.20	ug/l	SW846 8260B
Methyl Tert Butyl Ether		0.64 J	1.0	0.20	ug/l	SW846 8260B
Fluoranthene		0.13 J	0.48	0.048	ug/l	SW846 8270C BY SIM
Naphthalene		0.28 J	0.48	0.096	ug/l	SW846 8270C BY SIM
TPH (C10-C28)		0.828	0.094	0.024	mg/l	SW846 8015B M
TPH (> C28-C40)		0.201	0.19	0.047	mg/l	SW846 8015B M
C33924-3F	2003.B19.GW					
No hits reported in this sample.						
C33924-4	2003.B30.GW					
TPH (C10-C28)		0.0937 J	0.095	0.024	mg/l	SW846 8015B M
TPH (> C28-C40)		0.0937 J	0.19	0.048	mg/l	SW846 8015B M
C33924-4F	2003.B30.GW					
No hits reported in this sample.						
C33924-5	2003.B23.GW					
TPH (C10-C28)		0.0816 J	0.095	0.024	mg/l	SW846 8015B M
TPH (> C28-C40)		0.0748 J	0.19	0.048	mg/l	SW846 8015B M

Summary of Hits

Job Number: C33924
Account: EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI
Collected: 05/06/14 thru 05/07/14

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

C33924-5F 2003.B23.GW

Arsenic		17.6	10		ug/l	SW846 6010B
Silver		6.7	5.0		ug/l	SW846 6010B



Sample Results

Report of Analysis

Report of Analysis

3.1
3

Client Sample ID: 2003.B2.GW	Date Sampled: 05/06/14
Lab Sample ID: C33924-1	Date Received: 05/08/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U18749.D	1	05/09/14	TF	n/a	n/a	VU747
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		70-130%
2037-26-5	Toluene-D8	103%		70-130%
460-00-4	4-Bromofluorobenzene	105%		70-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B2.GW	
Lab Sample ID: C33924-1	Date Sampled: 05/06/14
Matrix: AQ - Ground Water	Date Received: 05/08/14
Method: SW846 8270C BY SIM SW846 3510C	Percent Solids: n/a
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36399.D	1	05/13/14	AA	05/08/14	OP10006	EX1589
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.48	0.048	ug/l	
208-96-8	Acenaphthylene	ND	0.48	0.048	ug/l	
120-12-7	Anthracene	ND	0.48	0.048	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.096	0.051	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.096	0.039	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.096	0.034	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.096	0.035	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.096	0.037	ug/l	
218-01-9	Chrysene	ND	0.096	0.043	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.096	0.034	ug/l	
206-44-0	Fluoranthene	ND	0.48	0.048	ug/l	
86-73-7	Fluorene	ND	0.48	0.048	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.096	0.034	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.48	0.096	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.48	0.096	ug/l	
91-20-3	Naphthalene	ND	0.48	0.096	ug/l	
85-01-8	Phenanthrene	ND	0.48	0.048	ug/l	
129-00-0	Pyrene	ND	0.48	0.048	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	76%		31-128%
321-60-8	2-Fluorobiphenyl	78%		34-123%
1718-51-0	Terphenyl-d14	99%		43-136%

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.1
3

Client Sample ID: 2003.B2.GW	Date Sampled: 05/06/14
Lab Sample ID: C33924-1	Date Received: 05/08/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44024.D	1	05/13/14	TT	n/a	n/a	GJK1801
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.050	0.020	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	93%		51-127%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.1
3

Client Sample ID: 2003.B2.GW	
Lab Sample ID: C33924-1	Date Sampled: 05/06/14
Matrix: AQ - Ground Water	Date Received: 05/08/14
Method: SW846 8081A SW846 3510C	Percent Solids: n/a
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021830.D	1	05/09/14	RV	05/09/14	OP10012	GMM646
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1020 ml	1.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.0098	0.0020	ug/l	
319-84-6	alpha-BHC	ND	0.0098	0.0025	ug/l	
319-85-7	beta-BHC	ND	0.0098	0.0044	ug/l	
319-86-8	delta-BHC	ND	0.0098	0.0032	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.0098	0.0025	ug/l	
12789-03-6	Chlordane	ND	0.098	0.0098	ug/l	
60-57-1	Dieldrin	ND	0.0098	0.0021	ug/l	
72-54-8	4,4'-DDD	ND	0.0098	0.0023	ug/l	
72-55-9	4,4'-DDE	ND	0.0098	0.0029	ug/l	
50-29-3	4,4'-DDT	ND	0.0098	0.0024	ug/l	
72-20-8	Endrin	ND	0.0098	0.0031	ug/l	
7421-93-4	Endrin aldehyde	ND	0.0098	0.0041	ug/l	
959-98-8	Endosulfan-I	ND	0.0098	0.0024	ug/l	
33213-65-9	Endosulfan-II	ND	0.0098	0.0022	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.0098	0.0025	ug/l	
76-44-8	Heptachlor	ND	0.0098	0.0027	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.0098	0.0034	ug/l	
72-43-5	Methoxychlor	ND	0.0098	0.0020	ug/l	
8001-35-2	Toxaphene	ND	0.20	0.059	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	82%		40-114%
877-09-8	Tetrachloro-m-xylene	90%		40-114%
2051-24-3	Decachlorobiphenyl	107%		46-128%
2051-24-3	Decachlorobiphenyl	103%		46-128%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.1
3

Client Sample ID: 2003.B2.GW	Date Sampled: 05/06/14
Lab Sample ID: C33924-1	Date Received: 05/08/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8015B M SW846 3510C	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG51739.D	1	05/09/14	NN	05/09/14	OP10011	GGG1465
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1030 ml	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	0.0462	0.097	0.024	mg/l	J
	TPH (> C28-C40)	0.0559	0.19	0.049	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	98%		32-124%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.2
3

Client Sample ID: 2003.B2.GW	Date Sampled: 05/06/14
Lab Sample ID: C33924-1F	Date Received: 05/08/14
Matrix: AQ - Groundwater Filtered	Percent Solids: n/a
Project: Kahului Harbor Parcel-Maui, HI	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	76.6	10	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Barium	< 200	200	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Cadmium	< 2.0	2.0	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Chromium	< 10	10	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Lead	< 10	10	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	05/12/14	05/13/14 EB	SW846 7470A ²	SW846 7470A ⁴
Selenium	< 10	10	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³

- (1) Instrument QC Batch: MA3949
- (2) Instrument QC Batch: MA3952
- (3) Prep QC Batch: MP7820
- (4) Prep QC Batch: MP7826

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B9.GW	Date Sampled: 05/06/14
Lab Sample ID: C33924-2	Date Received: 05/08/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui,HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U18750.D	1	05/09/14	TF	n/a	n/a	VU747
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		70-130%
2037-26-5	Toluene-D8	104%		70-130%
460-00-4	4-Bromofluorobenzene	105%		70-130%

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.3
3

Client Sample ID: 2003.B9.GW	Date Sampled: 05/06/14
Lab Sample ID: C33924-2	Date Received: 05/08/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C BY SIM SW846 3510C	
Project: Kahului Harbor Parcel-Maui,HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36400.D	1	05/13/14	AA	05/08/14	OP10006	EX1589
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.48	0.048	ug/l	
208-96-8	Acenaphthylene	ND	0.48	0.048	ug/l	
120-12-7	Anthracene	ND	0.48	0.048	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.096	0.051	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.096	0.039	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.096	0.034	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.096	0.035	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.096	0.037	ug/l	
218-01-9	Chrysene	ND	0.096	0.043	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.096	0.034	ug/l	
206-44-0	Fluoranthene	ND	0.48	0.048	ug/l	
86-73-7	Fluorene	ND	0.48	0.048	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.096	0.034	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.48	0.096	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.48	0.096	ug/l	
91-20-3	Naphthalene	ND	0.48	0.096	ug/l	
85-01-8	Phenanthrene	ND	0.48	0.048	ug/l	
129-00-0	Pyrene	ND	0.48	0.048	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	74%		31-128%
321-60-8	2-Fluorobiphenyl	77%		34-123%
1718-51-0	Terphenyl-d14	96%		43-136%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.3
3

Client Sample ID: 2003.B9.GW	Date Sampled: 05/06/14
Lab Sample ID: C33924-2	Date Received: 05/08/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui,HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44027.D	1	05/13/14	TT	n/a	n/a	GJK1801
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.050	0.020	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	95%		51-127%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B9.GW	Date Sampled: 05/06/14
Lab Sample ID: C33924-2	Date Received: 05/08/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8081A SW846 3510C	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021831.D	1	05/09/14	RV	05/09/14	OP10012	GMM646
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.0096	0.0019	ug/l	
319-84-6	alpha-BHC	ND	0.0096	0.0025	ug/l	
319-85-7	beta-BHC	ND	0.0096	0.0043	ug/l	
319-86-8	delta-BHC	ND	0.0096	0.0032	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.0096	0.0024	ug/l	
12789-03-6	Chlordane	ND	0.096	0.0096	ug/l	
60-57-1	Dieldrin	ND	0.0096	0.0020	ug/l	
72-54-8	4,4'-DDD	ND	0.0096	0.0022	ug/l	
72-55-9	4,4'-DDE	ND	0.0096	0.0029	ug/l	
50-29-3	4,4'-DDT	ND	0.0096	0.0023	ug/l	
72-20-8	Endrin	ND	0.0096	0.0031	ug/l	
7421-93-4	Endrin aldehyde	ND	0.0096	0.0040	ug/l	
959-98-8	Endosulfan-I	ND	0.0096	0.0023	ug/l	
33213-65-9	Endosulfan-II	ND	0.0096	0.0021	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.0096	0.0024	ug/l	
76-44-8	Heptachlor	ND	0.0096	0.0027	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.0096	0.0034	ug/l	
72-43-5	Methoxychlor	ND	0.0096	0.0019	ug/l	
8001-35-2	Toxaphene	ND	0.19	0.058	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	85%		40-114%
877-09-8	Tetrachloro-m-xylene	93%		40-114%
2051-24-3	Decachlorobiphenyl	113%		46-128%
2051-24-3	Decachlorobiphenyl	104%		46-128%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

3.3
3

Client Sample ID: 2003.B9.GW	Date Sampled: 05/06/14
Lab Sample ID: C33924-2	Date Received: 05/08/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8015B M SW846 3510C	
Project: Kahului Harbor Parcel-Maui,HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG51741.D	1	05/09/14	NN	05/09/14	OP10011	GGG1465
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	0.0542	0.096	0.024	mg/l	J
	TPH (> C28-C40)	0.0784	0.19	0.048	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	102%		32-124%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B9.GW	Date Sampled: 05/06/14
Lab Sample ID: C33924-2F	Date Received: 05/08/14
Matrix: AQ - Groundwater Filtered	Percent Solids: n/a
Project: Kahului Harbor Parcel-Maui, HI	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	36.3	10	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Barium	< 200	200	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Cadmium	< 2.0	2.0	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Chromium	< 10	10	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Lead	< 10	10	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	05/12/14	05/13/14 EB	SW846 7470A ²	SW846 7470A ⁴
Selenium	< 10	10	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Silver	5.2	5.0	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³

- (1) Instrument QC Batch: MA3949
- (2) Instrument QC Batch: MA3952
- (3) Prep QC Batch: MP7820
- (4) Prep QC Batch: MP7826

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B19.GW	Date Sampled: 05/06/14
Lab Sample ID: C33924-3	Date Received: 05/08/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U18751.D	1	05/09/14	TF	n/a	n/a	VU747
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2.7	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.64	1.0	0.20	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		70-130%
2037-26-5	Toluene-D8	102%		70-130%
460-00-4	4-Bromofluorobenzene	108%		70-130%

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B19.GW	
Lab Sample ID: C33924-3	Date Sampled: 05/06/14
Matrix: AQ - Ground Water	Date Received: 05/08/14
Method: SW846 8270C BY SIM SW846 3510C	Percent Solids: n/a
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36401.D	1	05/13/14	AA	05/08/14	OP10006	EX1589
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.48	0.048	ug/l	
208-96-8	Acenaphthylene	ND	0.48	0.048	ug/l	
120-12-7	Anthracene	ND	0.48	0.048	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.096	0.051	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.096	0.039	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.096	0.034	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.096	0.035	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.096	0.037	ug/l	
218-01-9	Chrysene	ND	0.096	0.043	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.096	0.034	ug/l	
206-44-0	Fluoranthene	0.13	0.48	0.048	ug/l	J
86-73-7	Fluorene	ND	0.48	0.048	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.096	0.034	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.48	0.096	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.48	0.096	ug/l	
91-20-3	Naphthalene	0.28	0.48	0.096	ug/l	J
85-01-8	Phenanthrene	ND	0.48	0.048	ug/l	
129-00-0	Pyrene	ND	0.48	0.048	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	66%		31-128%
321-60-8	2-Fluorobiphenyl	64%		34-123%
1718-51-0	Terphenyl-d14	74%		43-136%

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.5
3

Client Sample ID: 2003.B19.GW	Date Sampled: 05/06/14
Lab Sample ID: C33924-3	Date Received: 05/08/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44028.D	1	05/13/14	TT	n/a	n/a	GJK1801
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.050	0.020	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	93%		51-127%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.5
3

Client Sample ID: 2003.B19.GW	Date Sampled: 05/06/14
Lab Sample ID: C33924-3	Date Received: 05/08/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8081A SW846 3510C	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021832.D	1	05/09/14	RV	05/09/14	OP10012	GMM646
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.0096	0.0019	ug/l	
319-84-6	alpha-BHC	ND	0.0096	0.0025	ug/l	
319-85-7	beta-BHC	ND	0.0096	0.0043	ug/l	
319-86-8	delta-BHC	ND	0.0096	0.0032	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.0096	0.0024	ug/l	
12789-03-6	Chlordane	ND	0.096	0.0096	ug/l	
60-57-1	Dieldrin	ND	0.0096	0.0020	ug/l	
72-54-8	4,4'-DDD	ND	0.0096	0.0022	ug/l	
72-55-9	4,4'-DDE	ND	0.0096	0.0029	ug/l	
50-29-3	4,4'-DDT	ND	0.0096	0.0023	ug/l	
72-20-8	Endrin	ND	0.0096	0.0031	ug/l	
7421-93-4	Endrin aldehyde	ND	0.0096	0.0040	ug/l	
959-98-8	Endosulfan-I	ND	0.0096	0.0023	ug/l	
33213-65-9	Endosulfan-II	ND	0.0096	0.0021	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.0096	0.0024	ug/l	
76-44-8	Heptachlor	ND	0.0096	0.0027	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.0096	0.0034	ug/l	
72-43-5	Methoxychlor	ND	0.0096	0.0019	ug/l	
8001-35-2	Toxaphene	ND	0.19	0.058	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	84%		40-114%
877-09-8	Tetrachloro-m-xylene	79%		40-114%
2051-24-3	Decachlorobiphenyl	103%		46-128%
2051-24-3	Decachlorobiphenyl	102%		46-128%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.5
3

Client Sample ID: 2003.B19.GW	Date Sampled: 05/06/14
Lab Sample ID: C33924-3	Date Received: 05/08/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8015B M SW846 3510C	
Project: Kahului Harbor Parcel-Maui,HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG51742.D	1	05/09/14	NN	05/09/14	OP10011	GGG1465
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	0.828	0.094	0.024	mg/l	
	TPH (> C28-C40)	0.201	0.19	0.047	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	87%		32-124%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B19.GW	Date Sampled: 05/06/14
Lab Sample ID: C33924-3F	Date Received: 05/08/14
Matrix: AQ - Groundwater Filtered	Percent Solids: n/a
Project: Kahului Harbor Parcel-Maui, HI	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 10	10	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ⁴
Barium	< 200	200	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ⁴
Cadmium ^a	< 4.0	4.0	ug/l	2	05/12/14	05/13/14 RS	SW846 6010B ³	SW846 3010A ⁴
Chromium	< 10	10	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ⁴
Lead	< 10	10	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ⁴
Mercury	< 0.20	0.20	ug/l	1	05/12/14	05/13/14 EB	SW846 7470A ²	SW846 7470A ⁵
Selenium	< 10	10	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ⁴
Silver	< 5.0	5.0	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ⁴

(1) Instrument QC Batch: MA3949

(2) Instrument QC Batch: MA3952

(3) Instrument QC Batch: MA3953

(4) Prep QC Batch: MP7820

(5) Prep QC Batch: MP7826

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit

Report of Analysis

3.7
3

Client Sample ID: 2003.B30.GW	Date Sampled: 05/07/14
Lab Sample ID: C33924-4	Date Received: 05/08/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U18778.D	1	05/12/14	TF	n/a	n/a	VU748
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		70-130%
2037-26-5	Toluene-D8	103%		70-130%
460-00-4	4-Bromofluorobenzene	104%		70-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B30.GW	
Lab Sample ID: C33924-4	Date Sampled: 05/07/14
Matrix: AQ - Ground Water	Date Received: 05/08/14
Method: SW846 8270C BY SIM SW846 3510C	Percent Solids: n/a
Project: Kahului Harbor Parcel-Maui,HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36402.D	1	05/13/14	AA	05/08/14	OP10006	EX1589
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1020 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.49	0.049	ug/l	
208-96-8	Acenaphthylene	ND	0.49	0.049	ug/l	
120-12-7	Anthracene	ND	0.49	0.049	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.098	0.052	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.098	0.040	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.098	0.034	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.098	0.035	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.098	0.038	ug/l	
218-01-9	Chrysene	ND	0.098	0.044	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.098	0.034	ug/l	
206-44-0	Fluoranthene	ND	0.49	0.049	ug/l	
86-73-7	Fluorene	ND	0.49	0.049	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.098	0.034	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.49	0.098	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.49	0.098	ug/l	
91-20-3	Naphthalene	ND	0.49	0.098	ug/l	
85-01-8	Phenanthrene	ND	0.49	0.049	ug/l	
129-00-0	Pyrene	ND	0.49	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	77%		31-128%
321-60-8	2-Fluorobiphenyl	79%		34-123%
1718-51-0	Terphenyl-d14	97%		43-136%

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B30.GW	Date Sampled: 05/07/14
Lab Sample ID: C33924-4	Date Received: 05/08/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui,HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44029.D	1	05/13/14	TT	n/a	n/a	GJK1801
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.050	0.020	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	97%		51-127%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.7
3

Client Sample ID: 2003.B30.GW	Date Sampled: 05/07/14
Lab Sample ID: C33924-4	Date Received: 05/08/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8081A SW846 3510C	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021833.D	1	05/09/14	RV	05/09/14	OP10012	GMM646
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.010	0.0020	ug/l	
319-84-6	alpha-BHC	ND	0.010	0.0026	ug/l	
319-85-7	beta-BHC	ND	0.010	0.0045	ug/l	
319-86-8	delta-BHC	ND	0.010	0.0033	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.010	0.0025	ug/l	
12789-03-6	Chlordane	ND	0.10	0.010	ug/l	
60-57-1	Dieldrin	ND	0.010	0.0021	ug/l	
72-54-8	4,4'-DDD	ND	0.010	0.0023	ug/l	
72-55-9	4,4'-DDE	ND	0.010	0.0030	ug/l	
50-29-3	4,4'-DDT	ND	0.010	0.0024	ug/l	
72-20-8	Endrin	ND	0.010	0.0032	ug/l	
7421-93-4	Endrin aldehyde	ND	0.010	0.0042	ug/l	
959-98-8	Endosulfan-I	ND	0.010	0.0024	ug/l	
33213-65-9	Endosulfan-II	ND	0.010	0.0022	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.010	0.0025	ug/l	
76-44-8	Heptachlor	ND	0.010	0.0028	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.010	0.0035	ug/l	
72-43-5	Methoxychlor	ND	0.010	0.0020	ug/l	
8001-35-2	Toxaphene	ND	0.20	0.060	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	149% ^a		40-114%
877-09-8	Tetrachloro-m-xylene	87%		40-114%
2051-24-3	Decachlorobiphenyl	114%		46-128%
2051-24-3	Decachlorobiphenyl	110%		46-128%

(a) Outside control limits due to matrix interference.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B30.GW	Date Sampled: 05/07/14
Lab Sample ID: C33924-4	Date Received: 05/08/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8015B M SW846 3510C	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG51743.D	1	05/09/14	NN	05/09/14	OP10011	GGG1465
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	0.0937	0.095	0.024	mg/l	J
	TPH (> C28-C40)	0.0937	0.19	0.048	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	97%		32-124%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.8
3

Client Sample ID: 2003.B30.GW	Date Sampled: 05/07/14
Lab Sample ID: C33924-4F	Date Received: 05/08/14
Matrix: AQ - Groundwater Filtered	Percent Solids: n/a
Project: Kahului Harbor Parcel-Maui, HI	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 10	10	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Barium	< 200	200	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Cadmium	< 2.0	2.0	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Chromium	< 10	10	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Lead	< 10	10	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	05/12/14	05/13/14 EB	SW846 7470A ²	SW846 7470A ⁴
Selenium	< 10	10	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³

- (1) Instrument QC Batch: MA3949
- (2) Instrument QC Batch: MA3952
- (3) Prep QC Batch: MP7820
- (4) Prep QC Batch: MP7826

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2003.B23.GW	Date Sampled: 05/06/14
Lab Sample ID: C33924-5	Date Received: 05/09/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Kahului Harbor Parcel-Maui,HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U18779.D	1	05/12/14	TF	n/a	n/a	VU748
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		70-130%
2037-26-5	Toluene-D8	102%		70-130%
460-00-4	4-Bromofluorobenzene	104%		70-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B23.GW	
Lab Sample ID: C33924-5	Date Sampled: 05/06/14
Matrix: AQ - Ground Water	Date Received: 05/09/14
Method: SW846 8270C BY SIM SW846 3510C	Percent Solids: n/a
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X36483.D	1	05/15/14	AA	05/09/14	OP10006	EX1591
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.48	0.048	ug/l	
208-96-8	Acenaphthylene	ND	0.48	0.048	ug/l	
120-12-7	Anthracene	ND	0.48	0.048	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.095	0.050	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.095	0.039	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.095	0.033	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.095	0.034	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.095	0.037	ug/l	
218-01-9	Chrysene	ND	0.095	0.043	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.095	0.033	ug/l	
206-44-0	Fluoranthene	ND	0.48	0.048	ug/l	
86-73-7	Fluorene	ND	0.48	0.048	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.095	0.033	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.48	0.095	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.48	0.095	ug/l	
91-20-3	Naphthalene	ND	0.48	0.095	ug/l	
85-01-8	Phenanthrene	ND	0.48	0.048	ug/l	
129-00-0	Pyrene	ND	0.48	0.048	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	77%		31-128%
321-60-8	2-Fluorobiphenyl	80%		34-123%
1718-51-0	Terphenyl-d14	93%		43-136%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

3.9
3

Client Sample ID: 2003.B23.GW	Date Sampled: 05/06/14
Lab Sample ID: C33924-5	Date Received: 05/09/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8015B	
Project: Kahului Harbor Parcel-Maui, HI	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK44030.D	1	05/13/14	TT	n/a	n/a	GJK1801
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

TPH Volatiles

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.050	0.020	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
98-08-8	aaa-Trifluorotoluene	95%		51-127%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 2003.B23.GW	Date Sampled: 05/06/14
Lab Sample ID: C33924-5	Date Received: 05/09/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8081A SW846 3510C	
Project: Kahului Harbor Parcel-Maui, HI	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	MM021834.D	1	05/09/14	RV	05/09/14	OP10012	GMM646
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

Pesticide PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.0095	0.0019	ug/l	
319-84-6	alpha-BHC	ND	0.0095	0.0025	ug/l	
319-85-7	beta-BHC	ND	0.0095	0.0043	ug/l	
319-86-8	delta-BHC	ND	0.0095	0.0031	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.0095	0.0024	ug/l	
12789-03-6	Chlordane	ND	0.095	0.0095	ug/l	
60-57-1	Dieldrin	ND	0.0095	0.0020	ug/l	
72-54-8	4,4'-DDD	ND	0.0095	0.0022	ug/l	
72-55-9	4,4'-DDE	ND	0.0095	0.0029	ug/l	
50-29-3	4,4'-DDT	ND	0.0095	0.0023	ug/l	
72-20-8	Endrin	ND	0.0095	0.0030	ug/l	
7421-93-4	Endrin aldehyde	ND	0.0095	0.0040	ug/l	
959-98-8	Endosulfan-I	ND	0.0095	0.0023	ug/l	
33213-65-9	Endosulfan-II	ND	0.0095	0.0021	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.0095	0.0024	ug/l	
76-44-8	Heptachlor	ND	0.0095	0.0027	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.0095	0.0033	ug/l	
72-43-5	Methoxychlor	ND	0.0095	0.0019	ug/l	
8001-35-2	Toxaphene	ND	0.19	0.057	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	77%		40-114%
877-09-8	Tetrachloro-m-xylene	80%		40-114%
2051-24-3	Decachlorobiphenyl	93%		46-128%
2051-24-3	Decachlorobiphenyl	90%		46-128%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.9
3

Client Sample ID: 2003.B23.GW		Date Sampled: 05/06/14
Lab Sample ID: C33924-5		Date Received: 05/09/14
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8015B M SW846 3510C		
Project: Kahului Harbor Parcel-Maui, HI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG51745.D	1	05/09/14	NN	05/09/14	OP10011	GGG1465
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	0.0816	0.095	0.024	mg/l	J
	TPH (> C28-C40)	0.0748	0.19	0.048	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	104%		32-124%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.10
3

Client Sample ID: 2003.B23.GW	Date Sampled: 05/06/14
Lab Sample ID: C33924-5F	Date Received: 05/09/14
Matrix: AQ - Groundwater Filtered	Percent Solids: n/a
Project: Kahului Harbor Parcel-Maui, HI	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	17.6	10	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Barium	< 200	200	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Cadmium	< 2.0	2.0	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Chromium	< 10	10	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Lead	< 10	10	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	05/12/14	05/13/14 EB	SW846 7470A ²	SW846 7470A ⁴
Selenium	< 10	10	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³
Silver	6.7	5.0	ug/l	1	05/12/14	05/12/14 RS	SW846 6010B ¹	SW846 3010A ³

- (1) Instrument QC Batch: MA3949
- (2) Instrument QC Batch: MA3952
- (3) Prep QC Batch: MP7820
- (4) Prep QC Batch: MP7826

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

RECEIVED 5/9/2014



CHAIN OF CUSTODY

2105 Lundy Ave, San Jose, CA 95131
(408) 588-0200 FAX: (408) 588-0201

19449 19440 9555 Bottle Order Control #
Accession Code # SPH12-2013-170 Accutest NC Job #: C 33924

Client / Reporting Information		Project Information	
Company Name: ENVIRONMENTAL SERVICES & TRAINING CENTER LLC		Project Name: KAHALWE HARBOR	
Address: 505 WARD AVE STE 202		City: KAHALWE HI State: HI Zip: 96789	
City: HONOLULU HI Zip: 96789		City: KAHALWE HI State: HI	
Project Contact: Ms SHARLA NAKASHIMA		Project #: 14-2003	
Phone #: 808-839-7222 x228		EMAIL: SHARLA@GOTOETC.COM	
Sampler's Name: E. SPARKS / M. MOORE		Client Purchase Order #	
Requested Analysis			
TPH-G (8013) TPH-D (8015) MESTYLAMP. DPH-16 PAH-7 (8270C SEM) RCRA 8 METALS (6010) ORGANO CHLORINE PESTICIDES (8081A) MBTEX (5035/8260) SAMPLE FILTRATION (808) CARBONATES			
Matrix Codes			
WW-Wastewater GW-Ground Water BW-Surface Water SO-Soil LW-Liquor VAP-Vapor LIQ-Non-aqueous Liquid AIR DW-Drinking Water (For Chloride Only)			
LAB USE ONLY			
Accutest Sample ID	Sample ID / Field Point / Point of Collection	Date	Time
1	2003. B2. GW	5/6/14	16:15
2	2003. B9. GW	5/6/14	17:45
3	2003. B19. GW	5/6/14	15:00
4	2003. B30. GW	5/7/14	7:50
5	2003. B23. GW	5/6/14	18:58
Collection		Number of preserved Bottles	
Date	Time	Sampled by	Matrix
			# of bottles
			3
			7
			7
			7
			7
Turnaround Time (Business days)			
Data Deliverable Information			
Comments / Remarks			
PLEASE FILTER GW @ LAB. CONTACT SHARLA @ 808-839-7222 x228 FOR CLARIFICATION. ALL SAMPLES WERE COLLECTED ON MAY 6 & 7, 2014. PLEASE EXTRACT & ANALYZE W/IN RECOMMENDED TIMES.			
Emergency TIA data available VIA LabLink			
Sample Custody must be documented below each time samples change possession, including courier delivery.			
Relinquished by Sample:	Date Time:	Received By:	Relinquished By:
1. Sharon Stahls	5/7/14 8:50	1. FEDEX	2. Fed Ex
Relinquished by:	Date Time:	Received By:	Relinquished By:
3. FEDEX			
Relinquished by:	Date Time:	Received By:	Relinquished By:
6			
Custody Seal #			
Appropriate Bottle / Pres. V / N			
Headspace Y / N			
Labels match Coc? Y / N			
Separate Receiving Check List used: Y / N			
On Ice Y / N			
Cooler Temp.			

4.1
4



Accutest Laboratories Sample Receipt Summary

Accutest Job Number: C33924 **Client:** ENVIROSERVICES & TRAINING CENTER **Project:** KAHULUI HARBOR
Date / Time Received: 5/8/2014 **Delivery Method:** FedEx **Airbill #'s:** 803038757047

Cooler Temps (Initial/Adjusted): #1: (2.9/2.9); #2: (4.5/4.5);

<u>Cooler Security</u>		<u>Y</u>	<u>or</u>	<u>N</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input type="checkbox"/>			<input checked="" type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input type="checkbox"/>			<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Cooler Temperature</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>			<input type="checkbox"/>
2. Cooler temp verification:	IR2:			
3. Cooler media:	Ice (Bag)			
4. No. Coolers:	2			

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
4. VOCs headspace free:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	Intact		

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

Thursday: 5/8/2014
 Missing 1 Cooler
 Sample ID: 2003.B2.GW: 1x 1L Amber broken
 Sample ID: 2003.B9.GW: 3X 1L Amber missing, 1 X 250mL missing, 3x 40mL HCL Vials
 Sample ID: 2003.B19.GW: 1x 1L Amber broken
 Sample ID: 2003.B30.GW: 1X 1L Amber missing, 3x 40mL HCL Vials
 Sample ID: 2003.B23.GW: sample not received

Friday: 5/9/14
 Received Cooler FedEx#: 794949409555 (10:29 8.9C/on icepacks)
 Sample 2- received missing ambers, poly, and vials
 Sample 4- received missing amber & vials
 Sample 5- received entire sample

Accutest Laboratories V408.588.0200 2105 Lundy Avenue F: 408.588.0201 San Jose, CA 95131 www.accutest.com

4.1
4

GC/MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: C33924
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU747-MB	U18746.D	1	05/09/14	TF	n/a	n/a	VU747

The QC reported here applies to the following samples:

Method: SW846 8260B

C33924-1, C33924-2, C33924-3

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	100%	70-130%
2037-26-5	Toluene-D8	100%	70-130%
460-00-4	4-Bromofluorobenzene	104%	70-130%

5.1.1
5

Method Blank Summary

Page 1 of 1

Job Number: C33924
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU748-MB	U18774.D	1	05/12/14	TF	n/a	n/a	VU748

The QC reported here applies to the following samples:

Method: SW846 8260B

C33924-4, C33924-5

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Result	Limits
1868-53-7	Dibromofluoromethane	105%	70-130%
2037-26-5	Toluene-D8	103%	70-130%
460-00-4	4-Bromofluorobenzene	105%	70-130%

5.1.2
5

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33924
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU747-BS	U18742.D	1	05/09/14	TF	n/a	n/a	VU747
VU747-BSD	U18743.D	1	05/09/14	TF	n/a	n/a	VU747

The QC reported here applies to the following samples:

Method: SW846 8260B

C33924-1, C33924-2, C33924-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	17.9	90	17.8	89	1	77-122/25
100-41-4	Ethylbenzene	20	19.4	97	19.6	98	1	76-126/17
1634-04-4	Methyl Tert Butyl Ether	20	20.1	101	20.5	103	2	73-132/17
108-88-3	Toluene	20	18.6	93	19.0	95	2	75-122/17
1330-20-7	Xylene (total)	60	60.3	101	60.7	101	1	77-125/17

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	99%	100%	70-130%
2037-26-5	Toluene-D8	100%	101%	70-130%
460-00-4	4-Bromofluorobenzene	111%	110%	70-130%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33924
 Account: ETCHIH EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU748-BS	U18770.D	1	05/12/14	TF	n/a	n/a	VU748
VU748-BSD	U18771.D	1	05/12/14	TF	n/a	n/a	VU748

The QC reported here applies to the following samples:

Method: SW846 8260B

C33924-4, C33924-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	18.3	92	18.4	92	1	77-122/25
100-41-4	Ethylbenzene	20	19.3	97	19.6	98	2	76-126/17
1634-04-4	Methyl Tert Butyl Ether	20	20.8	104	21.3	107	2	73-132/17
108-88-3	Toluene	20	18.9	95	19.2	96	2	75-122/17
1330-20-7	Xylene (total)	60	59.7	100	60.4	101	1	77-125/17

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	101%	103%	70-130%
2037-26-5	Toluene-D8	102%	101%	70-130%
460-00-4	4-Bromofluorobenzene	109%	109%	70-130%

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: C33924
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU747-LCS	U18744.D	1	05/09/14	TF	n/a	n/a	VU747

5.3.1
5

The QC reported here applies to the following samples:

Method: SW846 8260B

C33924-1, C33924-2, C33924-3

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	70-130%
2037-26-5	Toluene-D8	102%	70-130%
460-00-4	4-Bromofluorobenzene	108%	70-130%

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: C33924
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU748-LCS	U18772.D	1	05/12/14	TF	n/a	n/a	VU748

The QC reported here applies to the following samples:

Method: SW846 8260B

C33924-4, C33924-5

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	70-130%
2037-26-5	Toluene-D8	104%	70-130%
460-00-4	4-Bromofluorobenzene	107%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33924
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C33946-2MS	U18792.D	50	05/12/14	TF	n/a	n/a	VU748
C33946-2MSD	U18793.D	50	05/12/14	TF	n/a	n/a	VU748
C33946-2	U18789.D	50	05/12/14	TF	n/a	n/a	VU748

The QC reported here applies to the following samples:

Method: SW846 8260B

C33924-4, C33924-5

CAS No.	Compound	C33946-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		1000	1040	104	1000	1010	101	3	77-122/16
100-41-4	Ethylbenzene	ND		1000	1070	107	1000	1030	103	4	76-126/17
1634-04-4	Methyl Tert Butyl Ether	10.6		1000	1270	126	1000	1220	121	4	73-132/17
108-88-3	Toluene	ND		1000	1060	106	1000	1010	101	5	75-122/17
1330-20-7	Xylene (total)	ND		3000	3310	110	3000	3190	106	4	77-125/17

CAS No.	Surrogate Recoveries	MS	MSD	C33946-2	Limits
1868-53-7	Dibromofluoromethane	108%	108%	109%	70-130%
2037-26-5	Toluene-D8	100%	99%	101%	70-130%
460-00-4	4-Bromofluorobenzene	112%	114%	106%	70-130%

* = Outside of Control Limits.

GC/MS Semi-volatiles



QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C33924
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10006-MB	X36357.D	1	05/13/14	AA	05/08/14	OP10006	EX1588

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C33924-1, C33924-2, C33924-3, C33924-4, C33924-5

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.50	0.050	ug/l	
208-96-8	Acenaphthylene	ND	0.50	0.050	ug/l	
120-12-7	Anthracene	ND	0.50	0.050	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.053	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.041	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.035	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.036	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.039	ug/l	
218-01-9	Chrysene	ND	0.10	0.045	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.035	ug/l	
206-44-0	Fluoranthene	ND	0.50	0.050	ug/l	
86-73-7	Fluorene	ND	0.50	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.035	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.50	0.10	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.50	0.10	ug/l	
91-20-3	Naphthalene	ND	0.50	0.10	ug/l	
85-01-8	Phenanthrene	ND	0.50	0.050	ug/l	
129-00-0	Pyrene	ND	0.50	0.050	ug/l	

CAS No.	Surrogate Recoveries	Limits	
4165-60-0	Nitrobenzene-d5	78%	31-128%
321-60-8	2-Fluorobiphenyl	83%	34-123%
1718-51-0	Terphenyl-d14	109%	43-136%

6.1.1
6

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33924
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10006-BS	X36346.D	1	05/12/14	AA	05/08/14	OP10006	EX1588
OP10006-BSD	X36347.D	1	05/12/14	AA	05/08/14	OP10006	EX1588

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C33924-1, C33924-2, C33924-3, C33924-4, C33924-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	5	4.1	82	4.3	86	5	57-113/24
208-96-8	Acenaphthylene	5	4.0	80	4.2	84	5	58-117/25
120-12-7	Anthracene	5	4.2	84	4.3	86	2	65-121/23
56-55-3	Benzo(a)anthracene	5	4.7	94	4.7	94	0	62-121/21
50-32-8	Benzo(a)pyrene	5	4.6	92	4.5	90	2	65-125/20
205-99-2	Benzo(b)fluoranthene	5	4.9	98	4.8	96	2	62-126/22
191-24-2	Benzo(g,h,i)perylene	5	4.6	92	5.3	106	14	45-133/22
207-08-9	Benzo(k)fluoranthene	5	5.3	106	5.0	100	6	61-122/20
218-01-9	Chrysene	5	4.9	98	5.0	100	2	62-118/20
53-70-3	Dibenzo(a,h)anthracene	5	4.7	94	5.4	108	14	45-135/25
206-44-0	Fluoranthene	5	4.6	92	4.6	92	0	63-118/21
86-73-7	Fluorene	5	4.3	86	4.3	86	0	59-115/24
193-39-5	Indeno(1,2,3-cd)pyrene	5	4.7	94	5.3	106	12	51-130/26
90-12-0	1-Methylnaphthalene	5	3.8	76	3.9	78	3	53-107/25
91-57-6	2-Methylnaphthalene	5	3.8	76	4.0	80	5	56-115/26
91-20-3	Naphthalene	5	3.7	74	3.9	78	5	54-110/23
85-01-8	Phenanthrene	5	4.5	90	4.6	92	2	60-114/26
129-00-0	Pyrene	5	4.6	92	4.8	96	4	58-124/21

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
4165-60-0	Nitrobenzene-d5	76%	77%	31-128%
321-60-8	2-Fluorobiphenyl	83%	85%	34-123%
1718-51-0	Terphenyl-d14	97%	95%	43-136%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33924
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10006-MS	X36351.D	1	05/12/14	AA	05/08/14	OP10006	EX1588
OP10006-MSD	X36352.D	1	05/13/14	AA	05/08/14	OP10006	EX1588
C33896-1	X36350.D	1	05/12/14	AA	05/08/14	OP10006	EX1588

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C33924-1, C33924-2, C33924-3, C33924-4, C33924-5

CAS No.	Compound	C33896-1 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	0.53 U	10	8.2	82	10	8.4	84	2	57-113/24
208-96-8	Acenaphthylene	0.53 U	10	8.0	80	10	8.2	82	2	58-117/25
120-12-7	Anthracene	0.53 U	10	8.0	80	10	8.3	83	4	65-121/23
56-55-3	Benzo(a)anthracene	0.11 U	10	8.8	88	10	9.1	91	3	62-121/21
50-32-8	Benzo(a)pyrene	0.11 U	10	8.1	81	10	8.8	88	8	65-125/20
205-99-2	Benzo(b)fluoranthene	0.11 U	10	9.2	92	10	9.5	95	3	62-126/22
191-24-2	Benzo(g,h,i)perylene	0.11 U	10	9.1	91	10	10.1	101	10	45-133/22
207-08-9	Benzo(k)fluoranthene	0.11 U	10	9.1	91	10	9.5	95	4	61-122/20
218-01-9	Chrysene	0.11 U	10	9.4	94	10	9.6	96	2	62-118/20
53-70-3	Dibenzo(a,h)anthracene	0.11 U	10	9.5	95	10	10.5	105	10	45-135/25
206-44-0	Fluoranthene	0.53 U	10	8.7	87	10	9.1	91	4	63-118/21
86-73-7	Fluorene	0.53 U	10	8.3	83	10	8.6	86	4	59-115/24
193-39-5	Indeno(1,2,3-cd)pyrene	0.11 U	10	9.3	93	10	10.3	103	10	51-130/26
90-12-0	1-Methylnaphthalene	0.53 U	10	7.5	75	10	7.6	76	1	53-107/25
91-57-6	2-Methylnaphthalene	0.53 U	10	7.6	76	10	7.7	77	1	56-115/26
91-20-3	Naphthalene	0.53 U	10	7.3	73	10	7.2	72	1	54-110/23
85-01-8	Phenanthrene	0.53 U	10	8.6	86	10	8.9	89	3	60-114/26
129-00-0	Pyrene	0.53 U	10	8.7	87	10	8.7	87	0	58-124/21

CAS No.	Surrogate Recoveries	MS	MSD	C33896-1	Limits
4165-60-0	Nitrobenzene-d5	71%	70%	74%	31-128%
321-60-8	2-Fluorobiphenyl	79%	81%	81%	34-123%
1718-51-0	Terphenyl-d14	85%	86%	89%	43-136%

* = Outside of Control Limits.

GC Volatiles

QC Data Summaries

7

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C33924
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1801-MB	JK44019.D	1	05/13/14	TT	n/a	n/a	GJK1801

The QC reported here applies to the following samples:

Method: SW846 8015B

C33924-1, C33924-2, C33924-3, C33924-4, C33924-5

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.050	0.020	mg/l	

CAS No.	Surrogate Recoveries	Limits
98-08-8	aaa-Trifluorotoluene	102% 51-127%

7.1.1
7

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33924
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1801-BS	JK44020.D	1	05/13/14	TT	n/a	n/a	GJK1801
GJK1801-BSD	JK44021.D	1	05/13/14	TT	n/a	n/a	GJK1801

The QC reported here applies to the following samples:

Method: SW846 8015B

C33924-1, C33924-2, C33924-3, C33924-4, C33924-5

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	0.25	0.242	97	0.256	102	6	78-125/14

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
98-08-8	aaa-Trifluorotoluene	100%	95%	51-127%

7.2.1
7

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33924
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C33924-1MS	JK44025.D	1	05/13/14	TT	n/a	n/a	GJK1801
C33924-1MSD	JK44031.D	1	05/13/14	TT	n/a	n/a	GJK1801
C33924-1	JK44024.D	1	05/13/14	TT	n/a	n/a	GJK1801

The QC reported here applies to the following samples:

Method: SW846 8015B

C33924-1, C33924-2, C33924-3, C33924-4, C33924-5

CAS No.	Compound	C33924-1 mg/l	Spike Q mg/l	MS mg/l	MS %	Spike mg/l	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	0.25	0.225	90	0.25	0.253	101	12	78-125/14

CAS No.	Surrogate Recoveries	MS	MSD	C33924-1	Limits
98-08-8	aaa-Trifluorotoluene	89%	99%	93%	51-127%

7.3.1
7

* = Outside of Control Limits.

GC Semi-volatiles

QC Data Summaries



Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C33924
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10012-MB	MM021835.D	1	05/09/14	RV	05/09/14	OP10012	GMM646

The QC reported here applies to the following samples:

Method: SW846 8081A

C33924-1, C33924-2, C33924-3, C33924-4, C33924-5

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.010	0.0020	ug/l	
319-84-6	alpha-BHC	ND	0.010	0.0026	ug/l	
319-85-7	beta-BHC	ND	0.010	0.0045	ug/l	
319-86-8	delta-BHC	ND	0.010	0.0033	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.010	0.0025	ug/l	
12789-03-6	Chlordane	ND	0.10	0.010	ug/l	
60-57-1	Dieldrin	ND	0.010	0.0021	ug/l	
72-54-8	4,4'-DDD	ND	0.010	0.0023	ug/l	
72-55-9	4,4'-DDE	ND	0.010	0.0030	ug/l	
50-29-3	4,4'-DDT	ND	0.010	0.0024	ug/l	
72-20-8	Endrin	ND	0.010	0.0032	ug/l	
7421-93-4	Endrin aldehyde	ND	0.010	0.0042	ug/l	
959-98-8	Endosulfan-I	ND	0.010	0.0024	ug/l	
33213-65-9	Endosulfan-II	ND	0.010	0.0022	ug/l	
1031-07-8	Endosulfan sulfate	ND	0.010	0.0025	ug/l	
76-44-8	Heptachlor	ND	0.010	0.0028	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.010	0.0035	ug/l	
72-43-5	Methoxychlor	ND	0.010	0.0020	ug/l	
8001-35-2	Toxaphene	ND	0.20	0.060	ug/l	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	82%	40-114%
877-09-8	Tetrachloro-m-xylene	88%	40-114%
2051-24-3	Decachlorobiphenyl	95%	46-128%
2051-24-3	Decachlorobiphenyl	95%	46-128%

8.1.1
8

Method Blank Summary

Job Number: C33924
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10011-MB	GG51721.D	1	05/09/14	NN	05/09/14	OP10011	GGG1465

The QC reported here applies to the following samples:

Method: SW846 8015B M

C33924-1, C33924-2, C33924-3, C33924-4, C33924-5

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	0.10	0.025	mg/l	
	TPH (> C28-C40)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Limits
630-01-3	Hexacosane	100% 32-124%

8.1.2
8

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33924
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10012-BS	MM021836.D	1	05/09/14	RV	05/09/14	OP10012	GMM646
OP10012-BSD	MM021837.D	1	05/09/14	RV	05/09/14	OP10012	GMM646

The QC reported here applies to the following samples:

Method: SW846 8081A

C33924-1, C33924-2, C33924-3, C33924-4, C33924-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	0.1	0.082	82	0.074	74	10	46-110/22
319-84-6	alpha-BHC	0.1	0.084	84	0.080	80	5	39-111/32
319-85-7	beta-BHC	0.1	0.091	91	0.086	86	6	38-121/31
319-86-8	delta-BHC	0.1	0.098	98	0.091	91	7	37-114/33
58-89-9	gamma-BHC (Lindane)	0.1	0.093	93	0.088	88	6	38-121/31
60-57-1	Dieldrin	0.1	0.095	95	0.090	90	5	46-127/22
72-54-8	4,4'-DDD	0.1	0.10	100	0.093	93	7	50-121/22
72-55-9	4,4'-DDE	0.1	0.10	100	0.094	94	6	48-120/23
50-29-3	4,4'-DDT	0.1	0.10	100	0.094	94	6	44-121/22
72-20-8	Endrin	0.1	0.10	100	0.092	92	8	55-135/24
7421-93-4	Endrin aldehyde	0.1	0.098	98	0.093	93	5	37-120/27
959-98-8	Endosulfan-I	0.1	0.084	84	0.080	80	5	47-123/24
33213-65-9	Endosulfan-II	0.1	0.094	94	0.087	87	8	49-123/23
1031-07-8	Endosulfan sulfate	0.1	0.11	110	0.10	100	10	47-122/27
76-44-8	Heptachlor	0.1	0.099	99	0.095	95	4	58-137/23
1024-57-3	Heptachlor epoxide	0.1	0.094	94	0.090	90	4	51-117/23
72-43-5	Methoxychlor	0.1	0.11	110	0.10	100	10	50-129/24

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
877-09-8	Tetrachloro-m-xylene	90%	84%	40-114%
877-09-8	Tetrachloro-m-xylene	98%	90%	40-114%
2051-24-3	Decachlorobiphenyl	106%	97%	46-128%
2051-24-3	Decachlorobiphenyl	102%	88%	46-128%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: C33924
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10011-BS	GG51719.D	1	05/09/14	NN	05/09/14	OP10011	GGG1465
OP10011-BSD	GG51720.D	1	05/09/14	NN	05/09/14	OP10011	GGG1465

The QC reported here applies to the following samples:

Method: SW846 8015B M

C33924-1, C33924-2, C33924-3, C33924-4, C33924-5

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	1	0.851	85	0.837	84	2	38-115/22
	TPH (> C28-C40)	1	0.874	87	0.882	88	1	45-114/20

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
630-01-3	Hexacosane	91%	95%	32-124%

8.2.2
8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C33924
Account: ETCHIH EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP10011-MS	GG51725.D	1	05/09/14	NN	05/09/14	OP10011	GGG1465
OP10011-MSD	GG51726.D	1	05/09/14	NN	05/09/14	OP10011	GGG1465
C33899-14	GG51724.D	1	05/09/14	NN	05/09/14	OP10011	GGG1465

The QC reported here applies to the following samples:

Method: SW846 8015B M

C33924-1, C33924-2, C33924-3, C33924-4, C33924-5

CAS No.	Compound	C33899-14 mg/l	Spike Q mg/l	MS mg/l	MS %	Spike mg/l	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	ND	1.89	1.62	86	1.89	1.65	87	2	38-115/22
	TPH (> C28-C40)	ND	1.89	1.73	92	1.89	1.81	96	5	45-114/20

8.3.1
8

CAS No.	Surrogate Recoveries	MS	MSD	C33899-14	Limits
630-01-3	Hexacosane	92%	94%	95%	32-124%

* = Outside of Control Limits.

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C33924
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7820
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 05/12/14

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	13	8.5		
Antimony	6.0	.7	.51		
Arsenic	10	.7	.65	0.90	<10
Barium	200	.4	.35	2.8	<200
Beryllium	5.0	.2	.4		
Boron	100	.9	.64		
Cadmium	2.0	.2	.15	-0.80	<2.0
Calcium	5000	7.1	12		
Chromium	10	.3	.41	-2.2	<10
Cobalt	5.0	.2	.3		
Copper	10	1.2	3		
Iron	200	6.4	12		
Lead	10	.7	.85	1.4	<10
Lithium	50		2		
Magnesium	5000	27	36		
Manganese	15	.1	1.3		
Molybdenum	20	.2	.22		
Nickel	5.0	.2	.12		
Potassium	10000	18	44		
Selenium	10	1.8	2.2	2.0	<10
Silicon	100	1.2	6.9		
Silver	5.0	.3	.47	1.4	<5.0
Sodium	10000	15	13		
Strontium	10	.2	.24		
Thallium	10	.5	.54		
Tin	50	.2	.7		
Titanium	10	.4	.34		
Vanadium	10	.3	.3		
Zinc	20	.3	4.2		

Associated samples MP7820: C33924-1F, C33924-2F, C33924-3F, C33924-4F, C33924-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

9.1.1
9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C33924
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7820
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 05/12/14

Metal	C33924-1F Original MS		Spikelot MPIR5	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	76.6	638	500	112.3	75-125
Barium	11.6	506	500	98.9	75-125
Beryllium					
Boron					
Cadmium	0.0	569	500	113.8	75-125
Calcium					
Chromium	0.0	527	500	105.4	75-125
Cobalt					
Copper					
Iron					
Lead	0.0	504	500	100.8	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium	0.0	556	500	111.2	75-125
Silicon					
Silver	0.0	575	500	115.0	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP7820: C33924-1F, C33924-2F, C33924-3F, C33924-4F, C33924-5F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

9.12
9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C33924
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7820
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 05/12/14

Metal	C33924-1F Original MSD		Spikelot MPIR5	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	76.6	624	500	109.5	2.2	20
Barium	11.6	508	500	99.3	0.4	20
Beryllium						
Boron						
Cadmium	0.0	578	500	115.6	1.6	20
Calcium						
Chromium	0.0	528	500	105.6	0.2	20
Cobalt						
Copper						
Iron						
Lead	0.0	506	500	101.2	0.4	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium	0.0	554	500	110.8	0.4	20
Silicon						
Silver	0.0	579	500	115.8	0.7	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP7820: C33924-1F, C33924-2F, C33924-3F, C33924-4F, C33924-5F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

9.1.2
9

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C33924
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui,HI

QC Batch ID: MP7820
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 05/12/14

Metal	BSP Result	Spikelot MPIS	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	499	500	99.8	80-120
Barium	484	500	96.8	80-120
Beryllium				
Boron				
Cadmium	506	500	101.2	80-120
Calcium				
Chromium	524	500	104.8	80-120
Cobalt				
Copper				
Iron				
Lead	494	500	98.8	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium	492	500	98.4	80-120
Silicon				
Silver	498	500	99.6	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP7820: C33924-1F, C33924-2F, C33924-3F, C33924-4F, C33924-5F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

9.1.3
9

SERIAL DILUTION RESULTS SUMMARY

Login Number: C33924
 Account: ETCHIH - EnviroServices and Training Center
 Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7820
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 05/12/14

Metal	C33924-1F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	76.6	80.8	5.5	0-10
Barium	11.6	11.6	0.0	0-10
Beryllium				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium				
Chromium	0.00	0.00	NC	0-10
Cobalt				
Copper				
Iron				
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	20.2	NC	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP7820: C33924-1F, C33924-2F, C33924-3F, C33924-4F, C33924-5F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

9.1.4
9

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C33924
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7826
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 05/12/14

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.20	.0042	.08	0.095	<0.20

Associated samples MP7826: C33924-1F, C33924-2F, C33924-3F, C33924-4F, C33924-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

9.2.1
9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C33924
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7826
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 05/12/14

Metal	C33924-1F Original MS	Spikelot HGPWS1	% Rec	QC Limits
Mercury	0.10	4.3	4	105.0 75-125

Associated samples MP7826: C33924-1F, C33924-2F, C33924-3F, C33924-4F, C33924-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

9.2.2
9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C33924
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7826
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 05/12/14

Metal	C33924-1F Original MSD	Spikelot HGPWS1	% Rec	MSD RPD	QC Limit	
Mercury	0.10	4.5	4	110.0	4.5	30

Associated samples MP7826: C33924-1F, C33924-2F, C33924-3F, C33924-4F, C33924-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

9.2.2
9

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C33924
Account: ETCHIH - EnviroServices and Training Center
Project: Kahului Harbor Parcel-Maui, HI

QC Batch ID: MP7826
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

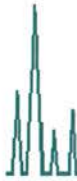
Prep Date: 05/12/14

Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits
Mercury	2.0	2	100.0	85-115

Associated samples MP7826: C33924-1F, C33924-2F, C33924-3F, C33924-4F, C33924-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

9.2.3
9



AAL Project #T342

EnviroServices & Training Center

Client Project #: 14-2003

Method: 8015M

Client Project Name: Kahului Harbor Parcel B

Matrix: Soil

CLIENT SAMPLE ID	TPH-DIESEL [mg/kg]	TPH-OIL [mg/kg]	SURROGATE RECOVERY	FLAGS	DATE ANALYZED
Blank	nd	nd	104%		6/5/2018
2003.SS16	nd	230	125%		6/5/2018
2003.SS17	nd	350	123%		6/5/2018
PQL	50	100	Acceptable Range		
MDL	20	35	70%-130%		

QA/QC DATA

QC BATCH #	TPH-DIESEL [mg/kg]	TPH-OIL [mg/kg]	Acceptable Range
060518			
Lab Control Spike (LCS)	507	525	350-650
Matrix Spike (MS)	499	505	350-650
Matrix Spike Dup (MSD)	499	512	350-650
Recovery LCS	101%	105%	70%-130%
Recovery MS	100%	101%	70%-130%
Recovery MSD	100%	102%	70%-130%
RPD of MS/MSD	0.0%	1.4%	20%

Analyst: U. Baumgartner, Ph.D.

Data review: E. Young



12524 130th Lane NE
Kirkland WA 98034

Tel: (425) 214-5858
(425) 214-5868
Email: lisa@accu-lab.com
website: www.accu-lab.com

Analytical Report

Client	Advanced Analytical Laboratory 544 Ohohia Street #10 Honolulu, HI, 96819	Acculab WO#	18-AL0607-2
Project Manager	Uwe Baumgartner/ Elisa Young	Date Sampled	6/4/2018
Project Name	Kahului Harbor Parcel B	Date Received	6/7/2018
Client Project#	14-2003	Date Reported	6/12/2018
Project#	T342		

PAH in Soil by EPA 8270D SIM/3550C

Accu Lab Analytical Batch# AL060718-2

Client sample ID	MRL	Unit			MS	MSD	RPD		
			MTH BLK	LCS	2018	2018	2018		
Lab ID					18-AL0607-2-1	18-AL0607-2-2	18-AL0605-8-1	18-AL0605-8-1	18-AL0605-8-1
Matrix			Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date Extracted			6/7/2018	6/7/2018	6/7/2018	6/7/2018	6/7/2018	6/7/2018	6/7/2018
Date Analyzed			6/7/2018	6/7/2018	6/7/2018	6/7/2018	6/7/2018	6/7/2018	6/7/2018
Moisture (%)					2%	1%			

Naphthalene	0.05	mg/Kg	nd		nd	nd			
2-Methylnaphthalene	0.05	mg/Kg	nd		nd	nd			
1-Methylnaphthalene	0.05	mg/Kg	nd		nd	nd			
Acenaphthylene	0.05	mg/Kg	nd		nd	nd			
Acenaphthene	0.05	mg/Kg	nd	105%	nd	nd	110%	105%	5%
Fluorene	0.05	mg/Kg	nd		nd	nd			
Phenanthrene	0.05	mg/Kg	nd		0.23	0.22			
Anthracene	0.05	mg/Kg	nd		nd	nd			
Fluoranthene	0.05	mg/Kg	nd		0.54	0.40			
Pyrene	0.05	mg/Kg	nd	95%	0.48	0.35	86%	102%	17%
Benzo(a)anthracene	0.05	mg/Kg	nd		0.16	0.11			
Chrysene	0.05	mg/Kg	nd		0.35	0.25			
Benzo(b)fluoranthene	0.10	mg/Kg	nd		0.23	0.21			
Benzo(k)fluoranthene	0.10	mg/Kg	nd		0.27	0.15			
Benzo(a)pyrene	0.10	mg/Kg	nd		0.18	0.15			
Indeno(1,2,3-cd)pyrene	0.10	mg/Kg	nd		0.26	0.29			
Dibenzo(a,h)anthracene	0.10	mg/Kg	nd		0.31	0.33			
Benzo(ghi)perylene	0.10	mg/Kg	nd		0.34	0.32			

Surrogate Recoveries

2-Fluorobiphenyl			109%	132%	115%	99%	108%	121%
Terphenyl-d14			119%	112%	95%	110%	107%	105%

Acceptable Recovery Limits:

Surrogates/LCS	55-150%
MS/MSD	45-150%
Acceptable RPD Limit:	30%

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12524 130th Lane NE
Kirkland WA 98034

Tel: (425) 214-5858
(425) 214-5868
Email: lisa@accu-lab.com
website: www.accu-lab.com

Analytical Report

Client	Advanced Analytical Laboratory 544 Ohohia Street #10 Honolulu, HI, 96819	Acculab WO#	18-AL0607-2
Project Manager	Uwe Baumgartner/ Elisa Young	Date Sampled	6/4/2018
Project Name	Kahului Harbor Parcel B	Date Received	6/7/2018
Client Project#	14-2003	Date Reported	6/12/2018
Project#	T342		

Polychlorinated Biphenyls in Soil by EPA 8082A/3550C

Accu Lab Analytical Batch# AL060818-2

Client sample ID	MRL	Unit	MTH BLK	LCS	2003.	2003.	MS	MSD	RPD
					SS16	SS17	2003.	2003.	2003.
Lab ID					18-AL0607-2-1	18-AL0607-2-2	18-AL0607-2-2	18-AL0607-2-2	18-AL0607-2-2
Matrix			Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date Extracted			6/8/2018	6/8/2018	6/8/2018	6/8/2018	6/8/2018	6/8/2018	6/8/2018
Date Analyzed			6/8/2018	6/8/2018	6/8/2018	6/8/2018	6/8/2018	6/8/2018	6/8/2018
A1016	0.1	mg/Kg	nd		nd	nd			
A1221	0.1	mg/Kg	nd		nd	nd			
A1232	0.1	mg/Kg	nd		nd	nd			
A1242	0.1	mg/Kg	nd		nd	nd			
A1248	0.1	mg/Kg	nd		nd	nd			
A1254	0.1	mg/Kg	nd		nd	nd			
A1260	0.1	mg/Kg	nd	124%	nd	nd	102%	107%	5%
A1262	0.1	mg/Kg	nd		nd	nd			

Surrogate Recoveries

Decachlorobiphenyl	77%	127%	108%	110%	105%	106%
Tetrachloro-m-xylene	77%	83%	82%	120%	123%	117%

Acceptable Recovery Limits:

Surrogates	70-130%
LCS/ MS/MSD	65-135%
Acceptable RPD limit:	30%



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Analytical Report

Client	Advanced Analytical Laboratory 544 Ohohia Street #10 Honolulu, HI, 96819	Acculab WO#	18-AL0607-2
Project Manager	Uwe Baumgartner/ Elisa Young	Date Sampled	6/4/2018
Project Name	Kahului Harbor Parcel B	Date Received	6/7/2018
Client Project#	14-2003	Date Reported	6/12/2018
Project#	T342		

Metals in Soil by EPA 6020B/EPA3050B

Accu Lab Analytical Batch# AL061118-2

Client sample ID					MS		MSD		RPD
					2003.SS16	2003.SS17	2003.SS17	2003.SS17	2003.SS17
Lab ID	MRL	Unit	MTH BLK	LCS	18-AL0607-2-1	18-AL0607-2-2	18-AL0607-2-2	18-AL0607-2-2	18-AL0607-2-2
Matrix			Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date Digested			6/11/2018	6/11/2018	6/11/2018	6/11/2018	6/11/2018	6/11/2018	6/11/2018
Date Analyzed			6/11/2018	6/11/2018	6/11/2018	6/11/2018	6/11/2018	6/11/2018	6/11/2018
Arsenic (As)	1.0	mg/Kg	nd	107%	13	15	87%	84%	4%
Barium (Ba)	2.0	mg/Kg	nd	95%	76	75	M	M	
Cadmium (Cd)	1.0	mg/Kg	nd	98%	1.1	1.2	98%	101%	3%
Chromium (Cr)	2.0	mg/Kg	nd	106%	37	36	110%	92%	17%
Lead (Pb)	1.0	mg/Kg	nd	94%	95	95	M	M	
Selenium (Se)	1.0	mg/Kg	nd	96%	nd	nd	89%	96%	8%
Silver (Ag)	1.0	mg/Kg	nd	89%	nd	nd	103%	124%	18%
Mercury (Hg)	0.20	mg/Kg	nd	108%	nd	nd	94%	80%	16%

Acceptable Recovery Limits:

LCS 80-120%

MS/MSD 75-125%

Acceptable RPD limit: 20%



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Analytical Report

Client	Advanced Analytical Laboratory 544 Ohohia Street #10 Honolulu, HI, 96819	Acculab WO#	18-AL0607-2
Project Manager	Uwe Baumgartner/ Elisa Young	Date Sampled	6/4/2018
Project Name	Kahului Harbor Parcel B	Date Received	6/7/2018
Client Project#	14-2003	Date Reported	6/12/2018
Project#	T342		

Data Qualifiers and Comments:

Results reported on dry-weight basis for soil samples.

MRL- Method Reporting Limit

nd- Indicates the analyte is not detected at the listing reporting limit.

C- Coelution with other compounds.

M- % Recovery of surrogate, MS/MSD is out of the acceptable limit due to matrix effect.

B- Indicates the analyte is detected in the method blank associated with the sample.

J- The analyte is detected at below the reporting limit.

E- The result reported exceeds the calibration range, and is an estimate.

D- Sample required dilution due to matrix. Method Reporting Limits were elevated due to dilutions.

H- Sample was received or analyzed past holding time

Q- Sample was received with head space, improper preserved or above recommended temperature.

I- Due to insufficient sample, LCS/LCS DUP were analyzed in place of MS/MSD.

R- The recovery of this analyte in QC sample failed high, but the analyte was not detected in all related samples. No action was taken.

R-1- The RPD value for the MS/MSD was outside of QC acceptance limits however both recoveries were acceptable. All related samples were "nd". No action was taken.

ADVANCED ANALYTICAL LABORATORY-CHAIN OF CUSTODY RECORD

Phone: (808) 836 2252 Fax: (808) 836 2250

Address: 3210 Koapaka Street #A Honolulu, HI 96819

TURNAROUND TIME: Standard 5-day

AAL PROJECT#: 6 340A 7342

CLIENT: ENVIROSERVICES & TRAINING CENTER, LLC

ADDRESS: 505 WARD AVENUE, SUITE 202, HONOLULU, HI 96814

PHONE: 808-839-7222 EMAIL: sharia@gotoetc.com / ekakone@gotoetc.com

CLIENT PROJECT#: 14-2003

PROJECT NAME: KAHULUI HARBOR PARCEL B

COLLECTOR: EKAKONE / S.NAKASHIMA

DATE OF COLLECTION: June 4, 2019

PROJECT MANAGER: S.NAKASHIMA

ANALYSES

Sample Number	Time	Sample Type	Container Type	Multi-Incremental Volatile	Multi-Incremental Non-Volatile	8015M TPH Fuel Scan	8015M TPH Gasoline	8015M TPH Diesel	8015M TPH Oil	8260B Volatiles	8021B BTEX	8021B MIBF	8100 PAH DOH 4	8270 PAH 17 analytes	8082 Semi Volatiles	TCLP PCB	8081 Organochlorine Pesticides	8081 Organochlorine Pesticides	Total Lead	Total Cadmium	TCLP RCRA 8 Metals	Total RCRA 8 Metals	Field Notes	Number of containers	Number containers received
2003.SS16	1b2b	SOIL	PL Bag	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		1	1
2003.SS17	1b2b	SOIL	PL Bag	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		1	1

RELINQUISHED BY (Signature) [Signature] DATE/TIME 6/5/18 1:30 RECEIVED BY (Signature) [Signature] DATE/TIME 6/16/18 7:30

RELINQUISHED BY (Signature) [Signature] DATE/TIME 6/5/18 8:57 RECEIVED BY (Signature) [Signature] DATE/TIME 6/5/18

SAMPLE RECEIPT
 TOTAL NUMBER OF CONTAINERS: 2
 CHAIN OF CUSTODY SEALS INTACT: NA
 RECEIVED IN GOOD CONDITION: Yes
 TEMPERATURE: 4.0° C

LABORATORY NOTES:

8:52



AAL Project #T346

EnviroServices & Training Center

Client Project #: 14-2003

Method: 8015M

Client Project Name: KAHULUI HARBOR PARCEL B

Matrix: Water

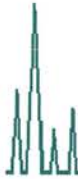
CLIENT SAMPLE ID	TPH-DIESEL [mg/L]	TPH-OIL [mg/L]	SURROGATE RECOVERY	FLAGS	DATE ANALYZED
Blank	nd	nd	102%		6/12/2018
2003.MW6.GW	nd	nd	118%		6/12/2018
2003.MW8.GW	nd	nd	110%		6/12/2018
PQL	0.050	0.100	Acceptable Range		
MDL	0.010	0.032	70%-130%		

QA/QC DATA

QC BATCH #	TPH-DIESEL [mg/L]	TPH-OIL [mg/L]	Acceptable Range
061218			
Lab Control Spike (LCS)	0.558	0.540	0.350-0.650
Matrix Spike (MS)	0.542	0.529	0.350-0.650
Matrix Spike Dup (MSD)	0.543	0.528	0.350-0.650
Recovery LCS	112%	108%	70%-130%
Recovery MS	108%	106%	70%-130%
Recovery MSD	109%	106%	70%-130%
RPD of MS/MSD	0.2%	0.2%	20%

Analyst: U. Baumgartner, Ph.D.

Data review: E. Young



AAL Project #T346

EnviroServices & Training Center

Client Project #: 14-2003 Method: 8015M
Client Project Name: KAHULUI HARBOR PARCEL B Matrix: Water

CLIENT SAMPLE ID	TPH-GASOLINE [mg/L]	SURROGATE RECOVERY	FLAGS	DATE ANALYZED
Blank	nd	109%		6/7/2018
2003.MW6.GW	nd	126%		6/7/2018
2003.MW8.GW	nd	121%		6/7/2018
PQL	0.10	Acceptable Range		
MDL	0.10	70%-130%		

QA/QC DATA

QC BATCH #	TPH-GASOLINE [mg/L]	Acceptable Range
060718		
Lab Control Spike (LCS)	10.6	7.0-13.0
Matrix Spike (MS)	11.7	7.0-13.0
Matrix Spike Dup (MSD)	10.8	7.0-13.0
Recovery LCS	106%	70%-130%
Recovery MS	117%	70%-130%
Recovery MSD	108%	70%-130%
RPD of MS/MSD	8.6%	20%

Analyst: E. Young

Data review: U. Baumgartner, Ph.D.



12524 130th Lane NE
Kirkland WA 98034

Tel: (425) 214-5858
(425) 214-5868
Email: lisa@accu-lab.com
website: www.accu-lab.com

Analytical Report

Client	Advanced Analytical Laboratory 544 Ohohia Street #10 Honolulu, HI, 96819	Acculab WO# 18-AL0608-3
Project Manager	Uwe Baumgartner/ Elisa Young	Date Sampled 6/6/2018
Project Name	KAHULUI HARBOR PARCEL B	Date Received 6/8/2018
Client Project#	14-2003	Date Reported 6/13/2018
Project#	T346	

Volatiles in Water by EPA 8260C/5030B

Accu Lab Analytical Batch# AL061118-1

Client sample ID					2003.MW6. GW	2003.MW8. GW
Lab ID	MRL	Unit	MTH BLK	LCS	18-AL0608-3-1	18-AL0608-3-2
Matrix			Water	Water	Water	Water
Date Analyzed			6/11/2018	6/11/2018	6/11/2018	6/11/2018
Chloromethane	1.0	ug/L	nd		nd	nd
Vinyl chloride	0.2	ug/L	nd	112%	nd	nd
Bromomethane	1.0	ug/L	nd		nd	nd
Chloroethane	1.0	ug/L	nd		nd	nd
Trichlorofluoromethane	1.0	ug/L	nd		nd	nd
1,1-Dichloroethene	1.0	ug/L	nd		nd	nd
Methylene Chloride	5.0	ug/L	nd		nd	nd
Methyl t-butyl ether	0.5	ug/L	nd		nd	nd
trans-1,2-Dichloroethene	0.5	ug/L	nd		nd	nd
1,1-Dichloroethane	0.5	ug/L	nd	118%	nd	nd
2,2-Dichloropropane	0.5	ug/L	nd		nd	nd
cis-1,2-Dichloroethene	0.5	ug/L	nd		nd	nd
Chloroform	0.5	ug/L	nd		nd	nd
1,1,1-Trichloroethane	0.5	ug/L	nd		nd	nd
Carbon tetrachloride	0.5	ug/L	nd		nd	nd
1,1-Dichloropropene	0.5	ug/L	nd		nd	nd
Benzene	0.5	ug/L	nd	102%	nd	nd
1,2-Dichloroethane (EDC)	0.5	ug/L	nd		nd	nd
Trichloroethene	0.5	ug/L	nd	111%	nd	nd
1,2-Dichloropropane	0.5	ug/L	nd		nd	nd
Dibromomethane	0.5	ug/L	nd		nd	nd
Bromodichloromethane	0.5	ug/L	nd		nd	nd
Toluene	0.5	ug/L	nd	80%	nd	nd
1,1,2-Trichloroethane	0.5	ug/L	nd		nd	nd
Tetrachloroethene	0.5	ug/L	nd	84%	nd	nd
1,3-Dichloropropane	0.5	ug/L	nd		nd	nd
Dibromochloromethane	0.5	ug/L	nd		nd	nd
1,2-Dibromoethane (EDB)	0.5	ug/L	nd		nd	nd

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12524 130th Lane NE
Kirkland WA 98034

Tel: (425) 214-5858
(425) 214-5868
Email: lisa@accu-lab.com
website: www.accu-lab.com

Analytical Report

Client	Advanced Analytical Laboratory 544 Ohohia Street #10 Honolulu, HI, 96819	Acculab WO# 18-AL0608-3
Project Manager	Uwe Baumgartner/ Elisa Young	Date Sampled 6/6/2018
Project Name	KAHULUI HARBOR PARCEL B	Date Received 6/8/2018
Client Project#	14-2003	Date Reported 6/13/2018
Project#	T346	

Volatiles in Water by EPA 8260C/5030B

Accu Lab Analytical Batch# AL061118-1

Client sample ID			2003.MW6. GW		2003.MW8. GW	
Lab ID	MRL	Unit	MTH BLK	LCS	18-AL0608-3-1	18-AL0608-3-2
Matrix			Water	Water	Water	Water
Date Analyzed			6/11/2018	6/11/2018	6/11/2018	6/11/2018
Chlorobenzene	0.5	ug/L	nd	88%	nd	nd
1,1,1,2-Tetrachloroethane	0.5	ug/L	nd		nd	nd
Ethyl benzene	0.5	ug/L	nd		nd	nd
m,p-Xylenes	0.4	ug/L	nd		nd	nd
Styrene	0.5	ug/L	nd		nd	nd
o-Xylene	0.5	ug/L	nd		nd	nd
Bromoform	1.0	ug/L	nd		nd	nd
Isopropyl benzene	0.5	ug/L	nd		nd	nd
1,2,3-Trichloropropane	0.5	ug/L	nd		nd	nd
Bromobenzene	0.5	ug/L	nd		nd	nd
1,1,2,2-Tetrachloroethane	0.5	ug/L	nd		nd	nd
n-Propylbenzene	0.5	ug/L	nd		nd	nd
2-Chlorotoluene	0.5	ug/L	nd		nd	nd
4-Chlorotoluene	0.5	ug/L	nd		nd	nd
1,3,5-Trimethylbenzene	0.5	ug/L	nd		nd	nd
tert-Butylbenzene	0.5	ug/L	nd		nd	nd
1,2,4-Trimethylbenzene	0.5	ug/L	nd		nd	nd
sec-Butylbenzene	0.5	ug/L	nd		nd	nd
1,3-Dichlorobenzene	0.5	ug/L	nd		nd	nd
p-Isopropyltoluene	0.5	ug/L	nd		nd	nd
1,4-Dichlorobenzene	0.5	ug/L	nd		nd	nd
1,2-Dichlorobenzene	0.5	ug/L	nd		nd	nd
n-Butylbenzene	0.5	ug/L	nd		nd	nd
1,2-Dibromo-3-Chloropropane	2.0	ug/L	nd		nd	nd
Hexachlorobutadiene	2.0	ug/L	nd		nd	nd
1,2,4-Trichlorobenzene	2.0	ug/L	nd		nd	nd
Naphthalene	2.0	ug/L	nd		nd	nd
1,2,3-Trichlorobenzene	2.0	ug/L	nd		nd	nd

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12524 130th Lane NE
Kirkland WA 98034

Tel: (425) 214-5858
(425) 214-5868
Email: lisa@accu-lab.com
website: www.accu-lab.com

Analytical Report

Client	Advanced Analytical Laboratory 544 Ohohia Street #10 Honolulu, HI, 96819	Acculab WO# 18-AL0608-3
Project Manager	Uwe Baumgartner/ Elisa Young	Date Sampled 6/6/2018
Project Name	KAHULUI HARBOR PARCEL B	Date Received 6/8/2018
Client Project#	14-2003	Date Reported 6/13/2018
Project#	T346	

Volatiles in Water by EPA 8260C/5030B

Accu Lab Analytical Batch# AL061118-1

Client sample ID			2003.MW6. GW	2003.MW8. GW		
Lab ID	MRL	Unit	MTH BLK	LCS	18-AL0608-3-1	18-AL0608-3-2
Matrix			Water	Water	Water	Water
Date Analyzed			6/11/2018	6/11/2018	6/11/2018	6/11/2018

Surrogate Recoveries

Dibromofluoromethane	99%	100%	102%	100%
1,2-Dichloroethane-d4	76%	79%	81%	81%
Toluene-d8	91%	87%	89%	89%
4-Bromofluorobenzene	93%	90%	94%	91%

Acceptable Recovery Limits:

Surrogates/LCS	70-130%
MS/MSD	60-150%
Acceptable RPD limit:	30%



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Project Manager	Uwe Baumgartner/ Elisa Young	Date Sampled	6/6/2018
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Client Project#	14-2003	Date Reported	6/13/2018
Project#	T346		

Volatiles in Water by EPA 8260C/5030B

Accu Lab Analytical Batch# AL061118-1

Client sample ID	MRL	Unit	MS	MS	RPD
			DU-1	DU-1	DU-1
Lab ID			18-AL0608-1-1	18-AL0608-1-1	18-AL0608-1-1
Matrix			Liquid	Liquid	Liquid
Date Analyzed			6/11/2018	6/11/2018	6/11/2018
Chloromethane	1.0	ug/L			
Vinyl chloride	0.2	ug/L	103%	108%	5%
Bromomethane	1.0	ug/L			
Chloroethane	1.0	ug/L			
Trichlorofluoromethane	1.0	ug/L			
1,1-Dichloroethene	1.0	ug/L			
Methylene Chloride	5.0	ug/L			
Methyl t-butyl ether	0.5	ug/L			
trans-1,2-Dichloroethene	0.5	ug/L			
1,1-Dichloroethane	0.5	ug/L	122%	119%	2%
2,2-Dichloropropane	0.5	ug/L			
cis-1,2-Dichloroethene	0.5	ug/L			
Chloroform	0.5	ug/L			
1,1,1-Trichloroethane	0.5	ug/L			
Carbon tetrachloride	0.5	ug/L			
1,1-Dichloropropene	0.5	ug/L			
Benzene	0.5	ug/L	103%	101%	2%
1,2-Dichloroethane (EDC)	0.5	ug/L			
Trichloroethene	0.5	ug/L	115%	114%	1%
1,2-Dichloropropane	0.5	ug/L			
Dibromomethane	0.5	ug/L			
Bromodichloromethane	0.5	ug/L			
Toluene	0.5	ug/L	87%	86%	0.4%
1,1,2-Trichloroethane	0.5	ug/L			
Tetrachloroethene	0.5	ug/L	89%	87%	3%
1,3-Dichloropropane	0.5	ug/L			
Dibromochloromethane	0.5	ug/L			
1,2-Dibromoethane (EDB)	0.5	ug/L			

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Project Manager	Uwe Baumgartner/ Elisa Young	Date Sampled	6/6/2018
Project Name	KAHULUI HARBOR PARCEL B	Date Received	6/8/2018
Client Project#	14-2003	Date Reported	6/13/2018
Project#	T346		

Volatiles in Water by EPA 8260C/5030B

Accu Lab Analytical Batch# AL061118-1

Client sample ID	MRL	Unit	MS	MS	RPD
			DU-1	DU-1	DU-1
Lab ID			18-AL0608-1-1	18-AL0608-1-1	18-AL0608-1-1
Matrix			Liquid	Liquid	Liquid
Date Analyzed			6/11/2018	6/11/2018	6/11/2018

Chlorobenzene	0.5	ug/L	91%	95%	4%
1,1,1,2-Tetrachloroethane	0.5	ug/L			
Ethyl benzene	0.5	ug/L			
m,p-Xylenes	0.4	ug/L			
Styrene	0.5	ug/L			
o-Xylene	0.5	ug/L			
Bromoform	1.0	ug/L			
Isopropyl benzene	0.5	ug/L			
1,2,3-Trichloropropane	0.5	ug/L			
Bromobenzene	0.5	ug/L			
1,1,2,2-Tetrachloroethane	0.5	ug/L			
n-Propylbenzene	0.5	ug/L			
2-Chlorotoluene	0.5	ug/L			
4-Chlorotoluene	0.5	ug/L			
1,3,5-Trimethylbenzene	0.5	ug/L			
tert-Butylbenzene	0.5	ug/L			
1,2,4-Trimethylbenzene	0.5	ug/L			
sec-Butylbenzene	0.5	ug/L			
1,3-Dichlorobenzene	0.5	ug/L			
p-Isopropyltoluene	0.5	ug/L			
1,4-Dichlorobenzene	0.5	ug/L			
1,2-Dichlorobenzene	0.5	ug/L			
n-Butylbenzene	0.5	ug/L			
1,2-Dibromo-3-Chloropropane	2.0	ug/L			
Hexachlorobutadiene	2.0	ug/L			
1,2,4-Trichlorobenzene	2.0	ug/L			
Naphthalene	2.0	ug/L			
1,2,3-Trichlorobenzene	2.0	ug/L			

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Project Manager	Uwe Baumgartner/ Elisa Young	Date Sampled	6/6/2018
Project Name	KAHULUI HARBOR PARCEL B	Date Received	6/8/2018
Client Project#	14-2003	Date Reported	6/13/2018
Project#	T346		

Volatiles in Water by EPA 8260C/5030B

Accu Lab Analytical Batch# AL061118-1

Client sample ID	MRL	Unit	MS	MS	RPD
			DU-1	DU-1	DU-1
Lab ID			18-AL0608-1-1	18-AL0608-1-1	18-AL0608-1-1
Matrix			Liquid	Liquid	Liquid
Date Analyzed			6/11/2018	6/11/2018	6/11/2018

Surrogate Recoveries

Dibromofluoromethane	103%	100%
1,2-Dichloroethane-d4	86%	81%
Toluene-d8	88%	88%
4-Bromofluorobenzene	95%	93%

Acceptable Recovery Limits:

Surrogates/LCS	70-130%
MS/MSD	60-150%
Acceptable RPD limit:	30%



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Project Manager	Uwe Baumgartner/ Elisa Young	Date Sampled	6/6/2018
Project Name	KAHULUI HARBOR PARCEL B	Date Received	6/8/2018
Client Project#	14-2003	Date Reported	6/13/2018
Project#	T346		

PAHs in Water By 8270D/3010C GC/MS-SIM

Accu Lab Analytical Batch# AL060818-7

Client sample ID	2003.MW6. GW					2003.MW8. GW						
	Lab ID	MRL	Unit	MTH BLK	18-AL0608-3-1	18-AL0608-3-2	Lab ID	MRL	Unit	MTH BLK	18-AL0608-3-1	18-AL0608-3-2
Matrix				Water	Water	Water						
Date Extracted				6/8/2018	6/8/2018	6/8/2018						
Date Analyzed				6/11/2018	6/11/2018	6/11/2018						
Naphthalene	0.20	ug/L	nd	nd	nd	nd						
2-Methylnaphthalene	0.20	ug/L	nd	nd	nd	nd						
1-Methylnaphthalene	0.20	ug/L	nd	nd	nd	nd						
Acenaphthylene	0.05	ug/L	nd	nd	nd	nd						
Acenaphthene	0.10	ug/L	nd	nd	nd	nd						
Fluorene	0.05	ug/L	nd	nd	nd	nd						
Phenanthrene	0.05	ug/L	nd	nd	nd	nd						
Anthracene	0.05	ug/L	nd	nd	nd	nd						
Fluoranthene	0.05	ug/L	nd	nd	nd	nd						
Pyrene	0.05	ug/L	nd	nd	nd	nd						
Benzo(a)anthracene	0.025	ug/L	nd	nd	nd	nd						
Chrysene	0.10	ug/L	nd	nd	nd	nd						
Benzo(b)fluoranthene	0.10	ug/L	nd	nd	nd	nd						
Benzo(k)fluoranthene	0.10	ug/L	nd	nd	nd	nd						
Benzo(a)pyrene	0.025	ug/L	nd	nd	nd	nd						
Indeno(1,2,3-cd)pyrene	0.095	ug/L	nd	nd	nd	nd						
Dibenzo(a,h)anthracene	0.10	ug/L	nd	nd	nd	nd						
Benzo(ghi)perylene	0.10	ug/L	nd	nd	nd	nd						

Surrogate Recoveries

2-Fluorobiphenyl	89%	89%	86%
Terphenyl-d14	71%	68%	68%

Acceptable Recovery Limits:

Surrogates/LCS 45-150%

MS/MSD 45-150%

Acceptable RPD Limit: 30%

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Analytical Report

Client	Advanced Analytical Laboratory 544 Ohohia Street #10 Honolulu, HI, 96819	Acculab WO#	18-AL0608-3
Project Manager	Uwe Baumgartner/ Elisa Young	Date Sampled	6/6/2018
Project Name	KAHULUI HARBOR PARCEL B	Date Received	6/8/2018
Client Project#	14-2003	Date Reported	6/13/2018
Project#	T346		

PAHs in Water By 8270D/3010C GC/MS-SIM

Accu Lab Analytical Batch# AL060818-7

Client sample ID	MRL	LCS/MS	DUP LCS/MS	RPD LCS/MS
Lab ID				
Matrix		Water	Water	Water
Date Extracted		6/8/2018	6/8/2018	6/8/2018
Date Analyzed		6/11/2018	6/11/2018	6/11/2018

Naphthalene	0.20	98%	101%	3%
2-Methylnaphthalene	0.20	97%	88%	10%
1-Methylnaphthalene	0.20	91%	93%	3%
Acenaphthylene	0.05	73%	83%	13%
Acenaphthene	0.10	73%	91%	22%
Fluorene	0.05	67%	85%	24%
Phenanthrene	0.05	92%	92%	0%
Anthracene	0.05	89%	87%	2%
Fluoranthene	0.05	89%	88%	2%
Pyrene	0.05	83%	82%	1%
Benzo(a)anthracene	0.025	94%	92%	2%
Chrysene	0.10	94%	96%	2%
Benzo(b)fluoranthene	0.10	65%	75%	15%
Benzo(k)fluoranthene	0.10	63%	74%	17%
Benzo(a)pyrene	0.025	72%	71%	1%
Indeno(1,2,3-cd)pyrene	0.095	145%	140%	4%
Dibenzo(a,h)anthracene	0.10	113%	111%	2%
Benzo(ghi)perylene	0.10	101%	101%	0%

Surrogate Recoveries

2-Fluorobiphenyl	118%	85%
Terphenyl-d14	91%	90%

Acceptable Recovery Limits:

Surrogates/LCS	45-150%
MS/MSD	45-150%
Acceptable RPD Limit:	30%



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Analytical Report

Client	Advanced Analytical Laboratory 544 Ohohia Street #10 Honolulu, HI, 96819	Acculab WO#	18-AL0608-3
Project Manager	Uwe Baumgartner/ Elisa Young	Date Sampled	6/6/2018
Project Name	KAHULUI HARBOR PARCEL B	Date Received	6/8/2018
Client Project#	14-2003	Date Reported	6/13/2018
Project#	T346		

Metals in Water by EPA 6020B/EPA3005A

Accu Lab Analytical Batch# AL061118-2

Client sample ID	MRL	Unit	MTH BLK	LCS	2003.MW6.	2003.MW8.	MS	MSD	RPD
					GW	GW	302711-01- water-03	302711-01- water-03	302711-01- water-03
Lab ID					18-AL0608-3-1	18-AL0608-3-2	18-AL0608-2-2	18-AL0608-2-2	18-AL0608-2-2
Matrix			Diss. Water	Diss. Water	Diss. Water	Diss. Water	Total Water	Total Water	Total Water
Date Prepared			6/11/2018	6/11/2018	6/11/2018	6/11/2018	6/11/2018	6/11/2018	6/11/2018
Date Analyzed			6/11/2018	6/11/2018	6/11/2018	6/11/2018	6/11/2018	6/11/2018	6/11/2018
Arsenic (As)	2.0	ug/L	nd	99%	5.1	5.6	113%	115%	2%
Barium (Ba)	2.0	ug/L	nd	99%	13	14	M	M	
Cadmium (Cd)	1.0	ug/L	nd	101%	nd	nd	102%	102%	0%
Chromium (Cr)	2.0	ug/L	nd	105%	3.2	3.5	112%	116%	3%
Lead (Pb)	1.0	ug/L	nd	104%	nd	nd	102%	104%	2%
Selenium (Se)	2.0	ug/L	nd	102%	3.6	7.9	93%	101%	7%
Silver (Ag)	1.0	ug/L	nd	103%	nd	nd	92%	106%	15%
Mercury (Hg)	0.2	ug/L	nd	118%	nd	nd	75%	87%	14%

Acceptable Recovery Limits:
LCS 80-120%
MS/MSD 75-125%
Acceptable RPD limit: 20%



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Project Manager	Uwe Baumgartner/ Elisa Young	Date Sampled	6/6/2018
Project Name	KAHULUI HARBOR PARCEL B	Date Received	6/8/2018
Client Project#	14-2003	Date Reported	6/13/2018
Project#	T346		

Data Qualifiers and Comments:

- MRL-** Method Reporting Limit
- nd-** Indicates the analyte is not detected at the listing reporting limit.
- C-** Coelution with other compounds.
- M-** % Recovery of surrogate, MS/MSD is out of the acceptable limit due to matrix effect.
- B-** Indicates the analyte is detected in the method blank associated with the sample.
- J-** The analyte is detected at below the reporting limit.
- E-** The result reported exceeds the calibration range, and is an estimate.
- D-** Sample required dilution due to matrix. Method Reporting Limits were elevated due to dilutions.
- H-** Sample was received or analyzed past holding time
- Q-** Sample was received with head space, improper preserved or above recommended temperature.
- I-** Due to insufficient sample, LCS/LCS DUP were analyzed in place of MS/MSD.
- R-** The recovery of this analyte in QC sample failed high, but the analyte was not detected in all related samples. No action was taken.
- R-1-** The RPD value for the MS/MSD was outside of QC acceptance limits however both recoveries were acceptable. All related samples were "nd". No action was taken.

DRAFT

APPENDIX 8
DISPOSAL DOCUMENTATION

NON-HAZARDOUS WASTE MANIFEST (HC&S form Rev. 11/95)		1. Manifest Document Number NH-07082015C		2. Page 1 of 1		
3. Generator's Name and Mailing Address: Kahului Trucking and Storage, Inc. 140 Hobron Avenue Kahului, HI 96732			5. Designated Facility Name and Address Maalaea Construction and Demolition Landfill North Kihei Road Kihei, Hawaii 96753			
4. Generator's Phone (808) 877-5001			6. Facility's Phone (808) 242-1101			
7. Transporter 1 Company Name and Phone Kahului Trucking and Storage, Inc. (808) 877-5001						
8. Transporter 2 Company Name and Phone N/A						
9. Transporter 3 Company Name and Phone N/A						
	HAZ	10. Waste Description/U.S. DOT Shipping Name	11. Containers No. Type		12. Total Quantity	13. Unit Wt./Vol.
a.		Petroleum-contaminated soil	1	TT	71.38	CY
b.						
c.						
14. Additional Descriptions for Materials Listed Above						
15. Special Handling Instructions and Additional Information For burial in compliance with the facility's PCS disposal plan.						
16. Generator's Certification: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name (where applicable) and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway and/or water according to applicable government regulations.						
Printed/Typed Name Joy Yokoyama		Signature <i>Joy Yokoyama</i>		Date 01/07/2016		
17. Discrepancy Indication Space Certificate # 159885-2381 tons - KTS 89 Certificate # 159893-2591 tons - KTS 89 Certificate # 159898-2126 tons - KTS 89						
18. Facility Owner or Operator Certification of receipt of materials covered by this manifest except as noted in Item 17						
Printed/Typed Name Dixie L. Deloitte		Signature <i>Dixie L. Deloitte</i>		Date 1-7-16		

FACILITY OWNER OR OPERATOR: PLEASE SEND COPY OF SIGNED MANIFEST TO GENERATOR WITHIN 30 DAYS



ALEXANDER & BALDWIN, INC.

May 26, 2015

Mr. Glenn Wilbourn
Kahului Trucking and Storage, Inc.
Via email: gwilbourn@ktsmaui.com

Subject: Disposal of Petroleum Contaminated Soil from Kahului Trucking and Storage, Inc. Facility, 140 Hobron Avenue Kahului (approximately 30 cubic yards)

Dear Mr. Wilbourn:

On behalf of A&B Properties, Inc. (A&B Properties), a division of Alexander & Baldwin, LLC (A&B), this letter responds to your request to dispose of approximately 30 cubic yards of petroleum-contaminated soil (PCS) generated from cleanup of various petroleum spills at the Kahului Trucking and Storage, Inc. facility in Kahului. Based on the laboratory results provided, A&B does not object to acceptance of this waste by the Maui Demolition and Construction Landfill, provided that the waste generator agrees to and complies with all of the following conditions:

- (1) The PCS has also been reviewed and approved for disposal by the landfill operator's environmental consultant; and
- (2) Your consultant or the landfill operator have obtained any additional approvals from the Department of Health that may be required to allow disposal of PCS containing total petroleum hydrocarbons (TPH) as oil in excess of the limit (500 ppm) specified in the landfill's current solid waste management permit; and
- (3) You have confirmed with the landfill operator that disposal shall comply with applicable conditions of the landfill's solid waste management permit and PCS Plan; and
- (4) The generator of the waste has conducted a hazardous waste determination and determined and certified that the waste is not regulated as a hazardous waste; and
- (5) The generator of the waste has determined and certified that the waste does not contain detectable levels of PCBs or asbestos; and
- (6) The generator acknowledges and agrees that he/she retains strict liability under state and federal environmental response laws for any future release of petroleum or other hazardous substances from this waste into the environment, including groundwater, at the landfill.

This landowner clearance does not constitute final approval to dispose of PCS in the landfill. The generator is responsible for obtaining all required approvals for such disposal, and for ensuring that such disposal complies with applicable state and federal laws and regulations. Further, this landowner clearance applies only to the approximately 30 cubic yards of PCS actually represented by the analytical data provided with the completed Soil Profile Sheet. Disposal of any additional PCS at the landfill will require additional case-by-case review by A&B in addition to any profiling requirements at the landfill. No PCS is permitted to be accepted by the landfill without prior review and consent by A&B.

Please sign this letter certifying agreement to and compliance with all of the above conditions. A copy of the signed acknowledgement and certification must be returned to me (by email or fax, and by U.S. Mail) and to the landfill's consultant prior to the disposal of the subject PCS in the landfill. Landowner consent is expressly contingent upon receipt of the signed certification.

Kahului Trucking and Storage, Inc.
Disposal of PCS at Maui Demolition and Construction Landfill
May 26, 2015; Page 2 of 2

Feel free to contact me at (808) 877-2959 if you have any questions.

Sincerely,



Sean M. O'Keefe
Director, Environmental Affairs
Alexander & Baldwin, LLC

cc: G. Chun, J. Hernandez, K. Luke

Generator Acknowledgement and Certification

I hereby acknowledge and certify that I have read, understand, agree to, and have complied with all of the above conditions.

Signature:  Date: 5/26/15

Name: Glenn M. Wilbourn

Title: Executive Vice President, General Manager

Generator Name: Kahului Trucking & Storage, Inc

MA'ALAEA LANDFILL FACILITY
Soil Profile Sheet

1. Soil Generator Information

a. Generator Name: Kahului Trucking & Storage
 b. Generator Address: 140 Hobron Avenue, Kahului, HI 96732 c. Zip Code: 96732
 d. Address of Soil Generation: 140 Hobron Avenue, Kahului, HI 96732
 e. Address of Soil Storage (if different from source address) _____
 f. Type of Facility Soil Has Been Generated From: Trucking and Storage Facility
 g. State DOI Facility ID#: HIR000074492
 h. Contact: Sean O'Keefe i. Phone: (808) 283-8907

2. Soil Information

a. Name of Contaminant(s): Petroleum Contaminated Soil
 b. Amount of Soil (tons and/or cubic yards) 30 Cubic Yards
 c. Type of Soil: Petroleum Contaminated Soil
 d. Soil Moisture: Wet: _____ Damp: _____ Dry: X
 e. Soil Color (Munsell Color Chart Code if available) Various
 f. Strong incidental odor? No X Yes _____ Describe: _____
 g. pH 5-9
 h. Is the soil ignitable? Yes _____ No X

i. Describe the circumstances by which the soil has been generated.
Cleanup of spills/leaks from equipment at the Kahului Trucking & Storage maintenance shop yard. Spills/leaks may include used automotive oils, diesel fuel, and/or gasoline from leaking vehicles.

3. Transportation Information

a. Method of Shipment: Bulk Solid X Drum/Box _____ Other _____
 b. Transportation Company: Kahului Trucking & Storage
 c. Is this a U. S. Department of Transportation (USDOT) Hazardous Material? Yes ___ No X

4. Chemical Contaminants (Attach supplementary sheets if necessary)

	Range (Min-Max)	
a. Lube Oil Range Organics	0 - 1000	ppm.
b. Phenanthrene	0 - 0.10	ppm.
c. Fluoranthene	0 - 0.21	ppm.
d. Pyrene	0 - 0.21	ppm.
e. Total Lead	0 - 74	ppm.
f. See laboratory reports	-	ppm.
g. _____	-	ppm.
h. _____	-	ppm.
i. _____	-	ppm.

Attach copies of analytical reports and chain of custody documentation.
Attach a description of the soil sampling procedures.
Attach a site plan showing where the soil originated, and where samples were collected.

Continued

j. Does the soil contain any of the following (provide concentration if known)

PCBs	Yes _____ No <u>X</u> _____	_____ ppm
Cyanides	Yes _____ No _____	_____ ppm
Sulfides	Yes _____ No _____	_____ ppm
Asbestos	Yes _____ No _____	_____ %

k. Indicate method used to determine the presence or absence of items listed in section j.
Laboratory results were used to determine presence of PCBs. Waste was generated from spills/leaks from vehicles and no cyanides, sulfides, and asbestos were present in the generation.

l. Sampling Source(e.g., Drum, Pit, Pile, Insitu, etc.) Four (4) representative samples were collected from the stock pile and two (2) 55-gallon drums.

- m. Does the waste represented by this profile contain any of the carcinogens that require OSHA notification? Yes ___ No X
- n. Does the waste represented by this profile contain dioxins? Yes ___ No X (List in Section 4)
- o. Does the waste represented by this profile contain asbestos? Yes ___ No X If yes, friable ___ non-friable ___.
- p. Does the waste represented by this profile contain benzene? Yes ___ No X
- q. Is the waste subject to RCRA Subpart CC Controls? Yes ___ No X
- r. Does the waste contain any Class I or Class II ozone-depleting substances? (Freons) Yes ___ No X
- s. Does the waste contain debris? Yes ___ No X (List in Section 4)
- t. Personal Protective Equipment Requirements: Level D Protection
- u. Is this a state hazardous waste? Yes ___ No X (List, if yes)
- v. Is the Waste from a CERCLA or state mandated clean-up? Yes ___ No X (if yes, provide relevant documentation.)
- w. Does the waste represented by this waste profile contain concentrations of PCBs regulated by 40 CFR? Yes ___ No X
- x. Does the waste represented by waste profile contain radioactive material or disposal regulated by the NRC? Yes ___ No X
- y. Does the waste profile and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the contractor? Yes X No ___


5. Generator's or Representative's Certification

a. Print Sampler's Name: Kylie Luke b. Sample Date: 05/04/2015

c. Sampler's Title: Waste Management Supervisor

d. Sampler's Employer (if other than Generator): EnviroServices & Training Center, LLC

The sampler's signature certifies that any sample submitted is representative of the soil described above pursuant to the DOH Technical Guidance Manual for Underground Storage Tank Closure and Release Response (August 1992) and EPA SW-846.

e. Sampler's Signature: 

Continued

6. Generator Certification

By signing this soil profile sheet, the Generator certifies:

- a. This soil is not a "Hazardous Waste" as defined by EPA or the State of Hawaii.
- b. This waste does not contain regulated radioactive materials or regulated concentrations of PCBs (Polychlorinated Biphenyls).
- c. The statements and attachments contain true and accurate descriptions of the soil. All relevant information regarding known or suspected hazards in the possession of the Generator has been disclosed.
- d. The analytical data presented herein or attached hereto were derived from testing representative samples taken in accordance with the DOH Technical Guidance Manual for Underground Storage Tank Closure and Release Response (August 1992 and subsequent amendments/revisions) and EPA SW-846.
- e. If any changes occur in the character of the soil, the Generator shall notify a Ma'alaea Landfill representative immediately.

f. Signature *Glenn M. Wilbourn* g. Company Kahului Trucking & Storage
h. Name and Title Glenn M. Wilbourn Executive Vice President i. Date 5/26/15
& General Manager Inc

7. Ma'alaea Landfill Waste Disposal Decision (For Ma'alaea Landfill Use Only)

- a. Waste Disposal Decision Accepted Rejected
- b. Disposal Method Landfill
- c. Precautions, Special Handling Procedures, or Limitations on Approval: _____
- d. Clearance No. _____ Date: _____
- e. Reviewed by _____ Date: _____
- f. Approved by _____ Date: _____
- g. Forwarded to DOH: _____ Date: _____

Additional Information for Contaminated Soil Reviews

1. Is this a hazardous waste (RCRA C)? Yes No
2. Does this waste contain heavy metals? Yes No
 If yes, explain & identify Laboratory results indicate total lead at 74ppm. TCLP Lead results were not detected.
3. Does the waste contain PCBs? Yes No
 If yes, explain _____
4. Is the waste a TSCA waste? Yes No
 If yes, explain & identify _____
5. Is the waste a CERCLA waste? Yes No
 If yes, explain & identify _____
6. Regulatory agency & Contact _____
7. Generator Kahului Trucking & Storage
8. Type of Contamination Petroleum Contaminated Soil
9. Consultant Name & Number Kylie Luke Phone Number: 808-839-7222 ext. 253

10. Review report attached

If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Sheet and additionally attached sheets from information provided by the generator and additional information as it has determined to be reasonably necessary.

Certification Signature: *Kylie Luke* Title: Waste Management Supervisor
 Name (Type or Print): Kylie Luke Company: EnviroServices Date: 05/19/15

Submittal Instructions

- The following are the items that should be in any review report, in the order noted.
1. List of regulatory agencies and regulations applicable to the project. Include Names and contact information (phone numbers) for all agencies involved for follow up.
 2. Contact information: generator, type of contamination, and site history in narrative form.
 3. Consultant information (i.e. Names, phone numbers) include the consultant that did the original investigation and subsequent investigations.
 4. Report format for technical information.
 - A. Background information for site and processes.
 - B. Summary of investigative action. Including sampling and testing information pertinent to disposal.
 - C. Summary of remedial actions and how material being disposed was generated.
 - D. Rational for the determination that material is solid waste this should be based on applicable regulations.
 - E. Site location maps and site drawings.
 - F. Summary table of test data.
 - G. Laboratory data.

Actions Taken

Date _____
 Accepted _____ Rejected _____
 Reason for rejection _____

Sampling Procedures

On 05/04/2015, Kylie Luke (EnviroServices & Training Center) collected four (4) representative soil samples into 500ml jars (total 4 jars). ETC directed ESN Pacific to composite the 4 samples in the laboratory and analyze the sample for total lead and cadmium, TCLP lead, cadmium, and chromium, PAHs, PCBs, TPH fuel scan, and HVOCs.



Environmental Services Network

May 13, 2015

Kylie Luke
EnviroServices & Training Center
505 Ward Ave. Ste 202
Honolulu, HI 96814

SUBJECT: DATA REPORT – KT&S

ESN Project # D1505050193

Mr. Luke:

Please find enclosed a data report for the samples analyzed from the above referenced project for EnviroServices & Training Center. The samples were received intact. Applicable detection limits, QA/QC data, and any issues encountered during analysis are included in the report.

The following tests were conducted:

- Analyses for aromatic volatile organics by EPA 8260.
- Analyses for chlorinated volatile organics by EPA 8260.
- Quantitative analyses for TPH fuel scan (C5-C40) by EPA 8015 mod.
- Analyses for polychlorinated biphenyls by EPA 8082 mod.
- Analyses for polynuclear aromatic hydrocarbons by EPA 8270.
- Analyses for total Pb and Cd by EPA 6020.
- Analyses for TCLP Pb, Cd, and Cr by EPA 1311/6020.

ESN appreciates the opportunity to have provided analytical services to EnviroServices & Training Center on this project. If you have any further questions relating to the data or report, please do not hesitate to contact us.

Sincerely,

A handwritten signature in cursive script that reads 'Karen Carvallo'.

Karen Carvallo
Operations Manager
ESN Pacific
212 Mohonua Place, Unit C-2
Honolulu, HI 96819
Ph: (808) 847-0067
esn@esnpacific.com



Environmental Services Network

EnviroServices & Training Center
KT&S

ESN Project #D1505050193

PCB ANALYSES OF SOILS BY EPA 8082 MODIFIED

SAMPLE NUMBER	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	PCB-1016 (mg/kg)	PCB-1221 (mg/kg)	PCB-1232 (mg/kg)	PCB-1242 (mg/kg)	PCB-1248 (mg/kg)	PCB-1254 (mg/kg)	PCB-1260 (mg/kg)	SURROGATE RECOVERY(%)	FLAGS
Method Blank		5/12/2015	5/12/2015	nd	nd	nd	nd	nd	nd	nd	83%	
KTS-01-04 Comp.	5/4/2015	5/12/2015	5/12/2015	nd	nd	nd	nd	nd	nd	nd	84%	
KTS-01-04 Comp. Dup	5/4/2015	5/12/2015	5/12/2015	nd	nd	nd	nd	nd	nd	nd	81%	
PQL / MDL				0.10	0.20	0.20	0.05	0.05	0.05	0.05		
2005 HI DOH EAL				1.10	1.10	1.10	1.10	1.10	1.10	1.10		

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (TCMX): 65% - 135%

QA/QC DATA - LABORATORY CONTROL SPIKE ANALYSES

Spike Added 1.00
Measured Conc. 1.00
% Recovery 99.6%

QA/QC DATA - MATRIX SPIKE ANALYSES

Sample Name: 0193 KTS01-04 Comp.

Spike Added 1.00
Measured Conc. 0.92
% Recovery 92.4%

Spike Added 1.00
Measured Conc. 0.86
% Recovery 85.9%

RPD 7.2%

% Recovery LIMITS: 80% TO 120%
RPD LIMIT: 20%

ANALYSES PERFORMED AND REVIEWED BY : K. Cervallo

ESN NORTHWEST CHEMISTRY LABORATORY

EnviroServices & Training Center
 PROJECT KT&S
 ESN PROJECT #D1505050193
 Hawaii

ESN Northwest
 1210 Eastside Street SE Suite 200
 Olympia, WA 98501
 (360) 459-4670 (360) 459-3432 Fax
 lab@esnvw.com

Fuel Scan Analysis of Soil by Method 8015 Modified

Sample Number	Date Prepared	Date Analyzed	Gasoline-Surrogate Recovery (%)	Diesel-Surrogate Recovery (%)	Gasoline Range Organics (mg/kg)	Diesel Range Organics (mg/kg)	Lube Oil Range Organics (mg/kg)
Method Blank	5/8/2015	5/8/2015	109	87	nd	nd	nd
LCS	5/8/2015	5/8/2015	97	107	92%	120%	---
KTS.01-04 Comp.	5/7/2015	5/8/2015	92	83	nd	nd	1000
Reporting Limits							
					20	50	100

"---" Indicates not tested for component.

"nd" Indicates not detected at listed detection limits.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

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EnviroServices & Training Center
PROJECT KT&S
ESN PROJECT #D1505050193
Hawaii

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnw.com

Analysis of BTEX in Soil by Method 8260/5035

Sample Number	Date Prepared	Date Analyzed	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Surrogate Recovery (%)
Method Blank	5/12/2015	5/12/2015	nd	nd	nd	nd	109
LCS	5/12/2015	5/12/2015	108%	89%	96%	95%	87
LCSD	5/12/2015	5/12/2015	105%	84%	89%	90%	86
KTS.01-04 Comp.	5/7/2015	5/12/2015	nd	nd	nd	nd	92
Reporting Limits			0.02	0.05	0.05	0.15	

"nd" Indicates not detected at the listed detection limits.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Bromofluorobenzene) & LCS : 65% TO 135%

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EnviroServices & Training Center
 PROJECT KT&S
 ESN PROJECT #D1505050193
 Hawaii

ESN Northwest
 1210 Eastside Street SE Suite 200
 Olympia, WA 98501
 (360) 459-4670 (360) 459-3432 Fax
 lab@esnnw.com

Analysis of Polynuclear Aromatic Hydrocarbons in Soil by Method 8270

	RL	MB	LCS	KTS.01-04 Comp.
Date extracted		05/12/15	05/12/15	05/12/15
Date analyzed		05/12/15	05/12/15	05/12/15
Moisture, %	(mg/kg)			4%
Naphthalene	0.02	nd	84%	nd
2-Methylnaphthalene	0.02	nd	93%	nd
1-Methylnaphthalene	0.02	nd	---	nd
Acenaphthylene	0.02	nd	95%	nd
Acenaphthene	0.02	nd	88%	nd
Fluorene	0.02	nd	103%	nd
Phenanthrene	0.02	nd	82%	0.10
Anthracene	0.02	nd	94%	nd
Fluoranthene	0.02	nd	108%	0.21
Pyrene	0.02	nd	102%	0.21
Benzo(a)anthracene*	0.02	nd	89%	nd
Chrysene*	0.02	nd	83%	nd
Benzo(b)fluoranthene*	0.02	nd	75%	nd
Benzo(k)fluoranthene*	0.02	nd	70%	nd
Benzo(a)pyrene*	0.02	nd	67%	nd
Indeno(1,2,3-cd)pyrene*	0.02	nd	88%	nd
Dibenzo(a,h)anthracene*	0.02	nd	93%	nd
Benzo(ghi)perylene	0.02	nd	93%	nd
Total Carcinogens				nd
Surrogate recoveries:				
2-Fluorobiphenyl		100%	90%	103%
p-Terphenyl-d14		102%	101%	62%

Data Qualifiers and Analytical Comments

* - Carcinogenic Analyte

"---" Indicates not tested for component.

"nd" Indicates not detected at listed detection limits.

Results reported on dry-weight basis

Acceptable Recovery limits: 50% TO 150%

Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

EnviroServices & Training Center
PROJECT KT&S
ESN PROJECT #D1505050193
Hawaii

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RI.	MB	LCS	L.CSD	KTS.01-04 Comp.
Date extracted		05/12/15	05/12/15	05/12/15	05/07/15
Date analyzed	(mg/Kg)	05/12/15	05/12/15	05/12/15	05/12/15
% Moisture					3.9%

Dichlorodifluoromethane	0.05	nd			nd
Chloromethane	0.05	nd			nd
Vinyl chloride	0.02	nd	91%	85%	nd
Bromomethane	0.05	nd			nd
Chloroethane	0.05	nd			nd
Trichlorofluoromethane	0.05	nd			nd
1,1-Dichloroethene	0.05	nd	84%	72%	nd
Methylene chloride	0.05	nd			nd
trans-1,2-Dichloroethene	0.05	nd			nd
1,1-Dichloroethane	0.05	nd			nd
cis-1,2-Dichloroethene	0.05	nd			nd
2,2-Dichloropropane	0.05	nd			nd
Chloroform	0.05	nd	103%	102%	nd
Bromochloromethane	0.05	nd			nd
1,1,1-Trichloroethane	0.05	nd			nd
1,2-Dichloroethane (EDC)	0.05	nd			nd
1,1-Dichloropropene	0.05	nd			nd
Carbon tetrachloride	0.05	nd			nd
Trichloroethene (TCE)	0.02	nd	92%	92%	nd
1,2-Dichloropropane	0.05	nd	89%	85%	nd
Dibromomethane	0.05	nd			nd
Bromodichloromethane	0.05	nd			nd
cis-1,3-Dichloropropene	0.05	nd			nd
trans-1,3-Dichloropropene	0.05	nd			nd
1,1,2-Trichloroethane	0.05	nd			nd
1,3-Dichloropropane	0.05	nd			nd
Dibromochloromethane	0.05	nd			nd
Tetrachloroethene (PCE)	0.02	nd	89%	87%	nd
1,2-Dibromoethane (EDB)	0.05	nd			nd
Chlorobenzene	0.05	nd	89%	85%	nd
1,1,1,2-Tetrachloroethane	0.05	nd			nd
Bromoform	0.05	nd			nd
1,1,2,2-Tetrachloroethane	0.05	nd			nd
1,2,3-Trichloropropane	0.05	nd			nd
Bromobenzene	0.05	nd			nd
2-Chlorotoluene	0.05	nd			nd
4-Chlorotoluene	0.05	nd			nd
1,3-Dichlorobenzene	0.05	nd			nd
1,4-Dichlorobenzene	0.05	nd			nd
1,2-Dichlorobenzene	0.05	nd			nd
1,2-Dibromo-3-Chloropropane	0.05	nd			nd
1,2,4-Trichlorobenzene	0.05	nd			nd
Hexachloro-1,3-butadiene	0.05	nd			nd
1,2,3-Trichlorobenzene	0.05	nd			nd

Surrogate recoveries

Dibromofluoromethane	118%	102%	109%	106%
Toluene-d8	98%	94%	93%	101%
4-Bromofluorobenzene	109%	87%	86%	92%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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 PROJECT KT&S
 ESN PROJECT #D1505050193
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Total Metals in Soil by EPA-6020 Series

Sample Number	Date Analyzed	Lead (Pb) (mg/kg)	Cadmium (Cd) (mg/kg)
Method Blank	5/11/2015	nd	nd
KTS.01-04 Comp.	5/11/2015	74	nd
Reporting Limits		5.0	1.0

"nd" Indicates not detected at the listed detection limits.

QA/QC Data - Total Metals EPA-6020

Sample Number: QC Batch							
	Matrix Spike			Matrix Spike Duplicate			RPD (%)
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	
Lead	90.1	94.5	105	99.0	106	107	2.1
Cadmium	90.1	97.2	108	99.0	107	108	0.2

Laboratory Control Sample			
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)
Lead	100	113	113
Cadmium	100	112	112

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 80%-120%
 ACCEPTABLE RPD IS 35%

ESN NORTHWEST CHEMISTRY LABORATORY

EnviroServices & Training Center
 PROJECT KT&S
 ESN PROJECT #D1505050193
 Hawaii

ESN Northwest
 1210 Eastside Street SE Suite 200
 Olympia, WA 98501
 (360) 459-4670 (360) 459-3432 Fax
 lab@esnnw.com

TCLP Metals in Soil by EPA-Method 1311/6020

Sample Number	Date Analyzed	Lead (Pb) (mg/L)	Cadmium (Cd) (mg/L)	Chromium (Cr) (mg/L)
Method Blank	5/13/2015	nd	nd	nd
KTS.01-04 Comp.	5/13/2015	nd	nd	nd
KTS.01-04 Comp. Dup.	5/13/2015	nd	nd	nd
Method Detection Limits		0.20	0.20	0.20

"nd" Indicates not detected at listed detection limits.

QA/QC Data - TCLP Metals EPA-Method 1311/6020

Sample Number:	Date Analyzed	Lead (Pb) (mg/L)	Cadmium (Cd) (mg/L)	Chromium (Cr) (mg/L)
Matrix Spike Level		1.00	1.00	1.00
Sample + Matrix Spike	5/13/2015	1.16	1.04	1.16
Percent Recovery (%)		116	104	116
Method Detection Limits		0.20	0.20	0.20

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 80%-120%
 ACCEPTABLE RPD IS 35%

**Sample Preparation Information for
 Toxicity Characteristic Leaching
 Procedure (TCLP) by EPA Method 1311**

Sample Number: KTS.01-04 Comp.
 No. of Extractions: 1
 Type of Extraction: Rotary
 Extraction Fluid: #1
 Date Extracted: 5/12/2015

O'Keefe, Sean at HCS

From: Kihara, Kevin <Kevin.Kihara@doh.hawaii.gov>
Sent: Friday, May 29, 2015 10:11 AM
To: kylie@gotoetc.com
Cc: Ichinotsubo, Lene K; latteinc@hotmail.com; mdcl@maui.net; O'Keefe, Sean at HCS
Subject: KT&S Request For Petroleum Contaminated Soil to Maalaea Landfill

Kylie,

I am responding to the e-mail sent on May 28, 2015 to Janice and Lene.

Your request to dispose of approximately 30 cubic yards of Petroleum Contaminated Soil (PCS) generated from cleanup of petroleum spills at the Kahului Trucking and Storage, Inc. facility in Kahului at the Maui Demolition and Construction Landfill in Maalaea has been approved.

This approval is based on the lab results of the contaminated soil provided as an attachment to the May 28, 2015 e-mail, and that the reported total petroleum hydrocarbon (TPH) concentration of 1,000 parts per million (ppm) is less than the 2,000 ppm limit in the July 19, 2005 addendum to the PCS Disposal Plan for the subject landfill. I will add this e-mail to the project file to document the approval.

If you have any questions regarding this matter, please call or e-mail to discuss.

Kevin Kihara
Hawaii Department of Health
Solid and Hazardous Waste Branch
(808) 586-4226
kevin.kihara@doh.hawaii.gov

From: Kylie Luke [mailto:kylie@gotoetc.com]
Sent: Thursday, May 28, 2015 11:13 AM
To: 'ifumimoto@doh.hawaii.gov'; 'lene.ichinotsubo@doh.hawaii.gov'
Subject: KT&S Request For Petroleum Contaminated Soil to Maalaea Landfill

Janice/Lene

My name is Kylie Luke (EnviroServices & Training Center) and I'm the consultant for Kahului Trucking & Storage (KT&S). I'm currently in the process of obtaining approval from Maalaea Maui Demolition & Construction Landfill to dispose of 30 yards of petroleum contaminated soil (PCS) generated by KT&S.

After speaking with Joseph Hernandez (Maalaea's consultant) he informed me that since TPH-O concentrations of 1,000 ppm was above the landfill's permitted acceptance levels, I need to get approval from the DOH SHWB.

I have attached the profile and also letter from landfill stating that they will accept the 30 yards of PCS. Can you please let me know if there is any other information you need?

Thanks

Kylie

APPENDIX C
Kahului Harbor, Historic Resources Evaluation



Kahului Harbor

Historic Resources Evaluation

Mason Architects, Inc.

May 2018

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INTRODUCTION

The Hawaii Department of Transportation (HDOT) is considering the acquisition of several abandoned and/or underutilized structures in Kahului to make way for future harbor improvements, and some of the structures are planned for demolition. This inventory survey report was prepared by Mason Architects, Inc. (MAI) to identify, inventory, and evaluate the buildings in the vicinity of the proposed harbor improvements under Section 6E-8 of the Hawaii Revised Statutes (HRS) and its governing Hawaii Administrative Rules (HAR). Some buildings included in the survey are not part of the proposed acquisition, but are included because of a common history.

Prior to implementing any demolition, the agency intends to coordinate directly with Maui County, the State Historic Preservation Division (SHPD). If a federal action (such as federal funding, permit, etc.) is identified as part of the project, HDOT will separately address Section 106 of the National Historic Preservation Act of 1966 (NHPA) and Section 4(F) of the U.S. Department of Transportation (DOT) Act of 1966.

INVENTORY SURVEY DESCRIPTION

MAI, under the direction of EKNA Services, was contracted to inventory and evaluate seventeen structures for their historic significance under the National Register Criteria. This report is the summary of the archival research and field work conducted to assess the historic significance of all seventeen structures,

¹ The nomination form for this proposed district was developed by the State Historic Preservation Division as part of a 1974 statewide

with special notations for eleven structures currently planned for demolition.

This survey was not scoped to establish boundaries for a potential historic district at Kahului Harbor. However, if a historic district were to be proposed in the future for the Kahului harbor area, a number of the properties surveyed under this project would be included as contributing elements. These include a concentration of 9 resources that fall within the National Register Data Categories for the Commerce and Transportation Areas of Significance. The 9 structures are the Molasses Storage Tanks 1-3, Storage tanks 5 & 6, Pump house, the Roundhouse, Auto truck garage and repair shop, and Truck repair bays. These are united historically by their development as parts of an industrial complex at the harbor and represent an important part of the history of Kahului and Maui.

A comprehensive survey would need to be undertaken of the overall harbor area to identify an accurate district boundary, and the appropriate contributing and non-contributing resources to the district. This work would be in conjunction with the existing "Kahului Historic District," which is not a formally designated historic district, but is registered under State of Hawaii Inventory of Historic Places' (SIHP) Site 1607.¹

METHODOLOGY

Initial documentary research was performed in Honolulu, prior to fieldwork. Cultural survey reports, Historic American Buildings Survey (HABS), environmental reports, archival newspaper articles, archival maps, and photographs were referenced to understand the historical background of the

inventory, and covers the central, coastal section of the town of Kahului. It is not on the State or National Register of Historic Places.

Kahului Harbor area and the historical significance of the structures.

On-site field investigations were conducted the week of February 11, 2013. Arrangements were made with the current owner, Alexander & Baldwin, and all of the buildings were surveyed in their current condition. The National Register of Historic Places (NRHP) criteria were applied to each building to evaluate historic significance.

PERSONNEL

Joy Davidson, AIA, a historical architect with Mason Architects Inc., performed the documentary research, performed the field survey, and co-wrote the first draft of the survey. Ms. Davidson received a Doctorate in Architecture and a Masters Certificate in Historic Preservation from the University of Hawaii in 2002. Historian Dee Ruzicka co-authored the report, and performed additional historical research. Dee Ruzicka received his M.A. in American Studies with a specialization in Historic Preservation from the University of Hawaii in 1999 and has been with MAI for over 15 years. Polly Tice, Research Section Director and architectural historian, reviewed the findings and edited the draft and final reports. Ms. Tice received her M.S. in Historic Preservation from Columbia University in 2003. Both Mr. Ruzicka and Ms. Tice meet the Secretary of the Interior's Professional Qualification Standards for architectural history.

² The nomination form for this proposed district was developed by the State Historic Preservation Division as part of a 1974 statewide inventory, and covers the central, coastal section of the town of Kahului. It is not on the State or National Register of Historic Places.

PROPOSED PROJECT

DOT Harbors is proposing the acquisition of and improvements to the area shown on Figure 1 map in green. A total of eleven structures are proposed for demolition within this area. Previously designated or registered historic resources are located in the vicinity of this proposed project. These are:

- The "Kahului Historic District", which is not a formally designated historic district, but is registered under State of Hawaii Inventory of Historic Places' (SIHP) Site 1607;²
- Kahului Harbor, "which includes the piers, wharves, breakwaters, and associated structures that make up the active harbor facility,"³ was designated a historic property (Site 2953) by SHPD;
- The Kahului Railroad Administration Building, which was added to the National Register of Historic Places on May 17, 2016.

A total of seventeen buildings and structures were included in this inventory survey. These are listed in the Key/Table accompanying the map in Figure 2, and in more detail in the NRHP Summary Table on page 33. Descriptions and photographs are presented in the NRHP Evaluation section.

³ Welch, David, et al., Archaeological and Cultural Impact Assessment of Cultural Resources at Kahului Harbor, 2004. Page 17



Figure 1: Proposed Acquisition Area (green)

#	Current Name
1	Molasses storage tank
2	Molasses storage tank
3	Molasses storage tank
4	Pump-house
5	Storage tank
6	Storage tank
7	Auto truck garage and repair shop
8	Truck repair bays
9	Order of Kamehameha I Hall
10	Storage Tank
11	BEI Tank
12	BEI Tank
13	Bike Rental Shop
14	Alexander & Baldwin Building
15	Roundhouse
16	Kahului School
17	Kahului Railroad Admin. Building

Legend
Red = Eligible/Historic
Green = Not Eligible/Not historic

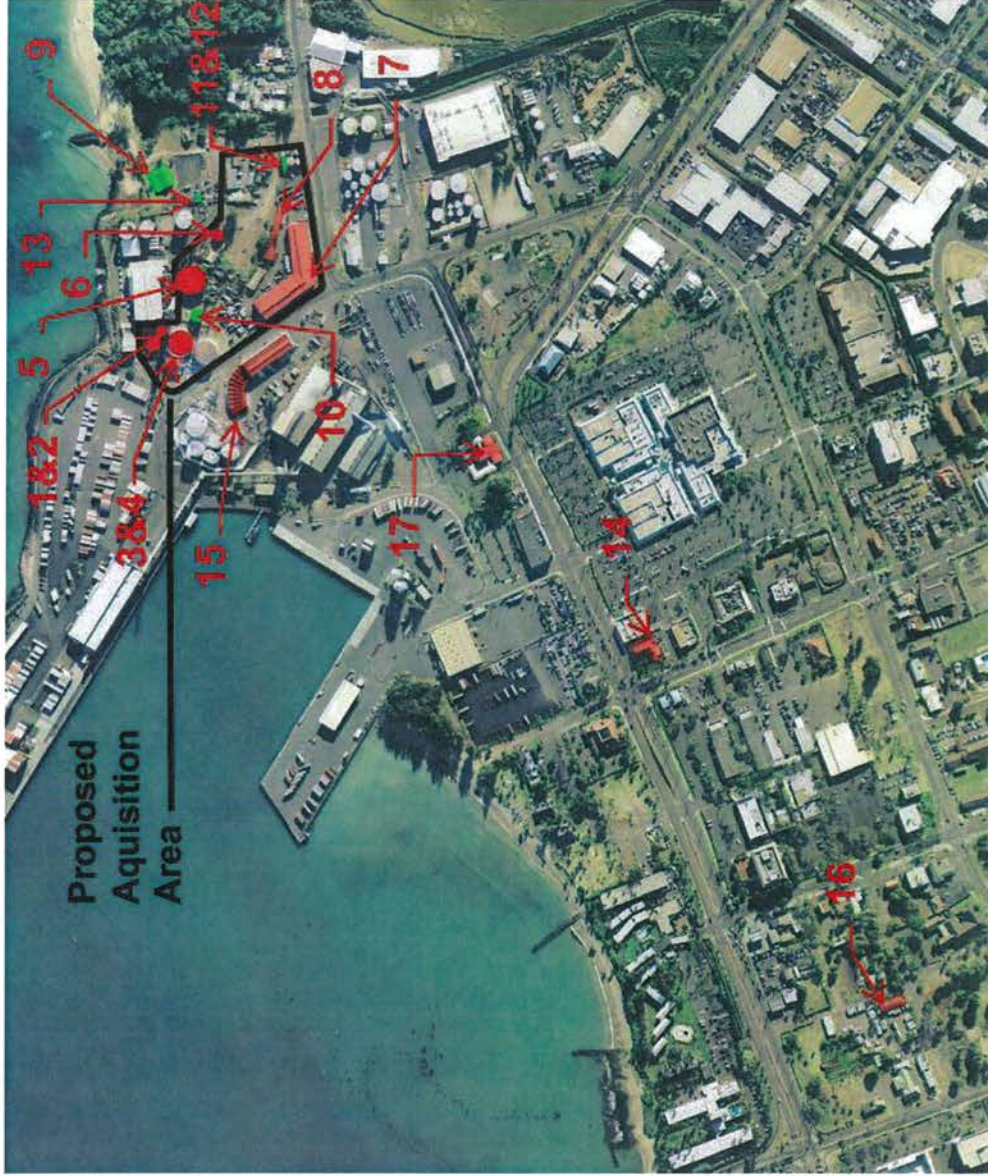


Figure 2: Kahului Harbor Aerial View of Buildings Surveyed

HISTORICAL BACKGROUND

The buildings and structures surveyed relate to several overarching historical themes - the Kahului Railroad, Sugar and Molasses, and Fuel Oil - discussed below.

KAHULUI RAIL ROAD, 1881-1966

The Kahului Rail Road Company (K.R.R.) was the first common carrier railroad in Hawaii. It was incorporated in 1881 from its predecessor, the Kahului and Wailuku Railroad, and it operated until 1966. K.R.R. was the driving force behind the development of Kahului Harbor; its transportation of sugar molasses, and pineapple from Maui plantations to the harbor were decisive in the island's business development and in the growth of Kahului. K.R.R. operations were centered on its 200 acre rail yard and shop complex at Kahului Harbor that contained a roundhouse, shops, storehouses, and rail office. K.R.R. was responsible for much of the early 20th century development of harbor facilities and wharfs in Kahului. In 1925, K.R.R. began to operate a truck fleet for some of its hauling. K.R.R. changed its name to Kahului Trucking & Storage, Inc. after rail operations ceased in 1966. The eligible surveyed properties listed below relate to the Kahului Rail Road historical theme:

- Roundhouse
- Auto truck garage and repair shop
- Truck repair bays
- A&B Building
- Kahului Railroad Administration Building

SUGAR AND MOLASSES STORAGE AND LOADING, 1881-1999

From its earliest harbor improvements, an important focus of K.R.R. harbor facilities was with its primary customer, the sugar industry. With the construction of breakwaters and deeper draft wharfage, Kahului Harbor became the preferred Hawai'i transit point for shipping sugar. Molasses storage tanks were in use there from at least 1911. In 1942, Kahului Harbor was the first site in Hawaii to make bulk shipments of sugar, using large bulk storage sheds, and conveyor loading of loose sugar into cargo ships. The eligible surveyed properties listed below relate to the Sugar and Molasses Storage and Loading historical theme:

- Molasses Storage Tanks (1-3)
- Pump-house
- A&B Building

FUEL OIL STORAGE, CA. 1900-1963

Fuel oil storage was an important early component of the infrastructure at Kahului Harbor. Oil storage tanks totaling 80,000 barrels of bunker oil for fueling steam engines were built by 1914. These oil tanks, owned by Union Oil Co. (later Standard Oil of California) were located near the base of the east breakwater. Through about 1930, Kahului Railroad increased the oil storage facilities at the harbor as part of a "three way agreement between Alexander and Baldwin [agents for Kahului Railroad], the Standard Oil Co. of

California, and the Kahului Railroad Company.”⁴ This expansion included a bunker oil storage tank [ca. 1916] adjacent to the Maui Electric Co. generating plant, and a facility located southeast of the present-day intersection of Hobron Avenue and Amala Place that was built sometime before 1927. Both the oil storage tank and the facility are shown as properties of “Standard Oil Co. of California” on a 1927 Sanborn Map. The facility contained storage tanks for kerosene, diesel, and gasoline, with underground piping to the wharf at Pier 1. Diesel was also piped underground from the facility to a KRR fueling point at the railyard north of the facility.⁵

Beginning in the late 1920s, several changes occurred at K.R.R. that would have increased the company’s need for diesel and gasoline fuel. In 1925 the company began truck transportation service, in 1929 the last steam locomotive was acquired – subsequent locomotives would all be diesel powered, and in 1936 they began passenger service by bus. The trucks and buses would have been diesel or gasoline. By the end of World War II K.R.R. trucking operations owned 129 trucks and trailers and seven tank trailers, and the bus transportation division ran sixty buses. One diesel locomotive was acquired in 1930, two in 1936, and two more in 1947. Only four steam locomotives remained in operation in 1940. By 1950, K.R.R.’s reliance on diesel locomotives was virtually complete, with only one steam locomotive that was retained for use during the peak harvest season. That year K.R.R. also acquired the diesel-electric rolling stock of



Map 1: 1955 USGS Topographic Map of Kahului Hawaiian Commercial & Sugar Co., as that plantation phased out its railroad division.⁶

Although K.R.R. bus transportation was ended in August 1952, trucking was cut back in July 1954, and rail operations were discontinued in May 1966, the growth of other Maui businesses, an increasing number of private vehicles, and expanding air transportation increased the demand for petroleum fuel on Maui. Kahului “developed into the major

⁴ Arthur L. Dean, Alexander and Baldwin, Ltd. And the Predecessor Partnerships. (Honolulu: Alexander and Baldwin, Ltd.). 1950. P. 166.

⁵ Hawaii Department of Accounting and General Services (HIDAGS). Registered Map #3056, “Kahului Harbor and Approaches.” September 1941.

⁶ Robert A. Ramsey, “The Kahului Railroad.” *The Railway and Locomotive Historical Society*. Bulletin no. 102. 1960. P. 27-34.

commercial, industrial, and transportation center of Maui.”⁷ During the 1970s an overwhelming majority of goods arriving on Maui passed through Kahului Harbor, including all liquid petroleum fuel. By 1972, liquid bulk petroleum products accounted for most of the cargo tonnage arriving at Kahului Harbor, and were among the cargo types expected to show the greatest growth in shipping in the coming years.⁸ Construction of bulk liquid fuel tanks at Kahului Harbor during those years was likely in response to this growth. The eligible surveyed properties listed below relate to the Fuel Oil Storage historical theme:

- Storage Tanks (5, 6)
- A&B Building

PUBLIC EDUCATION IN KAHULUI, 20TH CENTURY

Early 20th century Kahului was a relatively small, industrial port town. Railroad lines from numerous plantations converged at the harbor, where sugar (and later pineapple) was shipped off-island to other markets. As such, the industrial town had little need for extensive housing or schools. The Kahului School, established in 1900, was built out as a small, one room school by 1906 (no longer extant). As Kahului grew, the school was expanded to accommodate a total of 275 students. By the late 1920s, several structures, including a two-story concrete 15-classroom building (no longer extant), were added to the campus. The Kahului School Classroom Annex Building E was built in 1939 to fulfill a need for additional space as the school was leasing three classrooms from a nearby Japanese School.⁹ During

⁷ HDOT, Harbors Division, “Bulkhead and Other Improvements, Kahului Harbor, Environmental Impact Statement, Revised.” (Honolulu: Hawaii Department of Transportation). February 1977. P. 1-1.

World War II, the Navy built Kahului Naval Air Station (NAS) on land leased by HC&S. (Today this site is occupied by the Kahului International Airport.) Kahului NAS and Puunene NAS brought with them an influx of service members to Maui.

In the post-war years, between 1949 and 1963, A&B replaced over 60 plantation camps with one large residential development in Kahului, called “Dream City.” Dream City provided land ownership and homes for sugar plantation workers and radically changed the face of Kahului. Plantation workers and their families moved into Kahului in droves from plantations and the need for more classroom space grew.

In 1958, HC&S gave Maui County 23 acres of land at Lono and Hina Avenues for a new school, which opened in 1959. The older Kahului School was retained however, and by the early 1960s accommodated students who moved to Kahului when plantation villages closed at Paia and Kaunoa. The old Kahului School became Lihikai School.

A new school was built in 1965 at Papa Avenue and Maalo Street. Lihikai School students were moved to this campus, and its remaining buildings were moved, put to new uses, or remained unoccupied. In the late-1990s, the campus began being dismantled, and the property was used as a base yard for buses. The eligible surveyed properties listed below relate to the Public Education in Kahului historical theme:

- Kahului School Classroom Annex Building E

⁸ Ibid. P. 1-3.

⁹ Dee Ruzicka, *HABS HI-555, Kahului School Classroom Annex Building*, 2011.

NRHP EVALUATION

NATIONAL REGISTER OF HISTORIC PLACES CRITERIA

The following criteria are designed to guide the states, federal agencies, and the Secretary of the Interior in evaluating potential entries for the National Register.

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- A. that are associated with events that have made significant contribution to the broad patterns of our history; or
- B. that are associated with the lives of persons significant in our past; or
- C. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. that have yielded, or may be likely to yield, information important in prehistory or history.

NATIONAL REGISTER CRITERIA CONSIDERATIONS

Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past fifty years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- a. a religious property deriving primary significance from architectural or artistic distinction or historical importance; or
- b. a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
- c. a birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his or her productive life; or
- d. a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, from association with historic events; or
- e. a reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or
- f. a property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or,
- g. a property achieving significance within the past 50 years if it is of exceptional importance.

EVALUATIONS

Seventeen properties were surveyed in this inventory. Each of the properties surveyed is discussed individually in its respective inventory form below.

While all properties are associated with Kahului Harbor in varying degrees, not all of them are located within the proposed acquisition area. Only eleven of the properties surveyed are found within the boundaries of the proposed acquisition area, as shown in the aerial view map Figure 2. An additional three properties (Order of Kamehameha I Hall, Bike Rental Shop, and Roundhouse) are located on or adjacent to the working harbor, while three others (Alexander and Baldwin Building, Kahului School, and Kahului Railroad Administration Building) are within one and four blocks away from the harbor.

Of the seventeen properties surveyed, a total of four were evaluated (or previously determined) as individually eligible for listing on the NRHP: Roundhouse, Kahului Railroad Administration Building, the Alexander & Baldwin Building (outside of the acquisition area), and the Kahului School Building (outside of the acquisition area). Eight properties were evaluated as eligible as contributing elements to a potential Kahului Harbor Historic District; five storage tanks and the pump house located on the harbor property in a group; Auto Truck Repair Shop, and Truck Repair Bays, located on the property in a separate group.

The remaining five properties were evaluated as not eligible for the NRHP: the Order of Kamehameha I Hall was the only property over fifty years of age that was evaluated as not eligible,

nor contributing to a potential historic district. The building did not have significance under any of the National Register criteria.¹⁰ The remaining four not eligible properties are: two sets of BEI Tanks, the Tosco Tank, and the Bike Rental Building. These were evaluated as not eligible. All less than fifty years in age, they lack exceptional importance under National Register Criterion Consideration G.

AREAS OF SIGNIFICANCE

All of the properties that were evaluated as eligible, either individually, or contributing to a potential larger district, were eligible under two National Register Areas of Significance: Commerce and Transportation. Although not all of the properties are located within the boundaries of the working harbor, all were associated with one or more of three themes important to Kahului Harbor (discussed above), all of which can be considered sub-themes of the Areas of Significance. These themes are Kahului Railroad, Sugar and Molasses Storage and Loading, and Fuel Oil Storage.

COMMERCE

The six tanks (molasses and fuel oil) and pump house are associated with the trading of goods that was carried out during the first half of the 20th century. Molasses was a by-product of sugar production that had value as an export commodity; and fuel oil was an import commodity with great importance as an energy source for the Island. The ability to store both, at the Kahului Harbor yard of the Kahului Rail Road Company, resulted in their profitable

Department of Planning and Permitting, City and County of Honolulu. June 23, 2014.

¹⁰ State of Hawaii, Department of Land and Natural Resources, State Historic Preservation Division, Letter LOG: 2014-01899, DOC: D0614JLP16. To Glenn M. Okimoto, Director of Transportation,

marketing and contributed to the economic prosperity of Kahului.

TRANSPORTATION

The four buildings of the Kahului Rail Road Company are associated with the operations of the railroad, the first common rail carrier in the territory and the last operating rail road in the State of Hawaii. These repair garages, round house, and administration building served as a focus of the community's rail transportation system. The Kahului Rail Road was a major factor in the operation of many of Maui's sugar plantations. Its transport of sugar from mill to the docks at Kahului Harbor was important for the development of the plantations and for the economic prosperity of Maui.

INVENTORY FORMS

1. MOLASSES STORAGE TANK

DESCRIPTION: This bulk molasses storage tank, constructed ca. 1914,¹¹ is approximately 20m in diameter and sits directly adjacent to a similar, yet smaller tank. It was constructed by the Kahului Railroad Company to improve bulk molasses storage and transfer in the Kahului Harbor area.

The tank is constructed of steel siding plates riveted together in staggered horizontal bands.

CONDITION: Due to local environmental conditions, all of the tank's steel elements are heavily rusted. The roof in most locations has completely collapsed and the interior is exposed to the elements.

ELIGIBILITY: (EC) This tank is significant as a contributing element at the local level under Criterion A for its association with the history of sugar and molasses storage and loading in Kahului.

The tank retains integrity of setting, feeling and association because of industrial setting and surrounding tank grouping.

PROPOSED ACTION: This tank is proposed to be acquired and then demolished.



Figure 2: Molasses Storage Tank (1)

¹¹ Sanborn Insurance Map Co. 1914.

2. MOLASSES STORAGE TANK

DESCRIPTION: This bulk molasses storage tank, constructed ca. 1914,¹² is approximately 14m in diameter and sits directly adjacent to a similar, larger tank. It was constructed by the Kahului Railroad Company to improve bulk molasses storage and transfer in the Kahului Harbor area.

The tank is constructed of steel siding plates riveted together in staggered horizontal bands.

CONDITION: Due to local environmental conditions, all of the tank's steel elements are heavily rusted. The roof in most locations has completely collapsed and the interior is exposed to the elements.

ELIGIBILITY: (EC) This tank is significant as a contributing element at the local level under Criterion A for its association with the history of sugar and molasses storage and loading in Kahului.

The tank retains integrity of setting, feeling and association because of industrial setting and surrounding tank grouping.

PROPOSED ACTION: This tank is proposed to be acquired and then demolished.



Figure 3: Close-up of exterior rust at Molasses Storage Tank (2)

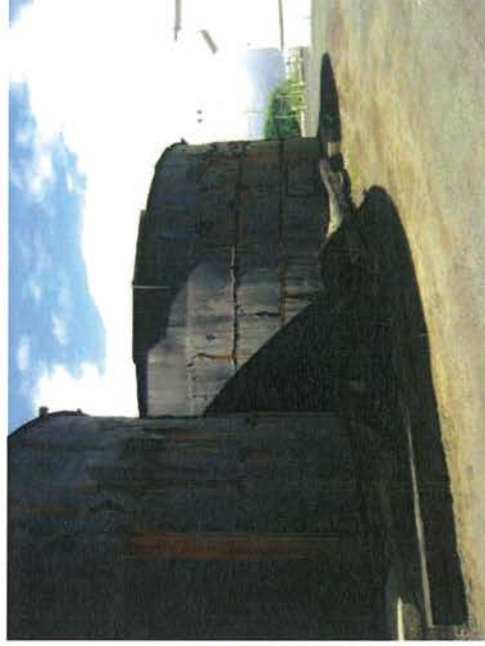


Figure 4: Molasses Storage Tank (2) right

¹² Sanborn Insurance Map Co. 1914.

3. MOLASSES STORAGE TANK

DESCRIPTION: This bulk molasses storage tank, constructed ca. 1911¹³, is directly adjacent to a pump house. It was constructed by the Kahului Railroad Company to improve bulk molasses storage and transfer in the Kahului Harbor area.

The tank is constructed of steel siding plates riveted together in staggered horizontal bands.

CONDITION: Due to local environmental conditions, all of the tank's steel elements are heavily rusted. The structure has been abandoned for several years and currently has no roof.

ELIGIBILITY: (EC) This tank is significant as a contributing element at the local level under Criterion A for its association with the history of sugar and molasses storage and loading in Kahului.

The tank retains integrity of setting, feeling and association because of industrial setting and surrounding tank grouping.

PROPOSED ACTION: This tank is proposed to be acquired and then demolished.



Figure 5: Molasses Storage Tank (3)



Figure 6: Interior of Molasses Storage Tank (3)

¹³ Cultural Surveys Hawaii, Inc., (Draft) *An Archaeological Literature Review*, 2009, p. 55.

4. PUMP HOUSE

DESCRIPTION: The pump house was constructed ca. 1911¹⁴ and is directly adjacent to the bulk molasses storage tanks. It was constructed by the Kahului Railroad Company and contained pumps, valves, and piping for filling molasses storage tanks from rail cars or trucks and for pumping molasses into the transport tanks of cargo ships. It is a steel framed structure with corrugated metal siding and roofing.

CONDITION: The building is in fair condition and the street facing portion is currently in use.

ELIGIBILITY: (EC) The Pump house is significant as a contributing element at the local level under Criterion A for its association with the history of sugar and molasses storage and loading in Kahului.

The structure retains integrity of setting, feeling and association because of industrial setting and surrounding tank grouping.

PROPOSED ACTION: This structure is proposed to be acquired and then demolished.



Figure 7: Pump-House (4) from Hobron Avenue



Figure 8: Pump-House (4) adjacent to Tank (3)

¹⁴ Cultural Surveys Hawaii, Inc., (Draft) *An Archaeological Literature Review*, 2009, p. 55.

5. STORAGE TANK

DESCRIPTION: This is a large storage tank constructed ca. 1916.¹⁵ The tank was constructed to improve bulk fuel storage and transfer at the Kahului Harbor. It is constructed of steel siding plates riveted together in staggered horizontal bands. The roof framing is large timber members in a radial pattern.

CONDITION: Due to local environmental conditions, all of the tank's steel elements are heavily rusted. The structure has been abandoned for several years and currently has a large hole in the north side.

ELIGIBILITY: (EC) This tank is significant as a contributing element at the local level under Criterion A for its association with the Historic Context Fuel Oil Storage, ca. 1900-1963. During the period of 1910-1930 the Kahului Railroad increased its fuel oil storage capacity at the harbor under an agreement with the Standard Oil Co.

The tank retains integrity of setting, feeling and association because of industrial setting and surrounding tank grouping.

PROPOSED ACTION: This tank is proposed to be acquired and then demolished.



Figure 9: Storage Tank (5) from north side



Figure 10: Storage Tank (5) from south side

¹⁵ Cultural Surveys Hawaii, Inc., (Draft) *An Archaeological Literature Review*, 2009, p. 56.

6. STORAGE TANK

DESCRIPTION: This is a small storage tank constructed ca. 1926.¹⁶ The tank was constructed to improve bulk fuel storage and transfer at the Kahului Harbor. It is constructed of steel siding plates riveted together in staggered horizontal bands.

CONDITION: Due to local environmental conditions, all of the tank's steel elements are heavily rusted. The south half of this tank has collapsed.

ELIGIBILITY: (EC) This tank is significant as a contributing element at the local level under Criterion A for its association with the Historic Context Fuel Oil Storage, ca. 1900-1963. During the period of 1910-1930 the Kahului Railroad increased its fuel oil storage capacity at the harbor under an agreement with the Standard Oil Co.

The tank retains integrity of setting, feeling and association because of industrial setting and surrounding tank grouping.

PROPOSED ACTION: This tank is proposed to be acquired and then demolished.

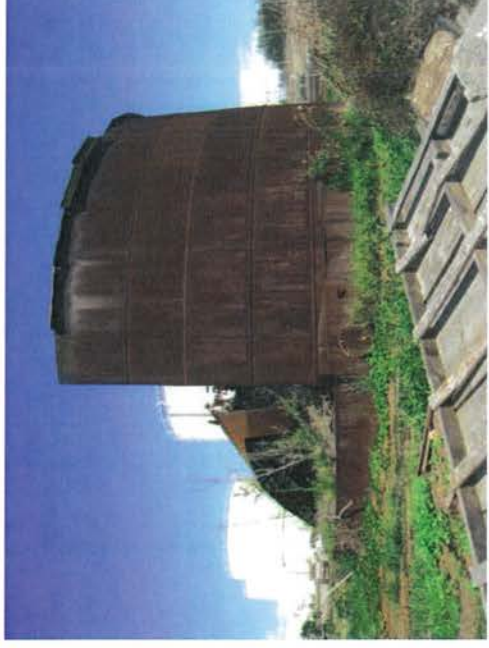


Figure 11: Storage Tank (6) partially collapsed



Figure 12: Storage Tank (6) intact side

¹⁶ Sanborn Insurance Map Co. 1927.

7. AUTO TRUCK GARAGE & REPAIR SHOP

DESCRIPTION: This building was constructed in 1929¹⁷ as an auto truck garage and repair shop. The garage portion of the building serves as a storage warehouse currently operated by the Kahului Trucking & Storage Company who has served the general freight and dump truck industry in Maui since 1909.

The garage is a framed building sheathed with corrugated metal. The building is elevated on a concrete foundation to match the height of railroad freight cars to facilitate freight on and off loading.

CONDITION: Good, currently in use

ELIGIBILITY: (EC) This building is significant as a contributing element at the local level under Criterion A for their association with the operations of the Kahului Railroad Company, 1881-1966.

The building retains integrity of setting, feeling and association due to adjacent railroad related structures.

PROPOSED ACTION: This structure is proposed to be acquired and then demolished.

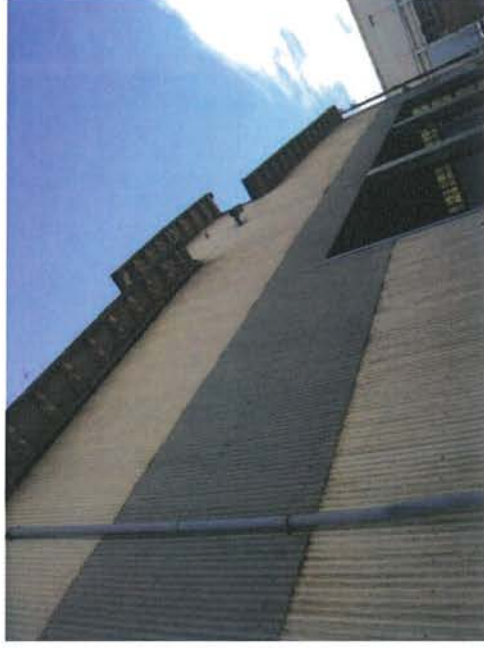


Figure 13: Auto Truck Garage & Repair Shop (7) end elevation



Figure 14: Auto Truck & Repair Shop (7) front elevation

¹⁷ Cultural Surveys Hawaii, Inc., (Draft) *An Archaeological Literature Review*, 2009.

8. TRUCK REPAIR BAYS

DESCRIPTION: This set of truck service bays was constructed ca. 1934¹⁸ in two sections. It is situated north of the Auto Truck Garage & Repair Shop and parallel to the railroad sidings. Each of the repair bays is accessible from either the north or south by a separate set of doors.

The long narrow building is wood frame construction with corrugated metal siding and metal hinged doors.

CONDITION: This building is in extremely poor condition and is partially collapsed in some areas.

ELIGIBILITY: (EC) This building is significant as a contributing element at the local level under Criterion A for its association with the operations of the Kahului Railroad Company, 1881-1966.

The building retains integrity of setting, feeling and association due to adjacent railroad related structures.

PROPOSED ACTION: This structure is proposed to be acquired and then demolished.



Figure 15: Truck Repair Bays (8) front elevation, partially collapsed



Figure 16: Truck Repair Bays (8) rear elevation, partially collapsed

¹⁸ Cultural Surveys Hawaii, Inc., (Draft) *An Archaeological Literature Review*, 2009, p. 59.

9. ORDER OF KAMEHAMEHA I HALL

DESCRIPTION: The Order of Kamehameha I Hall is a wood framed meeting hall originally constructed ca. 1958,¹⁹ and subsequently modified with several additions. The roof over the original structure is a gable, with shed roofs over the add-ons. The exterior walls are tongue and groove, and v-groove plywood panels.

CONDITION: The building appears to be in fair condition.

ELIGIBILITY: (NC) Not associated with any specific events or the lives of significant people. It does not possess any distinctive characteristic nor is it likely to yield information important to Hawaii's history.

PROPOSED ACTION: No action; this structure is located outside the proposed acquisition area.



Figure 17: Order of Kamehameha I Hall (9) side view



Figure 18: Order of Kamehameha I Hall (9) mauka side

¹⁹ Hawaii State Archives, aerial photograph collection (var.).

10. STORAGE TANK

DESCRIPTION: This Tosco Storage tank was constructed ca. 1970²⁰ and is located in the area of the older molasses and fuel tanks. It is steel construction but does not possess the visible rivets seen in the older tanks. It is also considerably taller and has an access stairway on the exterior.

CONDITION: This tank appears to be in good and usable condition but was not accessible for close inspection.

ELIGIBILITY: (NP) This tank is less than 50 years old and does not possess the exceptional importance required to qualify for NR eligibility under NR Criteria Consideration G.

PROPOSED ACTION: This tank is proposed to be acquired and then demolished.

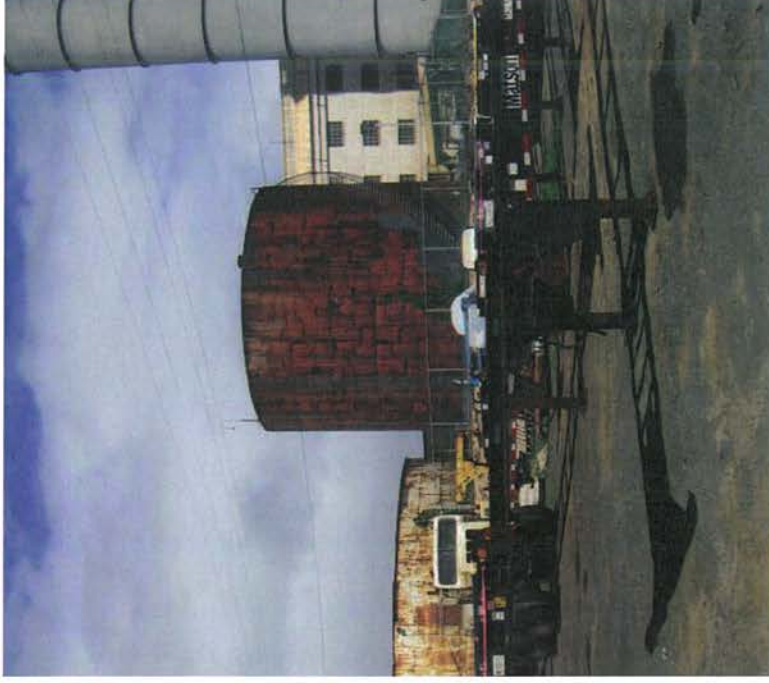


Figure 19: Storage Tank (10)

²⁰ The tank is not shown on an aerial photo taken January 4, 1965 (Hawaii State Archives, aerial photo PPA-35-1, 1CC31 dated January 4, 1965), but is shown on an aerial photo dated 1975.

11. BEI TANKS

DESCRIPTION: Four tall cylindrical storage tanks constructed of steel panels. These tanks are interconnected with piping close to the ground level. They were constructed ca. 1990.²¹

CONDITION: Good, and currently in use.

ELIGIBILITY: (NP) These tanks erected by chemical company BEI are less than 50 years old and do not possess the exceptional importance required to qualify for NR eligibility under NR Criteria Consideration G.

PROPOSED ACTION: These tanks are proposed to be acquired and then demolished.



Figure 21: BEI Tanks (11)



Figure 20: BEI Tanks (11)

²¹ The tanks are not visible on a Hawaii State Archives (HSA) aerial photograph dated 1987, but are shown on an HSA aerial photograph dated 1997.

12. BEI TANKS

DESCRIPTION: Three metal chemical storage tanks constructed ca. 1980.²²

CONDITION: Good, and currently in use

ELIGIBILITY: (NP) These tanks, erected by chemical company BEI ca. 1980, are less than 50 years old and do not possess the exceptional importance required to qualify for NR eligibility under NR Criteria Consideration G.

PROPOSED ACTION: These tanks are proposed to be acquired and then demolished.



Figure 22: BEI Tanks (12) at left

²² The tanks are not visible on a Hawaii State Archives (HSA) aerial photograph dated 1975, but are shown on an HSA aerial photograph dated 1987.

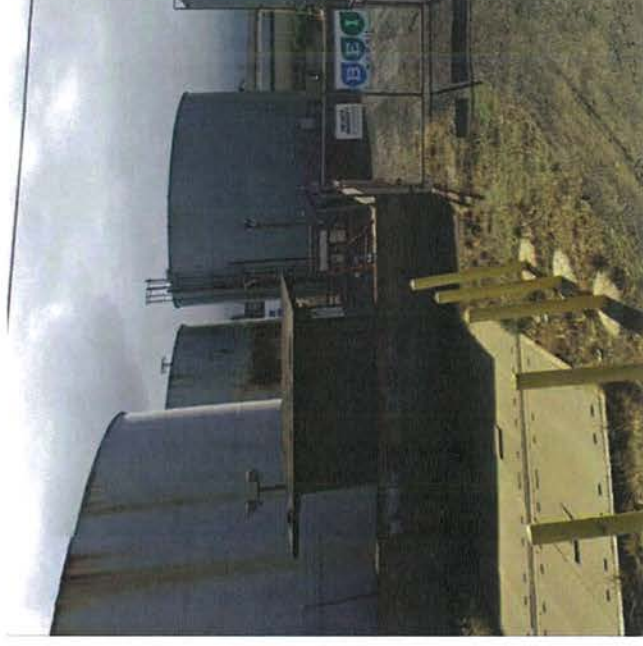


Figure 23: Cluster of three BEI Tanks (12)

13. BIKE RENTAL SHOP

DESCRIPTION: The Bike Rental Shop is a series of small, temporary and/or portable style sheds arranged in a grouping around a gravel parking lot, likely dating ca. 1990.²³

CONDITION: Good, and currently in use

ELIGIBILITY: (NP) These buildings are less than 50 years old and do not possess the exceptional importance required to qualify for NR eligibility under NR Criteria Consideration G.

PROPOSED ACTION: No action; these structures are located outside the proposed acquisition area.



Figure 24: Assorted Buildings which make up the Bike Rental Shop (13)



Figure 25: Assorted Buildings which make up the Bike Rental Shop (13)

²³ The sheds are shown on Hawaii State Archives aerial photographs of the mid-1990s.

14. ALEXANDER & BALDWIN BUILDING

DESCRIPTION: This 1931 building was designed by renowned local architect C.W. Dickey as the Baldwin Bank Building (later Bank of Hawaii). It is reinforced concrete with a classic clay tile "Dickey" roof. The front of the building has a porte-cochere which was a first for Hawaii bank design. The building has had some modifications and currently houses Alexander and Baldwin offices.

CONDITION: Excellent

ELIGIBILITY: (ES) This building is individually eligible under Criterion A for its association with the economic development of Kahului. It is significant under Criterion C as the work of a master architect, C.W. Dickey.

The building retains integrity of location, design, setting, materials, workmanship, feeling and association.

PROPOSED ACTION: No action; this structure is located outside the proposed acquisition area.



Figure 26: Alexander & Baldwin Building (14) front elevation



Figure 27: Alexander & Baldwin Building (14) oblique view

15. ROUNDHOUSE

DESCRIPTION: This eleven-car railroad roundhouse and car and machine shop was constructed in 1926²⁴ by the Kahului Railroad Company. There are two distinct sections of this concrete building, the semi-circular, single-story portion that once housed the turntable, and the adjacent, high-bay car and machine shop. The car and machine shop still retains several of its original multi-light windows.

CONDITION: This building is in fair condition and was still in use at the time of the survey. Some cracking of concrete was observed around the windows of the roundhouse.

ELIGIBILITY: (ES) This distinctive semi-circular building has railroad car bays set on the perimeter of the former site of a railcar turntable. It is individually eligible at the local level under Criterion A for its association with the historic context Kahului Rail Road, 1881-1966. It retains integrity of location, workmanship, materials, setting, feeling and association.

PROPOSED ACTION: No action; this structure is located outside the proposed acquisition area.



Figure 30:
Semicircular
portion of
Roundhouse (15)



Figure 28: Hobron Avenue elevation of the Roundhouse (15)



Figure 29: Machine Shop end of Roundhouse Building (15)

²⁴ Inscription on front façade.

16. KAHULUI SCHOOL

DESCRIPTION: The Kahului School Annex (Building E) is a wooden single-story classroom building with an irregular rectangular footprint. The building has a hip roof with overhanging eaves shiplap siding and a wood post and concrete pier foundation. It was built in 1939.²⁵

CONDITION: Poor

ELIGIBILITY: This building is significant under NR Criterion A for its association with the development of public education on Maui.

SPECIAL COMMENTS: (ES) This building was determined to be individually eligible for listing on the NR by the Maui Cultural Resources Commission on March 3, 2011.

PROPOSED ACTION: This structure is located outside the proposed acquisition area.



Figure 31: Kahului School Building E (16) front elevation

²⁵ Ruzicka, Dee. Historic American Building Survey, Kahului School Classroom Annex Building, No. HI-555, 2011.

17. KAHULUI RAILROAD ADMINISTRATION BUILDING

DESCRIPTION: This single-story concrete building was constructed in 1923. It is a T-shaped structure with decorative pilasters and a low sloped, hip roof covered with corrugated metal. The original wood double-hung windows are intact. Two L-shaped additions have been constructed on the site and they connect to the original building with covered walkways.

CONDITION: Good

ELIGIBILITY: (ES) This building, built in 1923, is individually listed on the National Register under Criterion A for its association with the operations of the Kahului Railroad Company, and under Criterion C as a good example of classical revival style architecture.²⁶

PROPOSED ACTION: No action; this structure is located outside the proposed acquisition area.



Figure 33: Kahului Railroad Administration Building (17)

²⁶ Hibbard, Don. National Register Nomination Form for the Kahului Railroad Administration Building. May 11, 2015.



Figure 32: Kahului Railroad Administration Building (17)

SUMMARY TABLE: NRHP EVALUATIONS, EFFECT, AND PROPOSED MITIGATION

#	Bldg	Year	NRHP Eligible?*	Proposed Action	Effect	Proposed Mitigation
1	Molasses storage tank	<1914	EC - Significant under NR Criterion A for association with the development of sugar and molasses storage and loading facilities at Kahului Harbor.	Demolition	Effect, with Proposed Mitigation Commitments	HAER documentation
2	Molasses storage tank	<1914	EC - Significant under NR Criterion A for association with the development of sugar and molasses storage and loading facilities at Kahului Harbor.	Demolition	Effect, with Proposed Mitigation Commitments	HAER documentation
3	Molasses storage tank	<1911	EC - Significant under NR Criterion A for association with the development of sugar and molasses storage and loading facilities at Kahului Harbor.	Demolition	Effect, with Proposed Mitigation Commitments	HAER documentation
4	Pump house	<1911	EC - Significant under NR Criterion A for association with the development of sugar and molasses storage and loading facilities at Kahului Harbor.	Demolition	Effect, with Proposed Mitigation Commitments	HAER documentation
5	Storage tank	ca. 1916	EC - This fuel oil tank is significant under NR Criterion A for its association with the development of fuel oil storage facilities at Kahului Harbor.	Demolition	Effect, with Proposed Mitigation Commitments	HAER documentation
6	Storage tank	<1927	EC - This fuel oil tank is significant under Criterion A for its association with the development of fuel oil storage facilities at Kahului Harbor.	Demolition	Effect, with Proposed Mitigation Commitments	HAER documentation
7	Auto truck garage and repair shop	1929	EC - Significant under NR Criterion A for its association with the operations of the Kahului Railroad Company.	Demolition	Effect, with Proposed Mitigation Commitments	HAER documentation
8	Truck repair bays	<1935	EC - Significant under NR Criterion A for its association with the operations of the Kahului Railroad Company.	Demolition	Effect, with Proposed Mitigation Commitments	HAER documentation
9	Order of Kamehameha I Hall	ca. 1958	NC - Not eligible; lacks significance associated with architectural distinction. It has no known association with an important historic person or event.	No action; outside acquisition area	No effect	N/A

10	Tosco Storage Tank	ca. 1970	NP – Not eligible; has no known association with an important person, event. Does not exhibit exceptional importance.	Demolition	No effect	N/A
11	BEI Tanks	ca. 1990	NP – Not eligible; has no known association with an important person, event. Does not exhibit exceptional importance.	Demolition	No effect	N/A
12	BEI Tanks	ca. 1980	NP – Not eligible; has no known association with an important person, event. Does not exhibit exceptional importance.	Demolition	No effect	N/A
13	Bike Rental Shop	ca. 1990s	NP – Not eligible; this cluster of temporary buildings has no known association with an important person or event. Does not exhibit exceptional importance.	No action; outside acquisition area	No effect	N/A
14	A&B Building	1931	ES - Significant under Criterion A for its association with the economic development of Kahului, and under Criterion C as the work of a master architect, William C. Dickey. This building was originally the Baldwin Bank Building.	No action; outside acquisition area	No effect	N/A
15	Roundhouse	1926	ES - Significant under NR Criterion A for its association with the operations of the Kahului Railroad Company.	No action; outside acquisition area	No effect	N/A
16	Kahului School (Building E)	1939	ES - Significant under NR Criterion A for its association with the development of public education on Maui. (Determined eligible for listing by the Maui Cultural Resources Commission on March 3, 2011.)	No action; outside acquisition area	No effect	N/A
17	K.R.R. Admin. Building	1923	ES - This building is listed on the National Register under NR Criterion A for its association with the operations of the Kahului Railroad Company, and under Criterion C as a good example of classical revival style architecture.	No action; outside acquisition area	No effect	N/A

*Eligibility Abbreviations:

- ES = Eligible/Significant
- EC = Eligible/Contributing
- NC = Not Eligible/Not Contributing
- NP = Not Eligible/Out of Period
- UN = Undetermined
- XD = Demolished

FINDINGS: DETERMINATION OF EFFECT

As shown in the NRHP summary table, demolition is planned for eight historic buildings within the proposed acquisition area. Under HAR §13-275-7 (“Determining effects to significant historic properties”), the proposed work results in Effect, with Proposed Mitigation Commitments.

PROPOSED MITIGATION COMMITMENTS

Under HAR §13-275-8, “(Proposed) Mitigation,” it is recommended that the demolition of the historic buildings within the project area be mitigated with architectural recordation in an Historic American Engineering Record (HAER).

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APPENDIX D
Archaeological Assessment for the Maui Electric
Power Plant Subdivision

**ARCHAEOLOGICAL ASSESSMENT
FOR THE MAUI ELECTRIC POWER PLANT SUBDIVISION PROJECT
(LOTS 1-A, 1-B, AND 1-C)
KAHULUI AHUPUA‘A, WAILUKU DISTRICT
ISLAND OF MAUI, HAWAI‘I
[TMK: (2) 3-7-011:017, 019 por., and 023]**

Prepared by:
Cathleen A. Dagher, B.A.
and
Michael F. Dega, Ph.D.
September 2016
Revised February 2018
FINAL

Prepared for:
Mr. Dan Yasui
A & B Properties, Inc.
822 Bishop Street
Honolulu, Hawai‘i 96813

ABSTRACT

At the request of Mr. Dan Yasui of A & B Properties, Inc. (landowner), Scientific Consultant Services, Inc. (SCS) conducted an archaeological inventory survey (AIS) in advance of the Maui Electric Power Plant Subdivision. The 9.83 acre project area is located within the built environment of the existing Kahului Harbor in Kahului Ahupua'a, Wailuku District, Island of Maui, Hawai'i [TMK: (2) 3-7-011:017, 019 por., and 023]. The AIS yielded negative findings and is being reported as an archaeological assessment (AA).

An archaeological inventory survey was performed in order to identify potential historic properties (non-burial and burial), to assess the significance of any identified historic properties, to make a project effect determination, and to propose mitigation measures to address the project effect on historic properties, pursuant to Hawaii Administrative Rules (HAR) § 13-284, as this is a private project, and HAR § 13-276. Please note no federal funding or federal permits are involved with the current project.

In an effort to comply with the HARs, five stratigraphic trenches, placed across the project area, were mechanically excavated. The stratigraphic trenches were placed in predetermined locations in consultation with the State Historic Preservation Division. Ground penetrating radar (GPR) was employed by One Call for the sole purpose of identifying and locating any previously unknown underground utilities or subsurface anomalies. GPR was not utilized to assess the presence/absence of subsurface cultural deposits but was used to place the five trenches in areas without utilities.

While historic properties have been identified within lands adjacent to, and surrounding the Kahului Harbor, the current excavations did not lead to the identification of any historic properties nor to the identification of any underground utilities or subsurface anomalies.

Based on the negative findings of the current archaeological inventory survey, no additional archaeological work is recommended for the current project.

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INTRODUCTION

At the request of Mr. Dan Yasui of A & B Properties, Inc. (landowner), Scientific Consultant Services, Inc. (SCS) conducted an archaeological inventory survey (AIS) in advance of the Maui Electric Power Plant Subdivision. The 9.83 acre project area is located within the built environment of the existing Kahului Harbor, owned by Maui Electric Company, Ltd, in Kahului Ahupua'a, Wailuku District, Island of Maui, Hawai'i [TMK: (2) 3-7-011:017, 019 por., and 023] (Figures 1, 2, and 3). The AIS yielded negative findings which are being reported as an archaeological assessment (AA) report.

Fieldwork was conducted between June 22, 2016 and July 20, 2016, by SCS Archaeologist Ian Bassford, B.A., under the direction of Michael F. Dega, Ph.D., Principal Investigator. The AIS was performed in order to identify and document historic properties, to gather sufficient information on these properties, to evaluate the significance of any newly identified historic properties, to determine the project effect on these properties, and to make mitigation recommendations to address possible adverse impacts to identified historic properties, pursuant to Hawaii Administrative Rules (HAR) § 13-284 and HAR § 13-276. In an effort to comply with the HARs, five stratigraphic trenches, placed across the project area, were mechanically excavated. The stratigraphic trenches were placed in predetermined locations, in consultation with the State Historic Preservation Division. Ground penetrating radar (GPR) was employed by One Call for the purpose of identifying and locating any previously unknown underground utilities or subsurface anomalies. While historic properties have been identified within lands adjacent to, and surrounding the Kahului Harbor, the current excavations did not lead to the identification of any historic properties nor to the identification of any underground utilities or subsurface anomalies

During the current AIS, five stratigraphic trenches, placed across the project area, were mechanically excavated. No historic properties or cultural materials were identified.

ENVIRONMENTAL SETTING

The island of Maui ranks second in size of the eight main islands in the Hawaiian Archipelago. Pu'u Kukui, forming the west end of the island (1,215 m above mean sea level), is composed of large, heavily eroded amphitheater valleys that contain well-developed permanent stream systems that watered fertile agricultural lands extending to

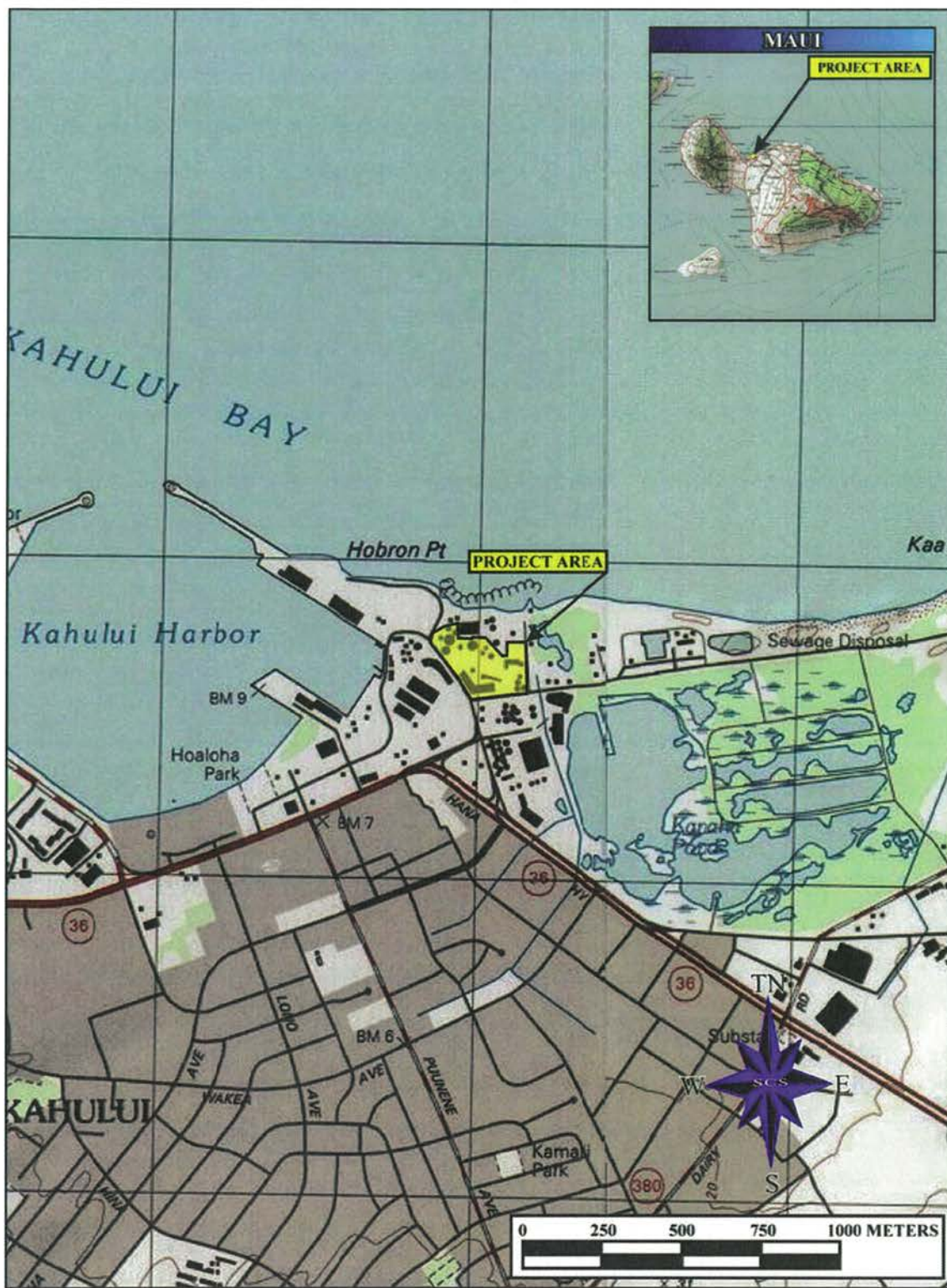


Figure 1: USGS Quadrangle (Wailuku, 1997; 1:24,000) Map Showing Project Area Location.

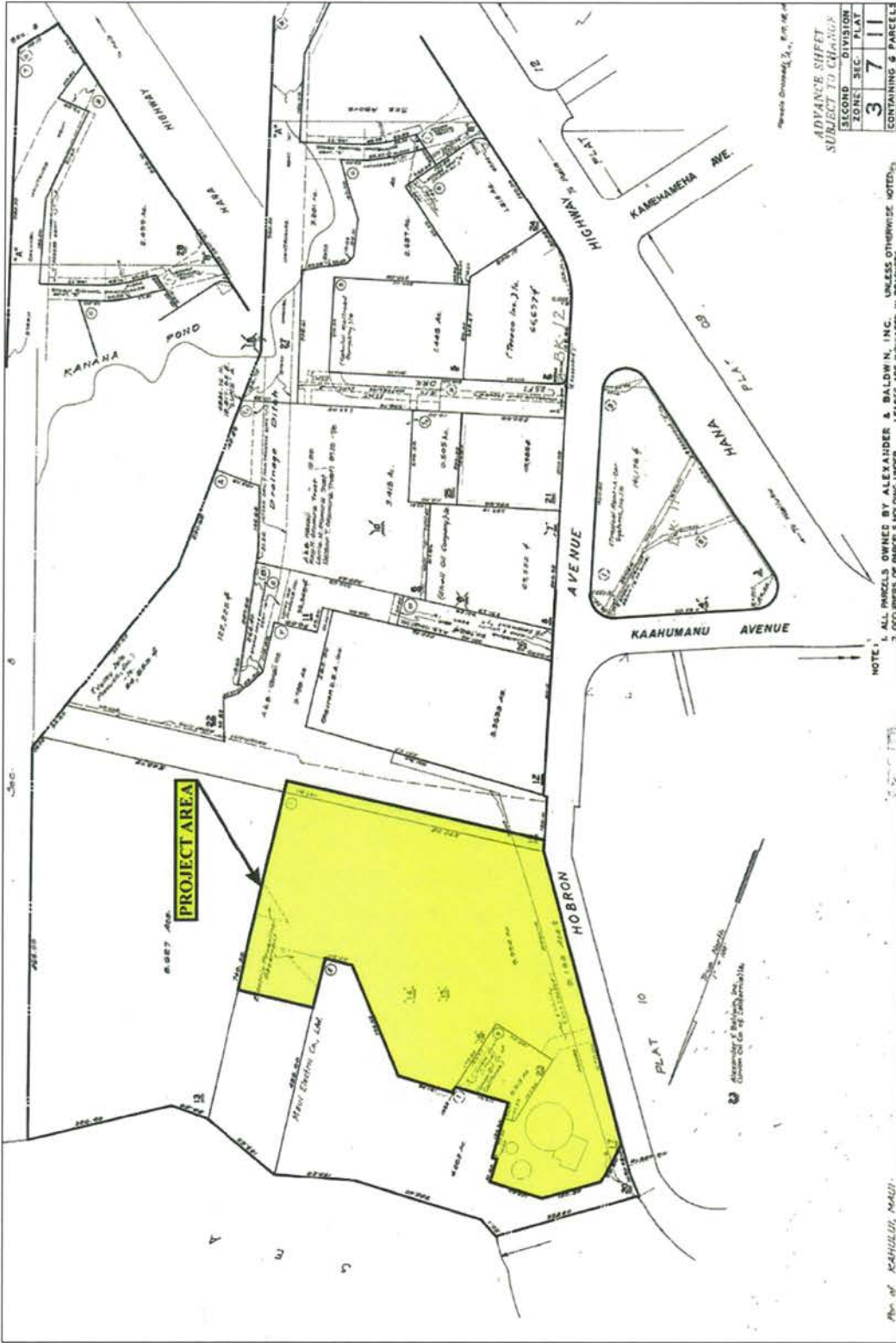


Figure 2: Tax Map Key [TMK: (2) 3-7-011] Showing Project Area Location.



Figure 3: Google Earth Image (2016; Imagery Date 1/12/2013) Showing Project Area.

the coast. The deep valleys of West Maui and their associated coastal regions have been witness to many battles in ancient times and were coveted productive landscapes. These are joined together by an isthmus containing dry, open country (*kula*) which contains the southern portion of Wailuku District.

PROJECT AREA LOCATION

The project area is located along the north coast of the island of Maui, immediately adjacent and east of Kahului Harbor. It is situated approximately between 316.8 ft. (96.5 m) and 1108 ft (338 m) from the shoreline at 3 feet (ft.) above mean sea level (AMSL). Hobron Avenue forms the western project area boundary; Amala Place forms the southern boundary; industrial land owned by A and B Properties forms the eastern project area boundary; and the MECO Power Plant forms the northern boundary.

SOILS

With the exception of the northeast tip of the project area, which is comprised of soils of the Beaches Soil Series (BS), the majority of the project area is within fill land (Fd) (Foote *et al.* 1972: Sheet Map 99; Figure 4). According to Foote *et al.* (1972:28), the BS deposits "...occur as sandy, gravelly, or cobbly areas...[that] are washed and rewashed by ocean waves." The BS deposit typically consists of light colored sand which originated as corals and marine shell. However, some BS deposits exhibit dark colored sand, as these materials originated from andesite and basalt. Areas comprised of BS deposits are most often utilized for recreational purposes, including resorts.

According to Foote *et al.* (1972: 31), soils of the Fill Land Series (Fd) occur in areas that have been filled with dredged material, material which was excavated from the upland regions, garbage, and or sugar mill refuse (*i.e.*, bagasse and slurry). Foote *et al.* (1972:31) states that areas comprised of Fd lands are most often filled with sugar mill refuse and, to a lesser extent, filled with dredged or excavated materials. In general, low lying coastal areas, marshes, etc. are covered with fill material which is spread over the area, which in most cases is used in the commercial production of sugar cane.

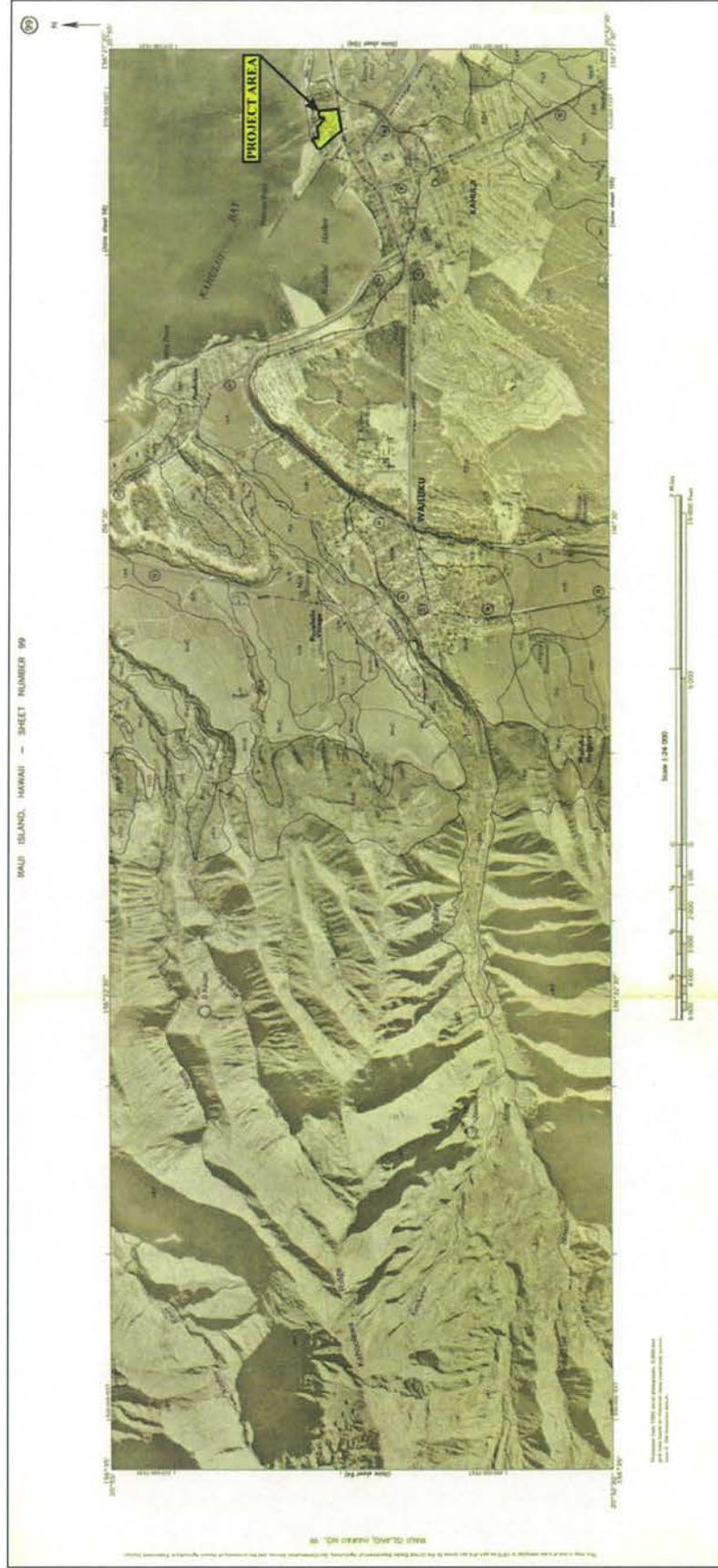


Figure 4: USDA Soil Survey Map (Modified from Foote et al. 1972; Sheet number 99) Showing Soil Types within Project Area.

CLIMATE

(Armstrong 1983: 64), temperatures within the project area range from the low 50s to the mid-90s (degrees Fahrenheit), during the fall and winter months. During the spring and summer, temperatures range from the high 60s to the high 90s (degrees Fahrenheit).

According to the Giambelluca et al. (2013) Online Rainfall Atlas of Hawai'i, rainfall is seasonal with a Mean Annual Rainfall of 409.6 mm (16 in.). The majority of the rainfall (264 mm/10.3 in.) occurs within the fall and winter months (September through March) and a significantly lesser amount (62.5 mm/2.4 in.) in the spring and summer months (April through August).

VEGETATION

As the project area is located within an existing built environment no vegetation was present.

TRADITIONAL AND HISTORIC SETTING

Archaeological settlement pattern data indicates that initial colonization and occupation of the Hawaiian Islands occurred on the windward shoreline areas around c. A.D. 900, with populations eventually settling into drier leeward areas at later periods (Kirch 1985:87). Coastal settlement was still dominant, but populations began exploiting and living in the upland *kula* (plains) zones. Greater population expansion to inland areas did not occur until sometime during the 12th century and continued through the 16th century. Large scale or intensive agricultural endeavors were implemented in association with habitation. Coastal lands were used for settlement and taro was cultivated in near-coastal reaches and in the uplands. Recent research within Wailuku Ahupua'a indicates that the area was likely settled between c. A.D. 1100 (Kirch 1985:142) and A.D. 1200 (Fredericksen and Fredericksen 1997).

Approximately 600 years ago, the Hawaiian population had expanded throughout the Hawaiian Islands to a point where large, political districts could be formed (Lyons 1903; Kamakau 1991; Moffat and Fitzpatrick 1995). During the pre-Contact Period (pre-1778), Maui was divided into twelve districts or *moku* (Sterling 1998:3). Following the Civil Code of 1859, the twelve districts were consolidated into four districts: Lāhainā, Wailuku, Makawao, and Hāna (*ibid.*). Traditionally, the division of Maui Island into districts (*moku*) and sub-districts was performed by a *kahuna* (priest, expert) named Kalaiha'ōhia, during the time of the *ali'i*

Kaka'alaneo (Beckwith 1940:383; Fornander 1919-20, Vol. 6:248) places Kaka'alaneo at the end of the 15th century or the beginning of the 16th century. Land was considered the property of the king or *ali'i 'ai moku* (the *ali'i* who eats the island/district), which he held in trust for the gods. The title of *ali'i 'ai moku* ensured rights and responsibilities pertaining to the land, but did not confer absolute ownership. The king kept the parcels he wanted, his higher chiefs received large parcels from him and, in turn, distributed smaller parcels to lesser chiefs. The *maka'āinana* (commoners) worked the individual plots of land.

In general, several terms, such as *moku*, *ahupua'a*, *'ili* or *'ili 'āina* were used to delineate various land sections. A district (*moku*) contained smaller land divisions (*ahupua'a*) which customarily continued inland from the ocean and upland into the mountains. Extended household groups living within the *ahupua'a* were therefore, able to harvest from both the land and the sea. Ideally, this situation allowed each *ahupua'a* to be self-sufficient by supplying needed resources from different environmental zones (Lyons 1875:111). The *'ili 'āina* or *'ili* were smaller land divisions next in importance to the *ahupua'a* and were administered by the chief who controlled the *ahupua'a* in which it was located (*ibid*:33; Lucas 1995:40). The *mo'o'āina* were narrow strips of land within an *'ili*. The land holding of a tenant or *hoa 'āina* residing in a *ahupua'a* was called a *kuleana* (Lucas 1995:61).

TRADITIONAL SETTLEMENT PATTERNS

The Hawaiian economy was based on agricultural production and marine exploitation, as well as raising livestock and collecting wild plants and birds. Extended household groups settled in various *ahupua'a*. During pre-Contact Period, there were primarily two types of agriculture, wetland and dry land, both of which were dependent upon geography and physiography. River valleys provided ideal conditions for wetland *kalo* (*Colocasia esculenta*) agriculture that incorporated pond fields and irrigation canals. Other cultigens, such as *kō* (sugar cane, *Saccharum officinarum*) and *mai'a* (banana, *Musa* sp.), were also grown and, where appropriate, such crops as *'uala* (sweet potato, *Ipomoea batatas*) were produced. This was the typical traditional agricultural pattern seen on all the Hawaiian Islands (Kirch and Sahlins 1992, Vol. 1:5, 119; Kirch 1985). It must be noted that Handy (1940:105) stated that, "... the bounds of cultivation...were strictly drawn by limitation of water for irrigation." The word "*kula*" meant "open country or plain", according to Handy and Handy (1972:510), and was often used to differentiate between dry, or *kula* land, and wet-taro land. The height and size of Haleakalā to the east, prevents moisture from reaching its southern and western flanks, causing and desert-like conditions throughout the region. "This is an essential characteristic of Kula, the central plain of

Maui which is practically devoid of streams. Kula was always an arid region, throughout its long, low seashore, vast stony *kula* lands, and broad uplands” [ibid:510]. As to the occupation of this vast plain, Handy and Handy stated:

Both on the coast, where fishing was good, and on the lower westward slopes of Haleakala a considerable population existed. So far as we could learn Kula supported no Hawaiian taro, and the fishermen in this section must have depended for vegetable food mainly on *poi* brought from the wet lands of Waikapu and Wailuku to westward across the plain to supplement their usual sweet-potato diet [ibid:511].

An early witness to its lack of productivity was George Vancouver. During Vancouver’s second visit to Hawai’i in 1793, as a Captain, he anchored in Mā’alaea Bay. Vancouver (1984:852) described the area:

The appearance of this side of Mowee was scarcely less forbidding than that of its southern parts, which we had passed the preceding day. The shores, however, were not so steep and rocky, and were mostly composed of a sandy beach; the land did not rise so very abruptly from the sea towards the mountains, nor was its surface so much broken with hills and deep chasms; yet the soil had little appearance of fertility, and no cultivation was to be seen. A few habitations were promiscuously scattered near the water side, and the inhabitants who came off to us, like those seen the day before, had little to dispose of.

West of the current project area lies ‘Īao Valley, one of the most important locations in the area for prehistoric activity. Connolly (1974:5) states that the pre-Contact valley [‘Īao] had a large population base with “most people residing in a settlement near ‘Īao Needle,” just north of the project area. Supposedly, the subsistence base of this population consisted of fish and taro, with Kahului Harbor and the coast close by and *lo’i* systems lining ‘Īao Valley’s stream banks. Prehistoric ditches or *'auwai* were utilized in taro cultivation (Connolly 1974:5). Sterling (1998:86) adds that two *'auwai* within the valley:

...have existed immemorially and were evidently constructed for the purpose of irrigating *kalo* on the plains which stretch away to the northward and southward of the [‘Īao] river. Several minor *'auwai* have, since ancient times, tapped the river at different points lower down and spread the water through the lands in the gulch on either side of the river bed.

Handy in Sterling (1998:63) further notes that "...[f]rom Waihee and Wailuku Valley, in ancient times, was the largest continuous area of wet taro cultivation in the islands." Cheever (1851:124) writes: "the whole valley of Wailuku, cultivated terrace after terrace, gleaming with running waters and standing pools, is a spectacle of uncommon beauty to one that has a position a little above it."

Recent archaeological research (Fredericksen and Fredericksen 1997:52) has revealed that habitation sites along what is now Lower Main Street in Wailuku "are associated with the rich taro producing lands in the Lower Īao River flood plain, and the extensive cultivation systems present in Īao Valley." These habitation sites have been dated to the A.D. 15th through 17th centuries. The Īao Valley area was not only renowned for its agricultural base during the pre-Contact Period, but its ceremonial and political base as well (see also Cordy 1996; Donham 1996).

No discussion of Wailuku District is complete without mentioning the important *heiau* complex above Īao Valley near its seaward terminus. During the mid to late 18th century, the Halekii-Pihana *heiau* complex was supposedly designed by a Hawaiian named Kiha (Sterling 1998:89). These monuments, designated as State Site 50-50-04-522 are described as very important *heiau* within Hawaiian history. Yent (1983:7) notes the life cycle of the *ali'i* was represented here. It was the place where Kamehameha I's wife (Keōpuolani) was born, Kahekili lived, and Kekaulike died. Thrum (1909:46) reported that Kamehameha I evoked his war god at Pihana Heiau after his warriors defeated Kalanikupuli's forces during the Battle of Īao in 1790. The two *heiau* are primarily associated with Kahekili, who is connected with the Halekii-Pihana complex between c. A.D. 1765 and 1790, and Kamehameha, during his conquering of Maui in 1792 (Yent 1983:18). As stated, the area, in general, is known not only for its religious and/or ceremonial significance, but for its political prominence as well.

PRE-CONTACT PERIOD (PRE-1778)

According to Kamakau (1870 in Sterling 1998: 2), "...the ancient name of the island of Maui was Ihikapalaumaewa..." The island was renamed "...after a famous child of Wakea and Papa who became ancestor of the people of Maui' (*ibid.*). By the end of the 18th century, Fredericksen and Fredericksen (1997:52) state that politically, Wailuku [village] was known as a central settlement for high ranking chiefs and their retinue. Kahekili, chief of Maui, resided with his entourage in Wailuku.

In 1837, the village of Kahului consisted of twenty-six *pili*-grass houses living close to the sea and depending on fishing in the coastal waters for the majority of their food (Bartholomew and Bailey 1994). Kahului is also famous for the twin fishponds Kanahā and Mauoni where mullet was still harvested in the early 1900s (*ibid.*). According to Mrs. Roalie Blaisdel (in Stokes cited in Sterling 1998:87-88):

The construction of the ponds was initiated by Kapiiohookalani, the ruling *ali'i* of the islands of O'ahu and half of Moloka'i, using men from O'ahu, Maui, and Moloka'i to construct the ponds. According to legend, the line of workers extended from Makawela to Kanahā with the men standing so close together they were able to pass the boulders used in the construction of the fishpond walls from hand to hand. Before the construction of the ponds had been completed, Kapiiohookalani was killed at the battle of Kawela, Moloka'i by Alapainui, of Hawai'i Island. Kamehamehanui, the ruling *ali'i* of Maui oversaw the completion of construction of the fishponds. Once the ponds were built, Kamehamehanui placed a *kapu* (taboo) on the *kuapa* (wall) separating the two ponds. Kapiiohookalani was survived by two children; a young son named Kanahaokalani and a daughter named Kahamaluihiikeaoihilani. According to legend, Kahamaluihiikeaoihilani was of such high status, she was able to break Kamehamehanui's *kapu* and name the seaward pond Kanahā, in honor of her brother, and the other pond Mauoni, the name she used when traveling incognito.

Of interesting note is that according to Pukui *et al.* (1974:83), the *ali'i nui* Kiha-a- Pi'ilani is said to be credited with the construction of Kanahā Fishpond during the 1500s.

HISTORIC PERIOD

The project area extends around the eastern portion of Kahului Harbor in Wailuku Ahupua'a (see Figure 1). The development of Wailuku and Kahului Harbor itself is well documented in 19th-20th century government records, photographs, and maps. Sargent *et al.* (1988) provide in-depth study of the harbor, breakwater, and jetty structures, all of which are directly pertinent to the current project. This excellent report is summarized herein per the Kahului Harbor structures.

As the sugar industry developed in the mid-1800s, more and more land was leased or purchased for what had become an intensely profitable endeavor. Water was an issue, but in

1876, the Hamakua Ditch Company (Alexander and Baldwin) was formed and within two years was bringing water from the streams of Haleakalā to four plantations in East Maui (Dorrance and Morgan 2000).

Also in 1876, the Reciprocity Treaty's ratification notice arrived by steamer, along with Claus Spreckles, California's sugar magnate, who viewed the sugar situation and decided two years later to turn the dry plains of Maui into a garden of cultivated cane (Van Dyke 2008). By various questionable means, he was able to acquire half interest in 16,000 acres of land in Waikapū commons and was able to lease 24,000 acres of Crown Lands on the Wailuku plains in central Maui for \$1,000 (*ibid.*).

Having seen the success of the recently completed Hamakua Ditch now bringing mountain water to the otherwise dry, and unproductive East Maui fields, and having lost his battle to control this ditch water, Spreckles formed the Hawaiian Commercial Company and decided to construct a ditch system of his own on East Maui above the Hamakua Ditch, for his newly acquired land (Wilcox 1996). Spreckles' Haiku Ditch extended 30 miles, from Honomanu Stream to the Kīhei boundary and the water was used to irrigate his cane lands in the central Maui plains (*ibid.*).

In 1882, Spreckles reorganized his company into a California corporation, called Hawaiian Commercial and Sugar Company, or HC&S (Wilcox 1996). Later he constructed another water system known as the Waihee Ditch in West Maui. It brought water from 15 miles away, starting at an elevation of 435 feet, to Kalua where it emptied into HC&S Waiale Reservoir (*ibid.*).

The ensuing years brought trials and tribulations between Spreckles, his associates, and the Maui sugar planters, resulting finally in the 1898 sale of his HC&S stock, at an all time low, to James Castle in partnership with Alexander and Baldwin, and the departure of Claus Spreckles from Hawai'i (Dorrance and Morgan 2000; Wilcox 1996).

Thomas Hogan built the first western building, a warehouse, near the shoreline of Kahului in 1863 (Clark 1980). The dredging of Kahului harbor through the years filled in large sections of the ponds, eventually blocking the outlet to the sea.

As the sugar industry developed, Kahului became a cluster of warehouses, stores, wheelwright and blacksmith shops close to the harbor. A small landing was constructed in 1879

to serve the sugar company (Clark 1980). In the late 1800s, Kahului possessed a new custom house, a saloon, Chinese restaurants, a railroad and a small population of residents. Kahului's main focus was shipping. The 1900 bubonic plague outbreak destroyed much of the town as officials decided to burn down the Chinatown area in an effort to contain the epidemic. The Chinese, Japanese and Hawaiian residents were displaced by this action. To further insure isolation, authorities encircled the entire town with corrugated iron rat-proof fences which ended the spread of the plague (Bartholomew and Bailey 1994). The Kahului Railroad Company built a 1,800 foot long rubble-mound breakwater in 1910 and dredging of the harbor now allowed ships with a 25-foot draft to dock at the new 200-foot wharf (Clark 1980).

Henry Baldwin and Lorrin Thurston formed the Kihei Sugar Company in 1899, to grow cane on their ranch lands in south central Maui (Dorrance and Morgan 2000). It was sent to the mill at Pu'unēnē to be ground, but, although production was high, it was not enough to cover the costs (*ibid.*).

After the annexation in 1898, some of the planters on Maui, including Alexander and Baldwin, had decided to combine plantations to reap maximum profit. They formed the Maui Agricultural Company, a co-partnership that initially encompassed seven plantations and two mills. In 1904, five new plantations became part of the Maui Agricultural Company, as Kula Plantation Company, Makawao Plantation Company, Pulehu Plantation Company, Kailua Plantation and Kaliaui Plantation Company were newly formed by carving up the unprofitable Kihei Plantation land (Dorrance and Morgan 2000). Maui Agricultural Company merged with HC&S in 1948 (Dorrance and Morgan 2000).

Land use in Wailuku and Waikapū Ahupua'a in the mid-19th and early 20th century was largely devoted to the sugar industry. During the 1860s, the sugar business was growing, with plantations and mills at Wailuku, Waihe'e, Waikapū, and Ha'iku. Many of the plantation camps associated with these mills were centered in the Pu'unene, Kahului, and Wailuku area (see Denham *et al.* 1992:16). Hopoi Camp is said to have been located near Hopoi Reservoir. Hopoi Reservoir was constructed by at least by 1922, when references to Hopoi Camp occurred on an area map. Historic utilization of the Waikapū-Wailuku landscape near the project area focused on industrial-levels of cultivating sugar cane and pineapple. Water was channeled from traditional sources (*e.g.*, Waikapū Stream, western aquifers or springs) through plantation lands. Both local and imported workers operated on these plantation lands and the area maintained fair population density. These former sugar cane and pineapple lands are now being reclaimed through residential developments and industrial baseyards.

THE MĀHELE

In the 1840s, traditional land tenure shifted drastically with the introduction of private land ownership based on western law. While it is a complex issue, many scholars believe that in order to protect Hawaiian sovereignty from foreign powers, Kamehameha III established laws changing the traditional Hawaiian economy to that of a market economy (Kame'eleihiwa 1992:169-70, 176; Kelly 1983:45, 1998:4; Daws 1962:111; Kuykendall 1938 Vol. I:145). The Māhele of 1848 divided Hawaiian lands between the king, the chiefs, the government, and began the process of private ownership of lands. The subsequently awarded parcels were called Land Commission Awards (LCAs). Once lands were thus made available and private ownership was instituted, the *maka'āinana* (commoners) were able to claim the plots on which they had been cultivating and living. These claims did not include any previously cultivated but presently fallow land, *'okipū* (on O'ahu), stream fisheries, or many other resources necessary for traditional survival (Kelly 1983; Kame'eleihiwa 1992:295; Kirch and Sahlins 1992). If occupation could be established through the testimony of two witnesses, the petitioners were awarded the claimed LCA and issued a Royal Patent after which they could take possession of the property (Chinen 1961:16).

Once Article IV of the Board of Commissioners to Quiet Land Titles was passed in December 1845, the legal process of private land ownership was begun. The land division, called the Māhele, began in 1848. As stated above, the lands of the kingdom of Hawai'i were divided among the king (crown lands), the *ali'i* and *konoiki*, and the government.

Once lands were made available and private ownership was instituted, native Hawaiians, including the *maka'ainana* (commoners), were able to claim land plots upon which they had been cultivating and living. Oftentimes, foreigners were simply just given lands by the *ali'i*. However, in the case of commoners, they would only make claims only if they had first been made aware of the foreign procedures (*kuleana* lands, land commission awards). These claims could not include any previously cultivated or currently fallow land, *okipu*, stream fisheries, or many other natural resources necessary for traditional survival (Kame'eleihiwa 1992:295; Kirch and Sahlins 1992). Awarded parcels were labeled as Land Commission Awards (LCAs). If occupation could be established through the testimony of witnesses, the petitioners were issued a Royal Patent number and could then take possession of the property. Commoners claiming house lots in Honolulu, Hilo, and Lahaina were required to pay commutation to the government before obtaining a Royal Patent for their awards (Chinen 1961:16).

During the Māhele, Wailuku District was declared Crown Land and numerous Land Commission Awards, approximately 180, were awarded within Wailuku Ahupua'a while approximately 100 were awarded for Waikapū Ahupua'a (Creed 1993). A handful of foreigners (*i.e.*, Anthony Catalena, James Louzada, E. Bailey) gained control of large parcels of lands that would later be used for mass cultivation of sugar. Significantly, the majority of LCAs were awarded to Hawaiians, a gauge that can be used to measure pre-Contact settlement (Creed 1993:38). These keep with the overall LCA pattern of the Wailuku area intimating taro cultivation in association with permanent residences. Such a pattern is historically documented from 1848, but likely extended deeper into the past.

According to the Waihona 'Aina Database 2016), two LCAs were located west of and adjacent to Kahului Harbor. Land Commission Award 420, located at the western end of the harbor, currently within TMK: (2) 3-7-001, was awarded to Kuihelani, Kamehameha's steward who was placed in charge of lands on O'ahu when Kamehameha returned to Hawai'i Island in 1812 (Gast 1973:325). This was a large award encompassing 743.4 acres in the land of Owaa and included a stone house with a *pili* thatch roof (Native Register 146V2, Royal Patent 1996). Victoria Kamamalu received LCA 7713:23, which consisted of the *'ili* of Kalua in Wailuku. These lands extended from TMK: (2) 3-7-008:018 along the shore of Kahului Harbor to at least TMK: (2) 3-07-008:027, bordering Pu'unene Avenue (Native Register 440-444v5). The records do not reflect land use. No LCAs appear to have been in close proximity to the current project area.

Breakwater Construction and Maintenance

In 1900, the Kahului Railroad Company constructed the original Kahului Harbor, which consisted of a berthing area, a dredged channel, and 400-foot long east breakwater. Multiple repairs and expansion have been done to the harbor since initial construction. In 1913, the first breakwater improvements were completed by the Corps of Engineers along a 400-foot extension of the east breakwater. In 1919, the Corp of Engineers constructed the west breakwater, which encompassed a length of 1,950 feet. Extensions to the east and west breakwaters were completed in 1931, to lengths of 2,766 feet and 2,315 feet respectively. Between 1931 and 1954 routine maintenance and repair involved restoration of the breakwater, at a cost of c. \$1,000,000. In October 1943, damage occurred to the east breakwater as approximately 45 tons of rock were dislodged and fell into the inner harbor area. Approximately 250 tons of rock was used to repair this portion of the breakwater. The west breakwater was damaged on April 1, 1946 by a tsunami, but details of the damage are limited. Multiple repair events to the harbor and walls

occurred from January 1947 to 1966; damage mostly caused by natural storms and high surf events. In 1966, a major rehabilitation project was undertaken, which consisted of repairing both breakwater heads, with extensive use of large (35-ton) tribars to reinforce the breakwaters. Storms in 1967 and 1969 required additional re-building. Maintenance and repair work was ongoing to the harbor and its breakwaters through the late 1980s and beyond, due to failings and requiring reinforcement using large tribars and reinforced concrete.

PREVIOUS ARCHAEOLOGY

In terms of general projects in the Wailuku environs, the earliest archaeological endeavors on Maui were undertaken by Thrum (1909) and Walker (1931), under the auspices of the Bishop Museum. Their data allows for a deeper understanding of the traditional use of the Wailuku area. More recent archaeological studies conducted around the perimeters Kahului Bay have led to the identification of cultural deposits containing remnants of the old Kahului Railroad Bed (State Site 50-50-04-3112), historic refuse, as well as early pre-Contact artifacts, midden, and scattered human remains (McGerty and Spear 2001).

As of more recent time, eight archaeological studies were identified as being the closest in proximity to the project area. The studies reported the identification of either historic artifacts, pre-Contact cultural remains, or both. Much of the pre-Contact material was identified over a meter in depth, and some reported cultural remains were located under layers of fill brought into the area in use for modern construction activities. Cultural remnants were also identified beneath aeolian deposits and partially lithified dunes.

The following is a list of reports of the aforementioned archaeological studies. More detailed historic information as to the terrestrial portion of the harbor area itself may be found in Johnson and Dega (2006) and Hunt *et al.* (2006).

Four sites were identified during an inventory survey for the Nisei Veterans Memorial Center (Fredericksen *et al.*, 1997), located approximately 1.5 miles west of the current project area and across the harbor from the current project area. State Site 50-50-04-3112, a remnant of the old Kahului Railroad Bed which was built in the 1880s; State Site 50-50-04-3119A, an historic refuse area probably associated with railroad construction and usage and which dated from the late 19th and early 20th centuries; and State Site 50-50-04-3120, an extensive pre-Contact site. State Site 50-50-04-3119B was located in subsurface strata c. 1.00 to 1.50 mbs, below the historic refuse area, and consisted of pre-Contact artifacts and marine shell midden. A

charcoal sample yielded an extremely early radiocarbon date of 1790 \pm 70 RCYBP. Phase I excavation resulted in other radiocarbon dates ranging from 310 \pm 100 RCYBP (90 to 110 cmbd) to 520 \pm 70 RCYBP suggesting a continuous use of the area for at least 200 years. During the Phase II data recovery, human remains were identified in a number of trenches. Associated cultural deposits were dated from AD 1200 to AD 1470. Additional burials were recovered during Phase III testing. It was further noted that State Site 50-50-04-3120 was probably impacted in its southeastern part by at least two separate modern construction activities. It was noted that several of the backhoe test trenches were not excavated deep enough to reach the undisturbed pre-Contact cultural deposit, which was in excess of two meters in depth at some locations. In addition, cultural layers occurring beneath deep deposits of lithified dune sand were suggested to have been erroneously interpreted as being much older than they actually were.

Scientific Consultant Services (Burgett and Spear, 1999), Inc. conducted archaeological monitoring during construction work on 5.443 acres at the Puunene Container Yard facility at Kahului Harbor. The facility area, which contained existing infrastructure, has been developed with paving and fencing, which borders the project area. However, additional improvements were planned in three phases, all of which were subject to archaeological monitoring. Phase I consisted of excavations for construction of a bridge. Phase II consisted of excavations for installation of a reinforced concrete pavement. Phase III consisted of excavations for installation of an asphalt pavement. Construction occurred intermittently over a seven-month period. Although portions of the project area had been previously disturbed, a partially *in situ* historic burial (State Site 50-50-04-5773) was identified, as well as numerous traditional and historic artifacts. Both traditional and historic-period activities were documented for the area, even though disturbance was high.

In 2007, Xamanek Researches (Fredericksen 2007) conducted an archaeological assessment (*i.e.*, archaeological inventory survey investigation with negative findings) of the Kanaha Industrial Subdivision II, located in TMK: (2) 3-7-011:028, located approximately 0.5 miles south of the current project area.

In 2008, SCS (Perzinski and Dega, 2009) conducted archaeological monitoring for the Wailuku Force Main sewer replacement around Kahului Harbor. In total, four archaeological significant sites were encountered during the duration of the project. The sites include one previously disturbed human burial (State Site 50-50-04-6610) located to the east near Hoaloha Park, one historic trash dump (State Site 50-50-04-6611), one historic road bed (State Site 50-50-

04-6612), and a portion of the historic Wailuku Railroad (State Site 50-50-04-3112) located on the *mauka* side of Kahului Beach Road near the Maui Arts and Cultural Center.

In 2010, SCS (Perzinski and Dega, 2015) conducted an archaeological assessment of approximately 1700 feet of shoreline along Kahului Harbor in Wailuku District, Island of Maui, Hawai'i [TMK: (2) 3-7-001]. No historic properties were identified.

EXPECTED FINDINGS

Based on all of the above background information, including the character of the shoreline in its present condition, expected findings of this Archaeological Assessment were as follows:

- (1) There was a low likelihood of finding traditional Native Hawaiian burials due to historic disturbance (related to road construction and previous harbor improvements) and lack of the natural sand deposits within the project area; sands were not visible in any natural bank cuts available for observation during the assessment;
- (2) There was low likelihood of finding subsurface evidence of traditional Native Hawaiian activities, including: hearths (*imu*), midden deposits, and other occupation debris (*e.g.*, stone tool waste, fishing camps);
- (3) There was a moderate likelihood of finding historic debris of various kinds, especially as fill or past dumping; sites and features related to historic roads or railroads were also possible;
- (4) There was virtually no likelihood of finding significant surface features or sites, since the project area is located on a heavily travelled road with the shoulder being used by fishermen and beach combers.

METHODS

The archaeological inventory survey fieldwork was conducted between June 22, 2016 and July 20, 2016, by SCS archaeologist Ian Bassford, B.A., under the direct supervision of Michael F. Dega, Ph.D., Principal Investigator. Following the demarcation of the project area boundaries, a 100% pedestrian survey was conducted. It was noted that the project area has been subjected to grading and filling episodes during the historic and modern development of the harbor which was evident in the eroded banks along the shoreline.

FIELD METHODOLOGY

Multiple tasks were completed during this project which was conducted between June 22, 2016 and July 20, 2016, by SCS Ian Bassford, B.A, under the direct supervision of Michael F. Dega, Ph.D., Principal Investigator. On June 29, 2016, a total of five stratigraphic trenches were predetermined, in consultation with SHPD. Trenches were placed in areas that were in open, undeveloped portions of the project area. In addition, GPR was employed in an effort to locate any previously unknown underground utilities or subsurface anomalies in the five locations selected for trenching. All five areas were clear.

First, a systematic pedestrian survey of the entire project area was conducted by the SCS archaeologist in order to identify and document any and all pre-and post-Contact archaeological surface features, assesses the nature and extent of landscape modification, and allowed for assessing areas amenable for testing. Following pedestrian survey, five (5) stratigraphic trenches were mechanically excavated, via backhoe, to basal into sterile substrate or the water table, whichever was encountered first, on July 18 and 19, 2016. Excavations were conducted under the guidance of Celine, of Enviro Services Hawaii, who was present to control and monitor for any known ground contaminates. Excavation was strictly controlled to help isolate and prevent any cross contamination. Plastic sheeting was placed on the ground and all excavated materials were then placed into three distinct piles: 0 to 1 ft., 1 to 3 ft. deep, and from 3 ft. deep to the base of excavation (BOE). None of the excavated sediments were screened as there were no artifacts or cultural deposits encountered during excavation. Upon completion of excavation, all trenches were photographed and one wall of each excavation was stratigraphically profiled thereby documenting all of the soil layers which were present. Tasks conducted in addition to the fieldwork include archival research, mapping, providing Munsell descriptions of stratigraphic trench profiles, drafting plan view maps, as well as analysis, interpretation, and reporting of all relevant data.

While the trench results did slightly vary, it was determined that the entire parcel had been subjected to a filling episode. This fill layer varied over the project area between 40 cm to 130 cm below surface. The base layer identified in all of the trenches consisted of soft aeolian sand, which when excavated, produced extremely unstable trench side walls which were very prone to collapse. Due to safety concerns, no trenches were excavated to depths exceeding 2.8 m below surface. Ground water was encountered in Stratigraphic Trenches 1, 2, and 3. No historic properties or cultural deposits were identified during the AIS process.

LABORATORY METHODS

Laboratory work included digital drafting of plan view maps and stratigraphic profiles for publishing and archival storage; no cultural material was collected therefore lab analysis, and documentation was limited to that listed above, and no cultural material was available for radio carbon dating for this project. All field notes, maps, and photographs pertaining to this project are currently being curated at the SCS facilities in Honolulu.

Soil colors were recorded using Munsell color charts, soil composition was recorded with the aid of the U.S. Department of Agriculture Soil Survey Manual on standard soil stratigraphy forms, and profiles were drawn. Overview photographs of individual stratigraphic trench profiles and the project area were taken with a 3.2 mega-pixel digital camera.

EXCAVATION RESULTS

A total of five (5) stratigraphic trenches were mechanically excavated, via backhoe, excavated across the 9.83 acre project area. As stated elsewhere in this document, the stratigraphic trench locations were predetermined in consultation with SHPD. The stratigraphic trench locations were placed on a Google Earth Image (2016) for easier viewing (Figure 5).

STRATIGRAPHIC TRENCH DESCRIPTIONS

Five locations were selected for testing across the project area (ST-1 through ST-5) (see Figure 5), in consultation with SHPD. A description of each trench is presented below, including descriptions of the stratigraphic layers, to scale stratigraphic profile drawings, and photographs of the stratigraphy of each trench (Figure 6 through Figure 20).

The stratigraphic trenches ranged in length from 5.0 to 5.7 meters (m), from 1.0 to 3.0 m in width, with depths ranging from 1.3 to 2.8 m below surface. The base layer of each of the five stratigraphic trenches consisted of soft sand, which when excavated produced extremely unstable trench sidewalls. Trench excavations were terminated upon encountering the water table (ST-1 through 3) or due to the collapsing trench walls which posed safety concerns ST-4 and ST-5). While the trenching results varied slightly, it was determined that the entire parcel had been subjected to a fill episode, with the depths of the fill deposit varying from 40 to 130 cmbs across the project area. A summary of the stratigraphic trenching data are presented in Table 1.



Figure 5: Google Earth Image (2016; Imagery Date 1/12/2013) Showing Project Area and Stratigraphic Trench Locations.

Table 1: Stratigraphic Trench Data.

STRATIGRAPHIC TRENCH (ST)	LENGTH (IN METERS)	WIDTH (IN METERS)	DEPTH (IN METERS)	STRATIGRAPHY	BEARING	GPS COORDINATES	CULTURAL MATERIAL
ST-1	5.1	1.0	1.3	<p>Layer I (0-10 cmbs) very dark gray (10YR 3/1, dry) compact gravely silt, plastic. Abrupt, smooth lower boundary. Recent trash throughout Layer I. Interpreted as recent fill.</p> <p>Layer II (10-40 cmbs) light brownish gray (10YR 6/2, dry) compact sandy silt, with coral gravel throughout, non-plastic. Abrupt, smooth lower boundary. Interpreted as a disturbed natural deposit.</p> <p>Layer III (40-130 cmbs) very pale brown (10YR 7/4, moist) non-plastic, loose, well-sorted sand. Natural stratum. Layer terminated at water table.</p>	80/260° (Mag)	0764090E 2312605N	No traditional or historic cultural materials or deposits present in trench.
ST-2	5.4	1.0	1.5	<p>Layer I (0-10 cmbs) very dark gray (10YR 3/1, dry) compact gravely silt, plastic. Abrupt, smooth lower boundary. Recent trash throughout Layer I. Interpreted as recent fill.</p> <p>Layer II (10-40 cmbs) light brownish gray (10YR 6/2, dry) compact sandy silt, with coral gravel throughout, non-plastic. Abrupt, smooth lower boundary. Interpreted as a disturbed natural deposit.</p> <p>Layer III (40-150 cmbs) very pale brown (10YR 7/4, moist) non-plastic, loose, well-sorted sand. Natural stratum. Layer terminated at water table.</p>	80/260° (Mag)	0764118E 2312615N	No traditional or historic cultural materials or deposits present in trench.
ST-3	5.0	1.0	1.8	<p>Layer I (0-10 cmbs) very dark gray (10YR 3/1, dry) compact gravely silt, plastic. Abrupt, smooth lower boundary. Recent trash throughout Layer I. Interpreted as recent fill.</p> <p>Layer II (10-60 cmbs) light brownish gray (10YR 6/2, dry) compact sandy silt, with coral gravel throughout, non-plastic. Abrupt, smooth lower boundary. Interpreted as a disturbed natural deposit.</p> <p>Layer III (60-180 cmbs) very pale brown (10YR 7/4, moist) non-plastic, loose, well-sorted sand. Natural stratum. Layer terminated at water table.</p>	100/289° (Mag)	0764023E 2312631N	No traditional or historic cultural materials or deposits present in trench.
ST-4	5.2	1.0	1.9	<p>Layer I (0-12cmbs) very dark gray (10YR 3/1, dry) compact gravely silt, plastic. Abrupt, smooth lower boundary. Recent trash throughout Layer I. Interpreted as recent fill.</p> <p>Layer II (12-60 cmbs) dark brown (10YR 3/3, dry) Abrupt, smooth lower boundary. Recent trash throughout Layer II. Interpreted as a disturbed natural deposit.</p> <p>Layer III (0-190 cmbs) light yellowish brown (10YR 6/4, moist) non-plastic loose, well-sorted sand. Natural stratum.</p>	345/165° (Mag)	0764068E 2312669N	No traditional or historic cultural materials or deposits present in trench.

STRATIGRAPHIC TRENCH (ST)	LENGTH (IN METERS)	WIDTH (IN METERS)	DEPTH (IN METERS)	STRATIGRAPHY	BEARING	GPS COORDINATES	CULTURAL MATERIAL
ST-5	5.7	3.0	2.8	<p>Layer I (0-22/40 cmbs) dark brown (10YR3/3, dry) loose silt, semi-plastic. Recent trash throughout Layer I. Very abrupt, wavy lower boundary. Interpreted as recent fill.</p> <p>Layer II (22/40- 130 cmbs) yellow (10YR 7/6, dry) loose, well-sorted sand, non-plastic. Abrupt, smooth lower boundary. Interpreted as a fill deposit.</p> <p>Layer III 130-140/180 cmbs) dark yellowish brown 10YR 4/4, dry) loose structure-less sand mottled with black (10YR 2/1, dry) loose structure-less sand. Abrupt, irregular lower boundary. Interpreted as a fill deposit.</p> <p>Layer IV (140- 280 cmbs) yellow (10YR 7/6, dry) loose, well-sorted sand with coral pebbles and cobbles. Disturbed natural stratum.</p>	40/220° (Mag)	0764033E 2312722N	No traditional or historic cultural materials or deposits present in trench.

Stratigraphic Trench 1 (ST-1)

Stratigraphic Trench 1 (ST-1) measured 5.1 by 1.0 by 1.3 m and was oriented along an east/ west axis (80/260° magnetic north; Figure 6; see Figure 5). The trench was excavated to a maximum depth of 130 cmbs and exposed three stratigraphic layers (Figures 7 and 8). Layer I (0-10 cmbs) was a very dark gray (10YR 3/1, dry) compact gravely, plastic silt. Trash was present throughout layer I. Layer I exhibited an abrupt, smooth lower boundary and was interpreted as recent fill. Layer II (10-40 cmbs) was a light brownish gray (10YR 6/2, dry) compact sandy non-plastic silt, with coral gravel throughout. Layer II exhibited an abrupt, smooth lower boundary and was interpreted as a disturbed natural deposit. Layer III (40-130 cmbs) was comprised of very pale brown (10YR 7/4, moist) non-plastic, loose, well-sorted sand. Layer III was interpreted as a natural stratum and was terminated at the water table. No traditional or historic cultural materials or deposits were present in ST-1.

Stratigraphic Trench 2 (ST-2)

Stratigraphic Trench 2 (ST-2) measured 5.4 by 1.0 by 1.5 m and was oriented along an east/ west axis (80/260° magnetic north; Figure 9; see Figure 5). The trench was excavated to a maximum depth of 150 cmbs and exposed three stratigraphic layers (Figures 10 and 11). Layer I (0-10 cmbs) was a very dark gray (10YR 3/1, dry) compact gravely, plastic silt. Trash was present throughout layer I. Layer I exhibited an abrupt, smooth lower boundary and was interpreted as recent fill. Layer II (10-40 cmbs) was a light brownish gray (10YR 6/2, dry) compact sandy non-plastic silt, with coral gravel throughout. Layer II exhibited an abrupt, smooth lower boundary and was interpreted as a disturbed natural deposit. Layer III (40-150 cmbs) was comprised of very pale brown (10YR 7/4, moist) non-plastic, loose, well-sorted sand. Layer III was interpreted as a natural stratum and was terminated at the water table. No traditional or historic cultural materials or deposits were present in ST-2.

Stratigraphic Trench 3 (ST-3)

Stratigraphic Trench 3 (ST-3) measured 5.0 by 1.0 by 1.8 m and was oriented along a northwest/southeast axis (100/280° magnetic north; Figure 12; see Figure 5). The trench was excavated to a maximum depth of 180 cmbs and exposed three stratigraphic layers (Figures 13 and 14). Layer I (0-10 cmbs) was a very dark gray (10YR 3/1, dry) compact gravely, plastic silt. Trash was present throughout layer I. Layer I exhibited an abrupt, smooth lower boundary and was interpreted as recent fill. Layer II (10-60 cmbs) was a light brownish gray (10YR 6/2, dry) compact sandy non-plastic silt, with coral gravel throughout. Layer II exhibited an abrupt, smooth lower boundary and was interpreted as a disturbed natural deposit. Layer III (60-180



Figure 6: Photographic Overview of Stratigraphic Trench 1. View to North.

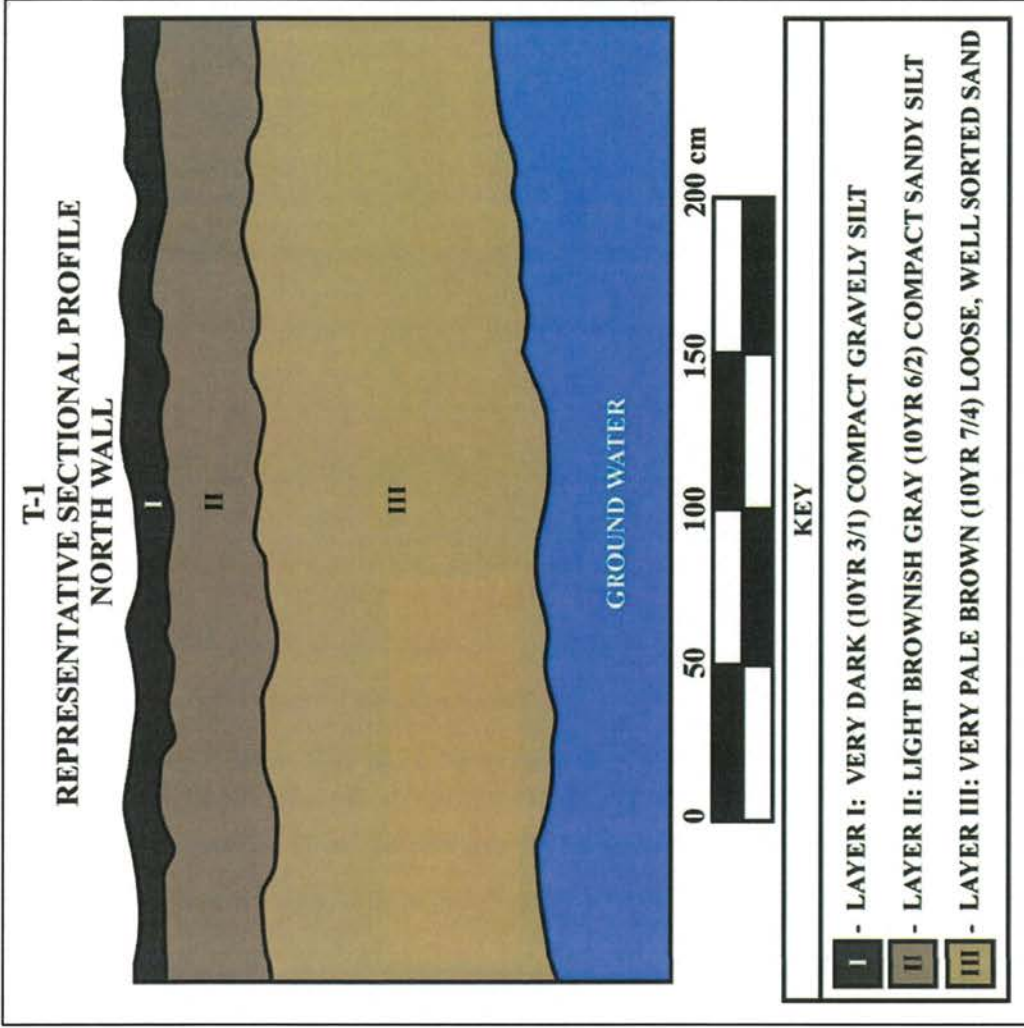


Figure 7: Profile Drawing of Stratigraphic Trench 1, North Wall.



Figure 8: Photograph of Stratigraphic Trench 1 North Wall Profile. View to North.



Figure 9: Photographic Overview of Stratigraphic Trench 2. View to West.

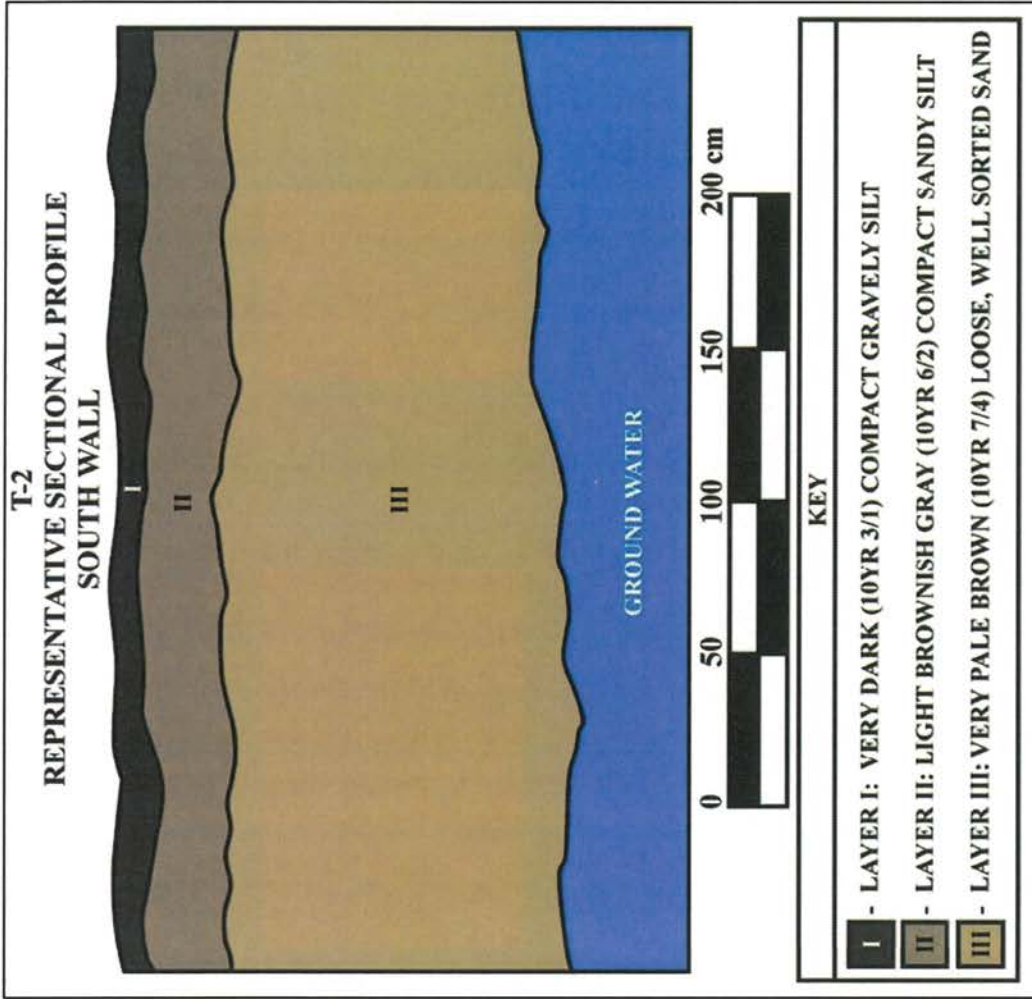


Figure 10: Profile Drawing of Stratigraphic Trench 2, South Wall.



Figure 11: Photograph of Stratigraphic Trench 2 South Wall Profile. View to South.



Figure 12: Photographic Overview of Stratigraphic Trench 3. View to East.

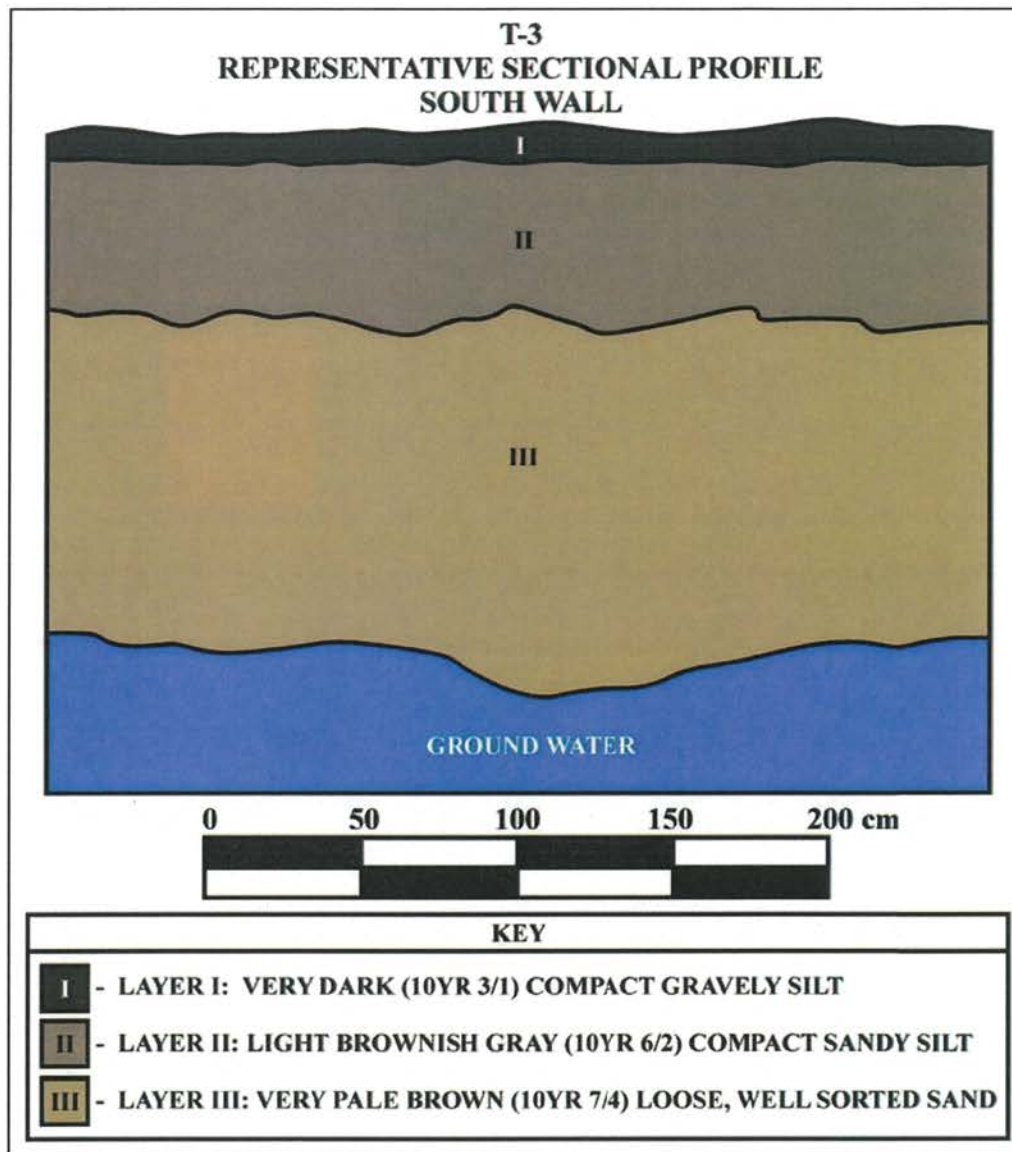


Figure 13: Profile Drawing of Stratigraphic Trench 3, South Wall.



Figure 14: Photograph of Stratigraphic Trench 3 South Wall Profile. View to South.

cmbs) was comprised of very pale brown (10YR 7/4, moist) non-plastic, loose, well-sorted sand. Layer III was interpreted as a natural stratum and was terminated at the water table. No traditional or historic cultural materials or deposits were present in ST-3.

Stratigraphic Trench 4 (ST-4)

Stratigraphic Trench 4(ST-4) measured 5.2 by 1.0 by 1.9 m and was oriented along a north/south axis (100/280° magnetic north; Figure 15; see Figure 5). The trench was excavated to a maximum depth of 190 cmbs and exposed three stratigraphic layers (Figures 16 and 17). Layer I (0-12cmbs) consisted of very dark gray (10YR 3/1, dry) compact gravelly, plastic silt. Layer I exhibited an abrupt, smooth lower boundary. Recent trash was present throughout Layer I. Layer I was interpreted as recent fill. Layer II (12-60 cmbs) was comprised of dark brown (10YR 3/3, dry). Recent trash was also present throughout Layer II. Layer II exhibited an abrupt, smooth lower boundary and was interpreted as a disturbed natural deposit. Layer III (0-190 cmbs) light yellowish brown (10YR 6/4, moist) non-plastic loose, well-sorted sand and was interpreted as a natural stratum. No traditional or historic cultural materials or deposits were present in ST-4.

Stratigraphic Trench 5 (ST-5)

Stratigraphic Trench 5(ST-5) measured 5.7 by 3.0 by 2.8 m and was oriented along a northeast/southwest axis (40/220° magnetic north; Figure 18; see Figure 5). The trench was excavated to a maximum depth of 280 cmbs and exposed four stratigraphic layers (Figures 19 and 20). Layer I (0-22/40 cmbs) was a dark brown (10YR3/3, dry) loose, semi-plastic silt. Recent trash throughout Layer I. Layer I exhibited a very abrupt, wavy lower boundary and was interpreted as recent fill. Layer II (22/40- 130 cmbs) consisted of a yellow (10YR 7/6, dry) loose, well-sorted sand, non-plastic. Layer II exhibited an abrupt, smooth lower boundary and was interpreted as a fill deposit. Layer III 130-140/180 cmbs) was comprised of dark yellowish brown 10YR 4/4, dry) loose structure-less sand mottled with black (10YR 2/1, dry loose structure-less sand. Layer III exhibited an abrupt, irregular lower boundary and was interpreted as a fill deposit. Layer IV (140- 280 cmbs) consisted of yellow (10YR 7/6, dry) loose, well-sorted sand with coral pebbles and cobbles and was interpreted as a disturbed natural stratum. No traditional or historic cultural materials or deposits were present in ST-5.

DISCUSSION AND RECOMMENDATIONS

During the pre-Contact Period, Wailuku District was a political center, rivaling the District of Hāna, and supported a substantial pre-Contact population, partially due to the abundance of water in the area. Wailuku District ranks as one of the two the major population



Figure 15: Photographic Overview of Stratigraphic Trench 4. View to South.

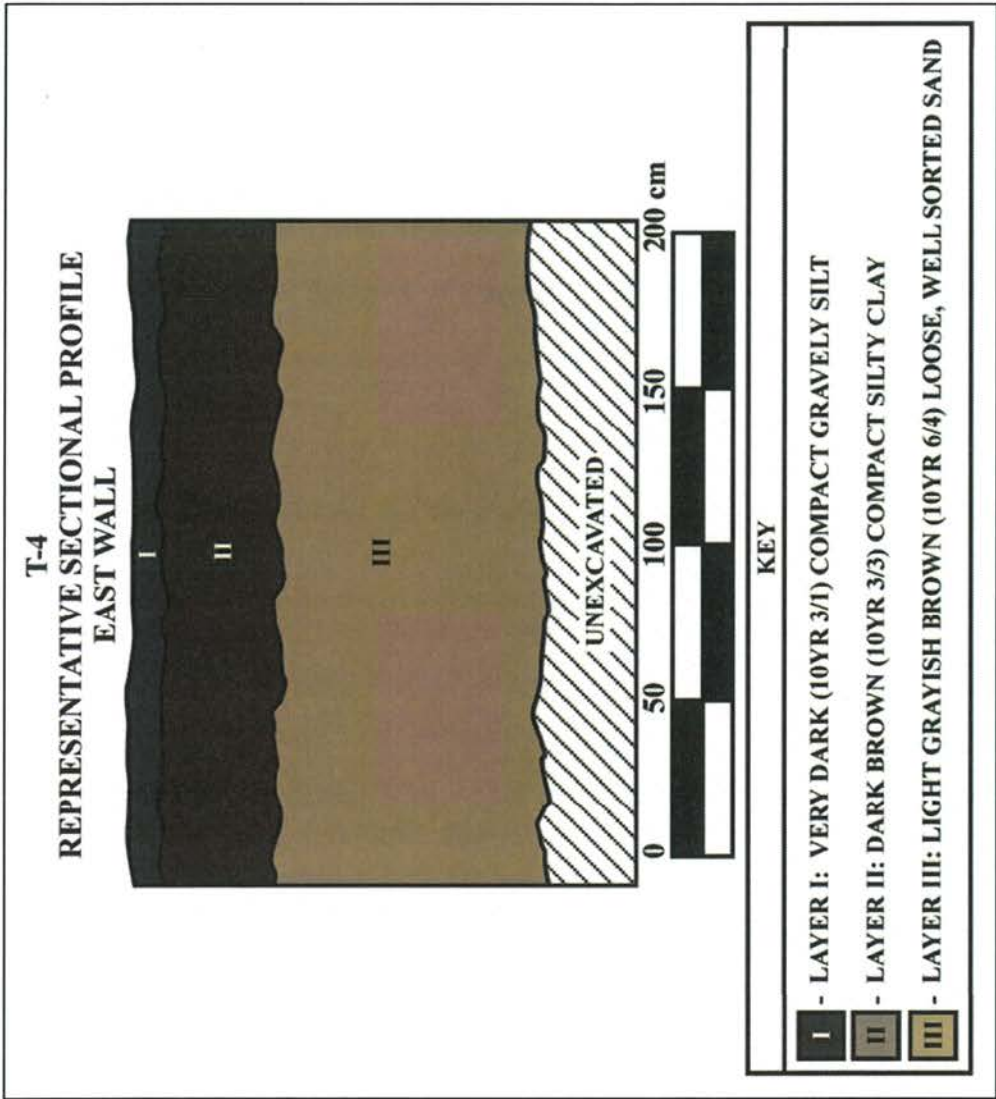


Figure 16: Profile Drawing of Stratigraphic Trench 4, East Wall.



Figure 17: Photograph of Stratigraphic Trench 4 East Wall Profile. View to East.

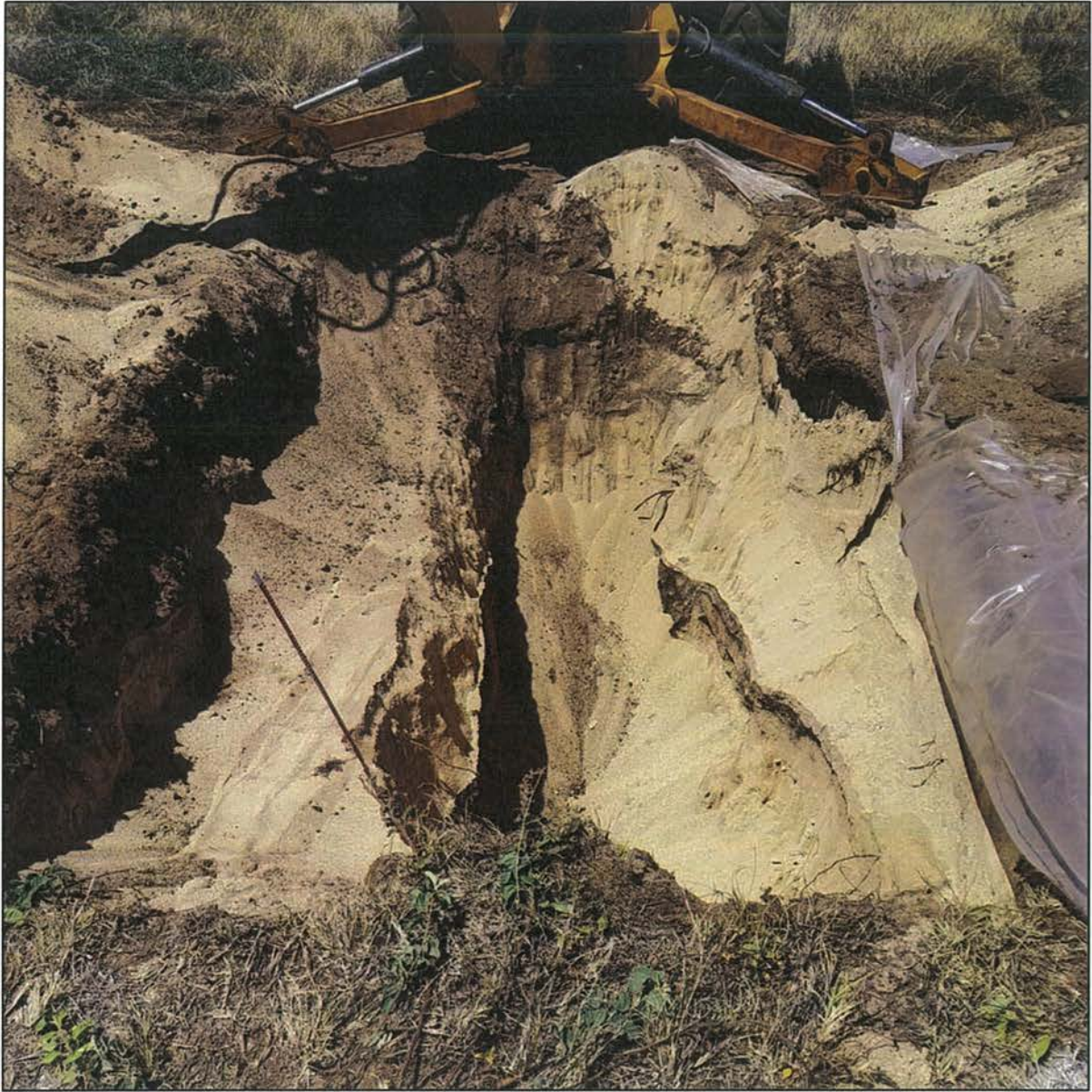


Figure 18: Photographic Overview of Stratigraphic Trench 5. View to East.

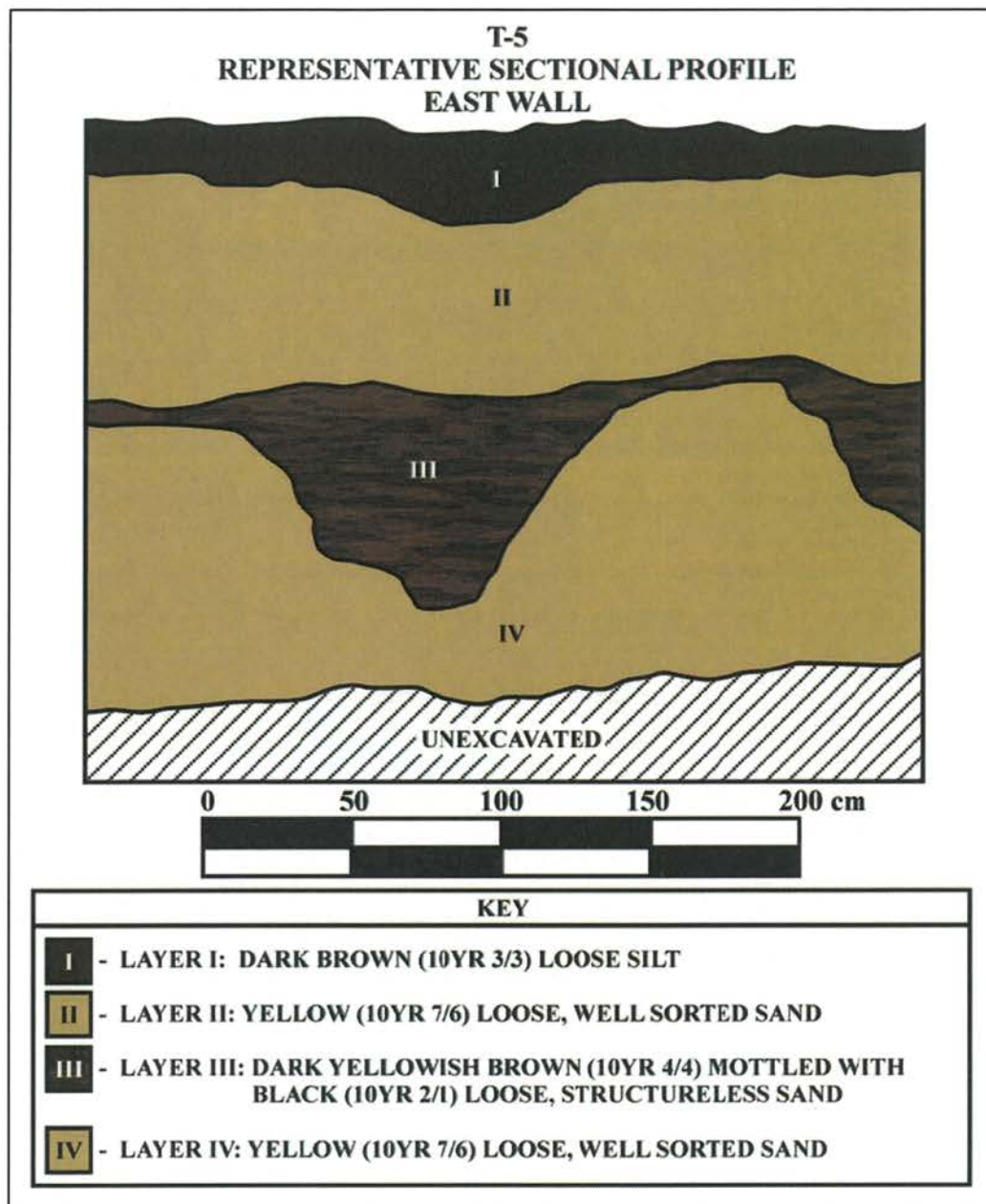


Figure 19: Profile Drawing of Stratigraphic Trench 5, East Wall.



Figure 20: Photograph of Stratigraphic Trench 5 East Wall Profile. View to East.

concentrations on Maui (Cordy 1981:198-199), with the Lāhainā District being the other major population center. Archaeological evidence of the cultural significance of the area includes numerous *heiau*, agricultural, and burial sites which have been documented throughout the region.

Previous archaeological work, also, reflects post-Contact disturbances, such as sugar cane cultivation and modern infrastructural development, including the Kahului Harbor, have impacted the archaeological record. The stratigraphy recorded during the current project documents indicates extensive subsurface disturbance throughout the study area. Such subterranean impacts are congruent with the construction of the Kahului Harbor and subsequent improvements in the area.

Although previous archaeology has documented historic properties, in the form human burials and cultural deposits, in the vicinity of Kahului Harbor, no archaeological features or deposits were identified either on the ground surface or in subsurface contexts during the current archaeological inventory survey. The absence of sites on the surface is attributed to ground disturbance associated with the previous and on-going construction activities at the Kahului Harbor. Based on the negative findings of the current archaeological inventory survey, which included subsurface testing, no additional archaeological work is recommended for the current project.

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