

SITE CHARACTERIZATION REPORT

Koa Ridge Development Site
Ka Uka Boulevard
Waipio, Oahu, Hawaii
TMKs [1] 9-4-006: Parcel 047 and
[1] 9-5-003: Parcel 004

Prepared For:
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ETC Project No. 18-2003

January 2020

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1.0 CERTIFICATIONS AND LIMITATIONS

EnviroServices & Training Center (ETC), LLC has completed this Site Characterization Report 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 of ETC's Client, exclusively for the project site indicated. The scope of services performed in execution of these site investigations 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 unauthorized and 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. Opinions stated in this report apply only to the site as outlined and apply to the conditions present at the time of site characterization activities. Moreover, these opinions do not apply to site changes that occur after the site characterization activities.

Prepared By:



Sharla Nakashima

Project Manager

EnviroServices & Training Center, LLC

Date:

January 2020

2.0 EXECUTIVE SUMMARY

EnviroServices & Training Center (ETC), LLC was contracted by Castle & Cooke Homes Hawaii, Inc. (CCHHI) to perform site characterization activities at the Koa Ridge Development project site located along Ka Uka Boulevard, Waipio, Oahu, Hawaii. The site is identified as Tax Map Keys (TMKs) [1] 9-4-006: Parcel 047 and [1] 9-5-003: Parcel 004, herein after referred to as the Property.

ETC has completed this Site Characterization Report to provide CCHHI with a baseline investigation of the Property based on the proposed Koa Ridge Development plans and the former historical use of the Property. Site sampling activities were based on the *Site Characterization for the Koa Ridge Development Site, Soil Sampling and Analysis Plan*, dated August 5, 2019, for the Property. The activities were performed in general accordance with the 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* (HEER TGM); and the DOH's Fall 2017 *Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater* (EHE Document).

The contaminants of potential concern (COPC) investigated were established based on historic land use and include total arsenic and organochlorine pesticides. The targeted media for the purposes of this investigation were surface soil at the Property.

A rectangular grid, with north-south and east-west axes, was constructed across the property so that grid cells measured 1-acre. The south portion of the Property has been or is currently being graded; therefore, the grid was situated on the approximate 290-acres of ungraded areas on the central and north portion of the Property. While the graded portion of the Property was not sampled, this area includes future medium to high density residential properties (i.e. condominiums and mixed-use structures) as well as commercial and light-industrial property development. Based on these development plans, the results of this site characterization are considered to be most appropriate for evaluating the potential hazards associated with unrestricted land use on the Property. As such, the results of these site characterization activities are considered representative of the entire Property. In addition, select randomly-selected grids were replaced due to safety concerns, such as steep terrain. A total of 320 1-acre grid cells were generated and each grid cell was assigned a unique integer. Using the random integer generator, fifty-nine 1-acre decision units were randomly selected and sampled. A minimum of fifty soil increment locations were collected within each decision unit in a systematic random manner. ETC personnel conducted soil sample collection activities between August 2019 and November 2019.

ETC submitted a total of 77 multi-increment samples (59 primary samples, 18 field replicate samples) to APPL, Inc. (APPL) in Clovis, California for multi-increment subsample processing and analyses of total arsenic via EPA Method 6020A and organochlorine pesticides via EPA Method 8081B. In general, relative standard deviation (RSD) calculations indicated good precision; therefore, the unadjusted data was used for decision making purposes. Organochlorine pesticides were either not detected above method detection limits and/or below their corresponding default DOH Environmental Action Levels (EALs) for unrestricted (i.e. residential) land use.

Samples collected from fourteen of the fifty-nine sampled decision unit grids contained average arsenic concentrations exceeding the DOH EAL of 24 mg/kg relating to background concentrations of arsenic in Hawaii soils. In those instances where the resulting total arsenic

concentrations exceeded the DOH EAL, select samples were further analyzed for bioaccessible arsenic via the Solubility Bioaccessibility Research Consortium (SBRC) method. Based on ETC's discussions with Dr. Melody Calisay of the DOH HEER Office, fifteen samples were submitted for bioaccessible arsenic via the SBRC method. Fine fraction enrichment factors and Bioavailability factors were calculated from the fifteen analyzed samples, which ranged from 114% to 150% and 4.2% to 15.1%, respectively. In those samples in which total arsenic concentrations exceeded the DOH EAL, but were not analyzed for bioaccessible arsenic, the highest fine fraction enrichment and bioavailability factors (i.e. 150% and 15.1%) were used to extrapolate and calculate estimated bioaccessible arsenic concentrations. All results, both reported and estimated, indicated that site soils were either classified as Category A (natural background) or Category B (minimally impacted).

Given the proposed future residential development, environmental hazards associated with residential (unrestricted) land use scenarios were evaluated for the Property. Category B soils are considered by the DOH to be within acceptable health risks for long-term exposure; and are suitable for unrestricted land use (i.e. residential). While the graded portions (i.e. south portion) of the Property were not sampled, given that the entire Property was previously used for agricultural purposes (i.e. former fields), COPC concentrations are anticipated be similar to sampled areas of the Property. In addition, the graded portion predominantly includes future medium to high density residential properties (i.e. condominiums and mixed-use structures) as well as commercial and light-industrial property development. Therefore, the 290-acre sampled area of the Property includes the majority of the single-family homes slated for development. As such, the results of this site characterization are considered to be most appropriate for evaluating the potential hazards associated with unrestricted land use on the Property. Based on the conclusions drawn from the analytical data, the Koa Ridge Development site does not appear to be significantly impacted by residual contaminants associated with the former agricultural use of the Property. Furthermore, an environmental hazard evaluation of the analytical results indicates that there are no retained environmental hazards associated with residential (unrestricted) land use scenarios for the Property.

3.0 SCOPE OF WORK

EnviroServices & Training Center, LLC (ETC) was contracted by Castle & Cooke Homes Hawaii, Inc. (CCHHI) to complete site characterization activities at the Koa Ridge Development property located along Ka Uka Boulevard in Waipio, Hawaii. The property being investigated consists of two adjacent parcels, identified as Tax Map Key (TMK) identification numbers [1] 9-4-006: Parcel 047 and [1] 9-5-003: Parcel 004. Hereinafter, the two parcels will collectively be referred to as the “Property.”

The purpose of this site characterization was to provide CCHHI with a baseline investigation of the Property based on the proposed Koa Ridge Development plans and the former historical use of the Property. Site activities were based on the *Site Characterization for the Koa Ridge Development Site, Soil Sampling and Analysis Plan*, dated August 5, 2019, for the Property. The activities were performed in general accordance with the DOH 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:

- Identified decision unit boundaries using the “Navigation” feature of a Trimble GeoExplorer® 2005 series, GeoXT global positioning system (GPS) unit and marked/labeled each decision unit with flagging and/or marking paint.
- Collected fifty-nine multi-increment surface soil samples and eighteen field replicate multi-increment surface soil samples from fifty-nine surface decision units.
- Submitted all soil samples to APPL Inc. for analysis of organochlorine pesticides and arsenic.
- Submitted select samples to ALS Environmental for analysis of bioaccessible arsenic.
- Prepared this Site Investigation Report to document field activities, summarize data obtained during the investigation, and evaluate the results of the investigation including maps and analytical results.

4.0 SITE BACKGROUND

4.1 Site Description and Land Area

The Property is located along Ka Uka Boulevard and consists of approximately 576 acres of land in Mililani, Oahu, Hawaii (Appendix I, Figure 1). The Property is identified as Tax Map Key (TMK) identification numbers [1] 9-4-006: Parcel 047; and [1] 9-5-003: Parcel 004. Groundcover at the Property generally consists of moderate to dense vegetation. Asphalt and concrete paved areas were limited to the southern portion of Plantation Road, which bisects the east and west parcels of the Property. The Property and surrounding areas exhibited a varying gradient with moderate to steep slopes along the border of the Kipapa Gulch. A site location map is included in Appendix I.

The Property is bordered by Ka Uka Boulevard to the south, commercial businesses and Kamehameha Highway to the southwest, Kipapa Gulch to the west and north, and the H-2 Interstate to the east.

Topographic map coverage of the Property and surrounding areas is provided by the United States Geological Survey, Island of Oahu, Hawaii 7.5-minute Series, Waipahu Quadrangle, 2013. The elevation of the Property is between 300 and 750 feet above mean sea level (msl).

4.2 Proposed Future Use

The Property is targeted for development as a residential subdivision, referred to as the Koa Ridge Development. The development plans currently include residential homes (both single-family homes and multi-family attached townhomes), commercial business development, schools, a hospital, etc.

4.3 History and Land Use

Review of historic records and interviews conducted as part of ETC's Phase I ESA for the Property indicated that the property and areas within the vicinity of the Property were previously used for the commercial cultivation of pineapple and possibly sugarcane.

4.4 Geology and Hydrogeology

4.4.1 Regional Geology

Oahu is formed by the erosional remnants of two shield volcanoes. These are the Waianae range to the west and the Koolau range to the east. The Waianae volcano is estimated to have formed 2.4 to 3.6 million years before present. It consists of a tholeiitic lava shield with a thick cap of transitional to alkalic rock. Rejuvenation-stage volcanics of undifferentiated age occur in Kolekole Pass and on the south flank of the Waianae shield. Dike orientations define northwest and southwest rift zones (Macdonald, et al., 1983).

The Koolau volcano is estimated to have formed 1.8 to 2.6 million years before the present (Macdonald, et al., 1983). It consists of a tholeiitic lava shield and lacks an alkalic cap. It has well defined major dike complex trending northwest-southwest. A third, minor rift zone referred to as the Kaau rift trends southward from Kaau crater, near the upland crest of the Koolau Ridge. After

a long dormant period and periods of deep erosion, the Koolau volcano developed abundant and scattered rejuvenation-stage vents, typically aligned on northeast-striking fissures (Macdonald, et al., 1983).

4.4.2 Site Geology

The soil at the Property is mapped as a combination of Wahiawa silty clay, 0 to 3 percent slopes (WaA); Wahiawa silty clay, 3 to 8 percent slopes (WaB); Wahiawa silty clay, 8 to 15 percent slopes (WaC); Manana silty clay, 3 to 8 percent (MpB); Manana silty clay loam, 6 to 12 percent slopes (MoC); Lahaina silty clay, 3 to 7 percent slopes (LaB); Lahaina silty clay, 7 to 15 percent slopes, severely eroded (LaC3); and Heleman silty clay, 30 to 90 percent slopes (HLMG).

The majority of the Property is mapped as part of the Wahiawa Series. Soil within the southern portion of the Property are mapped as WaA, while soils within the northern portion of the Property are mapped as WaB. Miscellaneous areas within the central and southwest portions of the Property are mapped as WaC. The Wahiawa series consists of well drained soils on the uplands of the island of Oahu developed in residuum and old alluvium from basic igneous rock. WaA, WaB, and WaC consist of a very dusky red silty clay surface layer approximately 12 inches thick. The subsoil, which is about 48 inches thick, consists of dark reddish-brown silty clay that has a subangular blocky structure. This material is further underlain by weathered basic igneous rock. Acidity of the soil type ranges from medium acid to neutral, permeability is moderately rapid, runoff is slow and the erosion hazard is slight. In WaC soils, the runoff is medium and the erosion hazard is moderate. Annual rainfall generally amounts to 40 to 60 inches. These soils are typically used for sugarcane, pineapple, pasture, and homesites. The natural vegetation consists of bermudagrass, guava, honohono, koa haole, and lantana.

Soils within a small portion of the north portion of the Property are characterized by the Manana Series, MoC and MpB. The series consists of well-drained soils on the uplands of the island of Oahu developed in material weathered from basic igneous rock. In a representative profile, MoC consists of an 8 inch thick surface layer of dark reddish-brown silty clay loam. The subsoil, which is about 42 inches thick, is dusky red, dark reddish-gray, and dark reddish-brown silty clay that has a subangular blocky structure. This subsoil also contains a nonporous, panlike sheet, measuring 1/8 inch to a 1/4 inch thick located at depths from 15 to 50 inches below ground surface. This material is further underlain by soft, weathered basic igneous rock which is extremely acid. Permeability is moderately rapid above the pan and moderate below, runoff is slow to medium, and the erosion hazard is slight to moderate. Annual rainfall generally amounts to 40 to 60 inches. Manana soils are typically used for sugarcane, pineapple, and pasture. The natural vegetation consists of bermudagrass, Christmas berry, false staghornfern, glenwoodgrass, guava, koa, ohia, and sedges.

Soils within the southwest portion of the Property are mapped as the Lahaina Series, LaB and LaC3. The series consists of well-drained soils on uplands of the islands of Lanai, Maui, Molokai, and Oahu. These soils developed in material weathered from basic igneous rock. In a representative profile, LaB soils have a surface layer about 15 inches thick of dark reddish-brown, silty clay. The subsoil, which is about 45 inches thick, is dusky-red and dark reddish-brown silty clay and silty clay loam in subangular blocky structure. The material is further underlain by soft, weathered basic igneous rock. The soils range from medium acid in the surface layer and slightly acid to medium acid in the subsoil. Permeability is moderate, runoff is slow, and the erosion hazard is slight. LaC3 soils have the same profile as the LaB soils except that the surface layer and part

of the subsoil has been removed by erosion. The runoff is medium and the erosion hazard is severe. These soils are typically used for sugarcane and pineapple farming. The natural vegetation consists of bermudagrass, feather fingergrass, ilima, kiawe, lantana, oi, and uhaloa.

Soils along the gulch areas of the Property are mapped as HLMG, which consists of well-drained soils on alluvial fans and colluvial slopes on the sides of V-shaped gulches on the island of Oahu. HLMG formed in alluvium and colluvium derived from basic igneous rock. The surface layer is dark reddish-brown silty clay about 10 inches thick. The subsoil, which is about 50 inches thick, is dark reddish-brown and dark-red silty clay that has subangular blocky structure. This material is further underlain by soft, highly weathered basic igneous rock. Acidity of the soil ranges from slightly acid to neutral, permeability is moderate, runoff is medium to very rapid, and the erosion hazard is severe to very severe. The annual rainfall dominantly amounts to 30 to 60 inches but ranges to 75 inches at the highest vegetation. These soils are typically used for pasture, woodland, and wildlife habitat. The natural vegetation consists of bermudagrass, Christmas berry, eucalyptus, Formosa koa, guava, Japanese tea, Java plum, and koa haole (USDA, 1972).

4.4.3 Regional Hydrogeology

The primary drinking water in the Hawaiian Islands is drawn from basal groundwater. Basal groundwater is formed by rainwater percolating down through the residual soils and permeable volcanic rock. The portion 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.

4.4.4 Site Hydrogeology

The majority of the Property is underlain by the Waiawa Aquifer System, which is part of the Pearl Harbor Aquifer Sector on the island of Oahu. The aquifer is classified by Mink and Lau, 1990, with the system identification number 30202111 (11111). This system includes an unconfined, basal aquifer in flank, horizontally extensive lava. The groundwater in this aquifer is described as a currently used, fresh drinking water source with salinity less than 250 mg/l Cl⁻. The groundwater is also described as irreplaceable with a high vulnerability to contamination (Mink and Lau, 1990). The southwestern portion of the Property is underlain by the Waipahu Aquifer System, which is part of the Pearl Harbor Aquifer Sector on the island of Oahu. The aquifer is classified by Mink and Lau, 1990, with the system identification number 30203111 (11111) and has the same characteristics as the Waiawa Aquifer System (Mink and Lau, 1990).

4.4.5 Surface Water

There are several surface water bodies adjacent to and within the Property. The Waiahole Ditch traverses the north portion of the Property. In addition, the south portion of the Property is traversed by several separate intermittent ditches/siphons, which appear to be tributaries of the Kipapa Stream. The Kipapa Stream is located along the western boundary of the Property.

4.5 Contaminants of Potential Concern

The primary contaminants of potential concern (COPC) identified for this project included arsenic and organochlorine pesticides. The COPC were selected with input from the DOH HEER Office based on historical agricultural use of the Property. The specific COPC are provided in Table 1 below.

Table 1: Contaminants of Potential Concern

COPC
Heavy Metals
Total Arsenic
Organochlorine Pesticides
Aldrin
Gamma-BHC (Lindane)
Chlordane, technical
4,4'-DDD
4,4'-DDE
4,4'-DDT
Dieldrin
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Heptachlor
Heptachlor epoxide
Methoxychlor
Toxaphene

4.6 Contaminated Media

The investigated media for the purposes of this investigation is surface soil within the Property.

5.0 INVESTIGATION ACTIVITIES

5.1 Introduction

This Site Characterization Report serves as a baseline investigation for the Property, which was formerly used for agricultural purposes and is currently being redeveloped for residential purposes. In accordance with Section 3.4.8 of the HEER TGM, a Phase I ESA was completed for the Property in 2008 (and recently updated in 2019). The Phase I ESA concluded that the only recognized environmental condition for the Property was the potential presence of residual contaminants associated with the former agricultural use of the Property. Note that historical agricultural usage of the Property was limited to field crop areas only. Furthermore, no historical pesticide mixing stations or storage areas, plantation camp areas, unknown dumping, waste pits, or unaddressed spill/dump areas were identified on the Property. Based on the Phase I ESA findings coupled with the proposed future use of the Property, a site characterization of large areas for development was completed in accordance with Section 3.4.8.2 of the HEER TGM. Site characterization activities completed on the Property utilized a statistics-based sampling design, which minimized the occurrence of errors and generated data that provided an effective representation of existing average COPC concentrations across the Property. The objective of the sampling design was to provide sufficient data to make a statistical determination of whether the Property has been impacted by residual COPC associated with the historic agricultural use. Sampling and analysis activities were described in the August 5, 2019 *Site Characterization for the Koa Ridge Development Site, Soil Sampling and Analysis Plan*, approved by the DOH HEER Office via electronic mail, dated August 9, 2019.

Consistent with DOH guidance, ETC used a multi-increment sampling approach for collection and analysis of soil samples. 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.

The multi-increment sampling approach provides average COPC concentrations for the specific decision unit that the sample is meant to represent.

5.2 Screening Criteria

The initial Action Levels for this project were identified as the default DOH Tier 1 Environmental Action Levels (EALs) for soil in areas where groundwater is a current or potential drinking water source and where the nearest surface water body is greater than 150 meters from the site as described in the EAL Document. Therefore, data obtained from the site characterization activities were compared to the current EALs, presented in Table 2, below.

Table 2: Action Levels

Constituent	Action Level
Metals	
Arsenic	24 mg/kg
Bioaccessible Arsenic	Category A = Total As <24 mg/kg (natural background) Category B = Total As >24 mg/kg AND Bioaccessible As <23 mg/kg Category C = Bioaccessible As >24 mg/kg and <95 mg/kg Category D = Bioaccessible As >95 mg/kg
Organochlorine Pesticides	
DDD	2.2 mg/kg
DDE	1.9 mg/kg
DDT	1.8 mg/kg
Aldrin	3.9 mg/kg
Lindane ¹	0.029 mg/kg
Dieldrin	2.5 mg/kg
Technical Chlordane	17 mg/kg
Endosulfan ²	13 mg/kg
Endrin ³	3.8 mg/kg
Heptachlor	1.3 mg/kg
Heptachlor epoxide	0.20 mg/kg
Methoxychlor	16 mg/kg
Toxaphene	0.48 mg/kg

1 = Sum of Alpha-BHC, Beta BHC, Gamma-BHC, and Delta-BHC.

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

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

5.3 Sample Identification

This sample identification, or sample naming, procedure describes the naming convention for samples collected and analyzed during this field investigation. The following format was used for multi-increment surface soil samples collected at the property.

2003.DUa.b where:

2003	=	four digit ETC project number
a	=	random grid no. (1 through 320)
b	=	replicate sample designation (A, B, and C)

The labeling method was used for all samples collected at the site. In the field logbook, personnel recorded the sample number as well as other identifying information, including narrative, sample ID, date, time, depth, location, matrix description, and/or other comments as appropriate.

5.4 Pre-Sampling Activities

Pre-sampling activities included the layout of sample locations described in the August 5, 2019 *Site Characterization for the Koa Ridge Development Site, Soil Sampling and Analysis Plan*.

5.5 Sampling Location and Frequency

The sample locations for this site investigation relied on site survey data provided by Park Engineering. Specifically, Park Engineering provided ETC with an electronic copy of the site survey. ETC used this property survey in conjunction with graphics software to establish decision units within the Property.

A rectangular grid, with north-south and east-west axes, was constructed across the Property so that grid cells measured 1-acre. The south portion of the Property has been or is currently being graded; therefore, the grid was situated on the approximate 290-acres of ungraded areas on the central and north portion of the Property. While the graded portion of the Property was not sampled, the results of these site characterization activities are considered representative of the entire Property. In addition, certain randomly-selected grids were replaced due to safety concerns encountered in the field, such as steep terrain. A total of 320 1-acre grid cells were generated and each grid cell was assigned a unique integer. Using the random integer generator, fifty-nine random integers between 1 and 320 were requested. Use of this random integer generator program ensured that the fifty-nine 1-acre grid cells selected for sampling was generated in a random manner.

The coordinates for the fifty-nine 1-acre decision unit boundaries were uploaded as a background file to the GPS unit. In addition, within each of the fifty-nine 1-acre decision units, a minimum of fifty increment locations were plotted in a systematic random manner. These increment locations were uploaded as a waypoint file to the GPS unit. Field personnel then used the background file and waypoints to physically mark the boundaries of the decision units as well as navigate to each increment location.

5.6 Field Sampling Methods

ETC personnel conducted soil sample collection activities between August 2019 and November 2019. Collection of soil increments was performed using a systematic random grid scheme within each decision unit.

ETC personnel used pre-cleaned, stainless steel trowels to collect soil increments from a minimum of 50 locations within each decision unit. Soil increments were placed into a new resealable plastic bag. 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.

5.7 Sample Processing and Analyses

ETC submitted a total of 77 multi-increment samples (59 primary samples, 18 field replicate samples) to APPL, Inc. (APPL) in Clovis, California with completed chain of custody documentation. ETC instructed APPL 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 subsampling protocols. APPL was then instructed to analyze the processed samples for total arsenic via EPA Method 6020A and organochlorine pesticides via EPA Method 8081B. In addition, select samples were further analyzed for bioaccessible arsenic via the Solubility Bioaccessibility Research Consortium (SBRC) method by ALS Environmental in Kelso, Washington.

5.8 Decontamination

Re-useable sampling tools, such as stainless-steel trowels, were decontaminated by washing with a brush and potable water - Alconox™ solution, rinsing with potable water, then rinsing with distilled water. Spray bottles were used to perform decontamination procedures in order to minimize the volume of decontamination fluids generated.

5.9 Investigation-Derived Waste (IDW)

IDW included disposable personal protective equipment (PPE), disposable sampling equipment, decontamination fluids 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 and gallon sized plastic bags, etc.) were containerized at the end of each work day and disposed as solid waste.
- Decontamination water was allowed to drip directly onto the ground surface within the decision unit from which the most recent sample was collected.

5.10 Quality Control Samples

Quality control (QC) check samples used for this project included field replicate soil samples. ETC collected one primary multi-increment sample and two field replicate multi-increment samples (i.e., field triplicate samples) at a minimum frequency of one set of field triplicate samples for every ten decision units (10%) for quality control purposes. The primary sample and the two field replicate samples were collected in the same manner, as if three separate multi-increment samples were being collected from the same decision unit.

6.0 FINDINGS AND DISCUSSION

Field investigation activities were performed to make a statistical determination of maximum residual COPC concentrations within the Property. A total of 59 primary samples and 18 field replicate samples were collected during the site investigation.

6.1 Sample Coordinates

ETC utilized a Trimble GeoExplorer® 2005 series, GeoXT GPS unit with differential beacon receiver and hand-held data logger to document decision unit boundaries. The coordinates were documented using the Universal Transverse Mercator (UTM) coordinate system, Zone 4 North.

6.2 Physical Observations

Physical observations of the surface soils were made during sampling activities. In general, the soil throughout the property was comprised of a reddish-brown silty clay loam and red silty clay, which is consistent with mapped geology for the Property (Section 4.4.2).

6.3 Analytical Data

Soil samples were submitted to APPL for multi-increment subsample processing and analyses of total arsenic via EPA Method 6020A and organochlorine pesticides via EPA Method 8081B. Laboratory data are summarized in Appendix II; Table 1 and the laboratory data packages have been included in Appendix III.

In those instances where the resulting total arsenic concentrations exceeded the DOH EAL, select samples were further analyzed for bioaccessible arsenic via SBRC method, which simulates the leaching of arsenic from the soil matrix in the human gastrointestinal tract and measures the total fraction of arsenic that is available for absorption during transit through the gastrointestinal tract.

6.3.1 Arsenic

Samples collected from fourteen of the fifty-nine sampled decision unit grids contained average arsenic concentrations exceeding the DOH EAL of 24 mg/kg relating to background concentrations of arsenic in Hawaii soils. Based on ETC's discussions with Dr. Melody Calisay of the DOH HEER Office, fifteen select decision units were analyzed for bioaccessible arsenic via the SBRC method. The calculated fine fraction enrichment factor (fine fraction arsenic concentration divided by the total soil fraction arsenic concentration) ranged from 114% to 150%. The calculated bioavailability factor (BF, the bioaccessible arsenic concentration divided by the fine fraction arsenic concentration) ranged from 4.2% to 15.1%. In those samples in which total arsenic concentrations exceeded the DOH EAL, but were not analyzed for bioaccessible arsenic, the highest fine fraction enrichment and bioavailability factors (i.e. 150% and 15.1%) were used to extrapolate and conservatively calculate estimated bioaccessible arsenic concentrations. For example, sample 2003.DU87C, which was not analyzed for bioaccessible arsenic had a reported total arsenic concentration of 24.3 mg/kg. The estimated total fine fraction arsenic concentration was calculated to be 36.5 mg/kg. Using the highest BF of 15.1%, the resulting estimated bioaccessible arsenic concentration was 5.50 mg/kg.

Both the reported and estimated bioaccessible arsenic concentrations were used to determine appropriate actions using the November 2011 (updated September 2012) *Update to Soil Action Levels for Inorganic Arsenic and Recommended Soil Management Practices (update default, background arsenic soil action level presented in 2010 guidance to 24 mg/kg; arsenic exposure units in Section 3.0 table corrected to ug/day September 2012)* technical memorandum prepared by the DOH HEER Office (which has since been incorporated into the HEER TGM). Bioaccessible arsenic and estimated bioaccessible arsenic data are presented in Appendix II, Table 1.

As shown in Appendix II, Table 1, the average reported arsenic concentrations for the multi-increment samples collected from fourteen decision units (i.e. 1-acre grids) exceeded the DOH EAL of 24 mg/kg relating to background concentrations of arsenic in Hawaii soils. As a result, select decision units were analyzed for bioaccessible arsenic via the SBRC method. The resulting bioaccessible arsenic concentrations were classified as Category B soils, which are considered minimally impacted with arsenic. Total arsenic concentrations in the remaining forty-five decision units did not exceed the DOH EAL of 24 mg/kg. All results indicated that arsenic concentrations throughout the Property were either classified as Category A (natural background) or Category B (minimally impacted) arsenic soils.

6.3.2 Organochlorine Pesticides

Organochlorine pesticide concentrations were either not detected above method detection limits and/or below their corresponding default DOH EALs for unrestricted (i.e. residential) land use.

6.3.3 Data Evaluation and Usability

In order to account for potential sampling error (i.e., fundamental error due to compositional heterogeneity, grouping and segregation error due to distributional heterogeneity, etc.) and analytical error realized during sampling/analysis activities, the results from the field replicate samples were used to calculate relative standard deviations (RSDs) for each of the COPC analyzed. These RSDs, reported as percentages, were evaluated to quantify the uncertainty associated with total error (sampling error and analytical error).

Except for DDD, the calculated RSD values for all constituents were well below 35%. In accordance with the HEER TGM, the data reflects “good precision” and the unadjusted data may be used for decision making purposes without the need for additional sampling. The RSD for DDD was calculated to range from 0% to 46.6%, which indicates “moderate precision.” Note that the RSD for DDD is considered slightly biased due to the fact DDD was detected near laboratory method detection limits; therefore, the reported concentrations were reported as estimates. As such, in accordance with the HEER TGM, the unadjusted data for DDD may be used for decision making purposes.

6.4 Environmental Hazard Evaluation

Average concentrations for multi-increment soil samples were evaluated to determine potential environmental hazards for identified COPC. All data was compared to the default (lowest) DOH EALs for unrestricted land use in areas where groundwater is a current or potential drinking water source and where the nearest surface water body is less than 150 meters from the site. The graded portion of the Property was not included in the sampled area of the Property; however, this graded portion predominantly includes future medium to high density residential properties (i.e. condominiums and mixed-use structures) as well as commercial and light-industrial property development. Furthermore, the 290-acre sampled area of the Property includes the majority of the single-family homes slated for development. As such, the results of this site characterization are considered to be most appropriate for evaluating the potential hazards associated with unrestricted land use on the Property.

Given the proposed future residential development, environmental hazards associated with residential (unrestricted) land use scenarios were evaluated. Available data indicate that mean total arsenic concentrations range from 4.2 mg/kg to 33.3 mg/kg, exceeding the DOH EAL for unrestricted land use of 24 mg/kg (which correlates to background arsenic concentrations in Hawaii soils). Bioaccessible arsenic concentrations indicated that the Property soils are classified as Category A and B soils. Specifically, reported and estimated bioaccessible arsenic concentrations do not exceed the DOH EAL of 23 mg/kg for unrestricted land use. Evaluation of the analytical data indicate that no environmental hazards were retained for the Property.

7.0 CONCLUSIONS

This Site Characterization was conducted to determine whether surface soils at the site have been impacted by historical land use. Historic use and operations served as the basis for identifying COPC and areas of concern. The Site Characterization included the collection of a total of 59 multi-increment surface soil samples and 18 field replicate multi-increment surface soil samples from the Property. All samples collected were analyzed for total arsenic and organochlorine pesticides. Based on initial analytical data, select samples were further analyzed for bioaccessible arsenic.

Analytical data from these samples were initially compared to default DOH EALs and a summary has been provided below.

- Organochlorine pesticides do not exceed their corresponding default (lowest) DOH EALs.
- The reported total arsenic concentrations within fourteen decision units exceeded natural background concentrations in Hawaii soils (24 mg/kg).
- A total of fifteen samples (representing 25% of the fifty-nine decision units) were further analyzed for bioaccessible arsenic. All results indicated that bioaccessible arsenic concentrations resulted in site soils being classified as Category A (natural background) or Category B, which is considered within acceptable health risks for long-term exposure for residential land use scenarios.

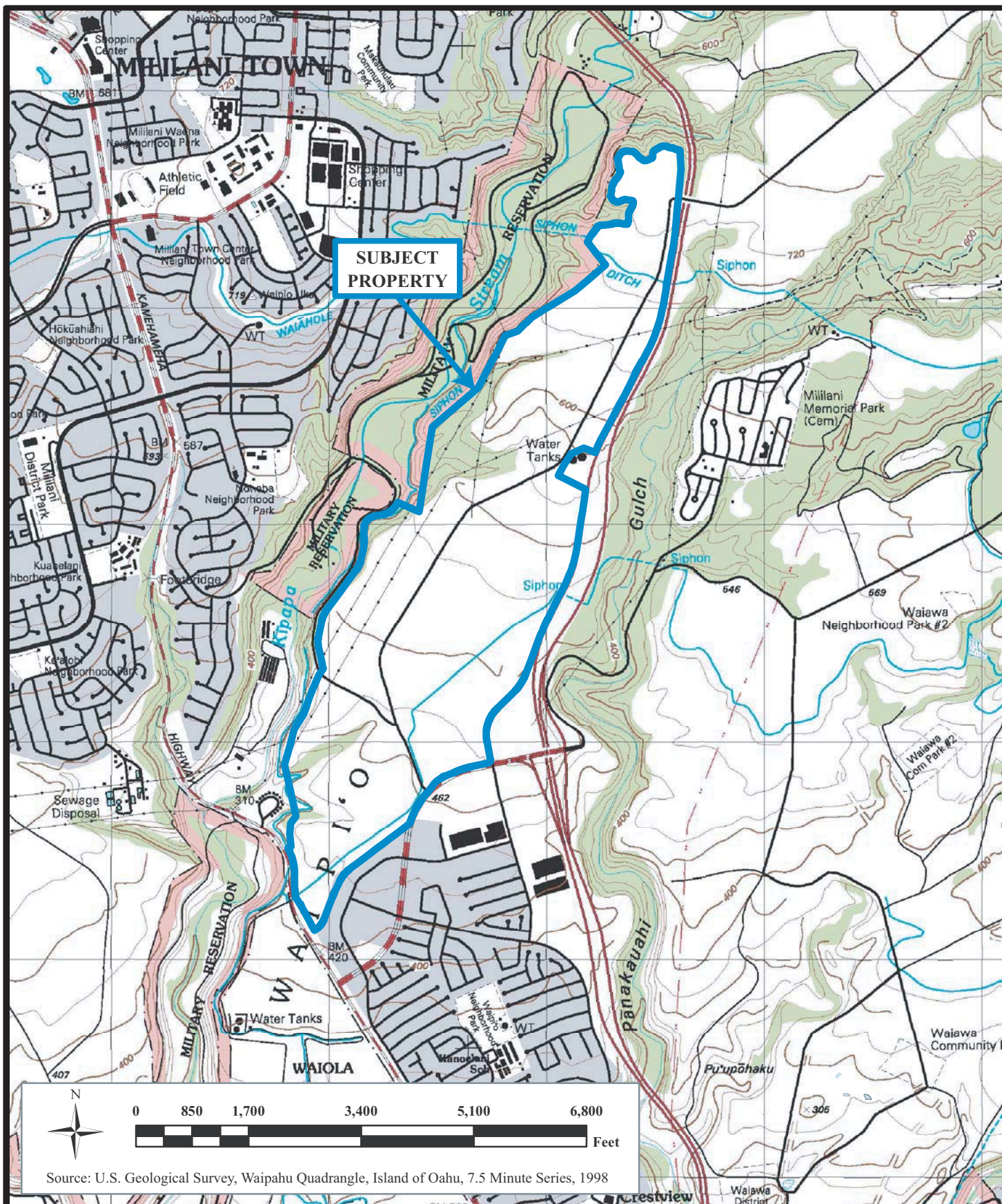
Category B soils are considered by the Hawaii Department of Health to be within acceptable health risks for long-term exposure; and are suitable for unrestricted land use (i.e. residential). While the graded portions (i.e. south portion) of the Property were not sampled, COPC concentrations are anticipated to be similar to sampled areas of the Property given that the entire Property was previously used for agricultural purposes (i.e. former fields). In addition, the graded portion predominantly includes future medium to high density residential properties (i.e. condominiums and mixed-use structures) as well as commercial and light-industrial property development. Therefore, the 290-acre sampled area of the Property includes the majority of the single family homes slated for development. As such, the results of this site characterization are considered to be most appropriate for evaluating the potential hazards associated with unrestricted land use on the Property. Based on the conclusions drawn from the analytical data, the Koa Ridge Development site does not appear to be significantly impacted by residual contaminants associated with the former agricultural use of the Property. Furthermore, the environmental hazard evaluation of the analytical results indicates that there are no retained environmental hazards associated with residential (unrestricted) land use scenarios for the Property.

8.0 REFERENCES

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- State of Hawaii Taxation Map Bureau, Tax Map Keys [1] 9-4-006: Parcel 047 and [1] 9-5-003: Parcel 004.
- United States Department of Agriculture, Soil Conservation Service. August 1972. *Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii*.
- US Department of Interior Geological Survey. 2013. *Waipahu Quadrangle, Island of Oahu, 7.5 Minute Series (Topographic Map)*.

APPENDIX I

Figures



Project No. 18-2003

January 2020

Figure 1 - Site Location Map

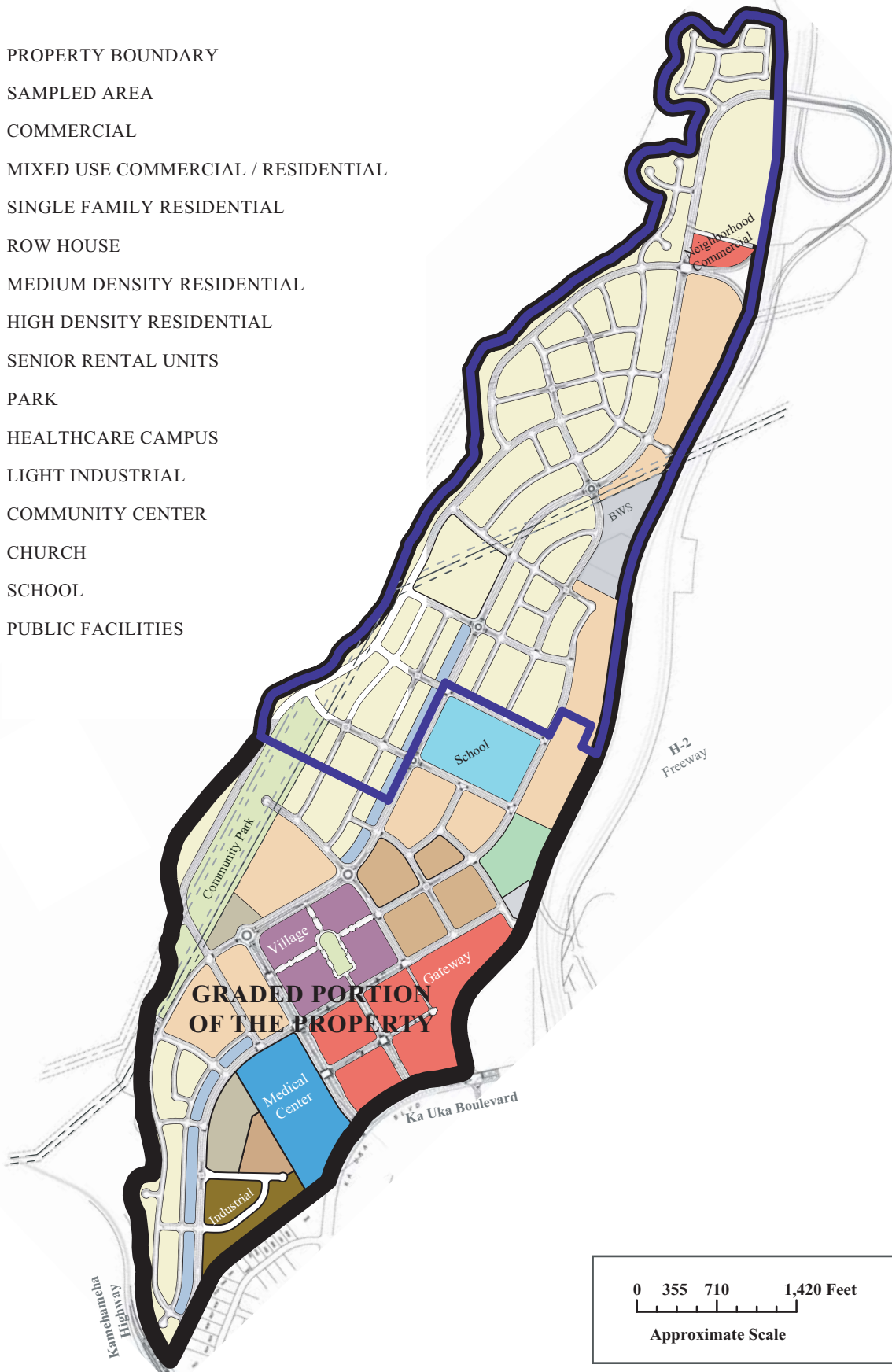
Site Characterization Report

Koa Ridge Development

Ka Uka Boulevard, Waipio, Oahu, Hawaii

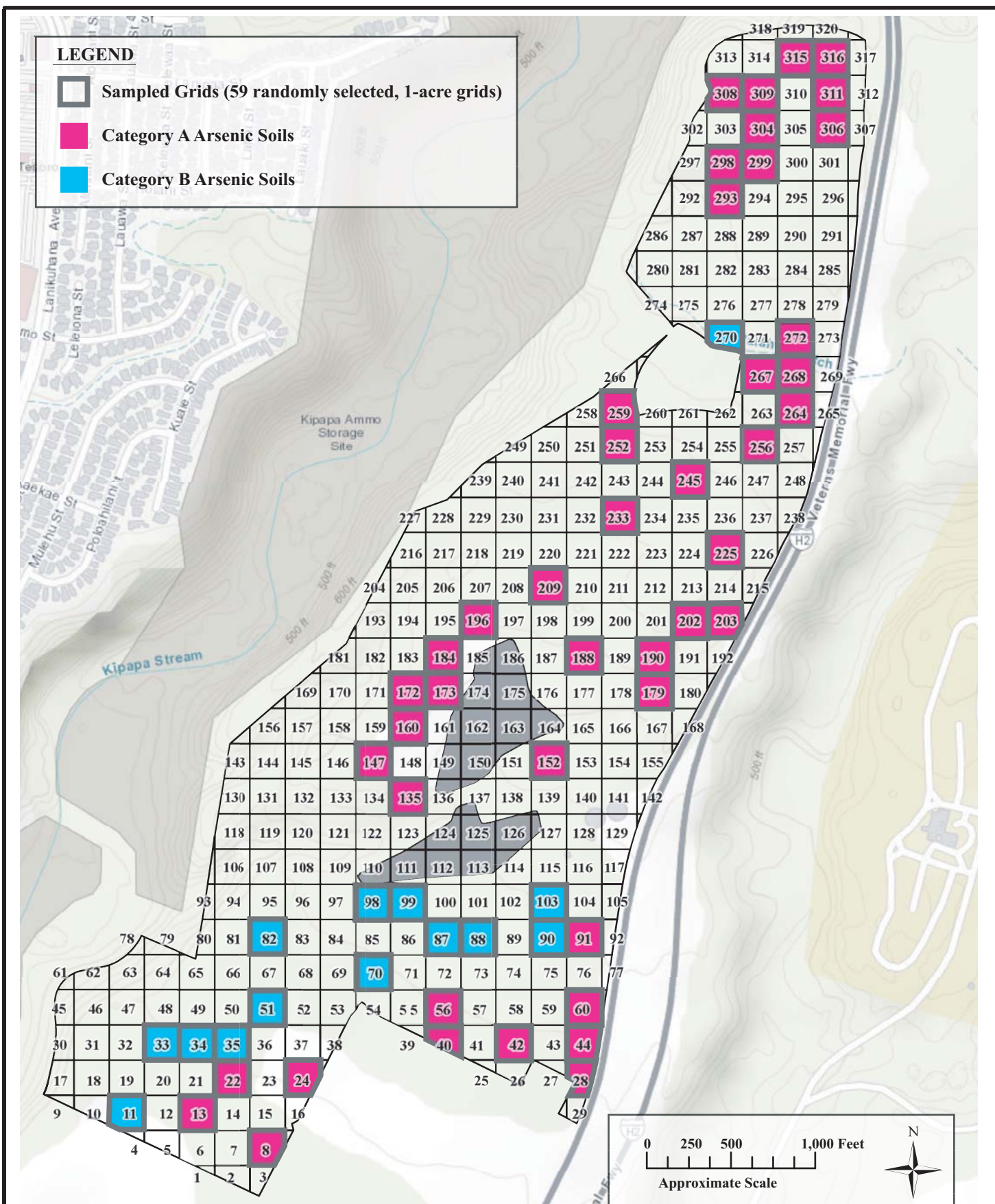
TMKs [1] 9-6-006: Parcel 47 and [1] 9-5-003: Parcel 004

- PROPERTY BOUNDARY
- SAMPLED AREA
- COMMERCIAL
- MIXED USE COMMERCIAL / RESIDENTIAL
- SINGLE FAMILY RESIDENTIAL
- ROW HOUSE
- MEDIUM DENSITY RESIDENTIAL
- HIGH DENSITY RESIDENTIAL
- SENIOR RENTAL UNITS
- PARK
- HEALTHCARE CAMPUS
- LIGHT INDUSTRIAL
- COMMUNITY CENTER
- CHURCH
- SCHOOL
- PUBLIC FACILITIES



0 355 710 1,420 Feet
Approximate Scale





APPENDIX II
Analytical Data Table

SAMPLE ID NO	Decision Unit	Total Arsenic	Reported Fine Fraction Arsenic	Estimated Fine Fraction Arsenic ⁴	Reported Bioaccessible Arsenic	Estimated Bioaccessible Arsenic ⁵	Arsenic Category	DDD	DDE	DDT	Aldrin	Lindane ¹	Technical Chlordane	Dieldrin	Endosulfan ²	Endrin ³	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
2003.DU8	8	23.2	Total Arsenic = Category A				A	<0.0020	0.42	0.086	<0.001	<0.004	<0.017	<0.001	<0.0028	<0.005	<0.001	<0.001	<0.001	<0.017
2003.DU19	11	31.6	39.1	NA	3.02	NA	B	<0.0020	0.43	0.075	<0.001	<0.004	<0.016	<0.001	<0.0028	<0.005	<0.001	<0.001	<0.001	<0.016
2003.DU62	13	7.2	Total Arsenic = Category A				A	<0.0020	0.12	0.028 J	<0.001	<0.004	<0.016	<0.001	<0.0028	<0.005	<0.001	<0.001	<0.001	<0.016
2003.DU223A	22	14.5	Total Arsenic = Category A				A	0.0060 J	0.31	0.13	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU223B	22	13.8	Total Arsenic = Category A				A	0.0061 J	0.28	0.11	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU223C	22	12.4	Total Arsenic = Category A				A	<0.0022	0.27	0.11	<0.001	<0.004	<0.018	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.018
2003.DU24	24	20.1	Total Arsenic = Category A				A	<0.0022	0.37	0.095	<0.001	<0.004	<0.018	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.018
2003.DU28	28	23.1	Total Arsenic = Category A				A	<0.0022	0.33	0.064	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU33	33	33.2	44.4	NA	4.12	NA	B	<0.0021	0.38	0.14	<0.001	<0.004	<0.017	<0.001	<0.0028	<0.005	<0.001	<0.001	<0.001	<0.017
2003.DU34	34	27.6	41.3	NA	3.72	NA	B	<0.0021	0.33	0.11	<0.001	<0.004	<0.017	<0.001	<0.0028	<0.005	<0.001	<0.001	<0.001	<0.017
2003.DU244	35	33.3	38.4	NA	3.60	NA	B	<0.0020	0.32	0.054 J	<0.001	<0.004	<0.017	<0.001	<0.0028	<0.005	<0.001	<0.001	<0.001	<0.017
2003.DU40	40	20.3	Total Arsenic = Category A				A	<0.0020	0.37	0.076	<0.001	<0.004	<0.017	<0.001	<0.0028	<0.005	<0.001	<0.001	<0.001	<0.017
2003.DU42A	42	18.0	Total Arsenic = Category A				A	<0.0024	0.41	0.097	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU42B	42	19.9	Total Arsenic = Category A				A	<0.0021	0.42	0.110	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU42C	42	17.1	Total Arsenic = Category A				A	<0.0021	0.38	0.092	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU44	44	22.0	Total Arsenic = Category A				A	0.0044 J	0.31	0.150	<0.001	<0.004	<0.016	<0.001	<0.0026	<0.005	<0.001	<0.001	<0.001	<0.016
2003.DU51A	51	30.8	35.1	NA	3.39	NA	B	<0.0021	0.30	0.083	<0.001	<0.004	<0.018	<0.001	<0.0028	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU51B	51	28.7	NA	43.1	NA	6.50	B	<0.0021	0.35	0.098	<0.001	<0.004	<0.018	<0.001	<0.0028	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU51C	51	27.7	NA	41.6	NA	6.27	B	<0.0021	0.32	0.092	<0.001	<0.004	<0.017	<0.001	<0.0028	<0.005	<0.001	<0.001	<0.001	<0.017
2003.DU56A	56	17.7	Total Arsenic = Category A				A	<0.0021	0.51	0.11	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU56B	56	17.5	Total Arsenic = Category A				A	<0.0021	0.59	0.14	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU56C	56	17.0	Total Arsenic = Category A				A	<0.0021	0.54	0.12	<0.001	<0.004	<0.017	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.017
2003.DU18	60	20.4	Total Arsenic = Category A				A	<0.0023	0.39	0.082	<0.001	<0.004	<0.020	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.020
2003.DU70	70	25.8	31.8	NA	4.27	NA	B	<0.0022	0.51	0.11	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU82	82	29.4	33.8	NA	3.01	NA	B	<0.0023	0.28	0.10	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU87A	87	21.9	29.3	NA	4.42	NA	A	<0.0021	0.41	0.098	<0.001	<0.004	<0.017	<0.001	<0.0028	<0.005	<0.001	<0.001	<0.001	<0.017
2003.DU87B	87	22.6	Total Arsenic = Category A				A	<0.0021	0.40	0.10	<0.001	<0.004	<0.018	<0.001	<0.0028	<0.005	<0.001	<0.001	<0.001	<0.018
DOH EAL		24	Category A = Total As <24 mg/kg (natural background) Category B = Total As >24 mg/kg AND Bioaccessible As <23 mg/kg Category C = Bioaccessible As >24 mg/kg and <95 mg/kg Category D = Bioaccessible As >95 mg/kg					2.2	1.9	1.8	3.9	0.029	17	2.5	13	3.8	1.3	0.20	16	0.48

All values in mg/kg unless otherwise noted.

DOH EAL=Default (lowest) DOH EAL for unrestricted land use where groundwater is a potential drinking water source and where the nearest surface water body is less than 150-meters from the site.

Italicized Values = *Not detected at the method detection limit (MDL), MDL value listed.*

Boldface, Shaded Values = Value exceeds default DOH EAL.

J = Analyte detected above MDL but below quantitation limits, estimated value listed.

1 = Sum of Alpha-BHC, Beta BHC, Gamma-BHC, and Delta-BHC.

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

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

4 = Estimated total fine fraction arsenic calculated using the highest caculated enrichment factor of 150%

5 = Estimated bioaccesible arsenic calculated using the highest caculated bioaccessibility factor of 15.1%

Table 1 - Analytical Surface Soil Data
Koa Ridge Development Site

SAMPLE ID NO	Decision Unit	Total Arsenic	Reported Fine Fraction Arsenic	Estimated Fine Fraction Arsenic ⁴	Reported Bioaccessible Arsenic	Estimated Bioaccessible Arsenic ⁵	Arsenic Category	DDD	DDE	DDT	Aldrin	Lindane ¹	Technical Chlordane	Dieldrin	Endosulfan ²	Endrin ³	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
2003.DU87C	87	24.3	NA	36.5	NA	5.50	B	<0.0021	0.44	0.10	<0.001	<0.004	<0.018	<0.001	<0.0028	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU88A	88	24.8	28.4	NA	4.24	NA	B	<0.0022	0.34	0.074	<0.001	<0.004	<0.018	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.018
2003.DU88B	88	23.9	Total Arsenic = Category A				A	<0.0022	0.32	0.073	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU88C	88	24.6	NA	36.9	NA	5.57	B	<0.0022	0.32	0.064	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU90A	90	24.3	NA	36.5	NA	5.50	B	<0.0022	0.46	0.11	<0.001	<0.004	<0.018	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.018
2003.DU90B	90	24.8	NA	37.2	NA	5.62	B	0.0046 J	0.41	0.097	<0.001	<0.004	<0.018	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.018
2003.DU90C	90	24.6	29.3	NA	3.38	NA	B	<0.0022	0.42	0.12	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU91	91	16.7	Total Arsenic = Category A				A	<0.0022	0.45	0.16	<0.001	<0.004	<0.019	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.019
2003.DU98	98	25.2	NA	37.8	NA	5.71	B	<0.0021	0.44	0.12	<0.001	<0.004	<0.017	<0.001	<0.0028	<0.005	<0.001	<0.001	<0.001	<0.017
2003.DU99	99	27.1	NA	40.7	NA	6.14	B	<0.0020	0.40	0.10	<0.001	<0.004	<0.017	<0.001	<0.0028	<0.005	<0.001	<0.001	<0.001	<0.017
2003.DU103	103	27.2	31.4	NA	3.92	NA	B	<0.0022	0.26	0.073	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU135	135	12.4	Total Arsenic = Category A				A	<0.0022	0.38	0.15	<0.001	<0.004	<0.019	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.019
2003.DU147	147	9.4	Total Arsenic = Category A				A	<0.0024	0.24	0.11	<0.001	<0.004	<0.020	<0.001	<0.0032	0.011 J	<0.001	<0.001	<0.001	<0.020
2003.DU152	152	19.8	25.9	NA	1.47	NA	A	<0.0022	0.23	0.074	<0.001	<0.004	<0.019	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.019
2003.DU160	160	17.2	Total Arsenic = Category A				A	<0.0022	0.23	0.099	<0.001	<0.004	<0.019	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.019
2003.DU172	172	16.5	Total Arsenic = Category A				A	<0.0022	0.32	0.17	<0.001	<0.004	<0.018	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.018
2003.DU277	173	17.5	Total Arsenic = Category A				A	<0.0020	0.36	0.15	<0.001	<0.004	<0.017	<0.001	<0.0028	<0.005	<0.001	<0.001	<0.001	<0.017
2003.DU179	179	18.8	Total Arsenic = Category A				A	<0.0022	0.30	0.11	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU184	184	17.6	Total Arsenic = Category A				A	<0.0022	0.30	0.14	<0.001	<0.004	<0.019	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.019
2003.DU188	188	4.2	Total Arsenic = Category A				A	<0.0023	0.08	0.036	<0.001	<0.004	<0.019	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.019
2003.DU177	190	9.8	Total Arsenic = Category A				A	<0.0024	0.23	0.089	<0.001	<0.004	<0.020	<0.001	<0.0032	<0.007	<0.001	<0.001	<0.001	<0.020
2003.DU263	196	15.8	Total Arsenic = Category A				A	0.0082 J	0.44	0.17	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU202	202	21.9	27.7	NA	1.85	NA	A	<0.0022	0.34	0.11	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU257	203	18.3	Total Arsenic = Category A				A	<0.0024	0.36	0.10	<0.001	<0.004	<0.020	<0.001	<0.0032	<0.007	<0.001	<0.001	<0.001	<0.020
2003.DU209	209	17.0	Total Arsenic = Category A				A	<0.0023	0.57	0.27	<0.001	<0.004	<0.019	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.019
2003.DU225	225	15.6	Total Arsenic = Category A				A	<0.0022	0.33	0.15	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU97	233	12.1	Total Arsenic = Category A				A	<0.0024	0.52	0.25	<0.001	<0.004	<0.020	<0.001	<0.0032	<0.007	<0.001	<0.001	<0.001	<0.020
2003.DU245	245	19.3	Total Arsenic = Category A				A	0.011 J	0.35	0.14	<0.001	<0.004	<0.019	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.019
DOH EAL		24	Category A = Total As <24 mg/kg (natural background) Category B = Total As >24 mg/kg AND Bioaccessible As <23 mg/kg Category C = Bioaccessible As >24 mg/kg and <95 mg/kg Category D = Bioaccessible As >95 mg/kg					2.2	1.9	1.8	3.9	0.029	17	2.5	13	3.8	1.3	0.20	16	0.48

All values in mg/kg unless otherwise noted.
DOH EAL=Default (lowest) DOH EAL for unrestricted land use where groundwater is a potential drinking water source and where the nearest surface water body is less than 150-meters from the site.
Italicized Values = Not detected at the method detection limit (MDL), MDL value listed.
Boldface, Shaded Values = Value exceeds default DOH EAL.
J = Analyte detected above MDL but below quantitation limits, estimated value listed.
1 = Sum of Alpha-BHC, Beta BHC, Gamma-BHC, and Delta-BHC.
2 = Sum of Endosulfan I, Endosulfan II, and Endosulfan Sulfate.
3 = Sum of Endrin, Endrin Aldehyde, and Endrin Ketone.
4 = Estimated total fine fraction arsenic calculated using the highest caculated enrichment factor of 150%
5 = Estimated bioaccessible arsenic calculated using the highest caculated bioaccessibility factor of 15.1%

Table 1 - Analytical Surface Soil Data Koa Ridge Development Site																				
SAMPLE ID NO	Decision Unit	Total Arsenic	Reported Fine Fraction Arsenic	Estimated Fine Fraction Arsenic ⁴	Reported Bioaccessible Arsenic	Estimated Bioaccessible Arsenic ⁵	Arsenic Category	DDD	DDE	DDT	Aldrin	Lindane ¹	Technical Chlordane	Dieldrin	Endosulfan ²	Endrin ³	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
2003.DU252A	252	14.2	Total Arsenic = Category A				A	<0.0022	0.48	0.24	<0.001	<0.004	<0.019	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.019
2003.DU252B	252	14.1	Total Arsenic = Category A				A	<0.0023	0.50	0.26	<0.001	<0.004	<0.019	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.019
2003.DU252C	252	13.6	Total Arsenic = Category A				A	<0.0023	0.51	0.28	<0.001	<0.004	<0.019	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.019
2003.DU186	256	21.7	26.5	NA	1.68	NA	A	<0.0022	0.32	0.13	<0.001	<0.004	<0.019	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.019
2003.DU259A	259	14.8	Total Arsenic = Category A				A	<0.0021	0.50	0.33	<0.001	<0.004	<0.017	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.017
2003.DU259B	259	14.6	Total Arsenic = Category A				A	<0.0021	0.46	0.24	<0.001	<0.004	<0.017	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.017
2003.DU259C	259	13.1	Total Arsenic = Category A				A	<0.0020	0.45	0.23	<0.001	<0.004	<0.0017	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.017
2003.DU151	264	11.7	Total Arsenic = Category A				A	<0.0020	0.22	0.13	<0.001	<0.004	<0.016	<0.001	<0.003	<0.005	<0.001	0.12	<0.001	<0.016
2003.DU267	267	14.4	Total Arsenic = Category A				A	0.0096 J	0.43	0.22	<0.001	<0.004	<0.020	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.020
2003.DU268	268	10.4	Total Arsenic = Category A				A	0.0060 J	0.18	0.12	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU270	270	31.1	45.6	NA	1.92	NA	B	0.0057 J	0.12	0.14	<0.001	<0.004	<0.019	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.019
2003.DU272	272	10.4	Total Arsenic = Category A				A	0.012 J	0.32	0.37	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU293	293	7.3	Total Arsenic = Category A				A	<0.0024	0.29	0.29	<0.001	<0.004	<0.020	<0.001	<0.0032	<0.007	<0.001	<0.001	<0.001	<0.020
2003.DU298	298	7.2	Total Arsenic = Category A				A	<0.0022	0.40	0.33	<0.001	<0.004	<0.018	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.018
2003.DU17	299	10.4	Total Arsenic = Category A				A	<0.0025	0.20	0.15	<0.001	<0.004	<0.021	<0.001	<0.0032	<0.007	<0.001	<0.001	<0.001	<0.021
2003.DU304	304	11.9	Total Arsenic = Category A				A	<0.0022	0.35	0.32	<0.001	<0.004	<0.019	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.019
2003.DU306	306	10.5	Total Arsenic = Category A				A	<0.0024	0.35	0.31	<0.001	<0.004	<0.020	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.020
2003.DU308	308	9.9	Total Arsenic = Category A				A	<0.0022	0.40	0.37	<0.001	<0.004	<0.019	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.019
2003.DU124	309	14.5	Total Arsenic = Category A				A	<0.0025	0.30	0.22	<0.001	<0.004	<0.021	<0.001	<0.0032	<0.007	<0.001	<0.001	<0.001	<0.021
2003.DU311	311	8.7	Total Arsenic = Category A				A	<0.0023	0.33	0.33	<0.001	<0.004	<0.019	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.019
2003.DU315	315	13.3	Total Arsenic = Category A				A	<0.0023	0.34	0.42	<0.001	<0.004	<0.019	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.019
2003.DU316	316	13.7	Total Arsenic = Category A				A	<0.0023	0.39	0.34	<0.001	<0.004	<0.019	<0.001	<0.003	<0.007	<0.001	<0.001	<0.001	<0.019
DOH EAL		24	Category A = Total As <24 mg/kg (natural background) Category B = Total As >24 mg/kg AND Bioaccessible As <23 mg/kg Category C = Bioaccessible As >24 mg/kg and <95 mg/kg Category D = Bioaccessible As >95 mg/kg					2.2	1.9	1.8	3.9	0.029	17	2.5	13	3.8	1.3	0.20	16	0.48

All values in mg/kg unless otherwise noted.

DOH EAL=Default (lowest) DOH EAL for unrestricted land use where groundwater is a potential drinking water source and where the nearest surface water body is less than 150-meters from the site.

Italicized Values = *Not detected at the method detection limit (MDL), MDL value listed.*

Boldface, Shaded Values = Value exceeds default DOH EAL.

J = Analyte detected above MDL but below quantitation limits, estimated value listed.

1 = Sum of Alpha-BHC, Beta BHC, Gamma-BHC, and Delta-BHC.

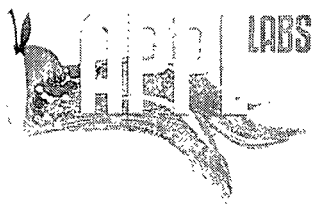
2 = Sum of Endosulfan I, Endosulfan II, and Endosulfan Sulfate.

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

4 = Estimated total fine fraction arsenic calculated using the highest caculated enrichment factor of 150%

5 = Estimated bioaccessible arsenic calculated using the highest caculated bioaccessibility factor of 15.1%

APPENDIX III
Laboratory Reports



908 North Temperance Ave. ▽ Clovis, CA 93611 ▽ Phone 559-275-2175 ▽ Fax 559-275-4422

NELAP Certification Number: CA00046 (HW)
State Certification Number: CA1312 (WW & DW)

October 10, 2019

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814 .

Attn: Damon Hamura

Subject: Report of Data: Case 89864

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dear Mr. Hamura,

Eleven soil samples were received on August 16, 2019, in good condition. Written results are being provided on this October 10, 2019, for the requested analysis. All holding times were met.

The samples were prepared using wet multi-incremental sampling techniques.

For the EPA 8081B analysis, the sample was extracted according to EPA method 3550.

For the EPA 6020A analysis, the sample was digested according to EPA method 3010A.

Percent moisture was determined using ISM02.2, Exhibit D, section 10.0.

No other unusual problem or complication was encountered with this sample set.

If you have any questions or require further information, please contact us at your convenience.
Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney, Laboratory Director
APPL, Inc.

PM/gs
Enclosure
cc: File

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura
Project: Koa Ridge / 18-2003

Sample ID: 2003.DU24

Sample Collection Date: 08/12/19

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 89864

APPL ID: AZ97201

QCG: #81BDO-190826B-245841

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.6 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.061	0.0022	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDE	0.37	0.06	0.003	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDT	0.095	0.061	0.0010	mg/kg	08/26/19	09/27/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	08/26/19	09/27/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN I	Not detected	0.061	0.0010	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN II	Not detected	0.061	0.0010	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/26/19	09/27/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	08/26/19	09/27/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	88.8	55-130		%	08/26/19	09/27/19
EPA 8081B	SURROGATE: TCMX (S)	89.0	42-129		%	08/26/19	09/27/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: LOCL0920.M
Run #: 0926036
Instrument: Lucy
Sequence: 190926
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 3:35:55 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura
Project: Koa Ridge / 18-2003

Sample ID: 2003.DU82

Sample Collection Date: 08/12/19

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 89864

APPL ID: AZ97202

QCG: #81BDO-190826B-245841

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 17.4 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.061	0.0022	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDE	0.28	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDT	0.10	0.061	0.0010	mg/kg	08/26/19	09/27/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	08/26/19	09/27/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN I	Not detected	0.061	0.0010	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN II	Not detected	0.061	0.0010	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/26/19	09/27/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	08/26/19	09/27/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	78.8	55-130		%	08/26/19	09/27/19
EPA 8081B	SURROGATE: TCMX (S)	93.2	42-129		%	08/26/19	09/27/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: LOCL0920.M
Run #: 0926037
Instrument: Lucy
Sequence: 190926
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 3:35:55 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU98

Sample Collection Date: 08/13/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 89864

APPL ID: AZ97203

QCG: #81BDO-190826B-245841

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 12.2 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.057	0.0021	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDE	0.44	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDT	0.12	0.057	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.10	0.017	mg/kg	08/26/19	09/27/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN I	Not detected	0.057	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN II	Not detected	0.057	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/26/19	09/27/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	TOXAPHENE	Not detected	1.10	0.017	mg/kg	08/26/19	09/27/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	82.0	55-130		%	08/26/19	09/27/19
EPA 8081B	SURROGATE: TCMX (S)	97.6	42-129		%	08/26/19	09/27/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: LOCL0920.M
Run #: 0926038
Instrument: Lucy
Sequence: 190926
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 3:35:55 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Damon Hamura
Project: Koa Ridge / 18-2003

ARF: 89864

Sample ID: 2003.DU99

APPL ID: AZ97204

Sample Collection Date: 08/13/19

QCG: #81BDO-190826B-245841

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 10.9 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.056	0.0020	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDE	0.40	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDT	0.10	0.056	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.10	0.017	mg/kg	08/26/19	09/27/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN I	Not detected	0.056	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN II	Not detected	0.056	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/26/19	09/27/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	TOXAPHENE	Not detected	1.10	0.017	mg/kg	08/26/19	09/27/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	74.9	55-130		%	08/26/19	09/27/19
EPA 8081B	SURROGATE: TCMX (S)	84.0	42-129		%	08/26/19	09/27/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: LOCL0920.M
Run #: 0926039
Instrument: Lucy
Sequence: 190926
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 3:35:55 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU70

Sample Collection Date: 08/13/19

ARF: 89864

APPL ID: AZ97205

QCG: #81BDO-190826B-245841

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.3 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.061	0.0022	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDE	0.51	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDT	0.11	0.061	0.0010	mg/kg	08/26/19	09/27/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	08/26/19	09/27/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN I	Not detected	0.061	0.0010	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN II	Not detected	0.061	0.0010	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/26/19	09/27/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	08/26/19	09/27/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	79.5	55-130		%	08/26/19	09/27/19
EPA 8081B	SURROGATE: TCMX (S)	99.2	42-129		%	08/26/19	09/27/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: LOCL0920.M
Run #: 0926040
Instrument: Lucy
Sequence: 190926
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 3:35:55 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU8

Sample Collection Date: 08/13/19

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 89864

APPL ID: AZ97206

QCG: #81BDO-190826B-245841

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 10.8 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.056	0.0020	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDE	0.42	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDT	0.086	0.056	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.10	0.017	mg/kg	08/26/19	09/27/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN I	Not detected	0.056	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN II	Not detected	0.056	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/26/19	09/27/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	TOXAPHENE	Not detected	1.10	0.017	mg/kg	08/26/19	09/27/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	74.5	55-130		%	08/26/19	09/27/19
EPA 8081B	SURROGATE: TCMX (S)	76.5	42-129		%	08/26/19	09/27/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: LOCL0920.M
Run #: 0926041
Instrument: Lucy
Sequence: 190926
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 3:35:55 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU40

Sample Collection Date: 08/13/19

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 89864

APPL ID: AZ97207

QCG: #81BDO-190826B-245841

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 10.8 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.056	0.0020	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDE	0.37	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDT	0.076	0.056	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.10	0.017	mg/kg	08/26/19	09/27/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN I	Not detected	0.056	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN II	Not detected	0.056	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/26/19	09/27/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	TOXAPHENE	Not detected	1.10	0.017	mg/kg	08/26/19	09/27/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	76.6	55-130		%	08/26/19	09/27/19
EPA 8081B	SURROGATE: TCMX (S)	93.4	42-129		%	08/26/19	09/27/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: LOCL0920.M
Run #: 0926042
Instrument: Lucy
Sequence: 190926
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 3:35:55 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Centre
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU28

Sample Collection Date: 08/13/19

ARF: 89864

APPL ID: AZ97208

QCG: #81BDO-190826B-245841

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 16.5 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.060	0.0022	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDE	0.33	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDT	0.064	0.060	0.0010	mg/kg	08/26/19	09/27/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	08/26/19	09/27/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN I	Not detected	0.060	0.0010	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN II	Not detected	0.060	0.0010	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/26/19	09/27/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	08/26/19	09/27/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	80.1	55-130		%	08/26/19	09/27/19
EPA 8081B	SURROGATE: TCMX (S)	76.0	42-129		%	08/26/19	09/27/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: LOCL0920.M
Run #: 0926043
Instrument: Lucy
Sequence: 190926
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 3:35:55 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura
Project: Koa Ridge / 18-2003

Sample ID: 2003.DU51A

Sample Collection Date: 08/14/19

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 89864

APPL ID: AZ97209

QCG: #81BDO-190826B-245841

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 14.6 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.059	0.0021	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDE	0.30	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDT	0.083	0.059	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	08/26/19	09/27/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN I	Not detected	0.059	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN II	Not detected	0.059	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/26/19	09/27/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	08/26/19	09/27/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	71.1	55-130		%	08/26/19	09/27/19
EPA 8081B	SURROGATE: TCMX (S)	75.9	42-129		%	08/26/19	09/27/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: LOCL0920.M
Run #: 0926045
Instrument: Lucy
Sequence: 190926
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 3:35:55 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU51B

Sample Collection Date: 08/14/19

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 89864

APPL ID: AZ97210

QCG: #81BDO-190826B-245841

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 14.7 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.059	0.0021	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDE	0.35	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDT	0.098	0.059	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	08/26/19	09/27/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN I	Not detected	0.059	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN II	Not detected	0.059	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/26/19	09/27/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	08/26/19	09/27/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	78.8	55-130		%	08/26/19	09/27/19
EPA 8081B	SURROGATE: TCMX (S)	100	42-129		%	08/26/19	09/27/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: LOCL0920.M
Run #: 0926046
Instrument: Lucy
Sequence: 190926
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 3:35:55 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU51C

Sample Collection Date: 08/14/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 89864

APPL ID: AZ97211

QCG: #81BDO-190826B-245841

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 14.1 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.058	0.0021	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDE	0.32	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	4,4'-DDT	0.092	0.058	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.017	mg/kg	08/26/19	09/27/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN I	Not detected	0.058	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN II	Not detected	0.058	0.0009	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/26/19	09/27/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/26/19	09/27/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.017	mg/kg	08/26/19	09/27/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	82.0	55-130		%	08/26/19	09/27/19
EPA 8081B	SURROGATE: TCMX (S)	92.0	42-129		%	08/26/19	09/27/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: LOCL0920.M
Run #: 0926047
Instrument: Lucy
Sequence: 190926
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 3:35:55 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

Metals Results

EnviroServices & Training Centre

505 Ward Avenue, Suite 202

Honolulu, Hawaii 96814

ARF: 89864

APPL Inc.

908 North Temperance Avenue

Clovis, CA 93611

Attn: Damon Hamura

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
APPL ID: AZ97201		-Client Sample ID: 2003.DU24		-Sample Collection Date: 08/12/19		Project: Koa Ridge / 18-2003		
6020	ARSENIC (AS)	20.1	0.5	0.07	mg/Kg	1	10/01/19	10/02/19
APPL ID: AZ97202		-Client Sample ID: 2003.DU82		-Sample Collection Date: 08/12/19		Project: Koa Ridge / 18-2003		
6020	ARSENIC (AS)	29.4	0.5	0.07	mg/Kg	1	10/01/19	10/02/19
APPL ID: AZ97203		-Client Sample ID: 2003.DU98		-Sample Collection Date: 08/13/19		Project: Koa Ridge / 18-2003		
6020	ARSENIC (AS)	25.2	0.5	0.07	mg/Kg	1	10/01/19	10/02/19
APPL ID: AZ97204		-Client Sample ID: 2003.DU99		-Sample Collection Date: 08/13/19		Project: Koa Ridge / 18-2003		
6020	ARSENIC (AS)	27.1	0.5	0.07	mg/Kg	1	10/01/19	10/02/19
APPL ID: AZ97205		-Client Sample ID: 2003.DU70		-Sample Collection Date: 08/13/19		Project: Koa Ridge / 18-2003		
6020	ARSENIC (AS)	25.8	0.5	0.07	mg/Kg	1	10/01/19	10/02/19
APPL ID: AZ97206		-Client Sample ID: 2003.DU8		-Sample Collection Date: 08/13/19		Project: Koa Ridge / 18-2003		
6020	ARSENIC (AS)	23.2	0.5	0.07	mg/Kg	1	10/01/19	10/02/19
APPL ID: AZ97207		-Client Sample ID: 2003.DU40		-Sample Collection Date: 08/13/19		Project: Koa Ridge / 18-2003		
6020	ARSENIC (AS)	20.3	0.5	0.07	mg/Kg	1	10/01/19	10/02/19
APPL ID: AZ97208		-Client Sample ID: 2003.DU28		-Sample Collection Date: 08/13/19		Project: Koa Ridge / 18-2003		
6020	ARSENIC (AS)	23.1	0.5	0.07	mg/Kg	1	10/01/19	10/02/19
APPL ID: AZ97209		-Client Sample ID: 2003.DU51A		-Sample Collection Date: 08/14/19		Project: Koa Ridge / 18-2003		
6020	ARSENIC (AS)	30.8	0.5	0.07	mg/Kg	1	10/01/19	10/02/19
APPL ID: AZ97210		-Client Sample ID: 2003.DU51B		-Sample Collection Date: 08/14/19		Project: Koa Ridge / 18-2003		
6020	ARSENIC (AS)	28.7	0.5	0.07	mg/Kg	1	10/01/19	10/02/19

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APPL-F1-SC-NoMC-REG MDLs

Metals Results

ARF: 89864

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
APPL ID: AZ97211 -Client Sample ID: 2003.DU51C -Sample Collection Date: 08/14/19 Project: Koa Ridge / 18-2003								

6020	ARSENIC (AS)	27.7	0.5	0.07	mg/Kg	1	10/01/19	10/02/19
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APPL-F1-SC-NoMC-REG MDLs

Wetlab Results

ARF: 89864

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Method	Analyte	Result	PQL	MDL	Units	Prep Date	Analysis Date
APPL ID: AZ97201 -Client Sample ID: 2003.DU24		-Sample Collection Date: 08/12/19		Project: Koa Ridge / 18-2003			
CLP MOIST	MOISTURE	18.6	2.0		%	08/27/19	08/28/19
APPL ID: AZ97202 -Client Sample ID: 2003.DU82		-Sample Collection Date: 08/12/19		Project: Koa Ridge / 18-2003			
CLP MOIST	MOISTURE	17.4	2.0		%	08/27/19	08/28/19
APPL ID: AZ97203 -Client Sample ID: 2003.DU98		-Sample Collection Date: 08/13/19		Project: Koa Ridge / 18-2003			
CLP MOIST	MOISTURE	12.2	2.0		%	08/27/19	08/28/19
APPL ID: AZ97204 -Client Sample ID: 2003.DU99		-Sample Collection Date: 08/13/19		Project: Koa Ridge / 18-2003			
CLP MOIST	MOISTURE	10.9	2.0		%	08/27/19	08/28/19
APPL ID: AZ97205 -Client Sample ID: 2003.DU70		-Sample Collection Date: 08/13/19		Project: Koa Ridge / 18-2003			
CLP MOIST	MOISTURE	18.3	2.0		%	08/27/19	08/28/19
APPL ID: AZ97206 -Client Sample ID: 2003.DU8		-Sample Collection Date: 08/13/19		Project: Koa Ridge / 18-2003			
CLP MOIST	MOISTURE	10.8	2.0		%	08/27/19	08/28/19
APPL ID: AZ97207 -Client Sample ID: 2003.DU40		-Sample Collection Date: 08/13/19		Project: Koa Ridge / 18-2003			
CLP MOIST	MOISTURE	10.8	2.0		%	08/27/19	08/28/19
APPL ID: AZ97208 -Client Sample ID: 2003.DU28		-Sample Collection Date: 08/13/19		Project: Koa Ridge / 18-2003			
CLP MOIST	MOISTURE	16.5	2.0		%	08/27/19	08/28/19
APPL ID: AZ97209 -Client Sample ID: 2003.DU51A		-Sample Collection Date: 08/14/19		Project: Koa Ridge / 18-2003			
CLP MOIST	MOISTURE	14.6	2.0		%	08/27/19	08/28/19
APPL ID: AZ97210 -Client Sample ID: 2003.DU51B		-Sample Collection Date: 08/14/19		Project: Koa Ridge / 18-2003			
CLP MOIST	MOISTURE	14.7	2.0		%	08/27/19	08/28/19

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Wetlab Results

ARF: 89864

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Method	Analyte	Result	PQL	MDL	Units	Prep Date	Analysis Date
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APPL ID: AZ97211 -Client Sample ID: 2003.DU51C

-Sample Collection Date: 08/14/19

Project: Koa Ridge / 18-2003

CLP MOIST	MOISTURE	14.1	2.0	%	08/27/19	08/28/19
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Method Blank

EPA 8081B OCL IS SOIL

Blank Name/QCG: **190826S-97201 - 245841**
Batch ID: #81BDO-190826B

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Sample Type	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
BLANK	4,4'-DDD	Not detected	0.050	0.0018	mg/kg	08/26/19	09/27/19
BLANK	4,4'-DDE	Not detected	0.05	0.002	mg/kg	08/26/19	09/27/19
BLANK	4,4'-DDT	Not detected	0.050	0.0008	mg/kg	08/26/19	09/27/19
BLANK	ALDRIN	Not detected	0.05	0.001	mg/kg	08/26/19	09/27/19
BLANK	ALPHA-BHC	Not detected	0.05	0.001	mg/kg	08/26/19	09/27/19
BLANK	ALPHA-CHLORDANE	Not detected	0.05	0.001	mg/kg	08/26/19	09/27/19
BLANK	BETA-BHC	Not detected	0.05	0.001	mg/kg	08/26/19	09/27/19
BLANK	CHLORDANE, TECHNICAL	Not detected	1.00	0.015	mg/kg	08/26/19	09/27/19
BLANK	DELTA-BHC	Not detected	0.05	0.001	mg/kg	08/26/19	09/27/19
BLANK	DIELDRIN	Not detected	0.05	0.001	mg/kg	08/26/19	09/27/19
BLANK	ENDOSULFAN I	Not detected	0.050	0.0008	mg/kg	08/26/19	09/27/19
BLANK	ENDOSULFAN II	Not detected	0.050	0.0008	mg/kg	08/26/19	09/27/19
BLANK	ENDOSULFAN SULFATE	Not detected	0.05	0.001	mg/kg	08/26/19	09/27/19
BLANK	ENDRIN	Not detected	0.05	0.001	mg/kg	08/26/19	09/27/19
BLANK	ENDRIN ALDEHYDE	Not detected	0.05	0.002	mg/kg	08/26/19	09/27/19
BLANK	ENDRIN KETONE	Not detected	0.05	0.002	mg/kg	08/26/19	09/27/19
BLANK	GAMMA-BHC	Not detected	0.05	0.001	mg/kg	08/26/19	09/27/19
BLANK	GAMMA-CHLORDANE	Not detected	0.05	0.001	mg/kg	08/26/19	09/27/19
BLANK	HEPTACHLOR	Not detected	0.05	0.001	mg/kg	08/26/19	09/27/19
BLANK	HEPTACHLOR EPOXIDE	Not detected	0.05	0.001	mg/kg	08/26/19	09/27/19
BLANK	HEXACHLOROBENZENE	Not detected	0.05	0.005	mg/kg	08/26/19	09/27/19
BLANK	METHOXYCHLOR	Not detected	0.05	0.001	mg/kg	08/26/19	09/27/19
BLANK	TOXAPHENE	Not detected	1.00	0.015	mg/kg	08/26/19	09/27/19
BLANK	SURROGATE: DECACHLOROBIPHEN	84.6	55-130		%	08/26/19	09/27/19
BLANK	SURROGATE: TCMX (S)	71.0	42-129		%	08/26/19	09/27/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: LOCL0920.M
Run #: 0926028
Instrument: Lucy
Sequence: 190926
Initials: DPO

GC SC-Blank-REG MDLs
Printed: 10/10/19 3:35:39 PM

Laboratory Control Spike Recovery

EPA 8081B OCL IS SOIL

APPL ID: 190826S-97201 LCS - 245841

Batch ID: #81BDO-190826B

APPL Inc.

908 North Temperance Avenue

Clovis, CA 93611

Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits
4,4'-DDD	0.500	0.524	105	56-139
4,4'-DDE	0.500	0.505	101	56-134
4,4'-DDT	0.500	0.534	107	50-141
ALDRIN	0.500	0.486	97.2	45-136
ALPHA-BHC	0.500	0.504	101	45-137
ALPHA-CHLORDANE	0.500	0.468	93.6	54-133
BETA-BHC	0.500	0.467	93.4	50-136
CHLORDANE, TECHNICAL	5.00	4.17	83.4	43-149
DELTA-BHC	0.500	0.470	94.0	47-139
DIELDRIN	0.500	0.463	92.6	56-136
ENDOSULFAN I	0.500	0.469	93.8	53-132
ENDOSULFAN II	0.500	0.481	96.2	53-134
ENDOSULFAN SULFATE	0.500	0.454	90.8	55-136
ENDRIN	0.500	0.510	102	57-140
ENDRIN ALDEHYDE	0.500	0.477	95.4	35-137
ENDRIN KETONE	0.500	0.507	101	55-136
GAMMA-BHC	0.500	0.484	96.8	49-135
GAMMA-CHLORDANE	0.500	0.479	95.8	53-135
HEPTACHLOR	0.500	0.448	89.6	47-136
HEPTACHLOR EPOXIDE	0.500	0.458	91.6	52-136
HEXACHLOROBENZENE	0.500	0.405	81.0	57-126
METHOXYCHLOR	0.500	0.453	90.6	52-143
TOXAPHENE	5.00	4.59	91.8	33-141
SURROGATE: DECACHLOROBIPHENYL	0.500	0.438	87.6	55-130
SURROGATE: TCMX (S)	0.500	0.424	84.8	42-129

Comments: _____

Primary	SPK
Quant Method :	LOCL0920.M
Extraction Date :	08/26/19
Analysis Date :	09/27/19
Instrument :	Lucy
Run :	0926029
Initials :	DPO

Printed: 10/10/19 3:35:24 PM

APPL Standard LCS

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date	QC Group
6020/3050B^	ARSENIC (AS)	Not detected	0.5	mg/Kg	10/01/19	10/02/19	#62DOD-191001A-AZ97698

Laboratory Control Spike Recoveries

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/Kg	SPK Res mg/Kg	DUP Res mg/Kg	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 6020	ARSENIC (AS)	2.50	2.3	2.2	92.0	88.0	4.4	20	82-118	10/01/19	10/02/19	10/01/19	10/02/19	#62DOD-191001A-AZ9769

Comments: _____

WETLAB

Sample/Sample Duplicate Results

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Sample ID: AZ97210
Client ID: 2003.DU51B

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

ARF: 89864

Method	Analyte	Sample ID	Sample Result	Sample Dup Result	RPD	RPD Max	MDL	PQL	Units	Sample Extract Date	Sample Analysis Date	Sample Dup Extract Date	Sample Dup Analysis Date
CLP MOIST	MOISTURE	AZ97210	14.7	14.5	1.4	20		2.0	%	08/27/19	08/28/19	08/27/19	08/28/19

Printed: 09/20/19 4:27:42 PM

Dup-SCII (NoMC)

% Moisture**Batch: QCG 190827-M007744****Date: 08/27/19 10:30****Method: CLP 4.0**

Sample	Container	Pan (g)	Pan+Wet (g)	Pan+Dry 1 (g)	Pan+Dry 2 (g)	Moisture (%)	Comments
AZ97222		0.8408 08/27/19 10:30	7.3306 08/27/19 10:30	6.0933 08/28/19 05:19	6.0934 08/28/19 05:19	19.064	
AZ97221D		0.8449 08/27/19 10:28	6.9598 08/27/19 10:29	6.0814 08/28/19 05:19	6.0814	14.365	
AZ97221		0.8389 08/27/19 10:27	6.9586 08/27/19 10:28	6.0791	6.0793 08/28/19 05:19	14.368	
AZ97220		0.8466 08/27/19 10:26	9.6329 08/27/19 10:27	8.7683 08/28/19 05:18	8.7683 08/28/19 05:18	9.840	
AZ97219		0.8355 08/27/19 10:25	7.9889 08/27/19 10:26	7.0344 08/28/19 05:18	7.0345	13.342	
AZ97218		0.8365 08/27/19 10:24	7.3238 08/27/19 10:25	6.6199 08/28/19 05:18	6.6199	10.850	
AZ97217		0.8403 08/27/19 10:23	6.8242 08/27/19 10:24	6.2812 08/28/19 05:18	6.2812	9.074	
AZ97216		0.8433 08/27/19 10:22	8.7166 08/27/19 10:23	7.9958 08/28/19 05:18	7.9957	9.156	
AZ97215		0.8434 08/27/19 10:21	7.7410 08/27/19 10:22	6.8862 08/28/19 05:17	6.8863	12.391	
AZ97214		0.8484 08/27/19 10:20	8.0876 08/27/19 10:21	7.8211 08/28/19 05:07	7.8211 08/28/19 05:07	3.681	
AZ97211		0.8365 08/27/19 10:17	7.5856 08/27/19 10:17	6.6330 08/28/19 05:07	6.6338 08/28/19 05:07	14.103	

Date/Time InOven@104°C	Date/Time OutOven@104°C	Date/Time InOven@104°C	Date/Time OutOven@104°C
08/27/19 10:30:00 AM			08/28/19 5:07:00 AM

% Moisture**Batch: QCG 190827-M007743****Date: 08/27/19 10:10****Method: CLP 4.0**

Sample	Container	Pan (g)	Pan+Wet (g)	Pan+Dry 1 (g)	Pan+Dry 2 (g)	Moisture (%)	Comments
AZ97210D		0.8459 08/27/19 10:10	8.4377 08/27/19 10:11	7.3346 08/28/19 05:05	7.3346 08/28/19 05:05	14.530	
AZ97210		0.8256 08/27/19 10:09	8.4407 08/27/19 10:10	7.3207 08/28/19 05:05	7.3207	14.708	
AZ97209		0.8318 08/27/19 10:07	8.0848 08/27/19 10:08	7.0275	7.0276 08/28/19 05:05	14.576	
AZ97208		0.8276 08/27/19 10:06	7.5151 08/27/19 10:07	6.4103 08/28/19 05:04	6.4103 08/28/19 05:04	16.520	
AZ97207		0.8309 08/27/19 10:05	8.2178 08/27/19 10:06	7.4191	7.4195 08/28/19 05:04	10.807	
AZ97206		0.8362 08/27/19 10:03	9.1289 08/27/19 10:04	8.2310 08/28/19 05:03	8.2308 08/28/19 05:03	10.830	
AZ97205		0.8260 08/27/19 10:01	8.2179 08/27/19 10:03	6.8630	6.8647 08/28/19 05:03	18.307	
AZ97204		0.8363 08/27/19 09:59	7.3588 08/27/19 10:00	6.6503 08/28/19 05:02	6.6503 08/28/19 05:02	10.862	
AZ97203		0.8461 08/27/19 09:58	7.9559 08/27/19 09:59	7.0910 08/28/19 05:02	7.0910	12.165	
AZ97202		0.8528 08/27/19 09:56	7.8330 08/27/19 09:57	6.6164 08/28/19 05:01	6.6165 08/28/19 05:01	17.428	
AZ97201		0.8508 08/27/19 09:56	7.1507 08/27/19 09:56	5.9798 08/28/19 05:01	5.9798	18.586	

Date/Time InOven@104°C	Date/Time OutOven@104°C	Date/Time InOven@104°C	Date/Time OutOven@104°C
08/27/19 10:11:00 AM			08/28/19 5:01:00 AM

89864



APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C.

Report to: PLEASE PRINT					Invoice to: PLEASE PRINT				
Company Name: EnviroServices & Training Center, LLC Phone: 808-839-7222					Company Name: EnviroServices & Training Center, LLC Phone: 808-839-7222				
Address: 505 Ward Avenue, Suite 202					Address: 505 Ward Avenue, Suite 202				
Honolulu, Hawaii 96814 Fax: 808-839-4455					Honolulu, Hawaii 96814 Fax: 808-839-4455				
Attn: Mr. Damon Hamura					Attn: Accounts Payable				
Email: damon@gotoetc.com					Email: ap@gotoetc.com				

Project Name/Number		Sampler (Print)		Analysis Requested/Method Number		Date Shipped:	
Koa Ridge / 18-2003		JAMES DOLAN					
Purchase Order Number		Sampler (Signature)				Carrier:	
		<i>[Signature]</i>				Waybill No.:	
						Comments:	

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix			MIS Prep	Pesticides (8081)	Arsenic (6000s)													
						Aq	Sed.	Soil																
2003. DU74	KOA RIDGE	8-12-19	0845	HI	1			✓	✓	✓														
2003. DU82		8-12-19	1330		1																			
2003. DU98		8-13-19	0900		1																			
2003. DU99		8-13-19	0930		1																			
2003. DU70		8-13-19	1015		1																			
2003. DU8		8-13-19	1230		1																			
2003. DU40		8-13-19	1310		1																			
2003. DU28		8-13-19	1340		1																			
2003. DU51A		8-14-19	0945		1																			
2003. DU51B		8-14-19	0945		1																			
2003. DU51C		8-14-19	0945		1																			

Shuttle Temperature: IR: 3.4 / 2.2°C		Turnaround Requested: Check one ☒ Standard 2-3 wk ☐ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:				Sample Disposal: ☐ Return to client ☒ Disposal by Lab (30-day retention)				
Relinquished by sampler: JAMES DOLAN		Date: 08-14-19	Time: 1400	Received by: <i>[Signature]</i>		Relinquished by: <i>[Signature]</i>		Date: 8/15/19	Time: 1159	Received by:
Relinquished by:		Date:	Time:	Received by:		Relinquished by:		Date: 8-16-19	Time: 0950	Received at lab by: <i>[Signature]</i>

See page 2 for Container Preservative and Sampling Information



908 North Temperance Ave. ▽ Clovis, CA 93611 ▽ Phone 559-275-2175 ▽ Fax 559-275-4422

NELAP Certification Number: CA00046 (HW)
State Certification Number: CA1312 (WW & DW)

November 4, 2019

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Subject: Report of Data: Case 89911

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dear Mr. Hamura,

Ten soil samples were received on August 21, 2019, in good condition. Written results are being provided on this November 4, 2019, for the requested analysis. All holding times were met.

The samples were prepared using wet multi-incremental sampling techniques.

For the EPA 8081B analysis, the sample was extracted according to EPA method 3550. Both surrogates are below the lower control limit in the Blank. All other quality controls are within criteria.

For the EPA 6020A analysis, the sample was digested according to EPA method 3010A.

Percent moisture was determined using ISM02.2, Exhibit D, section 10.0.

No other unusual problem or complication was encountered with this sample set.

If you have any questions or require further information, please contact us at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney, Laboratory Director
APPL, Inc.

PM/gs
Enclosure
cc: File

EPA 8081B OCL IS SOIL

EnviroServices & Training Centre
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura
Project: Koa Ridge/18-2003

Sample ID: 2003.DU44

Sample Collection Date: 08/15/19

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 89911

APPL ID: AZ97690

QCG: #81BDO-190829A2-245826

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 4.1 Percent Moisture.)							
EPA 8081B	4,4'-DDD	0.0044 J	0.052	0.0019	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDE	0.31	0.05	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDT	0.15	0.052	0.0008	mg/kg	08/29/19	10/01/19
EPA 8081B	ALDRIN	Not detected	0.05	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-BHC	Not detected	0.05	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.05	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	BETA-BHC	Not detected	0.05	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.00	0.016	mg/kg	08/29/19	10/01/19
EPA 8081B	DELTA-BHC	Not detected	0.05	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	DIELDRIN	Not detected	0.05	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN I	Not detected	0.052	0.0008	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN II	Not detected	0.052	0.0008	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.05	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN	Not detected	0.05	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.05	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN KETONE	Not detected	0.05	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-BHC	Not detected	0.05	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.05	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR	Not detected	0.05	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.05	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.05	0.005	mg/kg	08/29/19	10/01/19
EPA 8081B	METHOXYCHLOR	Not detected	0.05	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	TOXAPHENE	Not detected	1.00	0.016	mg/kg	08/29/19	10/01/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	93.0	55-130		%	08/29/19	10/01/19
EPA 8081B	SURROGATE: TCMX (S)	96.2	42-129		%	08/29/19	10/01/19

J = Estimated value.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928051
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:45:31 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU188

Sample Collection Date: 08/15/19

ARF: 89911

APPL ID: AZ97691

QCG: #81BDO-190829A2-245826

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 21.0 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.063	0.0023	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDE	0.080	0.06	0.003	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDT	0.036 J	0.063	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.30	0.019	mg/kg	08/29/19	10/01/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN I	Not detected	0.063	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN II	Not detected	0.063	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/29/19	10/01/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	TOXAPHENE	Not detected	1.30	0.019	mg/kg	08/29/19	10/01/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	103	55-130		%	08/29/19	10/01/19
EPA 8081B	SURROGATE: TCMX (S)	97.6	42-129		%	08/29/19	10/01/19

J = Estimated value.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928052
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:45:31 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura
Project: Koa Ridge/18-2003

Sample ID: 2003.DU42A

Sample Collection Date: 08/16/19

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 89911

APPL ID: AZ97692

QCG: #81BDO-190829A2-245826

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 15.9 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.059	0.0021	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDE	0.41	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDT	0.097	0.059	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	08/29/19	10/01/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN I	Not detected	0.059	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN II	Not detected	0.059	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/29/19	10/01/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	08/29/19	10/01/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	102	55-130		%	08/29/19	10/01/19
EPA 8081B	SURROGATE: TCMX (S)	107	42-129		%	08/29/19	10/01/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928053
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:45:31 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Centre
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU42B

Sample Collection Date: 08/16/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 89911

APPL ID: AZ97693

QCG: #81BDO-190829A2-245826

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 16.0 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.060	0.0021	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDE	0.42	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDT	0.11	0.060	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	08/29/19	10/01/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN I	Not detected	0.060	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN II	Not detected	0.060	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/29/19	10/01/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	08/29/19	10/01/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	98.8	55-130		%	08/29/19	10/01/19
EPA 8081B	SURROGATE: TCMX (S)	112	42-129		%	08/29/19	10/01/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928054
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:45:31 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU42C

Sample Collection Date: 08/16/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 89911

APPL ID: AZ97694

QCG: #81BDO-190829A2-245826

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 16.2 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.060	0.0021	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDE	0.38	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDT	0.092	0.060	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	08/29/19	10/01/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN I	Not detected	0.060	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN II	Not detected	0.060	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/29/19	10/01/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	08/29/19	10/01/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	93.5	55-130		%	08/29/19	10/01/19
EPA 8081B	SURROGATE: TCMX (S)	96.8	42-129		%	08/29/19	10/01/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928055
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:45:31 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Centre
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU33

Sample Collection Date: 08/19/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 89911

APPL ID: AZ97695

QCG: #81BDO-190829A2-245826

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 12.7 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.057	0.0021	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDE	0.38	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDT	0.14	0.057	0.0009	mg/kg	08/29/19	10/01/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.10	0.017	mg/kg	08/29/19	10/01/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN I	Not detected	0.057	0.0009	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN II	Not detected	0.057	0.0009	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/29/19	10/01/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	TOXAPHENE	Not detected	1.10	0.017	mg/kg	08/29/19	10/01/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	98.0	55-130		%	08/29/19	10/01/19
EPA 8081B	SURROGATE: TCMX (S)	98.4	42-129		%	08/29/19	10/01/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928056
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

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APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU34

Sample Collection Date: 08/19/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 89911

APPL ID: AZ97696

QCG: #81BDO-190829A2-245826

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 14.0 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.058	0.0021	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDE	0.33	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDT	0.11	0.058	0.0009	mg/kg	08/29/19	10/01/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.017	mg/kg	08/29/19	10/01/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN I	Not detected	0.058	0.0009	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN II	Not detected	0.058	0.0009	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/29/19	10/01/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.017	mg/kg	08/29/19	10/01/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	101	55-130		%	08/29/19	10/01/19
EPA 8081B	SURROGATE: TCMX (S)	106	42-129		%	08/29/19	10/01/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928057
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

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APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU87A

Sample Collection Date: 08/19/19

ARF: 89911

APPL ID: AZ97697

QCG: #81BDO-190829A2-245826

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 14.2 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.058	0.0021	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDE	0.41	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDT	0.098	0.058	0.0009	mg/kg	08/29/19	10/01/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.017	mg/kg	08/29/19	10/01/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN I	Not detected	0.058	0.0009	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN II	Not detected	0.058	0.0009	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/29/19	10/01/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.017	mg/kg	08/29/19	10/01/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	98.6	55-130		%	08/29/19	10/01/19
EPA 8081B	SURROGATE: TCMX (S)	111	42-129		%	08/29/19	10/01/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928058
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:45:31 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Centre
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU87B

Sample Collection Date: 08/19/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 89911

APPL ID: AZ97698

QCG: #81BDO-190829A2-245826

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 14.5 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.058	0.0021	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDE	0.40	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDT	0.10	0.058	0.0009	mg/kg	08/29/19	10/01/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	08/29/19	10/01/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN I	Not detected	0.058	0.0009	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN II	Not detected	0.058	0.0009	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/29/19	10/01/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	08/29/19	10/01/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	92.6	55-130		%	08/29/19	10/01/19
EPA 8081B	SURROGATE: TCMX (S)	101	42-129		%	08/29/19	10/01/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928059
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

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APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU87C

Sample Collection Date: 08/19/19

ARF: 89911

APPL ID: AZ97699

QCG: #81BDO-190829A2-245826

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 14.5 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.058	0.0021	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDE	0.44	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDT	0.10	0.058	0.0009	mg/kg	08/29/19	10/01/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	08/29/19	10/01/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN I	Not detected	0.058	0.0009	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN II	Not detected	0.058	0.0009	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/29/19	10/01/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	08/29/19	10/01/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	103	55-130		%	08/29/19	10/01/19
EPA 8081B	SURROGATE: TCMX (S)	115	42-129		%	08/29/19	10/01/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928068
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:45:31 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

Metals Results

EnviroServices & Training Centre

505 Ward Avenue, Suite 202

Honolulu, Hawaii 96814

ARF: 89911

APPL Inc.

908 North Temperance Avenue

Clovis, CA 93611

Attn: Damon Hamura

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
APPL ID: AZ97690		-Client Sample ID: 2003.DU44		-Sample Collection Date: 08/15/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	22.0	0.5	0.07	mg/Kg	1	10/01/19	10/02/19
APPL ID: AZ97691		-Client Sample ID: 2003.DU188		-Sample Collection Date: 08/15/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	4.2	0.5	0.07	mg/Kg	1	10/01/19	10/02/19
APPL ID: AZ97692		-Client Sample ID: 2003.DU42A		-Sample Collection Date: 08/16/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	18.0	0.5	0.07	mg/Kg	1	10/01/19	10/02/19
APPL ID: AZ97693		-Client Sample ID: 2003.DU42B		-Sample Collection Date: 08/16/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	19.9	0.5	0.07	mg/Kg	1	10/01/19	10/02/19
APPL ID: AZ97694		-Client Sample ID: 2003.DU42C		-Sample Collection Date: 08/16/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	17.1	0.5	0.07	mg/Kg	1	10/01/19	10/02/19
APPL ID: AZ97695		-Client Sample ID: 2003.DU33		-Sample Collection Date: 08/19/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	33.2	0.5	0.07	mg/Kg	1	10/01/19	10/02/19
APPL ID: AZ97696		-Client Sample ID: 2003.DU34		-Sample Collection Date: 08/19/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	27.6	0.5	0.07	mg/Kg	1	10/01/19	10/02/19
APPL ID: AZ97697		-Client Sample ID: 2003.DU87A		-Sample Collection Date: 08/19/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	21.9	0.5	0.07	mg/Kg	1	10/01/19	10/02/19
APPL ID: AZ97698		-Client Sample ID: 2003.DU87B		-Sample Collection Date: 08/19/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	22.6	0.5	0.07	mg/Kg	1	10/01/19	10/02/19
APPL ID: AZ97699		-Client Sample ID: 2003.DU87C		-Sample Collection Date: 08/19/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	24.3	0.5	0.07	mg/Kg	1	10/12/19	11/01/19

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APPL-F1-SC-NoMC-REG MDLs

Wetlab Results

ARF: 89911

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Method	Analyte	Result	PQL	MDL	Units	Prep Date	Analysis Date
APPL ID: AZ97690 -Client Sample ID: 2003.DU44		-Sample Collection Date: 08/15/19		Project: Koa Ridge/18-2003			
CLP MOIST	MOISTURE	4.1	2.0		%	09/03/19	09/04/19
APPL ID: AZ97691 -Client Sample ID: 2003.DU188		-Sample Collection Date: 08/15/19		Project: Koa Ridge/18-2003			
CLP MOIST	MOISTURE	21.0	2.0		%	09/03/19	09/04/19
APPL ID: AZ97692 -Client Sample ID: 2003.DU42A		-Sample Collection Date: 08/16/19		Project: Koa Ridge/18-2003			
CLP MOIST	MOISTURE	15.9	2.0		%	09/03/19	09/04/19
APPL ID: AZ97693 -Client Sample ID: 2003.DU42B		-Sample Collection Date: 08/16/19		Project: Koa Ridge/18-2003			
CLP MOIST	MOISTURE	16.0	2.0		%	09/03/19	09/04/19
APPL ID: AZ97694 -Client Sample ID: 2003.DU42C		-Sample Collection Date: 08/16/19		Project: Koa Ridge/18-2003			
CLP MOIST	MOISTURE	16.2	2.0		%	09/03/19	09/04/19
APPL ID: AZ97695 -Client Sample ID: 2003.DU33		-Sample Collection Date: 08/19/19		Project: Koa Ridge/18-2003			
CLP MOIST	MOISTURE	12.7	2.0		%	09/03/19	09/04/19
APPL ID: AZ97696 -Client Sample ID: 2003.DU34		-Sample Collection Date: 08/19/19		Project: Koa Ridge/18-2003			
CLP MOIST	MOISTURE	14.0	2.0		%	09/03/19	09/04/19
APPL ID: AZ97697 -Client Sample ID: 2003.DU87A		-Sample Collection Date: 08/19/19		Project: Koa Ridge/18-2003			
CLP MOIST	MOISTURE	14.2	2.0		%	09/03/19	09/04/19
APPL ID: AZ97698 -Client Sample ID: 2003.DU87B		-Sample Collection Date: 08/19/19		Project: Koa Ridge/18-2003			
CLP MOIST	MOISTURE	14.5	2.0		%	09/03/19	09/04/19
APPL ID: AZ97699 -Client Sample ID: 2003.DU87C		-Sample Collection Date: 08/19/19		Project: Koa Ridge/18-2003			
CLP MOIST	MOISTURE	14.5	2.0		%	09/03/19	09/04/19

Printed: 09/22/19 8:50:53 PM

Method Blank

EPA 8081B OCL IS SOIL

Blank Name/QCG: **190829S-97690 - 245826**
Batch ID: #81BDO-190829A2

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	4,4'-DDD	Not detected	0.050	mg/kg	08/29/19	10/01/19
BLANK	4,4'-DDE	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	4,4'-DDT	Not detected	0.050	mg/kg	08/29/19	10/01/19
BLANK	ALDRIN	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	ALPHA-BHC	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	ALPHA-CHLORDANE	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	BETA-BHC	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	CHLORDANE, TECHNICAL	Not detected	1.00	mg/kg	08/29/19	10/01/19
BLANK	DELTA-BHC	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	DIELDRIN	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	ENDOSULFAN I	Not detected	0.050	mg/kg	08/29/19	10/01/19
BLANK	ENDOSULFAN II	Not detected	0.050	mg/kg	08/29/19	10/01/19
BLANK	ENDOSULFAN SULFATE	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	ENDRIN	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	ENDRIN ALDEHYDE	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	ENDRIN KETONE	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	GAMMA-BHC	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	GAMMA-CHLORDANE	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	HEPTACHLOR	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	HEPTACHLOR EPOXIDE	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	HEXACHLOROBENZENE	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	METHOXYCHLOR	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	TOXAPHENE	Not detected	1.00	mg/kg	08/29/19	10/01/19
BLANK	SURROGATE: DECACHLOROBIPHENYL (S)	17.5 #	55-130	%	08/29/19	10/01/19
BLANK	SURROGATE: TCMX (S)	9.75 #	42-129	%	08/29/19	10/01/19

= Recovery (or RPD) is outside QC limits.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928046
Instrument: Ethel
Sequence: 190928
Initials: DPO

Printed: 10/10/19 10:52:38 AM

Laboratory Control Spike Recovery

EPA 8081B OCL IS SOIL

APPL ID: 190829S-97690 LCS - 245826

Batch ID: #81BDO-190829A2

APPL Inc.

908 North Temperance Avenue

Clovis, CA 93611

Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits
4,4'-DDD	0.500	0.514	103	56-139
4,4'-DDE	0.500	0.483	96.6	56-134
4,4'-DDT	0.500	0.464	92.8	50-141
ALDRIN	0.500	0.477	95.4	45-136
ALPHA-BHC	0.500	0.465	93.0	45-137
ALPHA-CHLORDANE	0.500	0.464	92.8	54-133
BETA-BHC	0.500	0.487	97.4	50-136
CHLORDANE, TECHNICAL	5.00	4.41	88.2	43-149
DELTA-BHC	0.500	0.476	95.2	47-139
DIELDRIN	0.500	0.475	95.0	56-136
ENDOSULFAN I	0.500	0.486	97.2	53-132
ENDOSULFAN II	0.500	0.474	94.8	53-134
ENDOSULFAN SULFATE	0.500	0.451	90.2	55-136
ENDRIN	0.500	0.480	96.0	57-140
ENDRIN ALDEHYDE	0.500	0.354	70.8	35-137
ENDRIN KETONE	0.500	0.493	98.6	55-136
GAMMA-BHC	0.500	0.476	95.2	49-135
GAMMA-CHLORDANE	0.500	0.480	96.0	53-135
HEPTACHLOR	0.500	0.440	88.0	47-136
HEPTACHLOR EPOXIDE	0.500	0.474	94.8	52-136
HEXACHLOROBENZENE	0.500	0.409	81.8	57-126
METHOXYCHLOR	0.500	0.428	85.6	52-143
TOXAPHENE	5.00	4.03	80.6	33-141
SURROGATE: DECACHLOROBIPHENYL	0.500	0.471	94.2	55-130
SURROGATE: TCMX (S)	0.500	0.410	82.0	42-129

Comments: _____

Primary	SPK
Quant Method :	OCL0912.M
Extraction Date :	08/29/19
Analysis Date :	10/01/19
Instrument :	Ethel
Run :	0928047
Initials :	DPO

Printed: 10/10/19 10:52:24 AM

APPL Standard LCS

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	PQL	MDL	Units	Prep Date	Analysis Date	QC Group
6020	ARSENIC (AS)	Not detected	0.5	0.07	mg/Kg	10/01/19	10/02/19	#62DOD-191001A-AZ97698
6020	ARSENIC (AS)	Not detected	0.5	0.07	mg/Kg	10/12/19	11/01/19	#62DOD-191012A-AZ98361

Laboratory Control Spike Recoveries

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/Kg	SPK Res mg/Kg	DUP Res mg/Kg	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 6020	ARSENIC (AS)	2.50	2.3	2.2	92.0	88.0	4.4	20	82-118	10/01/19	10/02/19	10/01/19	10/02/19	#62DOD-191001A-AZ9769

Comments: _____

Laboratory Control Spike Recoveries

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/Kg	SPK Res mg/Kg	DUP Res mg/Kg	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 6020	ARSENIC (AS)	2.50	2.7	2.7	108	108	0.0	20	82-118	10/12/19	11/01/19	10/12/19	11/01/19	#62DOD-191012A-AZ9836

Comments: _____

% Moisture

Batch: QCG 190903-M007765

Date: 09/03/19 11:32

Method: CLP 4.0

Sample	Container	Pan (g)	Pan+Wet (g)	Pan+Dry 1 (g)	Pan+Dry 2 (g)	Moisture (%)	Comments
AZ97692		0.8433 09/03/19 11:32	8.1338 09/03/19 11:33	6.9714 09/04/19 07:16	6.9715 09/04/19 07:16	15.943	
AZ97691		0.8533 09/03/19 11:31	7.7674 09/03/19 11:32	6.3144 09/04/19 07:15	6.3144 09/04/19 07:15	21.015	
AZ97690		0.8438 09/03/19 11:29	7.4679 09/03/19 11:30	7.1977 09/04/19 07:15	7.1976 09/04/19 07:15	4.081	
AZ97549D		0.8487 09/03/19 11:26	7.0906 09/03/19 11:27	6.6140	6.6146 09/04/19 07:15	7.626	
AZ97549		0.8466 09/03/19 11:25	7.0809 09/03/19 11:25	6.5790 09/04/19 07:14	6.5791 09/04/19 07:15	8.049	
AZ97548		0.8578 09/03/19 11:24	8.1900 09/03/19 11:24	7.5215 09/04/19 07:14	7.5215 09/04/19 07:14	9.117	
AZ97547		0.8474 09/03/19 11:22	6.9295 09/03/19 11:23	6.5721 09/04/19 07:14	6.5722 09/04/19 07:14	5.875	
AZ97546		0.8494 09/03/19 11:21	8.1433 09/03/19 11:22	7.6648 09/04/19 07:14	7.6649	6.559	
AZ97545		0.8430 09/03/19 11:20	7.4519 09/03/19 11:21	7.0144 09/04/19 07:13	7.0146	6.617	
AZ97544		0.8403 09/03/19 11:18	8.4803 09/03/19 11:19	7.7988 09/04/19 07:13	7.7992 09/04/19 07:13	8.915	
AZ97543		0.8687 09/03/19 11:17	6.5064 09/03/19 11:18	6.1929 09/04/19 07:13	6.1930 09/04/19 07:13	5.559	

Date/Time InOven@104°C	Date/Time OutOven@104°C	Date/Time InOven@104°C	Date/Time OutOven@104°C
09/03/19 11:33:00 AM			09/04/19 7:13:00 AM

% Moisture

Batch: QCG 190903-M007766

Date: 09/03/19 12:05

Method: CLP 4.0

Sample	Container	Pan (g)	Pan+Wet (g)	Pan+Dry 1 (g)	Pan+Dry 2 (g)	Moisture (%)	Comments
AZ98303D		0.8424	6.6403	6.4781	6.4892	2.606	
		09/03/19 12:05	09/03/19 12:07	09/04/19 07:19	09/04/19 07:20		
AZ98303		0.8472	6.6350	6.4781	6.4782	2.709	
		09/03/19 12:03	09/03/19 12:04		09/04/19 07:19		
AZ98302		0.8445	7.5913	7.4062	7.4060	2.746	
		09/03/19 12:02	09/03/19 12:03	09/04/19 07:19	09/04/19 07:19		
AZ97699		0.8477	8.1338	7.0753	7.0753	14.528	
		09/03/19 12:00	09/03/19 12:01	09/04/19 07:19			
AZ97698		0.8413	8.4039	7.3102	7.3102	14.462	
		09/03/19 11:58	09/03/19 11:59	09/04/19 07:19			
AZ97697		0.8450	7.6109	6.6515	6.6515	14.180	
		09/03/19 11:56	09/03/19 11:57	09/04/19 07:18	09/04/19 07:18		
AZ97696		0.8456	8.9843	7.8425	7.8433	14.019	
		09/03/19 11:54	09/03/19 11:55		09/04/19 07:18		
AZ97695		0.8481	6.2107	5.5281	5.5280	12.731	
		09/03/19 11:52	09/03/19 11:53	09/04/19 07:18	09/04/19 07:18		
AZ97694		0.8463	8.0920	6.9162	6.9163	16.226	
		09/03/19 11:50	09/03/19 11:51	09/04/19 07:17			
AZ97693		0.8397	6.8337	5.8740	5.8738	16.014	
		09/03/19 11:48	09/03/19 11:49	09/04/19 07:17	09/04/19 07:17		

Date/Time InOven@104°C	Date/Time OutOven@104°C	Date/Time InOven@104°C	Date/Time OutOven@104°C
09/03/19 12:07:00 PM			09/04/19 7:17:00 AM

CHAIN OF CUSTODY RECORD

coc@applinc.com

C.O.C. 081919A

See page 2 for Container Preservative and Sampling Information

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

[illegible]

See page 2 for Container Preservative and Sampling Information

ARF: 89911



908 North Temperance Ave. ▽ Clovis, CA 93611 ▽ Phone 559-275-2175 ▽ Fax 559-275-4422

NELAP Certification Number: CA00046 (HW)
State Certification Number: CA1312 (WW & DW)

November 4, 2019

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Subject: Report of Data: Case 89934

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dear Mr. Hamura,

Eight soil samples were received on August 23, 2019, in good condition. Written results are being provided on this November 4, 2019, for the requested analysis. All holding times were met.

The samples were prepared using wet multi-incremental sampling techniques.

For the EPA 8081B analysis, the sample was extracted according to EPA method 3550. Both surrogates are below the lower control limit in the Blank. All other quality controls are within criteria.

For the EPA 6020A analysis, the sample was digested according to EPA method 3010A.

Percent moisture was determined using ISM02.2, Exhibit D, section 10.0.

No other unusual problem or complication was encountered with this sample set.

If you have any questions or require further information, please contact us at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney, Laboratory Director
APPL, Inc.

PM/gs
Enclosure
cc: File

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU88A

Sample Collection Date: 08/20/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 89934

APPL ID: AZ97833

QCG: #81BDO-190829A2-245826

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.648 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.061	0.0022	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDE	0.34	0.06	0.003	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDT	0.074	0.061	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	08/29/19	10/01/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN I	Not detected	0.061	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN II	Not detected	0.061	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/29/19	10/01/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	08/29/19	10/01/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	97.7	55-130		%	08/29/19	10/01/19
EPA 8081B	SURROGATE: TCMX (S)	100	42-129		%	08/29/19	10/01/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928069
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:53:19 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura
Project: Koa Ridge/18-2003

Sample ID: 2003.DU88B

Sample Collection Date: 08/20/19

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 89934

APPL ID: AZ97834

QCG: #81BDO-190829A2-245826

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.132 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.061	0.0022	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDE	0.33	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDT	0.073	0.061	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	08/29/19	10/01/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN I	Not detected	0.061	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN II	Not detected	0.061	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/29/19	10/01/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	08/29/19	10/01/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	92.4	55-130		%	08/29/19	10/01/19
EPA 8081B	SURROGATE: TCMX (S)	98.6	42-129		%	08/29/19	10/01/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928070
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:53:19 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU88C

Sample Collection Date: 08/20/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 89934

APPL ID: AZ97835

QCG: #81BDO-190829A2-245826

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.234 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.061	0.0022	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDE	0.32	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDT	0.064	0.061	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	08/29/19	10/01/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN I	Not detected	0.061	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN II	Not detected	0.061	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/29/19	10/01/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	08/29/19	10/01/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	90.0	55-130		%	08/29/19	10/01/19
EPA 8081B	SURROGATE: TCMX (S)	96.9	42-129		%	08/29/19	10/01/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928071
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:53:19 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Centre
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU103

Sample Collection Date: 08/20/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 89934

APPL ID: AZ97836

QCG: #81BDO-190829A2-245826

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 17.757 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.061	0.0022	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDE	0.26	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDT	0.073	0.061	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	08/29/19	10/01/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN I	Not detected	0.061	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN II	Not detected	0.061	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/29/19	10/01/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	08/29/19	10/01/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	76.0	55-130		%	08/29/19	10/01/19
EPA 8081B	SURROGATE: TCMX (S)	93.9	42-129		%	08/29/19	10/01/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928072
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:53:19 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU152

Sample Collection Date: 08/20/19

ARF: 89934

APPL ID: AZ97837

QCG: #81BDO-190829A2-245826

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 19.9 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.062	0.0022	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDE	0.23	0.06	0.003	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDT	0.074	0.062	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.019	mg/kg	08/29/19	10/01/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN I	Not detected	0.062	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN II	Not detected	0.062	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/29/19	10/01/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.019	mg/kg	08/29/19	10/01/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	79.2	55-130		%	08/29/19	10/01/19
EPA 8081B	SURROGATE: TCMX (S)	80.6	42-129		%	08/29/19	10/01/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928073
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:53:19 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU160

Sample Collection Date: 08/21/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 89934

APPL ID: AZ97838

QCG: #81BDO-190829A2-245826

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 19.2 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.062	0.0022	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDE	0.23	0.06	0.003	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDT	0.099	0.062	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.019	mg/kg	08/29/19	10/01/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN I	Not detected	0.062	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN II	Not detected	0.062	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/29/19	10/01/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.019	mg/kg	08/29/19	10/01/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	82.8	55-130		%	08/29/19	10/01/19
EPA 8081B	SURROGATE: TCMX (S)	85.8	42-129		%	08/29/19	10/01/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928074
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:53:19 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Centre
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU172

Sample Collection Date: 08/21/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 89934

APPL ID: AZ97839

QCG: #81BDO-190829A2-245826

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.8 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.062	0.0022	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDE	0.32	0.06	0.003	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDT	0.17	0.062	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	08/29/19	10/01/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN I	Not detected	0.062	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN II	Not detected	0.062	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/29/19	10/01/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	08/29/19	10/01/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	91.5	55-130		%	08/29/19	10/01/19
EPA 8081B	SURROGATE: TCMX (S)	91.6	42-129		%	08/29/19	10/01/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928075
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:53:19 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Centre
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura
Project: Koa Ridge/18-2003

Sample ID: 2003.DU184

Sample Collection Date: 08/21/19

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 89934

APPL ID: AZ97840

QCG: #81BDO-190829A2-245826

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 19.1 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.062	0.0022	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDE	0.30	0.06	0.003	mg/kg	08/29/19	10/01/19
EPA 8081B	4,4'-DDT	0.14	0.062	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.019	mg/kg	08/29/19	10/01/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN I	Not detected	0.062	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN II	Not detected	0.062	0.0010	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	08/29/19	10/01/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	08/29/19	10/01/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	08/29/19	10/01/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.019	mg/kg	08/29/19	10/01/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	95.4	55-130		%	08/29/19	10/01/19
EPA 8081B	SURROGATE: TCMX (S)	94.4	42-129		%	08/29/19	10/01/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928076
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:53:19 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

Metals Results

EnviroServices & Training Centre

505 Ward Avenue, Suite 202

Honolulu, Hawaii 96814

ARF: 89934

APPL Inc.

908 North Temperance Avenue

Clovis, CA 93611

Attn: Damon Hamura

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
APPL ID: AZ97833		-Client Sample ID: 2003.DU88A		-Sample Collection Date: 08/20/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	24.8	0.5	0.07	mg/Kg	1	10/12/19	11/01/19
APPL ID: AZ97834		-Client Sample ID: 2003.DU88B		-Sample Collection Date: 08/20/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	23.9	0.5	0.07	mg/Kg	1	10/12/19	11/01/19
APPL ID: AZ97835		-Client Sample ID: 2003.DU88C		-Sample Collection Date: 08/20/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	24.6	0.5	0.07	mg/Kg	1	10/12/19	11/01/19
APPL ID: AZ97836		-Client Sample ID: 2003.DU103		-Sample Collection Date: 08/20/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	27.2	0.5	0.07	mg/Kg	1	10/12/19	11/01/19
APPL ID: AZ97837		-Client Sample ID: 2003.DU152		-Sample Collection Date: 08/20/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	19.8	0.5	0.07	mg/Kg	1	10/12/19	11/01/19
APPL ID: AZ97838		-Client Sample ID: 2003.DU160		-Sample Collection Date: 08/21/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	17.2	0.5	0.07	mg/Kg	1	10/12/19	11/01/19
APPL ID: AZ97839		-Client Sample ID: 2003.DU172		-Sample Collection Date: 08/21/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	16.5	0.5	0.07	mg/Kg	1	10/12/19	11/01/19
APPL ID: AZ97840		-Client Sample ID: 2003.DU184		-Sample Collection Date: 08/21/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	17.6	0.5	0.07	mg/Kg	1	10/12/19	11/01/19

Printed: 01/21/20 12:03:52 PM

APPL-F1-SC-NoMC-REG MDLs

Wetlab Results

ARF: 89934

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Method	Analyte	Result	PQL	MDL	Units	Prep Date	Analysis Date
APPL ID: AZ97833 -Client Sample ID: 2003.DU88A		-Sample Collection Date: 08/20/19		Project: Koa Ridge/18-2003			
CLP MOIST	MOISTURE	18.648	2.0		%	09/05/19	09/06/19
APPL ID: AZ97834 -Client Sample ID: 2003.DU88B		-Sample Collection Date: 08/20/19		Project: Koa Ridge/18-2003			
CLP MOIST	MOISTURE	18.132	2.0		%	09/05/19	09/06/19
APPL ID: AZ97835 -Client Sample ID: 2003.DU88C		-Sample Collection Date: 08/20/19		Project: Koa Ridge/18-2003			
CLP MOIST	MOISTURE	18.234	2.0		%	09/05/19	09/06/19
APPL ID: AZ97836 -Client Sample ID: 2003.DU103		-Sample Collection Date: 08/20/19		Project: Koa Ridge/18-2003			
CLP MOIST	MOISTURE	17.757	2.0		%	09/05/19	09/06/19
APPL ID: AZ97837 -Client Sample ID: 2003.DU152		-Sample Collection Date: 08/20/19		Project: Koa Ridge/18-2003			
CLP MOIST	MOISTURE	19.9	2.0		%	09/09/19	09/10/19
APPL ID: AZ97838 -Client Sample ID: 2003.DU160		-Sample Collection Date: 08/21/19		Project: Koa Ridge/18-2003			
CLP MOIST	MOISTURE	19.2	2.0		%	09/09/19	09/10/19
APPL ID: AZ97839 -Client Sample ID: 2003.DU172		-Sample Collection Date: 08/21/19		Project: Koa Ridge/18-2003			
CLP MOIST	MOISTURE	18.8	2.0		%	09/09/19	09/10/19
APPL ID: AZ97840 -Client Sample ID: 2003.DU184		-Sample Collection Date: 08/21/19		Project: Koa Ridge/18-2003			
CLP MOIST	MOISTURE	19.1	2.0		%	09/09/19	09/10/19

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Method Blank

EPA 8081B OCL IS SOIL

Blank Name/QCG: **190829S-97690 - 245826**
Batch ID: #81BDO-190829A2

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	4,4'-DDD	Not detected	0.050	mg/kg	08/29/19	10/01/19
BLANK	4,4'-DDE	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	4,4'-DDT	Not detected	0.050	mg/kg	08/29/19	10/01/19
BLANK	ALDRIN	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	ALPHA-BHC	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	ALPHA-CHLORDANE	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	BETA-BHC	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	CHLORDANE, TECHNICAL	Not detected	1.00	mg/kg	08/29/19	10/01/19
BLANK	DELTA-BHC	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	DIELDRIN	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	ENDOSULFAN I	Not detected	0.050	mg/kg	08/29/19	10/01/19
BLANK	ENDOSULFAN II	Not detected	0.050	mg/kg	08/29/19	10/01/19
BLANK	ENDOSULFAN SULFATE	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	ENDRIN	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	ENDRIN ALDEHYDE	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	ENDRIN KETONE	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	GAMMA-BHC	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	GAMMA-CHLORDANE	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	HEPTACHLOR	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	HEPTACHLOR EPOXIDE	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	HEXACHLOROBENZENE	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	METHOXYCHLOR	Not detected	0.05	mg/kg	08/29/19	10/01/19
BLANK	TOXAPHENE	Not detected	1.00	mg/kg	08/29/19	10/01/19
BLANK	SURROGATE: DECACHLOROBIPHENYL (S)	17.5 #	55-130	%	08/29/19	10/01/19
BLANK	SURROGATE: TCMX (S)	9.75 #	42-129	%	08/29/19	10/01/19

= Recovery (or RPD) is outside QC limits.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928046
Instrument: Ethel
Sequence: 190928
Initials: DPO

Printed: 10/10/19 10:52:38 AM

Laboratory Control Spike Recovery

EPA 8081B OCL IS SOIL

APPL ID: **190829S-97690 LCS - 245826**

Batch ID: #81BDO-190829A2

APPL Inc.

908 North Temperance Avenue

Clovis, CA 93611

Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits
4,4'-DDD	0.500	0.514	103	56-139
4,4'-DDE	0.500	0.483	96.6	56-134
4,4'-DDT	0.500	0.464	92.8	50-141
ALDRIN	0.500	0.477	95.4	45-136
ALPHA-BHC	0.500	0.465	93.0	45-137
ALPHA-CHLORDANE	0.500	0.464	92.8	54-133
BETA-BHC	0.500	0.487	97.4	50-136
CHLORDANE, TECHNICAL	5.00	4.41	88.2	43-149
DELTA-BHC	0.500	0.476	95.2	47-139
DIELDRIN	0.500	0.475	95.0	56-136
ENDOSULFAN I	0.500	0.486	97.2	53-132
ENDOSULFAN II	0.500	0.474	94.8	53-134
ENDOSULFAN SULFATE	0.500	0.451	90.2	55-136
ENDRIN	0.500	0.480	96.0	57-140
ENDRIN ALDEHYDE	0.500	0.354	70.8	35-137
ENDRIN KETONE	0.500	0.493	98.6	55-136
GAMMA-BHC	0.500	0.476	95.2	49-135
GAMMA-CHLORDANE	0.500	0.480	96.0	53-135
HEPTACHLOR	0.500	0.440	88.0	47-136
HEPTACHLOR EPOXIDE	0.500	0.474	94.8	52-136
HEXACHLOROBENZENE	0.500	0.409	81.8	57-126
METHOXYCHLOR	0.500	0.428	85.6	52-143
TOXAPHENE	5.00	4.03	80.6	33-141
SURROGATE: DECACHLOROBIPHENYL	0.500	0.471	94.2	55-130
SURROGATE: TCMX (S)	0.500	0.410	82.0	42-129

Comments: _____

Primary	SPK
Quant Method :	OCL0912.M
Extraction Date :	08/29/19
Analysis Date :	10/01/19
Instrument :	Ethel
Run :	0928047
Initials :	DPO

Printed: 10/10/19 10:52.24 AM

APPL Standard LCS

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	PQL	MDL	Units	Prep Date	Analysis Date	QC Group
6020	ARSENIC (AS)	Not detected	0.5	0.07	mg/Kg	10/12/19	11/01/19	#62DOD-191012A-AZ98361

Metals SC-Blank-REG MDLs
Printed: 11/04/19 10:56:39 AM

Laboratory Control Spike Recoveries

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/Kg	SPK Res mg/Kg	DUP Res mg/Kg	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 6020	ARSENIC (AS)	2.50	2.7	2.7	108	108	0.0	20	82-118	10/12/19	11/01/19	10/12/19	11/01/19	#62DOD-191012A-AZ9836

Comments: _____

WETLAB

Sample/Sample Duplicate Results

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Sample ID: AZ97836
Client ID: 2003.DU103

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Attn: Damon Hamura

Project: Koa Ridge/18-2003

ARF: 89934

Method	Analyte	Sample ID	Sample Result	Sample Dup Result	RPD	RPD Max	MDL	PQL	Units	Sample Extract Date	Sample Analysis Date	Sample Dup Extract Date	Sample Dup Analysis Date
CLP MOIST	MOISTURE	AZ97836	17.757	17.602	0.9	20		2.0	%	09/05/19	09/06/19	09/05/19	09/06/19

Printed: 09/23/19 1:27:15 PM

Dup-SCII (NoMC)

% Moisture

Batch: QCG 190905-M007772

Date: 09/05/19 10:11

Method: CLP 4.0

Sample	Container	Pan (g)	Pan+Wet (g)	Pan+Dry 1 (g)	Pan+Dry 2 (g)	Moisture (%)	Comments
AZ97836D		0.8406 09/05/19 10:11	6.5087 09/05/19 10:13	5.5109 09/06/19 09:36	5.5110 09/06/19 09:36	17.602	
AZ97836		0.8358 09/05/19 10:11	6.5001 09/05/19 10:12	5.4941 09/06/19 09:35	5.4943	17.757	
AZ97835		0.8294 09/05/19 10:09	7.2843 09/05/19 10:10	6.1072 09/06/19 09:35	6.1073	18.234	
AZ97834		0.8348 09/05/19 10:07	7.4589 09/05/19 10:08	6.2575 09/06/19 09:35	6.2578 09/06/19 09:35	18.132	
AZ97833		0.8282 09/05/19 10:05	8.3559 09/05/19 10:06	6.9512	6.9521 09/06/19 09:35	18.648	
AZ97729		0.8342 09/05/19 10:04	7.7804 09/05/19 10:05	7.5846 09/06/19 09:34	7.5847 09/06/19 09:34	2.817	
AZ97728		0.8366 09/05/19 10:03	7.7747 09/05/19 10:04	7.5952 09/06/19 09:34	7.5953	2.586	
AZ97727		0.8387 09/05/19 10:02	6.4748 09/05/19 10:03	5.9859	5.9863 09/06/19 09:34	8.667	
AZ97726		0.8264 09/05/19 10:01	8.4703 09/05/19 10:02	7.7788 09/06/19 09:33	7.7788 09/06/19 09:33	9.046	
AZ97725		0.8361 09/05/19 09:59	7.6804 09/05/19 10:00	7.0704	7.0708 09/06/19 09:33	8.907	
AZ97724		0.8408 09/05/19 09:58	7.4746 09/05/19 09:59	6.8758 09/06/19 09:33	6.8758 09/06/19 09:33	9.027	

Date/Time InOven@104°C	Date/Time OutOven@104°C	Date/Time InOven@104°C	Date/Time OutOven@104°C
09/05/19 10:13:00 AM			09/06/19 9:33:00 AM

% Moisture

Batch: QCG 190905-M007773

Date: 09/06/19 08:22

Method: CLP 4.0

Sample	Container	Pan (g)	Pan+Wet (g)	Pan+Dry 1 (g)	Pan+Dry 2 (g)	Moisture (%)	Comments
AZ98007D		0.8486 09/06/19 08:22	6.2137 09/06/19 08:23	5.4877 09/06/19 09:13	5.4877	13.532	
AZ98007		0.8421 09/06/19 08:22	6.2106 09/06/19 08:22	5.4894 09/06/19 09:13	5.4895	13.432	
AZ98006		0.8405 09/06/19 08:21	6.5360 09/06/19 08:21	5.5542 09/06/19 09:12	5.5542	17.238	
AZ98005		0.8535 09/06/19 08:20	8.4562 09/06/19 08:21	7.1059 09/06/19 09:12	7.1057	17.763	
AZ98004		0.8308 09/06/19 08:20	8.6364 09/06/19 08:20	7.3481 09/06/19 09:12	7.3480 09/06/19 09:12	16.506	
AZ98003		0.8459 09/06/19 08:18	8.4533 09/06/19 08:19	7.4079 09/06/19 09:11	7.4079	13.742	
AZ98002		0.8398 09/06/19 08:17	7.1864 09/06/19 08:18	6.1193 09/06/19 09:11	6.1195	16.811	
AZ97840		0.8294 09/06/19 08:11	6.8952 09/06/19 08:12	5.8523 09/06/19 09:11	5.8524 09/06/19 09:11	17.191	
AZ97839		0.8271 09/06/19 08:08	7.8917 09/06/19 08:11	6.5727 09/06/19 09:10	6.5728	18.669	
AZ97838		0.8273 09/06/19 08:06	7.6061 09/06/19 08:07	6.3446 09/06/19 09:10	6.3446	18.609	
AZ97837		0.8277 09/06/19 08:04	7.3147 09/06/19 08:05	6.0479 09/06/19 09:10	6.0480 09/06/19 09:10	19.527	

1992

APPL, Inc.

Clovis, CA 93611

www.applinc.com

CHAIN OF CUSTODY RECORD

Fax: (559) 275-4422

coc@applinc.com

C.O.C. 082119

Report to: PLEASE PRINT Company Name: EnviroServices & Training Center, LLC Address: 505 Ward Avenue, Suite 202 Honolulu, Hawaii 96814 Attn: Mr. Damon Hamura Email: damon@gotoetc.com		Invoice to: PLEASE PRINT Company Name: EnviroServices & Training Center, LLC Address: 505 Ward Avenue, Suite 202 Honolulu, Hawaii 96814 Attn: Accounts Payable Email: ap@gotoetc.com																													
Project Name/Number Koa Ridge / 18-2003		Sampler (Print) Luis Lopez / T.Y.		Purchase Order Number		Sampler (Signature) Luis Lopez		Sample Identification		Location		Date Collected		Time Collected		Time Zone		No. of Containers		Matrix		MIS Prep		Pesticides (8081)		Arsenic (6000s)		Analysis Requested/Method Number		Date Shipped:	
2003. DU 88A		Koa Ridge		8/20/19		820		HI		1				✓		✓		✓													
2003. DU 88B						820																									
2003. DU 88C						820																									
2003. DU 103						945																									
2003. DU 152						1135																									
2003. DU 160				8/21/19		900																									
2003. DU 172						935																									
2003. DU 184						1100																									
Shuttle Temperature: 18.2 - 1.2 1.9 / 0.6		Turnaround Requested: Check one ☒ Standard 2-3 wk ☐ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:		Sample Disposal: ☐ Return to client ☒ Disposal by Lab (30-day retention)		Relinquished by sampler: Luis Lopez		Date 8/21/19		Time 1345		Received by: Harry Stark		Date 8/22/19		Time 1030		Received by:													
Relinquished by:		Date		Time		Received by:		Date		Time		Received at lab by:		Date		Time															

See page 2 for Container Preservative and Sampling Information

COOLER RECEIPT FORM

ARF: 89934

- 1) Project: Koa Ridge/18-2003 Date Received: 08/23/19
- 2) Coolers: Number of Coolers: 1
- 3) YES Were custody seals present and intact?
How many? 1 Name/Date on seal? Cut upon Arrival
- 4) YES Was there a shipping slip? Carrier name: FEDEX
- 5) Type of packing in cooler: ☐ bubble wrap ☐ popcorn ☐ foam ☒ plastic bags ☐ other
☐ wet ice ☐ dry ice ☐ no ice ☒ gel ice
- 6) YES Were cooler temperatures acceptable?
- 7) Serial number of certified NIST thermometer use IR Gun CF: -1.2°C
- 8) Cooler temp(s): In °C. Thermometer Temp / Corrected Temp
- | | | | | | |
|-------------------|------------|------------|-------------|-------------|-------------|
| 1: <u>1.8/0.6</u> | 2: <u></u> | 3: <u></u> | 4: <u></u> | 5: <u></u> | 6: <u></u> |
| 7: <u></u> | 8: <u></u> | 9: <u></u> | 10: <u></u> | 11: <u></u> | 12: <u></u> |

Chain of custody:

- 9) YES Was a chain of custody received?
- 10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

- 11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?
- 12) YES Did all container labels agree with custody papers?

Sample Containers:

- 13) YES Were all containers sealed in separate bags?
- 14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?
- 15) YES Were correct containers and preservatives used for the tests indicated?
- 16) YES Was a sufficient amount of sample sent for tests indicated?
- 17) NA Were bubbles present in volatile samples?

If yes, the following were received with air bubbles:

Larger than a pea: Smaller than a pea:

Preservation Hold time:

- 18) Yes Was a sufficient amount of holding time remaining to analyze the samples?
- 19) NA Was the pH taken of all non-VOA preserved samples and written on the sample container?
- 20) NA Was the pH of acid preserved non-VOA samples < 2?
- 21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?
- 22) NO Were unpreserved VOA Vials received?
- 23) NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?

pH strip lot number: Lab notified if pH was not adequate:

Notes/Deficiencies:

All the sample bags had more than just the one time listed, Ex. Sample 2003.DU88A says 8:20 on the COC and 8:20-9:15 on the bag. We will be leaving it as the COC states, as the times listed are within the timeframes that are on the bags.

Personnel receiving samples: ZGSecond reviewer: 26Personnel labeling samples: AAProject manager notified: AADate/Time of notification 08/26/19Name of client notified: Date/Time of notification



908 North Temperance Ave. ▽ Clovis, CA 93611 ▽ Phone 559-275-2175 ▽ Fax 559-275-4422

NELAP Certification Number: CA00046 (HW)
State Certification Number: CA1312 (WW & DW)

November 4, 2019

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Subject: Report of Data: Case 89975

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dear Mr. Hamura,

Nine soil samples were received on August 28, 2019, in good condition. Written results are being provided on this November 4, 2019, for the requested analysis. All holding times were met.

The samples were prepared using wet multi-incremental sampling techniques.

For the EPA 8081B analysis, the sample was extracted according to EPA method 3550.

For the EPA 6020A analysis, the sample was digested according to EPA method 3010A.

Percent moisture was determined using ISM02.2, Exhibit D, section 10.0.

No other unusual problem or complication was encountered with this sample set.

If you have any questions or require further information, please contact us at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney, Laboratory Director
APPL, Inc.

PM/gs
Enclosure
cc: File

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Mr. Damon Hamura
Project: Koa Ridge/18-2003

Sample ID: 2003.DU90A

Sample Collection Date: 08/22/19

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 89975

APPL ID: AZ98144

QCG: #81BDO-190905A-245838

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.9 Percent Moisture.)							
EPA 8081B	4,4'-DDD	0.0053 J	0.062	0.0022	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDE	0.46	0.06	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDT	0.11	0.062	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN I	Not detected	0.062	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN II	Not detected	0.062	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/05/19	10/02/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	104	55-130		%	09/05/19	10/02/19
EPA 8081B	SURROGATE: TCMX (S)	103	42-129		%	09/05/19	10/02/19

J = Estimated value.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928083
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:55:51 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Centre
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Mr. Damon Hamura
Project: Koa Ridge/18-2003

Sample ID: 2003.DU90B

Sample Collection Date: 08/22/19

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 89975

APPL ID: AZ98145

QCG: #81BDO-190905A-245838

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.8 Percent Moisture.)							
EPA 8081B	4,4'-DDD	0.0046 J	0.062	0.0022	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDE	0.41	0.06	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDT	0.097	0.062	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN I	Not detected	0.062	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN II	Not detected	0.062	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/05/19	10/02/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	93.7	55-130		%	09/05/19	10/02/19
EPA 8081B	SURROGATE: TCMX (S)	89.5	42-129		%	09/05/19	10/02/19

J = Estimated value.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928084
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:55:51 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Mr. Damon Hamura
Project: Koa Ridge/18-2003

Sample ID: 2003.DU90C

Sample Collection Date: 08/22/19

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 89975

APPL ID: AZ98146

QCG: #81BDO-190905A-245838

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 17.4 Percent Moisture.)							
EPA 8081B	4,4'-DDD	0.0042 J	0.061	0.0022	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDE	0.42	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDT	0.12	0.061	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN I	Not detected	0.061	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN II	Not detected	0.061	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/05/19	10/02/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	96.2	55-130		%	09/05/19	10/02/19
EPA 8081B	SURROGATE: TCMX (S)	100	42-129		%	09/05/19	10/02/19

J = Estimated value.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928085
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:55:51 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Mr. Damon Hamura
Project: Koa Ridge/18-2003

Sample ID: 2003.DU91

Sample Collection Date: 08/22/19

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 89975

APPL ID: AZ98147

QCG: #81BDO-190905A-245838

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 19.7 Percent Moisture.)							
EPA 8081B	4,4'-DDD	0.0079 J	0.062	0.0022	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDE	0.45	0.06	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDT	0.16	0.062	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.019	mg/kg	09/05/19	10/02/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN I	Not detected	0.062	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN II	Not detected	0.062	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/05/19	10/02/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.019	mg/kg	09/05/19	10/02/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	98.9	55-130		%	09/05/19	10/02/19
EPA 8081B	SURROGATE: TCMX (S)	94.0	42-129		%	09/05/19	10/02/19

J = Estimated value.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928086
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:55:51 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Mr. Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU223A

Sample Collection Date: 08/23/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 89975

APPL ID: AZ98148

QCG: #81BDO-190905A-245838

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 16.0 Percent Moisture.)							
EPA 8081B	4,4'-DDD	0.0060 J	0.060	0.0021	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDE	0.31	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDT	0.13	0.060	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN I	Not detected	0.060	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN II	Not detected	0.060	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/05/19	10/02/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	96.8	55-130		%	09/05/19	10/02/19
EPA 8081B	SURROGATE: TCMX (S)	90.6	42-129		%	09/05/19	10/02/19

J = Estimated value.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928087
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:55:51 PM

APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Mr. Damon Hamura
Project: Koa Ridge/18-2003

Sample ID: 2003.DU223B

Sample Collection Date: 08/23/19

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 89975

APPL ID: AZ98149

QCG: #81BDO-190905A-245838

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.3 Percent Moisture.)							
EPA 8081B	4,4'-DDD	0.0061 J	0.061	0.0022	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDE	0.28	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDT	0.11	0.061	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN I	Not detected	0.061	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN II	Not detected	0.061	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/05/19	10/02/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	98.3	55-130		%	09/05/19	10/02/19
EPA 8081B	SURROGATE: TCMX (S)	86.5	42-129		%	09/05/19	10/02/19

J = Estimated value.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928088
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:55:51 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Centre
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Mr. Damon Hamura
Project: Koa Ridge/18-2003

Sample ID: 2003.DU223C

Sample Collection Date: 08/23/19

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 89975

APPL ID: AZ98150

QCG: #81BDO-190905A-245838

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.6 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.061	0.0022	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDE	0.27	0.06	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDT	0.11	0.061	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN I	Not detected	0.061	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN II	Not detected	0.061	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/05/19	10/02/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	98.2	55-130		%	09/05/19	10/02/19
EPA 8081B	SURROGATE: TCMX (S)	90.0	42-129		%	09/05/19	10/02/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928089
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:55:51 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Mr. Damon Hamura
Project: Koa Ridge/18-2003

Sample ID: 2003.DU272

Sample Collection Date: 08/23/19

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 89975

APPL ID: AZ98151

QCG: #81BDO-190905A-245838

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 16.1 Percent Moisture.)							
EPA 8081B	4,4'-DDD	0.012 J	0.060	0.0021	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDE	0.32	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDT	0.37	0.060	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN I	Not detected	0.060	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN II	Not detected	0.060	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/05/19	10/02/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	92.0	55-130		%	09/05/19	10/02/19
EPA 8081B	SURROGATE: TCMX (S)	86.5	42-129		%	09/05/19	10/02/19

J = Estimated value.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928090
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:55:51 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Mr. Damon Hamura
Project: Koa Ridge/18-2003

Sample ID: 2003.DU270

Sample Collection Date: 08/26/19

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 89975

APPL ID: AZ98152

QCG: #81BDO-190905A-245838

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 22.9 Percent Moisture.)							
EPA 8081B	4,4'-DDD	0.0057 J	0.065	0.0023	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDE	0.12	0.07	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDT	0.14	0.065	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ALDRIN	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-BHC	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	BETA-BHC	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.30	0.019	mg/kg	09/05/19	10/02/19
EPA 8081B	DELTA-BHC	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	DIELDRIN	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN I	Not detected	0.065	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN II	Not detected	0.065	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.07	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN KETONE	Not detected	0.07	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-BHC	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.07	0.006	mg/kg	09/05/19	10/02/19
EPA 8081B	METHOXYCHLOR	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	TOXAPHENE	Not detected	1.30	0.019	mg/kg	09/05/19	10/02/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	99.6	55-130		%	09/05/19	10/02/19
EPA 8081B	SURROGATE: TCMX (S)	90.1	42-129		%	09/05/19	10/02/19

J = Estimated value.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928091
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 2:55:51 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

Metals Results

EnviroServices & Training Centre

505 Ward Avenue, Suite 202

Honolulu, Hawaii 96814

ARF: 89975

APPL Inc.

908 North Temperance Avenue

Clovis, CA 93611

Attn: Mr. Damon Hamura

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
APPL ID: AZ98144		-Client Sample ID: 2003.DU90A		-Sample Collection Date: 08/22/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	24.3	0.5	0.07	mg/Kg	1	10/12/19	11/01/19
APPL ID: AZ98145		-Client Sample ID: 2003.DU90B		-Sample Collection Date: 08/22/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	24.8	0.5	0.07	mg/Kg	1	10/12/19	11/01/19
APPL ID: AZ98146		-Client Sample ID: 2003.DU90C		-Sample Collection Date: 08/22/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	24.6	0.5	0.07	mg/Kg	1	10/12/19	11/01/19
APPL ID: AZ98147		-Client Sample ID: 2003.DU91		-Sample Collection Date: 08/22/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	16.7	0.5	0.07	mg/Kg	1	10/12/19	11/01/19
APPL ID: AZ98148		-Client Sample ID: 2003.DU223A		-Sample Collection Date: 08/23/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	14.5	0.5	0.07	mg/Kg	1	10/12/19	11/01/19
APPL ID: AZ98149		-Client Sample ID: 2003.DU223B		-Sample Collection Date: 08/23/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	13.8	0.5	0.07	mg/Kg	1	10/12/19	11/01/19
APPL ID: AZ98150		-Client Sample ID: 2003.DU223C		-Sample Collection Date: 08/23/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	12.4	0.5	0.07	mg/Kg	1	10/12/19	11/01/19
APPL ID: AZ98151		-Client Sample ID: 2003.DU272		-Sample Collection Date: 08/23/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	10.4	0.5	0.07	mg/Kg	1	10/12/19	11/01/19
APPL ID: AZ98152		-Client Sample ID: 2003.DU270		-Sample Collection Date: 08/26/19		Project: Koa Ridge/18-2003		
6020	ARSENIC (AS)	31.1	0.5	0.07	mg/Kg	1	10/12/19	11/01/19

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APPL-F1-SC-NoMC-REG MDLs

Wetlab Results

ARF: 89975

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

EnviroServices & Training Centre
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Mr. Damon Hamura

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
APPL ID: AZ98144 -Client Sample ID: 2003.DU90A						
CLP MOIST	MOISTURE	18.9	2.0	%	09/09/19	09/10/19
APPL ID: AZ98145 -Client Sample ID: 2003.DU90B						
CLP MOIST	MOISTURE	18.8	2.0	%	09/09/19	09/10/19
APPL ID: AZ98146 -Client Sample ID: 2003.DU90C						
CLP MOIST	MOISTURE	17.4	2.0	%	09/09/19	09/10/19
APPL ID: AZ98147 -Client Sample ID: 2003.DU91						
CLP MOIST	MOISTURE	19.7	2.0	%	09/09/19	09/10/19
APPL ID: AZ98148 -Client Sample ID: 2003.DU223A						
CLP MOIST	MOISTURE	16.0	2.0	%	09/09/19	09/10/19
APPL ID: AZ98149 -Client Sample ID: 2003.DU223B						
CLP MOIST	MOISTURE	18.3	2.0	%	09/09/19	09/10/19
APPL ID: AZ98150 -Client Sample ID: 2003.DU223C						
CLP MOIST	MOISTURE	18.6	2.0	%	09/09/19	09/10/19
APPL ID: AZ98151 -Client Sample ID: 2003.DU272						
CLP MOIST	MOISTURE	16.1	2.0	%	09/09/19	09/10/19
APPL ID: AZ98152 -Client Sample ID: 2003.DU270						
CLP MOIST	MOISTURE	22.9	2.0	%	09/09/19	09/10/19

Printed: 10/02/19 4:07:53 PM

Method Blank

EPA 8081B OCL IS SOIL

Blank Name/QCG: **190905S-98144 - 245838**
 Batch ID: #81BDO-190905A

APPL Inc.
 908 North Temperance Avenue
 Clovis, CA 93611

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	4,4'-DDD	Not detected	0.050	mg/kg	09/05/19	10/02/19
BLANK	4,4'-DDE	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	4,4'-DDT	Not detected	0.050	mg/kg	09/05/19	10/02/19
BLANK	ALDRIN	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	ALPHA-BHC	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	ALPHA-CHLORDANE	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	BETA-BHC	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	CHLORDANE, TECHNICAL	Not detected	1.00	mg/kg	09/05/19	10/02/19
BLANK	DELTA-BHC	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	DIELDRIN	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	ENDOSULFAN I	Not detected	0.050	mg/kg	09/05/19	10/02/19
BLANK	ENDOSULFAN II	Not detected	0.050	mg/kg	09/05/19	10/02/19
BLANK	ENDOSULFAN SULFATE	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	ENDRIN	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	ENDRIN ALDEHYDE	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	ENDRIN KETONE	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	GAMMA-BHC	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	GAMMA-CHLORDANE	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	HEPTACHLOR	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	HEPTACHLOR EPOXIDE	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	HEXACHLOROBENZENE	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	METHOXYCHLOR	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	TOXAPHENE	Not detected	1.00	mg/kg	09/05/19	10/02/19
BLANK	SURROGATE: DECACHLOROBIPHENYL (S)	92.3	55-130	%	09/05/19	10/02/19
BLANK	SURROGATE: TCMX (S)	83.1	42-129	%	09/05/19	10/02/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
 Run #: 0928078
 Instrument: Ethel
 Sequence: 190928
 Initials: DPO

Printed: 10/10/19 11:37:46 AM

Laboratory Control Spike Recovery

EPA 8081B OCL IS SOIL

APPL ID: **190905S-98144 LCS - 245838**

Batch ID: #81BDO-190905A

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits
4,4'-DDD	0.500	0.606	121	56-139
4,4'-DDE	0.500	0.562	112	56-134
4,4'-DDT	0.500	0.529	106	50-141
ALDRIN	0.500	0.545	109	45-136
ALPHA-BHC	0.500	0.539	108	45-137
ALPHA-CHLORDANE	0.500	0.551	110	54-133
BETA-BHC	0.500	0.589	118	50-136
CHLORDANE, TECHNICAL	5.00	5.63	113	43-149
DELTA-BHC	0.500	0.557	111	47-139
DIELDRIN	0.500	0.548	110	56-136
ENDOSULFAN I	0.500	0.578	116	53-132
ENDOSULFAN II	0.500	0.564	113	53-134
ENDOSULFAN SULFATE	0.500	0.551	110	55-136
ENDRIN	0.500	0.577	115	57-140
ENDRIN ALDEHYDE	0.500	0.376	75.2	35-137
ENDRIN KETONE	0.500	0.586	117	55-136
GAMMA-BHC	0.500	0.554	111	49-135
GAMMA-CHLORDANE	0.500	0.566	113	53-135
HEPTACHLOR	0.500	0.512	102	47-136
HEPTACHLOR EPOXIDE	0.500	0.560	112	52-136
HEXACHLOROBENZENE	0.500	0.465	93.0	57-126
METHOXYCHLOR	0.500	0.506	101	52-143
TOXAPHENE	5.00	5.38	108	33-141
SURROGATE: DECACHLOROBIPHENYL	0.500	0.514	103	55-130
SURROGATE: TCMX (S)	0.500	0.439	87.8	42-129

Comments: _____

Primary	SPK
Quant Method :	OCL0912.M
Extraction Date :	09/05/19
Analysis Date :	10/02/19
Instrument :	Ethel
Run :	0928079
Initials :	DPO

Printed: 10/10/19 11:37:30 AM
APPL Standard LCS

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	PQL	MDL	Units	Prep Date	Analysis Date	QC Group
6020	ARSENIC (AS)	Not detected	0.5	0.07	mg/Kg	10/12/19	11/01/19	#62DOD-191012A-AZ98361

Laboratory Control Spike Recoveries

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/Kg	SPK Res mg/Kg	DUP Res mg/Kg	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 6020	ARSENIC (AS)	2.50	2.7	2.7	108	108	0.0	20	82-118	10/12/19	11/01/19	10/12/19	11/01/19	#62DOD-191012A-AZ9836

Comments: _____

CHAIN OF CUSTODY RECORD

Fax: (559) 275-4422

coc@applinc.com

C.O.C. 042610

See page 2 for Container Preservative and Sampling Information

ARF: 89975

Chain of custody:

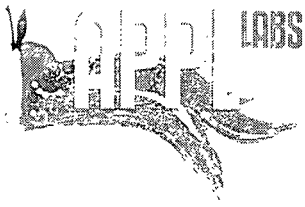
Sample Labels:

Sample Containers:

Preservation_Hold time:

Notes/Deficiencies:

Revision: 22. November 5. 2013



908 North Temperance Ave. ▽ Clovis, CA 93611 ▽ Phone 559-275-2175 ▽ Fax 559-275-4422

NELAP Certification Number: CA00046 (HW)
State Certification Number: CA1312 (WW & DW)

November 4, 2019

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Subject: Report of Data: Case 90012

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dear Mr. Hamura,

Seven soil samples were received on August 30, 2019, in good condition. Written results are being provided on this November 4, 2019, for the requested analysis. All holding times were met.

The samples were prepared using wet multi-incremental sampling techniques.

For the EPA 8081B analysis, the sample was extracted according to EPA method 3550.

For the EPA 6020A analysis, the sample was digested according to EPA method 3010A.

Percent moisture was determined using ISM02.2, Exhibit D, section 10.0.

No other unusual problem or complication was encountered with this sample set.

If you have any questions or require further information, please contact us at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney, Laboratory Director
APPL, Inc.

PM/gs
Enclosure
cc: File

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU267

Sample Collection Date: 08/27/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90012

APPL ID: AZ98361

QCG: #81BDO-190905A-245838

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 23.4 Percent Moisture.)							
EPA 8081B	4,4'-DDD	0.0096 J	0.065	0.0023	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDE	0.43	0.07	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDT	0.22	0.065	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ALDRIN	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-BHC	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	BETA-BHC	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.30	0.020	mg/kg	09/05/19	10/02/19
EPA 8081B	DELTA-BHC	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	DIELDRIN	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN I	Not detected	0.065	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN II	Not detected	0.065	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.07	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN KETONE	Not detected	0.07	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-BHC	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.07	0.006	mg/kg	09/05/19	10/02/19
EPA 8081B	METHOXYCHLOR	Not detected	0.07	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	TOXAPHENE	Not detected	1.30	0.020	mg/kg	09/05/19	10/02/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	102	55-130		%	09/05/19	10/02/19
EPA 8081B	SURROGATE: TCMX (S)	91.2	42-129		%	09/05/19	10/02/19

J = Estimated value.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928092
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 3:08:31 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU268

Sample Collection Date: 08/27/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90012

APPL ID: AZ98362

QCG: #81BDO-190905A-245838

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 17.1 Percent Moisture.)							
EPA 8081B	4,4'-DDD	0.0060 J	0.060	0.0022	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDE	0.18	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDT	0.12	0.060	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN I	Not detected	0.060	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN II	Not detected	0.060	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/05/19	10/02/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	91.4	55-130		%	09/05/19	10/02/19
EPA 8081B	SURROGATE: TCMX (S)	92.6	42-129		%	09/05/19	10/02/19

J = Estimated value.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928097
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 3:08:31 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Centre
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura
Project: Koa Ridge / 18-2003

Sample ID: 2003.DU245

Sample Collection Date: 08/27/19

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 90012

APPL ID: AZ98363

QCG: #81BDO-190905A-245838

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 20.1 Percent Moisture.)							
EPA 8081B	4,4'-DDD	0.011 J	0.063	0.0023	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDE	0.35	0.06	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDT	0.14	0.063	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.30	0.019	mg/kg	09/05/19	10/02/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN I	Not detected	0.063	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN II	Not detected	0.063	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/05/19	10/02/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	TOXAPHENE	Not detected	1.30	0.019	mg/kg	09/05/19	10/02/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	84.8	55-130		%	09/05/19	10/02/19
EPA 8081B	SURROGATE: TCMX (S)	81.9	42-129		%	09/05/19	10/02/19

J = Estimated value.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928098
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 3:08:31 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Centre
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU263

Sample Collection Date: 08/28/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90012

APPL ID: AZ98364

QCG: #81BDO-190905A-245838

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.2 Percent Moisture.)							
EPA 8081B	4,4'-DDD	0.0082 J	0.061	0.0022	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDE	0.44	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDT	0.17	0.061	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN I	Not detected	0.061	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN II	Not detected	0.061	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/05/19	10/02/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	91.8	55-130		%	09/05/19	10/02/19
EPA 8081B	SURROGATE: TCMX (S)	93.1	42-129		%	09/05/19	10/02/19

J = Estimated value.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928099
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 3:08:31 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU179

Sample Collection Date: 08/28/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90012

APPL ID: AZ98365

QCG: #81BDO-190905A-245838

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.1 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.061	0.0022	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDE	0.30	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDT	0.11	0.061	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN I	Not detected	0.061	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN II	Not detected	0.061	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/05/19	10/02/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	89.3	55-130		%	09/05/19	10/02/19
EPA 8081B	SURROGATE: TCMX (S)	81.1	42-129		%	09/05/19	10/02/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928100
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 3:08:31 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU202

Sample Collection Date: 08/28/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90012

APPL ID: AZ98366

QCG: #81BDO-190905A-245838

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 16.6 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.060	0.0022	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDE	0.34	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDT	0.11	0.060	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN I	Not detected	0.060	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN II	Not detected	0.060	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/05/19	10/02/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	94.1	55-130		%	09/05/19	10/02/19
EPA 8081B	SURROGATE: TCMX (S)	92.2	42-129		%	09/05/19	10/02/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928101
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 3:08:31 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU225

Sample Collection Date: 08/28/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90012

APPL ID: AZ98367

QCG: #81BDO-190905A-245838

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.2 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.061	0.0022	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDE	0.33	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	4,4'-DDT	0.15	0.061	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN I	Not detected	0.061	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN II	Not detected	0.061	0.0010	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	HEXACHLORO BENZENE	Not detected	0.06	0.006	mg/kg	09/05/19	10/02/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/05/19	10/02/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	09/05/19	10/02/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	82.7	55-130		%	09/05/19	10/02/19
EPA 8081B	SURROGATE: TCMX (S)	80.8	42-129		%	09/05/19	10/02/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928102
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: DPO

Printed: 10/10/19 3:08:31 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

Metals Results

EnviroServices & Training Centre

505 Ward Avenue, Suite 202

Honolulu, Hawaii 96814

ARF: 90012

APPL Inc.

908 North Temperance Avenue

Clovis, CA 93611

Attn: Damon Hamura

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
APPL ID: AZ98361		-Client Sample ID: 2003.DU267		-Sample Collection Date: 08/27/19		Project: Koa Ridge / 18-2003		
6020	ARSENIC (AS)	14.4	0.5	0.07	mg/Kg	1	10/12/19	11/01/19
APPL ID: AZ98362		-Client Sample ID: 2003.DU268		-Sample Collection Date: 08/27/19		Project: Koa Ridge / 18-2003		
6020	ARSENIC (AS)	10.4	0.5	0.07	mg/Kg	1	10/22/19	11/02/19
APPL ID: AZ98363		-Client Sample ID: 2003.DU245		-Sample Collection Date: 08/27/19		Project: Koa Ridge / 18-2003		
6020	ARSENIC (AS)	19.3	0.5	0.07	mg/Kg	1	10/22/19	11/02/19
APPL ID: AZ98364		-Client Sample ID: 2003.DU263		-Sample Collection Date: 08/28/19		Project: Koa Ridge / 18-2003		
6020	ARSENIC (AS)	15.8	0.5	0.07	mg/Kg	1	10/22/19	11/02/19
APPL ID: AZ98365		-Client Sample ID: 2003.DU179		-Sample Collection Date: 08/28/19		Project: Koa Ridge / 18-2003		
6020	ARSENIC (AS)	18.8	0.5	0.07	mg/Kg	1	10/22/19	11/02/19
APPL ID: AZ98366		-Client Sample ID: 2003.DU202		-Sample Collection Date: 08/28/19		Project: Koa Ridge / 18-2003		
6020	ARSENIC (AS)	21.9	0.5	0.07	mg/Kg	1	10/22/19	11/02/19
APPL ID: AZ98367		-Client Sample ID: 2003.DU225		-Sample Collection Date: 08/28/19		Project: Koa Ridge / 18-2003		
6020	ARSENIC (AS)	15.6	0.5	0.07	mg/Kg	1	10/22/19	11/02/19

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APPL-F1-SC-NoMC-REG MDLs

Wetlab Results

ARF: 90012

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

EnviroServices & Training Centre
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
APPL ID: AZ98361 -Client Sample ID: 2003.DU267 -Sample Collection Date: 08/27/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	23.4	2.0	%	09/10/19	09/11/19
APPL ID: AZ98362 -Client Sample ID: 2003.DU268 -Sample Collection Date: 08/27/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	17.1	2.0	%	09/10/19	09/11/19
APPL ID: AZ98363 -Client Sample ID: 2003.DU245 -Sample Collection Date: 08/27/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	20.1	2.0	%	09/10/19	09/11/19
APPL ID: AZ98364 -Client Sample ID: 2003.DU263 -Sample Collection Date: 08/28/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	18.2	2.0	%	09/10/19	09/11/19
APPL ID: AZ98365 -Client Sample ID: 2003.DU179 -Sample Collection Date: 08/28/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	18.1	2.0	%	09/10/19	09/11/19
APPL ID: AZ98366 -Client Sample ID: 2003.DU202 -Sample Collection Date: 08/28/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	16.6	2.0	%	09/10/19	09/11/19
APPL ID: AZ98367 -Client Sample ID: 2003.DU225 -Sample Collection Date: 08/28/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	18.2	2.0	%	09/10/19	09/11/19

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Method Blank

EPA 8081B OCL IS SOIL

Blank Name/QCG: 190905S-98144 - 245838
Batch ID: #81BDO-190905A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	4,4'-DDD	Not detected	0.050	mg/kg	09/05/19	10/02/19
BLANK	4,4'-DDE	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	4,4'-DDT	Not detected	0.050	mg/kg	09/05/19	10/02/19
BLANK	ALDRIN	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	ALPHA-BHC	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	ALPHA-CHLORDANE	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	BETA-BHC	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	CHLORDANE, TECHNICAL	Not detected	1.00	mg/kg	09/05/19	10/02/19
BLANK	DELTA-BHC	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	DIELDRIN	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	ENDOSULFAN I	Not detected	0.050	mg/kg	09/05/19	10/02/19
BLANK	ENDOSULFAN II	Not detected	0.050	mg/kg	09/05/19	10/02/19
BLANK	ENDOSULFAN SULFATE	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	ENDRIN	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	ENDRIN ALDEHYDE	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	ENDRIN KETONE	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	GAMMA-BHC	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	GAMMA-CHLORDANE	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	HEPTACHLOR	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	HEPTACHLOR EPOXIDE	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	HEXACHLOROBENZENE	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	METHOXYCHLOR	Not detected	0.05	mg/kg	09/05/19	10/02/19
BLANK	TOXAPHENE	Not detected	1.00	mg/kg	09/05/19	10/02/19
BLANK	SURROGATE: DECACHLOROBIPHENYL (S)	92.3	55-130	%	09/05/19	10/02/19
BLANK	SURROGATE: TCMX (S)	83.1	42-129	%	09/05/19	10/02/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928078
Instrument: Ethel
Sequence: 190928
Initials: DPO

Printed: 10/10/19 11:37:46 AM

Laboratory Control Spike Recovery

EPA 8081B OCL IS SOIL

APPL ID: 190905S-98144 LCS - 245838

Batch ID: #81BDO-190905A

APPL Inc.

908 North Temperance Avenue

Clovis, CA 93611

Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits
4,4'-DDD	0.500	0.606	121	56-139
4,4'-DDE	0.500	0.562	112	56-134
4,4'-DDT	0.500	0.529	106	50-141
ALDRIN	0.500	0.545	109	45-136
ALPHA-BHC	0.500	0.539	108	45-137
ALPHA-CHLORDANE	0.500	0.551	110	54-133
BETA-BHC	0.500	0.589	118	50-136
CHLORDANE, TECHNICAL	5.00	5.63	113	43-149
DELTA-BHC	0.500	0.557	111	47-139
DIELDRIN	0.500	0.548	110	56-136
ENDOSULFAN I	0.500	0.578	116	53-132
ENDOSULFAN II	0.500	0.564	113	53-134
ENDOSULFAN SULFATE	0.500	0.551	110	55-136
ENDRIN	0.500	0.577	115	57-140
ENDRIN ALDEHYDE	0.500	0.376	75.2	35-137
ENDRIN KETONE	0.500	0.586	117	55-136
GAMMA-BHC	0.500	0.554	111	49-135
GAMMA-CHLORDANE	0.500	0.566	113	53-135
HEPTACHLOR	0.500	0.512	102	47-136
HEPTACHLOR EPOXIDE	0.500	0.560	112	52-136
HEXACHLOROBENZENE	0.500	0.465	93.0	57-126
METHOXYCHLOR	0.500	0.506	101	52-143
TOXAPHENE	5.00	5.38	108	33-141
SURROGATE: DECACHLOROBIPHENYL	0.500	0.514	103	55-130
SURROGATE: TCMX (S)	0.500	0.439	87.8	42-129

Comments: _____

Primary	SPK
Quant Method :	OCL0912.M
Extraction Date :	09/05/19
Analysis Date :	10/02/19
Instrument :	Ethel
Run :	0928079
Initials :	DPO

Printed: 10/10/19 11:37:30 AM

APPL Standard LCS

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	PQL	MDL	Units	Prep Date	Analysis Date	QC Group
6020	ARSENIC (AS)	Not detected	0.5	0.07	mg/Kg	10/12/19	11/01/19	#62DOD-191012A-AZ98361
6020	ARSENIC (AS)	Not detected	0.5	0.07	mg/Kg	10/22/19	11/02/19	#62DOD-191022A-AZ98367

Laboratory Control Spike Recoveries

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/Kg	SPK Res mg/Kg	DUP Res mg/Kg	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 6020	ARSENIC (AS)	2.50	2.7	2.7	108	108	0.0	20	82-118	10/12/19	11/01/19	10/12/19	11/01/19	#62DOD-191012A-AZ9836

Comments: _____

Laboratory Control Spike Recoveries

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/Kg	SPK Res mg/Kg	DUP Res mg/Kg	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 6020	ARSENIC (AS)	2.50	2.7	2.7	108	108	0.0	20	82-118	10/22/19	11/02/19	10/22/19	11/02/19	#62DOD-191022A-AZ9836

Comments: _____

CHAIN OF CUSTODY RECORD

C.O.C. 042819

[illegible]

See page 2 for Container Preservative and Sampling Information

COOLER RECEIPT FORM

ARF: 90012

- 1) Project: Koa Ridge / 18-2003 Date Received: 08/30/19
- 2) Coolers: Number of Coolers: 1
- 3) YES Were custody seals present and intact?
How many? 1 Name/Date on seal? not salvageable
- 4) YES Was there a shipping slip? Carrier name: FEDEX
- 5) Type of packing in cooler: ☐ bubble wrap ☐ popcorn ☐ foam ☒ plastic bags ☐ other
☐ wet ice ☐ dry ice ☐ no ice ☒ gel ice
- 6) YES Were cooler temperatures acceptable?
- 7) Serial number of certified NIST thermometer use R1 @ +0.4°C
- 8) Cooler temp(s): In °C. Thermometer Temp / Corrected Temp
1: 1.0°C/ 2: 1.4°C 3: 4: 5: 6:
7: 8: 9: 10: 11: 12:

Chain of custody:

- 9) YES Was a chain of custody received?
- 10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

- 11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?
- 12) YES Did all container labels agree with custody papers?

Sample Containers:

- 13) YES Were all containers sealed in separate bags?
- 14) YES Did all containers arrive in good condition: (unbroken, no leakage, no cracked/broken lids)?
- 15) YES Were correct containers and preservatives used for the tests indicated?
- 16) YES Was a sufficient amount of sample sent for tests indicated?
- 17) NA Were bubbles present in volatile samples?

If yes, the following were received with air bubbles:

Larger than a pea: Smaller than a pea:

Preservation Hold time:

- 18) Yes Was a sufficient amount of holding time remaining to analyze the samples?
- 19) NA Was the pH taken of all non-VOA preserved samples and written on the sample container?
- 20) NA Was the pH of acid preserved non-VOA samples < 2?
- 21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide > 9?
- 22) NO Were unpreserved VOA Vials received?
- 23) NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?

pH strip lot number: Lab notified if pH was not adequate:

Notes/Deficiencies:

Personnel receiving samples: ZG Second reviewer: AA

Personnel labeling samples: ZG

Project manager notified: Date/Time of notification

Name of client notified: Date/Time of notification



908 North Temperance Ave. ▽ Clovis, CA 93611 ▽ Phone 559-275-2175 ▽ Fax 559-275-4422

NELAP Certification Number: CA00046 (HW)
State Certification Number: CA1312 (WW & DW)

November 6, 2019

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Subject: Report of Data: Case 90050

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dear Mr. Hamura,

Eighteen soil samples were received on September 6, 2019, in good condition. Written results are being provided on this November 6, 2019, for the requested analysis. All holding times were met.

The samples were prepared using wet multi-incremental sampling techniques.

For the EPA 8081B analysis, the samples were extracted according to the EPA method 3550B. In the 190912A LCS, Hexachlorobenzene recovered below the lower control limit of 57% at 53%.

For the EPA 6020A analysis, the sample was digested according to EPA method 3050B.

Percent moisture was determined using ISM02.2, Exhibit D, section 10.0.

If you have any questions or require further information, please contact us at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney, Laboratory Director
APPL, Inc.

PM/gs
Enclosure
cc: File

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU306

Sample Collection Date: 08/29/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90050

APPL ID: AZ98580

QCG: #81BDO-190912A-246300

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 26.1 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.068	0.0024	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDE	0.35	0.07	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDT	0.31	0.068	0.0011	mg/kg	09/12/19	10/03/19
EPA 8081B	ALDRIN	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-BHC	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	BETA-BHC	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.40	0.020	mg/kg	09/12/19	10/03/19
EPA 8081B	DELTA-BHC	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	DIELDRIN	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN I	Not detected	0.068	0.0011	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN II	Not detected	0.068	0.0011	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.07	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN KETONE	Not detected	0.07	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-BHC	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.07	0.007	mg/kg	09/12/19	10/03/19
EPA 8081B	METHOXYCHLOR	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	TOXAPHENE	Not detected	1.40	0.020	mg/kg	09/12/19	10/03/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	96.2	55-130		%	09/12/19	10/03/19
EPA 8081B	SURROGATE: TCMX (S)	66.1	42-129		%	09/12/19	10/03/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928121
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: BTI

Printed: 10/22/19 3:39:30 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU311

Sample Collection Date: 08/29/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90050

APPL ID: AZ98581

QCG: #81BDO-190912A-246300

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 22.9 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.065	0.0023	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDE	0.33	0.07	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDT	0.33	0.065	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ALDRIN	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-BHC	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	BETA-BHC	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.30	0.019	mg/kg	09/12/19	10/03/19
EPA 8081B	DELTA-BHC	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	DIELDRIN	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN I	Not detected	0.065	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN II	Not detected	0.065	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.07	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN KETONE	Not detected	0.07	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-BHC	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.07	0.006	mg/kg	09/12/19	10/03/19
EPA 8081B	METHOXYCHLOR	Not detected	0.07	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	TOXAPHENE	Not detected	1.30	0.019	mg/kg	09/12/19	10/03/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	102	55-130		%	09/12/19	10/03/19
EPA 8081B	SURROGATE: TCMX (S)	66.4	42-129		%	09/12/19	10/03/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928122
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: BTI

Printed: 10/22/19 3:39:30 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU316

Sample Collection Date: 08/29/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90050

APPL ID: AZ98582

QCG: #81BDO-190912A-246300

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 22.3 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.064	0.0023	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDE	0.39	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDT	0.34	0.064	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.30	0.019	mg/kg	09/12/19	10/03/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN I	Not detected	0.064	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN II	Not detected	0.064	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/12/19	10/03/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	TOXAPHENE	Not detected	1.30	0.019	mg/kg	09/12/19	10/03/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	108	55-130		%	09/12/19	10/03/19
EPA 8081B	SURROGATE: TCMX (S)	71.9	42-129		%	09/12/19	10/03/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928123
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: BTI

Printed: 10/22/19 3:39:30 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU315

Sample Collection Date: 08/29/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90050

APPL ID: AZ98583

QCG: #81BDO-190912A-246300

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 20.5 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.063	0.0023	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDE	0.34	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDT	0.42	0.063	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.30	0.019	mg/kg	09/12/19	10/03/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN I	Not detected	0.063	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN II	Not detected	0.063	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/12/19	10/03/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	TOXAPHENE	Not detected	1.30	0.019	mg/kg	09/12/19	10/03/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	95.5	55-130		%	09/12/19	10/03/19
EPA 8081B	SURROGATE: TCMX (S)	72.5	42-129		%	09/12/19	10/03/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928124
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: BTI

Printed: 10/22/19 3:39:30 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU56A

Sample Collection Date: 08/30/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90050

APPL ID: AZ98584

QCG: #81BDO-190912A-246300

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 15.4 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.059	0.0021	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDE	0.51	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDT	0.11	0.059	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	09/12/19	10/03/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN I	Not detected	0.059	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN II	Not detected	0.059	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/12/19	10/03/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	09/12/19	10/03/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	98.3	55-130		%	09/12/19	10/03/19
EPA 8081B	SURROGATE: TCMX (S)	71.5	42-129		%	09/12/19	10/03/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928125
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: BTI

Printed: 10/22/19 3:39:30 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU56B

Sample Collection Date: 08/30/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90050

APPL ID: AZ98585

QCG: #81BDO-190912A-246300

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 14.8 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.059	0.0021	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDE	0.59	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDT	0.14	0.059	0.0009	mg/kg	09/12/19	10/03/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	09/12/19	10/03/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN I	Not detected	0.059	0.0009	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN II	Not detected	0.059	0.0009	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/12/19	10/03/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	09/12/19	10/03/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	106	55-130		%	09/12/19	10/03/19
EPA 8081B	SURROGATE: TCMX (S)	80.4	42-129		%	09/12/19	10/03/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928126
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: BTI

Printed: 10/22/19 3:39:30 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU56C

Sample Collection Date: 08/30/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90050

APPL ID: AZ98586

QCG: #81BDO-190912A-246300

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 13.5 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.058	0.0021	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDE	0.54	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDT	0.12	0.058	0.0009	mg/kg	09/12/19	10/03/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.017	mg/kg	09/12/19	10/03/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN I	Not detected	0.058	0.0009	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN II	Not detected	0.058	0.0009	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/12/19	10/03/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.017	mg/kg	09/12/19	10/03/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	100	55-130		%	09/12/19	10/03/19
EPA 8081B	SURROGATE: TCMX (S)	79.7	42-129		%	09/12/19	10/03/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928127
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: BTI

Printed: 10/22/19 3:39:30 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU304

Sample Collection Date: 09/03/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90050

APPL ID: AZ98587

QCG: #81BDO-190912A-246300

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 19.1 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.062	0.0022	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDE	0.35	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDT	0.32	0.062	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.019	mg/kg	09/12/19	10/03/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN I	Not detected	0.062	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN II	Not detected	0.062	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/12/19	10/03/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.019	mg/kg	09/12/19	10/03/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	111	55-130		%	09/12/19	10/03/19
EPA 8081B	SURROGATE: TCMX (S)	75.6	42-129		%	09/12/19	10/03/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928128
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: BTI

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APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU298

Sample Collection Date: 09/03/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90050

APPL ID: AZ98588

QCG: #81BDO-190912A-246300

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 17.2 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.060	0.0022	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDE	0.40	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDT	0.33	0.060	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.018	mg/kg	09/12/19	10/03/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN I	Not detected	0.060	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN II	Not detected	0.060	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEXACHLORO BENZENE	Not detected	0.06	0.006	mg/kg	09/12/19	10/03/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.018	mg/kg	09/12/19	10/03/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	97.1	55-130		%	09/12/19	10/03/19
EPA 8081B	SURROGATE: TCMX (S)	76.1	42-129		%	09/12/19	10/03/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928130
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: BTI

Printed: 10/22/19 3:39:30 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU135

Sample Collection Date: 09/03/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90050

APPL ID: AZ98589

QCG: #81BDO-190912A-246300

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 19.7 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.062	0.0022	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDE	0.38	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDT	0.15	0.062	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.019	mg/kg	09/12/19	10/03/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN I	Not detected	0.062	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN II	Not detected	0.062	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/12/19	10/03/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.019	mg/kg	09/12/19	10/03/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	108	55-130		%	09/12/19	10/03/19
EPA 8081B	SURROGATE: TCMX (S)	76.3	42-129		%	09/12/19	10/03/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928131
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: BTI

Printed: 10/22/19 3:39:30 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU209

Sample Collection Date: 09/03/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90050

APPL ID: AZ98590

QCG: #81BDO-190912A-246300

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 20.2 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.063	0.0023	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDE	0.57	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDT	0.27	0.063	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.30	0.019	mg/kg	09/12/19	10/03/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN I	Not detected	0.063	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN II	Not detected	0.063	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/12/19	10/03/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	TOXAPHENE	Not detected	1.30	0.019	mg/kg	09/12/19	10/03/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	106	55-130		%	09/12/19	10/03/19
EPA 8081B	SURROGATE: TCMX (S)	71.5	42-129		%	09/12/19	10/03/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928132
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: BTI

Printed: 10/22/19 3:39:30 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU259A

Sample Collection Date: 09/03/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90050

APPL ID: AZ98591

QCG: #81BDO-190912A-246300

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 13.6 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.058	0.0021	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDE	0.50	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDT	0.33	0.058	0.0009	mg/kg	09/12/19	10/03/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.017	mg/kg	09/12/19	10/03/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN I	Not detected	0.058	0.0009	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN II	Not detected	0.058	0.0009	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/12/19	10/03/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.017	mg/kg	09/12/19	10/03/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	102	55-130		%	09/12/19	10/03/19
EPA 8081B	SURROGATE: TCMX (S)	70.0	42-129		%	09/12/19	10/03/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928133
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: BTI

Printed: 10/22/19 3:39:30 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU259B

Sample Collection Date: 09/03/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90050

APPL ID: AZ98592

QCG: #81BDO-190912A-246300

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 13.4 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.058	0.0021	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDE	0.46	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDT	0.24	0.058	0.0009	mg/kg	09/12/19	10/03/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.017	mg/kg	09/12/19	10/03/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN I	Not detected	0.058	0.0009	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN II	Not detected	0.058	0.0009	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/12/19	10/03/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.017	mg/kg	09/12/19	10/03/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	92.3	55-130		%	09/12/19	10/03/19
EPA 8081B	SURROGATE: TCMX (S)	72.0	42-129		%	09/12/19	10/03/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928134
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: BTI

Printed: 10/22/19 3:39:30 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU259C

Sample Collection Date: 09/03/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90050

APPL ID: AZ98593

QCG: #81BDO-190912A-246300

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 11.1 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.056	0.0020	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDE	0.45	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDT	0.23	0.056	0.0009	mg/kg	09/12/19	10/03/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.10	0.017	mg/kg	09/12/19	10/03/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN I	Not detected	0.056	0.0009	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN II	Not detected	0.056	0.0009	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/12/19	10/03/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	TOXAPHENE	Not detected	1.10	0.017	mg/kg	09/12/19	10/03/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	93.1	55-130		%	09/12/19	10/03/19
EPA 8081B	SURROGATE: TCMX (S)	72.3	42-129		%	09/12/19	10/03/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928135
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: BTI

Printed: 10/22/19 3:39:30 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU252A

Sample Collection Date: 09/03/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90050

APPL ID: AZ98594

QCG: #81BDO-190912A-246300

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 19.8 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.062	0.0022	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDE	0.48	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDT	0.24	0.062	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.019	mg/kg	09/12/19	10/03/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN I	Not detected	0.062	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN II	Not detected	0.062	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/12/19	10/03/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.019	mg/kg	09/12/19	10/03/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	98.1	55-130		%	09/12/19	10/03/19
EPA 8081B	SURROGATE: TCMX (S)	73.4	42-129		%	09/12/19	10/03/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928136
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: BTI

Printed: 10/22/19 3:39:30 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU252B

Sample Collection Date: 09/03/19

ARF: 90050

APPL ID: AZ98595

QCG: #81BDO-190912A-246300

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 21.8 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.064	0.0023	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDE	0.50	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDT	0.26	0.064	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.30	0.019	mg/kg	09/12/19	10/03/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN I	Not detected	0.064	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN II	Not detected	0.064	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/12/19	10/03/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	TOXAPHENE	Not detected	1.30	0.019	mg/kg	09/12/19	10/03/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	104	55-130		%	09/12/19	10/03/19
EPA 8081B	SURROGATE: TCMX (S)	76.2	42-129		%	09/12/19	10/03/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928137
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: BTI

Printed: 10/22/19 3:39:30 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU252C

Sample Collection Date: 09/03/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90050

APPL ID: AZ98596

QCG: #81BDO-190912A-246300

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 20.486 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.063	0.0023	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDE	0.51	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDT	0.28	0.063	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.30	0.019	mg/kg	09/12/19	10/03/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN I	Not detected	0.063	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN II	Not detected	0.063	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/12/19	10/03/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	TOXAPHENE	Not detected	1.30	0.019	mg/kg	09/12/19	10/03/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	98.8	55-130		%	09/12/19	10/03/19
EPA 8081B	SURROGATE: TCMX (S)	75.4	42-129		%	09/12/19	10/03/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928138
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: BTI

Printed: 10/22/19 3:39:30 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge/18-2003

Sample ID: 2003.DU308

Sample Collection Date: 09/03/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90050

APPL ID: AZ98597

QCG: #81BDO-190912A-246300

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 19.848 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.062	0.0022	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDE	0.40	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	4,4'-DDT	0.37	0.062	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.20	0.019	mg/kg	09/12/19	10/03/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN I	Not detected	0.062	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN II	Not detected	0.062	0.0010	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	09/12/19	10/03/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	09/12/19	10/03/19
EPA 8081B	TOXAPHENE	Not detected	1.20	0.019	mg/kg	09/12/19	10/03/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	103	55-130		%	09/12/19	10/03/19
EPA 8081B	SURROGATE: TCMX (S)	79.4	42-129		%	09/12/19	10/03/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0928139
Instrument: Ethel
Sequence: 190928
Dilution Factor: 1
Initials: BTI

Printed: 10/22/19 3:39:30 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

Metals Results

EnviroServices & Training Centre

505 Ward Avenue, Suite 202

Honolulu, Hawaii 96814

ARF: 90050

APPL Inc.

908 North Temperance Avenue

Clovis, CA 93611

Attn: Damon Hamura

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
APPL ID: AZ98580		-Client Sample ID: 2003.DU306			-Sample Collection Date: 08/29/19		Project: Koa Ridge/18-2003	
6020	ARSENIC (AS)	10.5	0.5	0.07	mg/Kg	1	10/25/19	11/05/19
APPL ID: AZ98581		-Client Sample ID: 2003.DU311			-Sample Collection Date: 08/29/19		Project: Koa Ridge/18-2003	
6020	ARSENIC (AS)	8.7	0.5	0.07	mg/Kg	1	10/25/19	11/05/19
APPL ID: AZ98582		-Client Sample ID: 2003.DU316			-Sample Collection Date: 08/29/19		Project: Koa Ridge/18-2003	
6020	ARSENIC (AS)	13.7	0.5	0.07	mg/Kg	1	10/25/19	11/05/19
APPL ID: AZ98583		-Client Sample ID: 2003.DU315			-Sample Collection Date: 08/29/19		Project: Koa Ridge/18-2003	
6020	ARSENIC (AS)	13.3	0.5	0.07	mg/Kg	1	10/25/19	11/05/19
APPL ID: AZ98584		-Client Sample ID: 2003.DU56A			-Sample Collection Date: 08/30/19		Project: Koa Ridge/18-2003	
6020	ARSENIC (AS)	17.7	0.5	0.07	mg/Kg	1	10/25/19	11/05/19
APPL ID: AZ98585		-Client Sample ID: 2003.DU56B			-Sample Collection Date: 08/30/19		Project: Koa Ridge/18-2003	
6020	ARSENIC (AS)	17.5	0.5	0.07	mg/Kg	1	10/25/19	11/05/19
APPL ID: AZ98586		-Client Sample ID: 2003.DU56C			-Sample Collection Date: 08/30/19		Project: Koa Ridge/18-2003	
6020	ARSENIC (AS)	17.0	0.5	0.07	mg/Kg	1	10/25/19	11/05/19
APPL ID: AZ98587		-Client Sample ID: 2003.DU304			-Sample Collection Date: 09/03/19		Project: Koa Ridge/18-2003	
6020	ARSENIC (AS)	11.9	0.5	0.07	mg/Kg	1	10/25/19	11/05/19
APPL ID: AZ98588		-Client Sample ID: 2003.DU298			-Sample Collection Date: 09/03/19		Project: Koa Ridge/18-2003	
6020	ARSENIC (AS)	7.2	0.5	0.07	mg/Kg	1	10/25/19	11/05/19
APPL ID: AZ98589		-Client Sample ID: 2003.DU135			-Sample Collection Date: 09/03/19		Project: Koa Ridge/18-2003	
6020	ARSENIC (AS)	12.4	0.5	0.07	mg/Kg	1	10/25/19	11/05/19

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APPL-F1-SC-NoMC-REG MDLs

Metals Results

EnviroServices & Training Centre

505 Ward Avenue, Suite 202

Honolulu, Hawaii 96814

ARF: 90050

APPL Inc.

908 North Temperance Avenue

Clovis, CA 93611

Attn: Damon Hamura

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
APPL ID: AZ98590		-Client Sample ID: 2003.DU209					-Sample Collection Date: 09/03/19	Project: Koa Ridge/18-2003
6020	ARSENIC (AS)	17.0	0.5	0.07	mg/Kg	1	10/25/19	11/05/19
APPL ID: AZ98591		-Client Sample ID: 2003.DU259A					-Sample Collection Date: 09/03/19	Project: Koa Ridge/18-2003
6020	ARSENIC (AS)	14.8	0.5	0.07	mg/Kg	1	10/25/19	11/05/19
APPL ID: AZ98592		-Client Sample ID: 2003.DU259B					-Sample Collection Date: 09/03/19	Project: Koa Ridge/18-2003
6020	ARSENIC (AS)	14.6	0.5	0.07	mg/Kg	1	10/25/19	11/05/19
APPL ID: AZ98593		-Client Sample ID: 2003.DU259C					-Sample Collection Date: 09/03/19	Project: Koa Ridge/18-2003
6020	ARSENIC (AS)	13.1	0.5	0.07	mg/Kg	1	10/25/19	11/05/19
APPL ID: AZ98594		-Client Sample ID: 2003.DU252A					-Sample Collection Date: 09/03/19	Project: Koa Ridge/18-2003
6020	ARSENIC (AS)	14.2	0.5	0.07	mg/Kg	1	10/25/19	11/05/19
APPL ID: AZ98595		-Client Sample ID: 2003.DU252B					-Sample Collection Date: 09/03/19	Project: Koa Ridge/18-2003
6020	ARSENIC (AS)	14.1	0.5	0.07	mg/Kg	1	10/25/19	11/05/19
APPL ID: AZ98596		-Client Sample ID: 2003.DU252C					-Sample Collection Date: 09/03/19	Project: Koa Ridge/18-2003
6020	ARSENIC (AS)	13.6	0.5	0.07	mg/Kg	1	10/25/19	11/05/19
APPL ID: AZ98597		-Client Sample ID: 2003.DU308					-Sample Collection Date: 09/03/19	Project: Koa Ridge/18-2003
6020	ARSENIC (AS)	9.9	0.5	0.07	mg/Kg	1	10/25/19	11/05/19

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APPL-F1-SC-NoMC-REG MDLs

Wetlab Results

ARF: 90050

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

EnviroServices & Training Centre
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
APPL ID: AZ98580 -Client Sample ID: 2003.DU306 -Sample Collection Date: 08/29/19 Project: Koa Ridge/18-2003						
CLP MOIST	MOISTURE	26.1	2.0	%	09/10/19	09/11/19
APPL ID: AZ98581 -Client Sample ID: 2003.DU311 -Sample Collection Date: 08/29/19 Project: Koa Ridge/18-2003						
CLP MOIST	MOISTURE	22.9	2.0	%	09/10/19	09/11/19
APPL ID: AZ98582 -Client Sample ID: 2003.DU316 -Sample Collection Date: 08/29/19 Project: Koa Ridge/18-2003						
CLP MOIST	MOISTURE	22.3	2.0	%	09/10/19	09/11/19
APPL ID: AZ98583 -Client Sample ID: 2003.DU315 -Sample Collection Date: 08/29/19 Project: Koa Ridge/18-2003						
CLP MOIST	MOISTURE	20.5	2.0	%	09/10/19	09/11/19
APPL ID: AZ98584 -Client Sample ID: 2003.DU56A -Sample Collection Date: 08/30/19 Project: Koa Ridge/18-2003						
CLP MOIST	MOISTURE	15.4	2.0	%	09/10/19	09/11/19
APPL ID: AZ98585 -Client Sample ID: 2003.DU56B -Sample Collection Date: 08/30/19 Project: Koa Ridge/18-2003						
CLP MOIST	MOISTURE	14.8	2.0	%	09/10/19	09/11/19
APPL ID: AZ98586 -Client Sample ID: 2003.DU56C -Sample Collection Date: 08/30/19 Project: Koa Ridge/18-2003						
CLP MOIST	MOISTURE	13.5	2.0	%	09/10/19	09/11/19
APPL ID: AZ98587 -Client Sample ID: 2003.DU304 -Sample Collection Date: 09/03/19 Project: Koa Ridge/18-2003						
CLP MOIST	MOISTURE	19.1	2.0	%	09/10/19	09/11/19
APPL ID: AZ98588 -Client Sample ID: 2003.DU298 -Sample Collection Date: 09/03/19 Project: Koa Ridge/18-2003						
CLP MOIST	MOISTURE	17.2	2.0	%	09/10/19	09/11/19
APPL ID: AZ98589 -Client Sample ID: 2003.DU135 -Sample Collection Date: 09/03/19 Project: Koa Ridge/18-2003						
CLP MOIST	MOISTURE	19.7	2.0	%	09/10/19	09/11/19
APPL ID: AZ98590 -Client Sample ID: 2003.DU209 -Sample Collection Date: 09/03/19 Project: Koa Ridge/18-2003						
CLP MOIST	MOISTURE	20.2	2.0	%	09/10/19	09/11/19
APPL ID: AZ98591 -Client Sample ID: 2003.DU259A -Sample Collection Date: 09/03/19 Project: Koa Ridge/18-2003						
CLP MOIST	MOISTURE	13.6	2.0	%	09/10/19	09/11/19

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Wetlab Results

ARF: 90050

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
APPL ID: AZ98592 -Client Sample ID: 2003.DU259B -Sample Collection Date: 09/03/19 Project: Koa Ridge/18-2003						
CLP MOIST	MOISTURE	13.4	2.0	%	09/10/19	09/11/19
APPL ID: AZ98593 -Client Sample ID: 2003.DU259C -Sample Collection Date: 09/03/19 Project: Koa Ridge/18-2003						
CLP MOIST	MOISTURE	11.1	2.0	%	09/10/19	09/11/19
APPL ID: AZ98594 -Client Sample ID: 2003.DU252A -Sample Collection Date: 09/03/19 Project: Koa Ridge/18-2003						
CLP MOIST	MOISTURE	19.8	2.0	%	09/10/19	09/11/19
APPL ID: AZ98595 -Client Sample ID: 2003.DU252B -Sample Collection Date: 09/03/19 Project: Koa Ridge/18-2003						
CLP MOIST	MOISTURE	21.8	2.0	%	09/10/19	09/11/19
APPL ID: AZ98596 -Client Sample ID: 2003.DU252C -Sample Collection Date: 09/03/19 Project: Koa Ridge/18-2003						
CLP MOIST	MOISTURE	20.486	2.0	%	09/11/19	09/11/19
APPL ID: AZ98597 -Client Sample ID: 2003.DU308 -Sample Collection Date: 09/03/19 Project: Koa Ridge/18-2003						
CLP MOIST	MOISTURE	19.848	2.0	%	09/11/19	09/11/19

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Method Blank

EPA 8081B OCL IS SOIL

Blank Name/QCG: **190912S-98580 - 246300**
Batch ID: #81BDO-190912A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Sample Type	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
BLANK	4,4'-DDD	Not detected	0.050	0.0018	mg/kg	09/12/19	09/14/19
BLANK	4,4'-DDE	Not detected	0.05	0.002	mg/kg	09/12/19	09/14/19
BLANK	4,4'-DDT	Not detected	0.050	0.0008	mg/kg	09/12/19	09/14/19
BLANK	ALDRIN	Not detected	0.05	0.001	mg/kg	09/12/19	09/14/19
BLANK	ALPHA-BHC	Not detected	0.05	0.001	mg/kg	09/12/19	09/14/19
BLANK	ALPHA-CHLORDANE	Not detected	0.05	0.001	mg/kg	09/12/19	09/14/19
BLANK	BETA-BHC	Not detected	0.05	0.001	mg/kg	09/12/19	09/14/19
BLANK	CHLORDANE, TECHNICAL	Not detected	1.00	0.015	mg/kg	09/12/19	09/14/19
BLANK	DELTA-BHC	Not detected	0.05	0.001	mg/kg	09/12/19	09/14/19
BLANK	DIELDRIN	Not detected	0.05	0.001	mg/kg	09/12/19	09/14/19
BLANK	ENDOSULFAN I	Not detected	0.050	0.0008	mg/kg	09/12/19	09/14/19
BLANK	ENDOSULFAN II	Not detected	0.050	0.0008	mg/kg	09/12/19	09/14/19
BLANK	ENDOSULFAN SULFATE	Not detected	0.05	0.001	mg/kg	09/12/19	09/14/19
BLANK	ENDRIN	Not detected	0.05	0.001	mg/kg	09/12/19	09/14/19
BLANK	ENDRIN ALDEHYDE	Not detected	0.05	0.002	mg/kg	09/12/19	09/14/19
BLANK	ENDRIN KETONE	Not detected	0.05	0.002	mg/kg	09/12/19	09/14/19
BLANK	GAMMA-BHC	Not detected	0.05	0.001	mg/kg	09/12/19	09/14/19
BLANK	GAMMA-CHLORDANE	Not detected	0.05	0.001	mg/kg	09/12/19	09/14/19
BLANK	HEPTACHLOR	Not detected	0.05	0.001	mg/kg	09/12/19	09/14/19
BLANK	HEPTACHLOR EPOXIDE	Not detected	0.05	0.001	mg/kg	09/12/19	09/14/19
BLANK	HEXACHLOROBENZENE	Not detected	0.05	0.005	mg/kg	09/12/19	09/14/19
BLANK	METHOXYCHLOR	Not detected	0.05	0.001	mg/kg	09/12/19	09/14/19
BLANK	TOXAPHENE	Not detected	1.00	0.015	mg/kg	09/12/19	09/14/19
BLANK	SURROGATE: DECACHLOROBIPHEN	73.7	55-130		%	09/12/19	09/14/19
BLANK	SURROGATE: TCMX (S)	49.5	42-129		%	09/12/19	09/14/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL0912.M
Run #: 0912136
Instrument: Ethel
Sequence: 190912
Initials: BTI

GC SC-Blank-REG MDLs
Printed: 10/22/19 3:39:30 PM

Laboratory Control Spike Recovery

EPA 8081B OCL IS SOIL

APPL ID: 190912S-98580 LCS - 246300

Batch ID: #81BDO-190912A

APPL Inc.

908 North Temperance Avenue

Clovis, CA 93611

Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits
4,4'-DDD	0.500	0.401	80.2	56-139
4,4'-DDE	0.500	0.383	76.6	56-134
4,4'-DDT	0.500	0.403	80.6	50-141
ALDRIN	0.500	0.387	77.4	45-136
ALPHA-BHC	0.500	0.349	69.8	45-137
ALPHA-CHLORDANE	0.500	0.378	75.6	54-133
BETA-BHC	0.500	0.392	78.4	50-136
CHLORDANE, TECHNICAL	5.00	4.10	82.0	43-149
DELTA-BHC	0.500	0.389	77.8	47-139
DIELDRIN	0.500	0.395	79.0	56-136
ENDOSULFAN I	0.500	0.396	79.2	53-132
ENDOSULFAN II	0.500	0.392	78.4	53-134
ENDOSULFAN SULFATE	0.500	0.382	76.4	55-136
ENDRIN	0.500	0.405	81.0	57-140
ENDRIN ALDEHYDE	0.500	0.329	65.8	35-137
ENDRIN KETONE	0.500	0.409	81.8	55-136
GAMMA-BHC	0.500	0.373	74.6	49-135
GAMMA-CHLORDANE	0.500	0.384	76.8	53-135
HEPTACHLOR	0.500	0.339	67.8	47-136
HEPTACHLOR EPOXIDE	0.500	0.383	76.6	52-136
HEXACHLOROBENZENE	0.500	0.265	53.0 #	57-126
METHOXYCHLOR	0.500	0.371	74.2	52-143
TOXAPHENE	5.00	4.10	82.0	33-141
SURROGATE: DECACHLOROBIPHENYL	0.500	0.371	74.2	55-130
SURROGATE: TCMX (S)	0.500	0.231	46.2	42-129

= Recovery is outside QC limits.

Comments: _____

Primary	SPK
Quant Method :	OCL0912.M
Extraction Date :	09/12/19
Analysis Date :	09/14/19
Instrument :	Ethel
Run :	0912137
Initials :	BTI

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APPL Standard LCS

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	PQL	MDL	Units	Prep Date	Analysis Date	QC Group
6020	ARSENIC (AS)	Not detected	0.5	0.07	mg/Kg	10/25/19	11/05/19	#62DOD-191025A-AZ98597

Laboratory Control Spike Recoveries

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/Kg	SPK Res mg/Kg	DUP Res mg/Kg	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 6020	ARSENIC (AS)	2.50	2.2	2.3	88.0	92.0	4.4	20	82-118	10/25/19	11/05/19	10/25/19	11/05/19	#62DOD-191025A-AZ9859

Comments: _____

90050



APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com

CHAIN OF CUSTODY RECORD

C.O.C. 090419A

Report to: PLEASE PRINT		Invoice to: PLEASE PRINT	
Company Name: EnviroServices & Training Center, LLC	Phone: 808-839-7222	Company Name: EnviroServices & Training Center, LLC	Phone: 808-839-7222
Address: 505 Ward Avenue, Suite 202		Address: 505 Ward Avenue, Suite 202	
Honolulu, Hawaii 96814	Fax: 808-839-4455	Honolulu, Hawaii 96814	Fax: 808-839-4455
Attn: Mr. Damon Hamura		Attn: Accounts Payable	
Email: damon@gotoetc.com, jdolan@gotoetc.com		Email: ap@gotoetc.com	

Project Name/Number		Sampler (Print)		Analysis Requested/Method Number		Date Shipped:	
Koa Ridge / 18-2003		JAMES DOLAN					
Purchase Order Number		Sampler (Signature)				Carrier:	
Sample Identification		Location		Date Collected	Time Collected	Time Zone	Comments:
2003.DU306	KOA RIDGE	8/29/19	0815	H1	1		
2003.DU311		8/29/19	0830	H1	1		
2003.DU316		8/29/19	0900	H1	1		
2003.DU315		8/29/19	0930	H1	1		
2003.DU56A		8/30/19	0900	H1	1		
2003.DU56B				H1	1		
2003.DU56C				H1	1		
2003.DU304		9/3/19	0830	H1	1		
2003.DU298		9/3/19	0900	H1	1		
2003.DU135		9/3/19	1015	H1	1		
2003.DU209		9/3/19	1035	H1	1		
Shuttle Temperature: IR: 4.4/4.1, 24/2.3°C		Turnaround Requested: Check one		Sample Disposal:			
		☒ Standard 2-3 wk ☐ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other:		☐ Return to client ☒ Disposal by Lab (30-day retention)			
Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
JAMES DOLAN	9/4/19	3:20pm	Tram Strick	Tram Strick	9/5/19	1100	
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					9.6.19	8900	

See page 2 for Container Preservative and Sampling Information

CHAIN OF CUSTODY RECORD

Report to:		PLEASE PRINT		Invoice to:		PLEASE PRINT	
Company Name: EnviroServices & Training Center, LLC		Phone: 808-839-7222		Company Name: EnviroServices & Training Center, LLC		Phone: 808-839-7222	
Address: 505 Ward Avenue, Suite 202 Honolulu, Hawaii 96814		Fax: 808-839-4455		Address: 505 Ward Avenue, Suite 202 Honolulu, Hawaii 96814		Fax: 808-839-4455	
Attn: Mr. Damon Hamura				Attn: Accounts Payable			
Email: damon@gotoetc.com , jdolan@gotoetc.com				Email: ap@gotoetc.com			

Project Name/Number		Sampler (Print)	Analysis Requested/Method Number										Date Shipped:				
Purchase Order Number	Sampler (Signature)	No. of Containers	Matrix			MIS Prep	Pesticides (8081)	Arsenic (6000s)									Carrier:
Sample Identification	Location	Date Collected	Time Collected	Time Zone	Ag	Sed.	Soil										Waybill No.:
2003.DU259A'	KOA RIDGE	9/3/19	1105	H1	1		✓		✓	✓	✓						
2003.DU259B'	↓	↓	↓	H1	1												
2003.DU259C'	↓	↓	↓	H1	1												
2003.DU252A'	KOA RIDGE	9/3/19	1130	H1	1												
2003.DU252B'	↓	↓	↓	H1	1												
2003.DU252C'	↓	↓	↓	H1	1												
2003.PV308'	KOA RIDGE	9/3/19	1205	H1	1												

Shuttle Temperature:		Turnaround Requested: Check one				Sample Disposal:	
		☒ Standard 2-3 wk ☐ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other: _____				☐ Return to client ☒ Disposal by Lab (30-day retention)	
Relinquished by sampler: JAMES DOLAN	Date 9/4/19	Time 320 pm	Received by: Tam Srawe	Relinquished by: Tam Srawe	Date 9/5/19	Time 1100	Received by:
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date 9-6-19	Time 0900	Received at lab by:

See page 2 for Container Preservative and Sampling Information

ARF: 90050



908 North Temperance Ave. ▽ Clovis, CA 93611 ▽ Phone 559-275-2175 ▽ Fax 559-275-4422

NELAP Certification Number: CA00046 (HW)
State Certification Number: CA1312 (WW & DW)

December 4, 2019

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Subject: Report of Data: Case 90356

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dear Mr. Hamura,

Twelve soil samples were received on October 3, 2019, in good condition. Written results are being provided on this December 4, 2019, for the requested analysis. All holding times were met.

The samples were prepared using wet multi-incremental sampling techniques.

For the EPA 8081B analysis, the samples were extracted according to the EPA method 3550B.

For the EPA 6020A analysis, the sample was digested according to EPA method 3050B.

Percent moisture was determined using ISM02.2, Exhibit D, section 10.0.

If you have any questions or require further information, please contact us at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney, Laboratory Director
APPL, Inc.

PM/gs
Enclosure
cc: File

EPA 8081B OCL IS SOIL

EnviroServices & Training Centre
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU19

Sample Collection Date: 09/18/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90356

APPL ID: BA00527

QCG: #81BDO-191009A-247859

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 8.6 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.055	0.0020	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDE	0.43	0.06	0.002	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDT	0.075	0.055	0.0009	mg/kg	10/09/19	11/13/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.10	0.016	mg/kg	10/09/19	11/13/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN I	Not detected	0.055	0.0009	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN II	Not detected	0.055	0.0009	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.005	mg/kg	10/09/19	11/13/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	TOXAPHENE	Not detected	1.10	0.016	mg/kg	10/09/19	11/13/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	71.9	55-130		%	10/09/19	11/13/19
EPA 8081B	SURROGATE: TCMX (S)	105	42-129		%	10/09/19	11/13/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL1104.M
Run #: 1113019
Instrument: Ethel
Sequence: 191113
Dilution Factor: 1
Initials: BTI

Printed: 12/03/19 3:07:12 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU62

Sample Collection Date: 09/18/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90356

APPL ID: BA00528

QCG: #81BDO-191009A-247859

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 8.0 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.054	0.0020	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDE	0.12	0.05	0.002	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDT	0.028 J	0.054	0.0009	mg/kg	10/09/19	11/13/19
EPA 8081B	ALDRIN	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-BHC	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	BETA-BHC	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.10	0.016	mg/kg	10/09/19	11/13/19
EPA 8081B	DELTA-BHC	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	DIELDRIN	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN I	Not detected	0.054	0.0009	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN II	Not detected	0.054	0.0009	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.05	0.002	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN KETONE	Not detected	0.05	0.002	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-BHC	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.05	0.005	mg/kg	10/09/19	11/13/19
EPA 8081B	METHOXYCHLOR	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	TOXAPHENE	Not detected	1.10	0.016	mg/kg	10/09/19	11/13/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	72.9	55-130		%	10/09/19	11/13/19
EPA 8081B	SURROGATE: TCMX (S)	113	42-129		%	10/09/19	11/13/19

J = Estimated value.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL1104.M
Run #: 1113020
Instrument: Ethel
Sequence: 191113
Dilution Factor: 1
Initials: BTI

Printed: 12/03/19 3:07:12 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU244

Sample Collection Date: 09/18/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90356

APPL ID: BA00529

QCG: #81BDO-191009A-247859

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 11.3 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.056	0.0020	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDE	0.32	0.06	0.002	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDT	0.054 J	0.056	0.0009	mg/kg	10/09/19	11/13/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.10	0.017	mg/kg	10/09/19	11/13/19
EPA 8081B	DELTA-BHC	0.0026 J	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN I	Not detected	0.056	0.0009	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN II	Not detected	0.056	0.0009	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	10/09/19	11/13/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	TOXAPHENE	Not detected	1.10	0.017	mg/kg	10/09/19	11/13/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	57.4	55-130		%	10/09/19	11/13/19
EPA 8081B	SURROGATE: TCMX (S)	85.3	42-129		%	10/09/19	11/13/19

J = Estimated value.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL1104.M
Run #: 1113021
Instrument: Ethel
Sequence: 191113
Dilution Factor: 1
Initials: BTI

Printed: 12/03/19 3:07:12 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU277

Sample Collection Date: 09/18/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90356

APPL ID: BA00530

QCG: #81BDO-191009A-247859

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 12.0 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.057	0.0020	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDE	0.36	0.06	0.002	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDT	0.15	0.057	0.0009	mg/kg	10/09/19	11/13/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.10	0.017	mg/kg	10/09/19	11/13/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN I	Not detected	0.057	0.0009	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN II	Not detected	0.057	0.0009	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.002	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.002	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	10/09/19	11/13/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	TOXAPHENE	Not detected	1.10	0.017	mg/kg	10/09/19	11/13/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	67.8	55-130		%	10/09/19	11/13/19
EPA 8081B	SURROGATE: TCMX (S)	97.1	42-129		%	10/09/19	11/13/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL1104.M
Run #: 1113022
Instrument: Ethel
Sequence: 191113
Dilution Factor: 1
Initials: BTI

Printed: 12/03/19 3:07:12 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU151

Sample Collection Date: 09/18/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90356

APPL ID: BA00531

QCG: #81BDO-191009A-247859

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 8.1 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.054	0.0020	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDE	0.22	0.05	0.002	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDT	0.13	0.054	0.0009	mg/kg	10/09/19	11/13/19
EPA 8081B	ALDRIN	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-BHC	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-CHLORDANE	0.012 J	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	BETA-BHC	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.10	0.016	mg/kg	10/09/19	11/13/19
EPA 8081B	DELTA-BHC	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	DIELDRIN	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN I	Not detected	0.054	0.0009	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN II	Not detected	0.054	0.0009	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.05	0.002	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN KETONE	Not detected	0.05	0.002	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-BHC	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-CHLORDANE	0.066	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR EPOXIDE	0.12	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.05	0.005	mg/kg	10/09/19	11/13/19
EPA 8081B	METHOXYCHLOR	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	TOXAPHENE	Not detected	1.10	0.016	mg/kg	10/09/19	11/13/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	65.7	55-130		%	10/09/19	11/13/19
EPA 8081B	SURROGATE: TCMX (S)	108	42-129		%	10/09/19	11/13/19

J = Estimated value.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL1104.M
Run #: 1113023
Instrument: Ethel
Sequence: 191113
Dilution Factor: 1
Initials: BTI

Printed: 12/03/19 3:07:12 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU186

Sample Collection Date: 09/18/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90356

APPL ID: BA00532

QCG: #81BDO-191009A-247859

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 20.0 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.063	0.0022	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDE	0.32	0.06	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDT	0.13	0.063	0.0010	mg/kg	10/09/19	11/13/19
EPA 8081B	ALDRIN	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-BHC	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	BETA-BHC	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.30	0.019	mg/kg	10/09/19	11/13/19
EPA 8081B	DELTA-BHC	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	DIELDRIN	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN I	Not detected	0.063	0.0010	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN II	Not detected	0.063	0.0010	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.06	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN KETONE	Not detected	0.06	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-BHC	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.06	0.006	mg/kg	10/09/19	11/13/19
EPA 8081B	METHOXYCHLOR	Not detected	0.06	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	TOXAPHENE	Not detected	1.30	0.019	mg/kg	10/09/19	11/13/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	63.0	55-130		%	10/09/19	11/13/19
EPA 8081B	SURROGATE: TCMX (S)	74.6	42-129		%	10/09/19	11/13/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL1104.M
Run #: 1113024
Instrument: Ethel
Sequence: 191113
Dilution Factor: 1
Initials: BTI

Printed: 12/03/19 3:07:12 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Centre
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU17

Sample Collection Date: 09/30/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90356

APPL ID: BA00533

QCG: #81BDO-191009A-247859

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 27.4 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.069	0.0025	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDE	0.20	0.07	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDT	0.15	0.069	0.0011	mg/kg	10/09/19	11/13/19
EPA 8081B	ALDRIN	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	BETA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.40	0.021	mg/kg	10/09/19	11/13/19
EPA 8081B	DELTA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	DIELDRIN	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN I	Not detected	0.069	0.0011	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN II	Not detected	0.069	0.0011	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.07	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN KETONE	Not detected	0.07	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.07	0.007	mg/kg	10/09/19	11/13/19
EPA 8081B	METHOXYCHLOR	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	TOXAPHENE	Not detected	1.40	0.021	mg/kg	10/09/19	11/13/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	66.3	55-130		%	10/09/19	11/13/19
EPA 8081B	SURROGATE: TCMX (S)	93.6	42-129		%	10/09/19	11/13/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL1104.M
Run #: 1113025
Instrument: Ethel
Sequence: 191113
Dilution Factor: 1
Initials: BTI

Printed: 12/03/19 3:07:12 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU177

Sample Collection Date: 09/30/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90356

APPL ID: BA00534

QCG: #81BDO-191009A-247859

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 25.7 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.067	0.0024	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDE	0.23	0.07	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDT	0.089	0.067	0.0011	mg/kg	10/09/19	11/13/19
EPA 8081B	ALDRIN	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	BETA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.30	0.020	mg/kg	10/09/19	11/13/19
EPA 8081B	DELTA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	DIELDRIN	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN I	Not detected	0.067	0.0011	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN II	Not detected	0.067	0.0011	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.07	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN KETONE	Not detected	0.07	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.07	0.007	mg/kg	10/09/19	11/13/19
EPA 8081B	METHOXYCHLOR	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	TOXAPHENE	Not detected	1.30	0.020	mg/kg	10/09/19	11/13/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	78.6	55-130		%	10/09/19	11/13/19
EPA 8081B	SURROGATE: TCMX (S)	107	42-129		%	10/09/19	11/13/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL1104.M
Run #: 1113027
Instrument: Ethel
Sequence: 191113
Dilution Factor: 1
Initials: BTI

Printed: 12/03/19 3:07:12 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU124

Sample Collection Date: 09/30/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90356

APPL ID: BA00535

QCG: #81BDO-191009A-247859

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 29.1 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.071	0.0025	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDE	0.30	0.07	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDT	0.22	0.071	0.0011	mg/kg	10/09/19	11/13/19
EPA 8081B	ALDRIN	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	BETA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.40	0.021	mg/kg	10/09/19	11/13/19
EPA 8081B	DELTA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	DIELDRIN	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN I	Not detected	0.071	0.0011	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN II	Not detected	0.071	0.0011	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.07	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN KETONE	Not detected	0.07	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.07	0.007	mg/kg	10/09/19	11/13/19
EPA 8081B	METHOXYCHLOR	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	TOXAPHENE	Not detected	1.40	0.021	mg/kg	10/09/19	11/13/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	86.0	55-130		%	10/09/19	11/13/19
EPA 8081B	SURROGATE: TCMX (S)	111	42-129		%	10/09/19	11/13/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL1104.M
Run #: 1113028
Instrument: Ethel
Sequence: 191113
Dilution Factor: 1
Initials: BTI

Printed: 12/03/19 3:07:12 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU97

Sample Collection Date: 10/01/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90356

APPL ID: BA00536

QCG: #81BDO-191009A-247859

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 25.0 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.067	0.0024	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDE	0.52	0.07	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDT	0.25	0.067	0.0011	mg/kg	10/09/19	11/13/19
EPA 8081B	ALDRIN	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	BETA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.30	0.020	mg/kg	10/09/19	11/13/19
EPA 8081B	DELTA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	DIELDRIN	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN I	Not detected	0.067	0.0011	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN II	Not detected	0.067	0.0011	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.07	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN KETONE	Not detected	0.07	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.07	0.007	mg/kg	10/09/19	11/13/19
EPA 8081B	METHOXYCHLOR	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	TOXAPHENE	Not detected	1.30	0.020	mg/kg	10/09/19	11/13/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	78.4	55-130		%	10/09/19	11/13/19
EPA 8081B	SURROGATE: TCMX (S)	111	42-129		%	10/09/19	11/13/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL1104.M
Run #: 1113029
Instrument: Ethel
Sequence: 191113
Dilution Factor: 1
Initials: BTI

Printed: 12/03/19 3:07:12 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU257

Sample Collection Date: 10/01/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90356

APPL ID: BA00537

QCG: #81BDO-191009A-247859

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 26.5 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.068	0.0024	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDE	0.36	0.07	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDT	0.10	0.068	0.0011	mg/kg	10/09/19	11/13/19
EPA 8081B	ALDRIN	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	BETA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.40	0.020	mg/kg	10/09/19	11/13/19
EPA 8081B	DELTA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	DIELDRIN	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN I	Not detected	0.068	0.0011	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN II	Not detected	0.068	0.0011	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.07	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN KETONE	Not detected	0.07	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.07	0.007	mg/kg	10/09/19	11/13/19
EPA 8081B	METHOXYCHLOR	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	TOXAPHENE	Not detected	1.40	0.020	mg/kg	10/09/19	11/13/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	80.6	55-130		%	10/09/19	11/13/19
EPA 8081B	SURROGATE: TCMX (S)	96.1	42-129		%	10/09/19	11/13/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL1104.M
Run #: 1113030
Instrument: Ethel
Sequence: 191113
Dilution Factor: 1
Initials: BTI

Printed: 12/03/19 3:07:12 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU18

Sample Collection Date: 10/01/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90356

APPL ID: BA00538

QCG: #81BDO-191009A-247859

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 23.4 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.065	0.0023	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDE	0.39	0.07	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	4,4'-DDT	0.082	0.065	0.0010	mg/kg	10/09/19	11/13/19
EPA 8081B	ALDRIN	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	BETA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.30	0.020	mg/kg	10/09/19	11/13/19
EPA 8081B	DELTA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	DIELDRIN	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN I	Not detected	0.065	0.0010	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN II	Not detected	0.065	0.0010	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.07	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	ENDRIN KETONE	Not detected	0.07	0.003	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-BHC	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.07	0.006	mg/kg	10/09/19	11/13/19
EPA 8081B	METHOXYCHLOR	Not detected	0.07	0.001	mg/kg	10/09/19	11/13/19
EPA 8081B	TOXAPHENE	Not detected	1.30	0.020	mg/kg	10/09/19	11/13/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	83.0	55-130		%	10/09/19	11/13/19
EPA 8081B	SURROGATE: TCMX (S)	101	42-129		%	10/09/19	11/13/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL1104.M
Run #: 1113031
Instrument: Ethel
Sequence: 191113
Dilution Factor: 1
Initials: BTI

Printed: 12/03/19 3:07:12 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

Metals Results

ARF: 90356

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
APPL ID: BA00527 -Client Sample ID: 2003.DU19 -Sample Collection Date: 09/18/19 Project: Koa Ridge / 18-2003						
6020	ARSENIC (AS)	31.6	0.5	mg/Kg	11/08/19	11/08/19
APPL ID: BA00528 -Client Sample ID: 2003.DU62 -Sample Collection Date: 09/18/19 Project: Koa Ridge / 18-2003						
6020	ARSENIC (AS)	7.2	0.5	mg/Kg	11/08/19	11/08/19
APPL ID: BA00529 -Client Sample ID: 2003.DU244 -Sample Collection Date: 09/18/19 Project: Koa Ridge / 18-2003						
6020	ARSENIC (AS)	33.3	0.5	mg/Kg	11/08/19	11/08/19
APPL ID: BA00530 -Client Sample ID: 2003.DU277 -Sample Collection Date: 09/18/19 Project: Koa Ridge / 18-2003						
6020	ARSENIC (AS)	17.5	0.5	mg/Kg	11/08/19	11/08/19
APPL ID: BA00531 -Client Sample ID: 2003.DU151 -Sample Collection Date: 09/18/19 Project: Koa Ridge / 18-2003						
6020	ARSENIC (AS)	11.7	0.5	mg/Kg	11/08/19	11/08/19
APPL ID: BA00532 -Client Sample ID: 2003.DU186 -Sample Collection Date: 09/18/19 Project: Koa Ridge / 18-2003						
6020	ARSENIC (AS)	21.7	0.5	mg/Kg	11/08/19	11/08/19
APPL ID: BA00533 -Client Sample ID: 2003.DU17 -Sample Collection Date: 09/30/19 Project: Koa Ridge / 18-2003						
6020	ARSENIC (AS)	10.4	0.5	mg/Kg	11/08/19	11/08/19
APPL ID: BA00534 -Client Sample ID: 2003.DU177 -Sample Collection Date: 09/30/19 Project: Koa Ridge / 18-2003						
6020	ARSENIC (AS)	9.8	0.5	mg/Kg	11/08/19	11/08/19
APPL ID: BA00535 -Client Sample ID: 2003.DU124 -Sample Collection Date: 09/30/19 Project: Koa Ridge / 18-2003						
6020	ARSENIC (AS)	14.5	0.5	mg/Kg	11/08/19	11/08/19
APPL ID: BA00536 -Client Sample ID: 2003.DU97 -Sample Collection Date: 10/01/19 Project: Koa Ridge / 18-2003						
6020	ARSENIC (AS)	12.1	0.5	mg/Kg	11/08/19	11/08/19
APPL ID: BA00537 -Client Sample ID: 2003.DU257 -Sample Collection Date: 10/01/19 Project: Koa Ridge / 18-2003						
6020	ARSENIC (AS)	18.3	0.5	mg/Kg	11/08/19	11/08/19
APPL ID: BA00538 -Client Sample ID: 2003.DU18 -Sample Collection Date: 10/01/19 Project: Koa Ridge / 18-2003						
6020	ARSENIC (AS)	20.4	0.5	mg/Kg	11/08/19	11/08/19

Printed: 11/11/19 8:53:14 AM

Wetlab Results

EnviroServices & Training Cente

505 Ward Avenue, Suite 202

Honolulu, Hawaii 96814

ARF: 90356

APPL Inc.

908 North Temperance Avenue

Clovis, CA 93611

Attn: Damon Hamura

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
APPL ID: BA00527 -Client Sample ID: 2003.DU19 -Sample Collection Date: 09/18/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	8.6	2.0	%	10/15/19	10/16/19
APPL ID: BA00528 -Client Sample ID: 2003.DU62 -Sample Collection Date: 09/18/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	8.0	2.0	%	10/15/19	10/16/19
APPL ID: BA00529 -Client Sample ID: 2003.DU244 -Sample Collection Date: 09/18/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	11.3	2.0	%	10/15/19	10/16/19
APPL ID: BA00530 -Client Sample ID: 2003.DU277 -Sample Collection Date: 09/18/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	12.0	2.0	%	10/15/19	10/16/19
APPL ID: BA00531 -Client Sample ID: 2003.DU151 -Sample Collection Date: 09/18/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	8.1	2.0	%	10/15/19	10/16/19
APPL ID: BA00532 -Client Sample ID: 2003.DU186 -Sample Collection Date: 09/18/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	20.0	2.0	%	10/15/19	10/16/19
APPL ID: BA00533 -Client Sample ID: 2003.DU17 -Sample Collection Date: 09/30/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	27.4	2.0	%	10/15/19	10/16/19
APPL ID: BA00534 -Client Sample ID: 2003.DU177 -Sample Collection Date: 09/30/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	25.7	2.0	%	10/15/19	10/16/19
APPL ID: BA00535 -Client Sample ID: 2003.DU124 -Sample Collection Date: 09/30/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	29.1	2.0	%	10/15/19	10/16/19
APPL ID: BA00536 -Client Sample ID: 2003.DU97 -Sample Collection Date: 10/01/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	25.0	2.0	%	10/15/19	10/16/19
APPL ID: BA00537 -Client Sample ID: 2003.DU257 -Sample Collection Date: 10/01/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	26.5	2.0	%	10/15/19	10/16/19
APPL ID: BA00538 -Client Sample ID: 2003.DU18 -Sample Collection Date: 10/01/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	23.4	2.0	%	10/15/19	10/16/19

Printed: 11/25/19 9:06:10 AM

Laboratory Control Spike Recovery

EPA 8081B OCL IS SOIL

APPL ID: **191009S-00527 LCS - 247859**

Batch ID: #81BDO-191009A

APPL Inc.

908 North Temperance Avenue

Clovis, CA 93611

Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits
4,4'-DDD	0.500	0.459	91.8	56-139
4,4'-DDE	0.500	0.454	90.8	56-134
4,4'-DDT	0.500	0.451	90.2	50-141
ALDRIN	0.500	0.518	104	45-136
ALPHA-BHC	0.500	0.587	117	45-137
ALPHA-CHLORDANE	0.500	0.460	92.0	54-133
BETA-BHC	0.500	0.584	117	50-136
CHLORDANE, TECHNICAL	5.00	4.49	89.8	43-149
DELTA-BHC	0.500	0.549	110	47-139
DIELDRIN	0.500	0.467	93.4	56-136
ENDOSULFAN I	0.500	0.477	95.4	53-132
ENDOSULFAN II	0.500	0.460	92.0	53-134
ENDOSULFAN SULFATE	0.500	0.451	90.2	55-136
ENDRIN	0.500	0.490	98.0	57-140
ENDRIN ALDEHYDE	0.500	0.371	74.2	35-137
ENDRIN KETONE	0.500	0.468	93.6	55-136
GAMMA-BHC	0.500	0.584	117	49-135
GAMMA-CHLORDANE	0.500	0.485	97.0	53-135
HEPTACHLOR	0.500	0.510	102	47-136
HEPTACHLOR EPOXIDE	0.500	0.490	98.0	52-136
HEXACHLOROBENZENE	0.500	0.505	101	57-126
METHOXYCHLOR	0.500	0.419	83.8	52-143
TOXAPHENE	5.00	1.93	38.6	33-141
SURROGATE: DECACHLOROBIPHENYL	0.500	0.396	79.2	55-130
SURROGATE: TCMX (S)	0.500	0.565	113	42-129

Comments:

<u>Primary</u>	<u>SPK</u>
Quant Method :	OCL1104.M
Extraction Date :	10/09/19
Analysis Date :	11/13/19
Instrument :	Ethel
Run :	1113015
Initials :	BTI

Printed: 12/03/19 3:07:14 PM

APPL Standard LCS

Method Blank

EPA 8081B OCL IS SOIL

Blank Name/QCG: **191009S-00527 - 247859**
 Batch ID: #81BDO-191009A

APPL Inc.
 908 North Temperance Avenue
 Clovis, CA 93611

Sample Type	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
BLANK	4,4'-DDD	Not detected	0.050	0.0018	mg/kg	10/09/19	11/13/19
BLANK	4,4'-DDE	Not detected	0.05	0.002	mg/kg	10/09/19	11/13/19
BLANK	4,4'-DDT	Not detected	0.050	0.0008	mg/kg	10/09/19	11/13/19
BLANK	ALDRIN	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
BLANK	ALPHA-BHC	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
BLANK	ALPHA-CHLORDANE	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
BLANK	BETA-BHC	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
BLANK	CHLORDANE, TECHNICAL	Not detected	1.00	0.015	mg/kg	10/09/19	11/13/19
BLANK	DELTA-BHC	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
BLANK	DIELDRIN	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
BLANK	ENDOSULFAN I	Not detected	0.050	0.0008	mg/kg	10/09/19	11/13/19
BLANK	ENDOSULFAN II	Not detected	0.050	0.0008	mg/kg	10/09/19	11/13/19
BLANK	ENDOSULFAN SULFATE	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
BLANK	ENDRIN	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
BLANK	ENDRIN ALDEHYDE	Not detected	0.05	0.002	mg/kg	10/09/19	11/13/19
BLANK	ENDRIN KETONE	Not detected	0.05	0.002	mg/kg	10/09/19	11/13/19
BLANK	GAMMA-BHC	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
BLANK	GAMMA-CHLORDANE	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
BLANK	HEPTACHLOR	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
BLANK	HEPTACHLOR EPOXIDE	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
BLANK	HEXACHLOROBENZENE	Not detected	0.05	0.005	mg/kg	10/09/19	11/13/19
BLANK	METHOXYCHLOR	Not detected	0.05	0.001	mg/kg	10/09/19	11/13/19
BLANK	TOXAPHENE	Not detected	1.00	0.015	mg/kg	10/09/19	11/13/19
BLANK	SURROGATE: DECACHLOROBIPHEN	69.7	55-130		%	10/09/19	11/13/19
BLANK	SURROGATE: TCMX (S)	101	42-129		%	10/09/19	11/13/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL1104.M
 Run #: 1113014
 Instrument: Ethel
 Sequence: 191113
 Initials: BTI

GC SC-Blank-REG MDLs
 Printed: 12/03/19 3:07:11 PM

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date	QC Group
6020/3050B^	ARSENIC (AS)	Not detected	0.5	mg/Kg	11/08/19	11/08/19	#62DOD-191108A-BA00538

Laboratory Control Spike Recoveries

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/Kg	SPK Res mg/Kg	DUP Res mg/Kg	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Dup	Extract Date-Spk	Analysis Date-Dup	QC Group
EPA 6020	ARSENIC (AS)	2.50	2.6	2.3	104	92.0	12.2	20	82-118	11/08/19	11/08/19	11/08/19	11/08/19	#62DOD-191108A-BA0053

Comments:

WETLAB

Sample/Sample Duplicate Results

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Sample ID: BA00538
Client ID: 2003.DU18

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

ARF: 90356

Method	Analyte	Sample ID	Sample Result	Sample Dup Result	RPD	RPD Max	PQL	Units	Sample Extract Date	Sample Analysis Date	Sample Dup Extract Date	Sample Dup Analysis Date
CLP MOIS	MOISTURE	BA00538	23.4	23.1	1.3	20	2.0	%	10/15/19	10/16/19	10/15/19	10/16/19

APPL - Analysis Request Form

90356

Client: EnviroServices & Training Cente
Address: 505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814
Attn: Damon Hamura
Phone: 808-839-7222, e Fax: 808-839-4455
Job: Koa Ridge / 18-2003
PO #: NA
Chain of Custody (Y/N): Y # 100219A,B
RAD Screen (Y/N): Y pH (Y/N): N
Turn Around Type: STD

Received by: AAR
Date Received: 10/03/19 Time: 10:00
Delivered by: FEDEX
Shuttle Custody Seals (Y/N): N Time Zone: -10
Chest Temp(s): 4.9,3.9°C
Color: VFRG/D-Yellow
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Greg Salata
QC Report Type: STD/EDD/HI
Due Date: 10/24/19

Comments:

AN: MIS Prep for all

FR: Final PDF to Damon Hamura <damon@gotoetc.com>

EDD: Excel to Damon Hamura <damon@gotoetc.com>

Sample Distribution:

GC: 12-\$81BDOD5SMI, 12-\$TCHLOR, 12-\$TOXS

Extractions: 12- SON002LLWETIS

Metals: 12-\$62DOD5MIS(As)

Wetlab: 12-MOIST

Other: 12- M3050LLMIS

Charges:

Invoice To:

EnviroServices

damon@gotoetc.com

Client ID	APPL ID	Sampled	Analyses Requested
1. 2003.DU19	BA00527S 	09/18/19 07:50	\$62DOD5MIS(As), \$81BDOD5SMI, \$TCHLOR, \$TOXS, MOIST
2. 2003.DU62	BA00528S 	09/18/19 08:20	\$62DOD5MIS(As), \$81BDOD5SMI, \$TCHLOR, \$TOXS, MOIST
3. 2003.DU244	BA00529S 	09/18/19 08:40	\$62DOD5MIS(As), \$81BDOD5SMI, \$TCHLOR, \$TOXS, MOIST
4. 2003.DU277	BA00530S 	09/18/19 09:15	\$62DOD5MIS(As), \$81BDOD5SMI, \$TCHLOR, \$TOXS, MOIST

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC

APPL - Analysis Request Form

90356

5. 2003.DU151	BA00531S 	09/18/19 10:15	\$62DOD5MIS(As), \$81BDOD5SMI, \$TCHLOR, \$TOXS, MOIST
6. 2003.DU186	BA00532S 	09/18/19 10:50	\$62DOD5MIS(As), \$81BDOD5SMI, \$TCHLOR, \$TOXS, MOIST
7. 2003.DU17	BA00533S 	09/30/19 11:00	\$62DOD5MIS(As), \$81BDOD5SMI, \$TCHLOR, \$TOXS, MOIST
8. 2003.DU177	BA00534S 	09/30/19 12:00	\$62DOD5MIS(As), \$81BDOD5SMI, \$TCHLOR, \$TOXS, MOIST
9. 2003.DU124	BA00535S 	09/30/19 13:00	\$62DOD5MIS(As), \$81BDOD5SMI, \$TCHLOR, \$TOXS, MOIST
10. 2003.DU97	BA00536S 	10/01/19 08:00	\$62DOD5MIS(As), \$81BDOD5SMI, \$TCHLOR, \$TOXS, MOIST
11. 2003.DU257	BA00537S 	10/01/19 08:45	\$62DOD5MIS(As), \$81BDOD5SMI, \$TCHLOR, \$TOXS, MOIST
12. 2003.DU18	BA00538S 	10/01/19 09:45	\$62DOD5MIS(As), \$81BDOD5SMI, \$TCHLOR, \$TOXS, MOIST

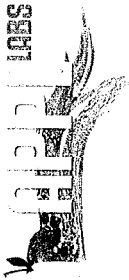
Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC

APPL Sample Receipt Form

ARF# 90356

Sample	Container Type	Count	p
BA00527	³⁵ Plastic Bag	1	NA
BA00528	³⁵ Plastic Bag	1	NA
BA00529	³⁵ Plastic Bag	1	NA
BA00530	³⁵ Plastic Bag	1	NA
BA00531	³⁵ Plastic Bag	1	NA
BA00532	³⁵ Plastic Bag	1	NA
BA00533	³⁵ Plastic Bag	1	NA
BA00534	³⁵ Plastic Bag	1	NA
BA00535	³⁵ Plastic Bag	1	NA
BA00536	³⁵ Plastic Bag	1	NA
BA00537	³⁵ Plastic Bag	1	NA
BA00538	³⁵ Plastic Bag	1	NA

Sample Container Type Count p



APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com C.O.C. 1002194

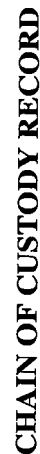
CHAIN OF CUSTODY RECORD

Report to:	PLEASE PRINT	Invoice to:	PLEASE PRINT
Company Name:	EnviroServices & Training Center, LLC	Company Name:	EnviroServices & Training Center, LLC
Address:	505 Ward Avenue, Suite 202	Address:	505 Ward Avenue, Suite 202
	Honolulu, Hawaii 96814		Honolulu, Hawaii 96814
Attn:	Mr. Damon Hamura	Attn:	Mr. Damon Hamura
Email:	damon@gotoetc.com	Email:	damon@gotoetc.com
Phone:	808-839-7222	Phone:	808-839-7222
		Fax:	808-839-4455

Project Name/Number	Sampler (Print)	Location	Date Collected	Time Collected	Time Zone	Analysis Requested/Method Number				Date Shipped:
						No. of Containers	Matrix	MIS Prep	Pesticides (8081)	Arsenic (600s)
Koa Ridge / 18-2003	James Dolan									
Purchase Order Number	Sampler (Signature)									
Sample Identification										
2003.DU19	Koa Ridge	9/18/19	0940	HI	1					
2003.DU22	Koa Ridge	9/18/19	0820	HI	1					
2003.DU244	Koa Ridge	9/18/19	0840	HI	1					
2003.DU277	Koa Ridge	9/18/19	0915	HI	1					
2003.DU151	Koa Ridge	9/18/19	1015	HI	1					
2003.DU186	Koa Ridge	9/18/19	1050	HI	1					
2003.DU17	Koa Ridge	9/30/19	1100	HI	1					
2003.DU177	Koa Ridge	9/30/19	1200	HI	1					
2003.DU124	Koa Ridge	9/30/19	1300	HI	1					
2003.DU97	Koa Ridge	10/11/19	0800	HI	1					
2003.DU257	Koa Ridge	10/11/19	0845	HI	1					

Shuttle Temperature:	12.5/4.9	Turnaround Requested:	Check one	One week	3 days	24/48 Hrs.	Other:
Relinquished by sampler:	JAMES DOLAN	Received by:	TRAM	8/14/19	Time	1113	Date
Relinquished by:		Received by:	TRAM	10/03/19	Time	1000	Date

See page 2 for Container Preservative and Sampling Information



APPL, Inc.
908 N Temperance
Clovis, CA 93611
www.applinc.com

Report to:		PLEASE PRINT	
Company Name:	EnviroServices & Training Center, LLC	808-839-7222	Phone:
Address:	505 Ward Avenue, Suite 202	808-839-4455	Fax:
	Honolulu, Hawaii 96814		
Attn:	Mr. Damon Hamura		
Email:	damon@gotoetc.com		

Invoice to:		PLEASE PRINT	
Company Name:	EnviroServices & Training Center, LLC	808-839-7222	Phone:
Address:	505 Ward Avenue, Suite 202	808-839-4455	Fax:
	Honolulu, Hawaii 96814		
Attn:	Mr. Damon Hamura		
Email:	damon@gotoetc.com		

[illegible]

Shuttle Temperature:	Turnaround Requested: Check one ☒ Standard 2-3 wk ☐ One week ☐ 3 days ☐ 24/48 Hrs. ☐ Other: _____									
Relinquished by sampler:	Sample Disposal: ☐ Return to client ☒ Disposal by Lab (30-day retention)									
Relinquished by: JAMES DELAN	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:			
	10/2/19	0945	NAME STARK	NAME STARK	10/2/19	1113				
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:			
					10.03.18	1000				

See page 2 for Container Preservative and Sampling Information

COOLER RECEIPT FORM

ARF: 90356

- 1) Project: Koa Ridge / 18-2003 Date Received: 10/03/19
- 2) Coolers: Number of Coolers: 2
- 3) YES Were custody seals present and intact?
How many? 2 Name/Date on seal? Not Salvageable
- 4) YES Was there a shipping slip? Carrier name: FEDEX
- 5) Type of packing in cooler: ☐ bubble wrap ☐ popcorn ☐ foam ☒ plastic bags ☐ other
☐ wet ice ☐ dry ice ☐ no ice ☒ gel ice
- 6) YES Were cooler temperatures acceptable?
- 7) Serial number of certified NIST thermometer use R3 CF: +0.4°C
- 8) Cooler temp(s): In °C. Thermometer Temp / Corrected Temp
1: 4.5/4.9 2: 3.5/3.9 3: _____ 4: _____ 5: _____ 6: _____
7: _____ 8: _____ 9: _____ 10: _____ 11: _____ 12: _____

Chain of custody:

- 9) YES Was a chain of custody received?
- 10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

- 11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?
- 12) YES Did all container labels agree with custody papers?

Sample Containers:

- 13) YES Were all containers sealed in separate bags?
- 14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?
- 15) YES Were correct containers and preservatives used for the tests indicated?
- 16) YES Was a sufficient amount of sample sent for tests indicated?
- 17) NA Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea: _____
Smaller than a pea: _____

Preservation Hold time:

- 18) Yes Was a sufficient amount of holding time remaining to analyze the samples?
- 19) NA Was the pH taken of all non-VOA preserved samples and written on the sample container?
- 20) NA Was the pH of acid preserved non-VOA samples < 2?
- 21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?
- 22) NO Were unpreserved VOA Vials received?
- 23) NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: _____
Lab notified if pH was not adequate: _____

Notes/Deficiencies:

Personnel receiving samples: ZG Second reviewer: AA

Personnel labeling samples: AD

Project manager notified: _____ Date/Time of notification _____

Name of client notified: _____ Date/Time of notification _____



908 North Temperance Ave. ▽ Clovis, CA 93611 ▽ Phone 559-275-2175 ▽ Fax 559-275-4422

NELAP Certification Number: CA00046 (HW)
State Certification Number: CA1312 (WW & DW)

December 31, 2019

EnviroServices & Training Center
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Subject: Report of Data: Case 90857

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Dear Mr. Hamura,

Two soil samples were received on November 23, 2019, in good condition. Written results are being provided on this December 31, 2019, for the requested analysis. All holding times were met.

For the EPA 8081B analysis, the sample was extracted according to EPA method 3510C. Hexachlorobenzene recovered below the lower recovery limit in the LCS at 33.8% (Limit 57%). No other QC issues were noted.

For the EPA 6020A analysis, the sample was digested according to EPA method 3050B.

No other unusual problem or complication was encountered with this sample set.

If you have any questions or require further information, please contact us at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney for PM

Paula McCartney, Laboratory Director
APPL, Inc.

PM/gs
Enclosure
cc: File

EPA 8081B OCL IS SOIL

EnviroServices & Training Centre
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura
Project: Koa Ridge / 18-2003

Sample ID: 2003.DU293

Sample Collection Date: 11/21/19

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 90857

APPL ID: BA03661

QCG: #81BDO-191205A-248734

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 24.3 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.066	0.0024	mg/kg	12/05/19	12/27/19
EPA 8081B	4,4'-DDE	0.29	0.07	0.003	mg/kg	12/05/19	12/27/19
EPA 8081B	4,4'-DDT	0.29	0.066	0.0011	mg/kg	12/05/19	12/27/19
EPA 8081B	ALDRIN	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	ALPHA-BHC	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	BETA-BHC	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.30	0.020	mg/kg	12/05/19	12/27/19
EPA 8081B	DELTA-BHC	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	DIELDRIN	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	ENDOSULFAN I	Not detected	0.066	0.0011	mg/kg	12/05/19	12/27/19
EPA 8081B	ENDOSULFAN II	Not detected	0.066	0.0011	mg/kg	12/05/19	12/27/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	ENDRIN	0.029 J	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.07	0.003	mg/kg	12/05/19	12/27/19
EPA 8081B	ENDRIN KETONE	Not detected	0.07	0.003	mg/kg	12/05/19	12/27/19
EPA 8081B	GAMMA-BHC	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	HEPTACHLOR	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.07	0.007	mg/kg	12/05/19	12/27/19
EPA 8081B	METHOXYCHLOR	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	TOXAPHENE	Not detected	1.30	0.020	mg/kg	12/05/19	12/27/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	70.0	55-130		%	12/05/19	12/27/19
EPA 8081B	SURROGATE: TCMX (S)	60.0	42-129		%	12/05/19	12/27/19

J = Estimated value.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL1226.M
Run #: 1226041
Instrument: Ethel
Sequence: 191226
Dilution Factor: 1
Initials: DA

Printed: 12/31/2019 11:06:03 AM

APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8081B OCL IS SOIL

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Project: Koa Ridge / 18-2003

Sample ID: 2003.DU147

Sample Collection Date: 11/21/19

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

ARF: 90857

APPL ID: BA03662

QCG: #81BDO-191205A-248734

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 23.9 Percent Moisture.)							
EPA 8081B	4,4'-DDD	Not detected	0.066	0.0024	mg/kg	12/05/19	12/27/19
EPA 8081B	4,4'-DDE	0.24	0.07	0.003	mg/kg	12/05/19	12/27/19
EPA 8081B	4,4'-DDT	0.11	0.066	0.0011	mg/kg	12/05/19	12/27/19
EPA 8081B	ALDRIN	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	ALPHA-BHC	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	ALPHA-CHLORDANE	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	BETA-BHC	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	CHLORDANE, TECHNICAL	Not detected	1.30	0.020	mg/kg	12/05/19	12/27/19
EPA 8081B	DELTA-BHC	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	DIELDRIN	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	ENDOSULFAN I	Not detected	0.066	0.0011	mg/kg	12/05/19	12/27/19
EPA 8081B	ENDOSULFAN II	Not detected	0.066	0.0011	mg/kg	12/05/19	12/27/19
EPA 8081B	ENDOSULFAN SULFATE	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	ENDRIN	0.011 J	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	ENDRIN ALDEHYDE	Not detected	0.07	0.003	mg/kg	12/05/19	12/27/19
EPA 8081B	ENDRIN KETONE	Not detected	0.07	0.003	mg/kg	12/05/19	12/27/19
EPA 8081B	GAMMA-BHC	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	GAMMA-CHLORDANE	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	HEPTACHLOR	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	HEPTACHLOR EPOXIDE	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	HEXACHLOROBENZENE	Not detected	0.07	0.007	mg/kg	12/05/19	12/27/19
EPA 8081B	METHOXYCHLOR	Not detected	0.07	0.001	mg/kg	12/05/19	12/27/19
EPA 8081B	TOXAPHENE	Not detected	1.30	0.020	mg/kg	12/05/19	12/27/19
EPA 8081B	SURROGATE: DECACHLOROBIPHEN	70.8	55-130		%	12/05/19	12/27/19
EPA 8081B	SURROGATE: TCMX (S)	58.2	42-129		%	12/05/19	12/27/19

J = Estimated value.

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL1226.M
Run #: 1226042
Instrument: Ethel
Sequence: 191226
Dilution Factor: 1
Initials: DA

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APPL-F1-SC-MCRes/MCPQL-REG MDLs

Metals Results

ARF: 90857

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

EnviroServices & Training Cente
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Method	Analyte	Result	RL	MDL	Units	DF	Prep Date	Analysis Date
APPL ID: BA03661		-Client Sample ID: 2003.DU293		-Sample Collection Date: 11/21/19		Project: Koa Ridge / 18-2003		
6020	ARSENIC (AS)	7.3	0.5	0.07	mg/Kg	1	12/18/19	12/18/19
APPL ID: BA03662		-Client Sample ID: 2003.DU147		-Sample Collection Date: 11/21/19		Project: Koa Ridge / 18-2003		
6020	ARSENIC (AS)	9.4	0.5	0.07	mg/Kg	1	12/18/19	12/18/19

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APPL-F1-SC-NoMC-REG MDLs

Wetlab Results

ARF: 90857

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

EnviroServices & Training Centre
505 Ward Avenue, Suite 202
Honolulu, Hawaii 96814

Attn: Damon Hamura

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
APPL ID: BA03661 -Client Sample ID: 2003.DU293 -Sample Collection Date: 11/21/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	24.3	2.0	%	12/05/19	12/06/19
APPL ID: BA03662 -Client Sample ID: 2003.DU147 -Sample Collection Date: 11/21/19 Project: Koa Ridge / 18-2003						
CLP MOIST	MOISTURE	23.9	2.0	%	12/05/19	12/06/19

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Method Blank

EPA 8081B OCL IS SOIL

Blank Name/QCG: **191205S-03661 - 248734**
 Batch ID: #81BDO-191205A

APPL Inc.
 908 North Temperance Avenue
 Clovis, CA 93611

Sample Type	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
BLANK	4,4'-DDD	Not detected	0.050	0.0018	mg/kg	12/05/19	12/27/19
BLANK	4,4'-DDE	Not detected	0.05	0.002	mg/kg	12/05/19	12/27/19
BLANK	4,4'-DDT	Not detected	0.050	0.0008	mg/kg	12/05/19	12/27/19
BLANK	ALDRIN	Not detected	0.05	0.001	mg/kg	12/05/19	12/27/19
BLANK	ALPHA-BHC	Not detected	0.05	0.001	mg/kg	12/05/19	12/27/19
BLANK	ALPHA-CHLORDANE	Not detected	0.05	0.001	mg/kg	12/05/19	12/27/19
BLANK	BETA-BHC	Not detected	0.05	0.001	mg/kg	12/05/19	12/27/19
BLANK	CHLORDANE, TECHNICAL	Not detected	1.00	0.015	mg/kg	12/05/19	12/27/19
BLANK	DELTA-BHC	Not detected	0.05	0.001	mg/kg	12/05/19	12/27/19
BLANK	DIELDRIN	Not detected	0.05	0.001	mg/kg	12/05/19	12/27/19
BLANK	ENDOSULFAN I	Not detected	0.050	0.0008	mg/kg	12/05/19	12/27/19
BLANK	ENDOSULFAN II	Not detected	0.050	0.0008	mg/kg	12/05/19	12/27/19
BLANK	ENDOSULFAN SULFATE	Not detected	0.05	0.001	mg/kg	12/05/19	12/27/19
BLANK	ENDRIN	Not detected	0.05	0.001	mg/kg	12/05/19	12/27/19
BLANK	ENDRIN ALDEHYDE	Not detected	0.05	0.002	mg/kg	12/05/19	12/27/19
BLANK	ENDRIN KETONE	Not detected	0.05	0.002	mg/kg	12/05/19	12/27/19
BLANK	GAMMA-BHC	Not detected	0.05	0.001	mg/kg	12/05/19	12/27/19
BLANK	GAMMA-CHLORDANE	Not detected	0.05	0.001	mg/kg	12/05/19	12/27/19
BLANK	HEPTACHLOR	Not detected	0.05	0.001	mg/kg	12/05/19	12/27/19
BLANK	HEPTACHLOR EPOXIDE	Not detected	0.05	0.001	mg/kg	12/05/19	12/27/19
BLANK	HEXACHLOROBENZENE	Not detected	0.05	0.005	mg/kg	12/05/19	12/27/19
BLANK	METHOXYCHLOR	Not detected	0.05	0.001	mg/kg	12/05/19	12/27/19
BLANK	TOXAPHENE	Not detected	1.00	0.015	mg/kg	12/05/19	12/27/19
BLANK	SURROGATE: DECACHLOROBIPHEN	69.1	55-130		%	12/05/19	12/27/19
BLANK	SURROGATE: TCMX (S)	61.6	42-129		%	12/05/19	12/27/19

Gamma Chlordane CAS 5566-34-7 is reported as Trans-Chlordane CAS 5103-74-2, based on CRM available for laboratory use. See most recent version of EPA 8081 for more information.

Quant Method: OCL1226.M
 Run #: 1226036
 Instrument: Ethel
 Sequence: 191226
 Initials: DA

GC SC-Blank-REG MDLs

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Laboratory Control Spike Recovery

EPA 8081B OCL IS SOIL

APPL ID: 191205S-03661 LCS - 248734

Batch ID: #81BDO-191205A

APPL Inc.

908 North Temperance Avenue

Clovis, CA 93611

Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits
4,4'-DDD	0.500	0.397	79.4	56-139
4,4'-DDE	0.500	0.369	73.8	56-134
4,4'-DDT	0.500	0.395	79.0	50-141
ALDRIN	0.500	0.367	73.4	45-136
ALPHA-BHC	0.500	0.383	76.6	45-137
ALPHA-CHLORDANE	0.500	0.371	74.2	54-133
BETA-BHC	0.500	0.492	98.4	50-136
DELTA-BHC	0.500	0.479	95.8	47-139
DIELDRIN	0.500	0.402	80.4	56-136
ENDOSULFAN I	0.500	0.427	85.4	53-132
ENDOSULFAN II	0.500	0.444	88.8	53-134
ENDOSULFAN SULFATE	0.500	0.469	93.8	55-136
ENDRIN	0.500	0.440	88.0	57-140
ENDRIN ALDEHYDE	0.500	0.388	77.6	35-137
ENDRIN KETONE	0.500	0.493	98.6	55-136
GAMMA-BHC	0.500	0.399	79.8	49-135
GAMMA-CHLORDANE	0.500	0.385	77.0	53-135
HEPTACHLOR	0.500	0.361	72.2	47-136
HEPTACHLOR EPOXIDE	0.500	0.421	84.2	52-136
HEXACHLOROBENZENE	0.500	0.169	33.8 #	57-126
METHOXYCHLOR	0.500	0.381	76.2	52-143
SURROGATE: DECACHLOROBIPHENYL	0.500	0.335	67.0	55-130
SURROGATE: TCMX (S)	0.500	0.293	58.6	42-129

= Recovery is outside QC limits.

Comments: _____

Primary	SPK
Quant Method :	OCL1226.M
Extraction Date :	12/5/2019
Analysis Date :	12/27/2019
Instrument :	Ethel
Run :	1226037
Initials :	DA

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APPL Standard LCS

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	PQL	MDL	Units	Prep Date	Analysis Date	QC Group
6020	ARSENIC (AS)	Not detected	0.5	0.07	mg/Kg	12/18/19	12/18/19	#62DOD-191218B-BA03661

Metals SC-Blank-REG MDLs
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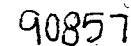
Laboratory Control Spike Recoveries

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/Kg	SPK Res mg/Kg	DUP Res mg/Kg	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Analysis Date-Spk	Extract Analysis Date-Spk	Extract Analysis Date-Dup	Extract Analysis Date-Dup	QC Group
EPA 6020	ARSENIC (AS)	2.50	2.2	2.3	88.0	92.0	4.4	20	82-118	12/18/19	12/18/19	12/18/19	12/18/19	#62DOD-191218B-BA0366

Comments: _____



COOLER RECEIPT FORM

ARF: 90857

- 1) Project: Koa Ridge / 18-2003 Date Received: 11/23/19
- 2) Coolers: Number of Coolers: 1
- 3) YES Were custody seals present and intact?
How many? 1 Name/Date on seal? not salvageable
- 4) YES Was there a shipping slip? Carrier name: FEDEX
- 5) Type of packing in cooler: ☐ bubble wrap ☐ popcorn ☐ foam ☒ plastic bags ☐ other
☐ wet ice ☐ dry ice ☐ no ice ☒ gel ice
- 6) YES Were cooler temperatures acceptable?
- 7) Serial number of certified NIST thermometer use IR @ -0.3°C
- 8) Cooler temp(s): In °C. Thermometer Temp / Corrected Temp
1: 4.1°C/ 2: 3.8°C 3: 4: 5: 6:
7: 8: 9: 10: 11: 12:

Chain of custody:

- 9) YES Was a chain of custody received?
- 10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

- 11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?
- 12) YES Did all container labels agree with custody papers?

Sample Containers:

- 13) YES Were all containers sealed in separate bags?
- 14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?
- 15) YES Were correct containers and preservatives used for the tests indicated?
- 16) YES Was a sufficient amount of sample sent for tests indicated?
- 17) NA Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea:
Smaller than a pea:

Preservation Hold time:

- 18) Yes Was a sufficient amount of holding time remaining to analyze the samples?
- 19) NA Was the pH taken of all non-VOA preserved samples and written on the sample container?
- 20) NA Was the pH of acid preserved non-VOA samples < 2?
- 21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?
- 22) NO Were unpreserved VOA Vials received?
- 23) NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number:
Lab notified if pH was not adequate:

Notes/Deficiencies:

Personnel receiving samples: ZG Second reviewer: AA

Personnel labeling samples: ZG

Project manager notified: Date/Time of notification

Name of client notified: Date/Time of notification



ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

December 27, 2019

Analytical Report for Service Request No: K1911312

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

RE: KOA RIDGE DEVELOPMENT PROJECT / 18-2003

Dear Sharla,

Enclosed are the results of the sample(s) submitted to our laboratory December 06, 2019
For your reference, these analyses have been assigned our service request number **K1911312**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3350. You may also contact me via email at Kelley.Lovejoy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

 for

Kelley Lovejoy
Project Manager



ALS Environmental
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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjllabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdwlabservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/analyte is offered by that state.



Case Narrative

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com



Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT
Sample Matrix: Soil

Service Request: K1911312
Date Received: 12/04/2019 - 12/06/2019

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Sixteen soil samples were received for analysis at ALS Environmental between 12/04/2019 - 12/06/2019. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Metals:

Method 6020A, 12/20/2019: The matrix spike recovery of Arsenic for sample 2003.DU19 was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. No further corrective action was appropriate.

Approved by

A handwritten signature in black ink, appearing to be "S" followed by a flourish.

Date

12/27/2019



Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com



CHAIN OF CUSTODY

SR# K1911312

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE 1 OF 2 COC#

PROJECT INFORMATION					NUMBER OF CONTAINERS	ANALYSIS METHODS															REMARKS															
PROJECT NAME	PROJECT NUMBER	PROJECT MANAGER	COMPANY NAME	ADDRESS		Semivolatile Organics by GC/MS	Volatile Organics	Hydrocarbons (*see below)	Oil & Grease/TPH	PCBs	Aroclors	Pesticides/Herbicides	Chlorophenolics - 8151M	Metals, Total or Dissolved	Cyanide	Hex: Chrom	(circle) pH, Cond., Cl, SO ₄ , PH ₄ , F, NO ₂ , NO ₃ , BOD, TSS, TDS, Turb.	(circle) NH ₃ -N, COD, TKN, TOC, DOC, NO ₂ +NO ₃ , T-Phos	TOX 9020	AOX 1650		506	Alkalinity	CO ₃	HCO ₃	Dioxins / Furans	1613	8290	Dissolved Gases	CO ₂	175	Ethane	Ethene	ISM Prep for Metals	Bioaccessible Arsenic (SBRC Method, 6020A)	
2003.DU19	9/18/19	750	1	SOIL	1																															
2003.DU33	8/19/19	815	2	SOIL	1																															
2003.DU34	8/19/18	930	3	SOIL	1																															
2003.DU244	9/18/19	840	4	SOIL	1																															
2003.DU51A	8/14/19	945	5	SOIL	1																															
2003.DU70	8/13/19	1015	6	SOIL	1																															
2003.DU82	8/12/19	1330	7	SOIL	1																															
2003.DU87A	8/19/19	1100	8	SOIL	1																															
2003.DU88A	8/20/19	820	9	SOIL	1																															
2003.DU90C	8/22/19	835	10	SOIL	1																															

REPORT REQUIREMENTS

I. Routine Report: Method Blank, Surrogate, as required

☒ II. Report Dup., MS, MSD as required

III. CLP Like Summary (no raw data)

IV. Data Validation Report

V. EDD

INVOICE INFORMATION
PO #
Bill To: AP@gotoetc.com

TURNAROUND REQUIREMENTS
24 hr.
48 hr.
5 day
☒ Standard (15 working days)

Requested Report Date

Circle which metals are to be analyzed:
Total Metals: Al ☒ As ☐ Sb ☐ Ba ☐ Be ☐ B ☐ Ca ☐ Cd ☐ Co ☐ Cr ☐ Cu ☐ Fe ☐ Pb ☐ Mg ☐ Mn ☐ Mo ☐ Ni ☐ K ☐ Ag ☐ Na ☐ Se ☐ Sr ☐ Ti ☐ Sn ☐ V ☐ Zn ☐ Hg
Dissolved Metals: Al ☐ As ☐ Sb ☐ Ba ☐ Be ☐ B ☐ Ca ☐ Cd ☐ Co ☐ Cr ☐ Cu ☐ Fe ☐ Pb ☐ Mg ☐ Mn ☐ Mo ☐ Ni ☐ K ☐ Ag ☐ Na ☐ Se ☐ Sr ☐ Ti ☐ Sn ☐ V ☐ Zn ☐ Hg

* INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

** SEE ALS QUOTE NO. 47307, QUOTE NAME: EPA 1340
PLEASE contact Ms. Sharla Nakashima at 808-839-7222, ext 228 or sharla@gotoetc.com for questions.
Bioaccessible arsenic via SBRC Method

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)



CHAIN OF CUSTODY

SR# K1911312

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PAGE 2 OF 2 COC# _____

PROJECT NAME KOA RIDGE DEVELOPMENT PROJECT					NUMBER OF CONTAINERS	ANALYSIS METHODS															REMARKS								
PROJECT NUMBER	PROJECT MANAGER	COMPANY NAME	ADDRESS	CITY/STATE/ZIP		E-MAIL ADDRESS	PHONE #	SAMPLER'S SIGNATURE	Semivolatile Organics by GC/MS	Volatile Organics	Hydrocarbons (*see below)	Oil & Grease/TRPH	PCBs	Pesticides/Herbicides	Chlorophenolics - 8151M	Metals, Total or Dissolved	Cyanide	(circle) pH, Cond., Cl, SO ₄ , PH ₄ , F, NO ₂ , NO ₃ , BOD, TSS, TDS, Turb.	(circle) NH ₃ -N, COD, TKN, TOC, DOC, NO ₂ +NO ₃ , T-Phos	TOX 9020		Alkalinity	Dioxins / Furans	Dissolved Gases	ISM Prep for Metals	Bioaccessible Arsenic			
SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	625	6270	8270LL	8270LL	8270LL	8270LL	8270LL	8270LL	8270LL	8270LL	8270LL	8270LL	8270LL	8270LL	8270LL	8270LL	8270LL	8270LL	8270LL	8270LL	8270LL	8270LL	8270LL		
2003.DU103	8/20/19	945	11	SOIL	1																								
2003.DU152	8/20/19	1135	12	SOIL	1																								
2003.DU202	8/28/19	1205	13	SOIL	1																								
2003.DU186	9/18/19	1050	14	SOIL	1																								
2003.DU270	8/26/19	940	15	SOIL	1																								
REPORT REQUIREMENTS					INVOICE INFORMATION					Circle which metals are to be analyzed:																			
I. Routine Report: Method Blank, Surrogate, as required					PO # _____					Total Metals: Al <u>As</u> Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg																			
X II. Report Dup., MS, MSD as required					Bill To: <u>AP@gotoetc.com</u>					Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg																			
III. CLP Like Summary (no raw data)					TURNAROUND REQUIREMENTS					* INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)																			
IV. Data Validation Report					24 hr.					SPECIAL INSTRUCTIONS/COMMENTS:																			
V. EDD					48 hr.					** SEE ALS QUOTE NO. 47307, QUOTE NAME: EPA 1340																			
					5 day					PLEASE contact Ms. Sharla Nakashima at 808-839-7222, ext 228 or sharla@gotoetc.com for questions.																			
					X Standard (15 working days)					Bioaccessible arsenic via SBRC Method																			
Requested Report Date										Sample Shipment contains USDA regulated soil samples (check box if applicable)																			
RELINQUISHED BY:					RELINQUISHED BY:					RELINQUISHED BY:					RELINQUISHED BY:														
Signature					Signature					Signature					Signature														
Date/Time					Date/Time					Date/Time					Date/Time														
Printed Name					Printed Name					Printed Name					Printed Name														
Firm					Firm					Firm					Firm														



PC

KSL

Cooler Receipt and Preservation Form

Client EnviroServices & Training Service Request K19 11312
Received: 12/4/19 Opened: 12/4/19 By: [Signature] Unloaded: 12/4/19 By: [Signature]

1. Samples were received via? USPS Fed Ex UPS DHL PDX Courier Hand Delivered
2. Samples were received in: (circle) Cooler Box Envelope Other NA
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID	Tracking Number	NA	Filed
<u>MM</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>NA</u>	<u>1252 9850 9734</u>	<u>NA</u>	

4. Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves paper
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Were samples received in good condition (temperature, unbroken)? Indicate in the table below. NA Y N
If applicable, tissue samples were received: Frozen Partially Thawed Thawed
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? Indicate major discrepancies in the table on page 2. NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below NA Y N
11. Were VOA vials received without headspace? Indicate in the table below. NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: Did not receive "2003.D090C". Rec'd "2003.D08" 8/13/19 not on COC.
These samples were not sent w/ proper quarantine soil protocol. They were not in an enclosed bag and there is no permit in the shipment.

PC KL

Cooler Receipt and Preservation Form

Client APPL Inc. Service Request K19 11312
Received: 12/16/19 Opened: 12/16/19 By: BR Unloaded: 12/16/19 By: BR

1. Samples were received via? USPS Fed Ex UPS DHL PDX Courier Hand Delivered
2. Samples were received in: (circle) Cooler Box Envelope Other NA
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID	Tracking Number	NA	Filed
						<u>NA</u>	<u>125298510039</u>		

4. Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Were samples received in good condition (temperature, unbroken)? Indicate in the table below. NA Y N
If applicable, tissue samples were received: Frozen Partially Thawed Thawed
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? Indicate major discrepancies in the table on page 2. NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below NA Y N
11. Were VOA vials received without headspace? Indicate in the table below. NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head- space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: Sample 2003. DU900 - missing sample from previous SR.

NOCC



Total Solids

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Analysis Method: 160.3 Modified
Prep Method: None

Service Request: K1911312
Date Collected: 08/19/18 - 09/18/19
Date Received: 12/04/19 - 12/06/19
Units: Percent
Basis: As Received

Solids, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
2003.DU19	K1911312-001	98.4	-	-	1	12/11/19 14:04	
2003.DU33	K1911312-002	97.9	-	-	1	12/11/19 14:04	
2003.DU34	K1911312-003	98.0	-	-	1	12/11/19 14:04	
2003.DU244	K1911312-004	98.2	-	-	1	12/11/19 14:04	
2003.DU51A	K1911312-005	98.0	-	-	1	12/11/19 14:04	
2003.DU70	K1911312-006	98.0	-	-	1	12/11/19 14:04	
2003.DU82	K1911312-007	98.2	-	-	1	12/11/19 14:04	
2003.DU87A	K1911312-008	98.3	-	-	1	12/11/19 14:04	
2003.DU88A	K1911312-009	97.8	-	-	1	12/11/19 14:04	
2003.DU103	K1911312-010	97.5	-	-	1	12/11/19 14:04	
2003.DU152	K1911312-011	96.9	-	-	1	12/11/19 14:04	
2003.DU202	K1911312-012	97.2	-	-	1	12/11/19 14:04	
2003.DU186	K1911312-013	97.0	-	-	1	12/11/19 14:04	
2003.DU270	K1911312-014	97.8	-	-	1	12/11/19 14:04	
2003.DU90C	K1911312-016	97.6	-	-	1	12/11/19 14:04	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: EnviroServices & Training Center, LLC
Project KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Analysis Method: 160.3 Modified
Prep Method: None

Service Request:K1911312
Date Collected:08/20/19 - 09/18/19
Date Received:12/04/19

Units:Percent
Basis:As Received

Replicate Sample Summary
Inorganic Parameters

Sample Name:	Lab Code:	MRL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
2003.DU19	K1911312-001DUP	-	98.4	98.4	98.4	<1	20	12/11/19
2003.DU152	K1911312-011DUP	-	96.9	96.8	96.9	<1	20	12/11/19

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.



Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.

dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil

Service Request: K1911312**Date Collected:** 09/18/19**Date Received:** 12/04/19**Date Extracted:****Date Analyzed:**

Bioaccessibility Value

Analyte: Arsenic

Units: Percent (%)

Sample Name	Lab Code	Result
2003.DU19	K1911312-001	7.7
2003.DU33	K1911312-002	9.3
2003.DU34	K1911312-003	9.0
2003.DU244	K1911312-004	9.4
2003.DU51A	K1911312-005	9.7
2003.DU70	K1911312-006	13.4
2003.DU82	K1911312-007	8.9
2003.DU87A	K1911312-008	15.1
2003.DU88A	K1911312-009	14.9
2003.DU103	K1911312-010	12.5
2003.DU152	K1911312-011	5.7
2003.DU202	K1911312-012	6.7
2003.DU186	K1911312-013	6.3
2003.DU270	K1911312-014	4.2
2003.DU90C	K1911312-016	11.5

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU19
Lab Code: K1911312-001

Service Request: K1911312
Date Collected: 09/18/19 07:50
Date Received: 12/04/19 09:40
Basis: Dry

Total Metals – IVBA Analysis

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	39.1	mg/Kg	0.50	0.06	5	12/19/19 12:29	12/18/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU19
Lab Code: K1911312-001

Service Request: K1911312
Date Collected: 09/18/19 07:50
Date Received: 12/04/19 09:40
Basis: Dry

IVBA Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	3.02	mg/Kg	0.49	0.06	5	12/20/19 12:14	12/19/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU33
Lab Code: K1911312-002

Service Request: K1911312
Date Collected: 08/19/19 08:15
Date Received: 12/04/19 09:40
Basis: Dry

Total Metals – IVBA Analysis

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	44.4	mg/Kg	0.48	0.06	5	12/19/19 12:43	12/18/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU33
Lab Code: K1911312-002

Service Request: K1911312
Date Collected: 08/19/19 08:15
Date Received: 12/04/19 09:40
Basis: Dry

IVBA Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	4.12	mg/Kg	0.50	0.06	5	12/20/19 12:24	12/19/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU34
Lab Code: K1911312-003

Service Request: K1911312
Date Collected: 08/19/18 09:30
Date Received: 12/04/19 09:40
Basis: Dry

Total Metals – IVBA Analysis

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	41.3	mg/Kg	0.50	0.06	5	12/19/19 12:46	12/18/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU34
Lab Code: K1911312-003

Service Request: K1911312
Date Collected: 08/19/18 09:30
Date Received: 12/04/19 09:40
Basis: Dry

IVBA Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	3.72	mg/Kg	0.49	0.06	5	12/20/19 12:26	12/19/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU244
Lab Code: K1911312-004

Service Request: K1911312
Date Collected: 09/18/19 08:40
Date Received: 12/04/19 09:40
Basis: Dry

Total Metals – IVBA Analysis

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	38.4	mg/Kg	0.49	0.06	5	12/19/19 12:48	12/18/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU244
Lab Code: K1911312-004

Service Request: K1911312
Date Collected: 09/18/19 08:40
Date Received: 12/04/19 09:40
Basis: Dry

IVBA Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	3.60	mg/Kg	0.48	0.06	5	12/20/19 12:32	12/19/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU51A
Lab Code: K1911312-005

Service Request: K1911312
Date Collected: 08/14/19 09:45
Date Received: 12/04/19 09:40
Basis: Dry

Total Metals – IVBA Analysis

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	35.1	mg/Kg	0.48	0.06	5	12/19/19 13:20	12/18/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU51A
Lab Code: K1911312-005

Service Request: K1911312
Date Collected: 08/14/19 09:45
Date Received: 12/04/19 09:40
Basis: Dry

IVBA Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	3.39	mg/Kg	0.50	0.06	5	12/20/19 12:34	12/19/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU70
Lab Code: K1911312-006

Service Request: K1911312
Date Collected: 08/13/19 10:15
Date Received: 12/04/19 09:40
Basis: Dry

Total Metals – IVBA Analysis

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	31.8	mg/Kg	0.49	0.06	5	12/19/19 13:22	12/18/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU70
Lab Code: K1911312-006

Service Request: K1911312
Date Collected: 08/13/19 10:15
Date Received: 12/04/19 09:40
Basis: Dry

IVBA Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	4.27	mg/Kg	0.50	0.06	5	12/20/19 12:36	12/19/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU82
Lab Code: K1911312-007

Service Request: K1911312
Date Collected: 08/12/19 13:30
Date Received: 12/04/19 09:40
Basis: Dry

Total Metals – IVBA Analysis

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	33.8	mg/Kg	0.50	0.06	5	12/19/19 13:25	12/18/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU82
Lab Code: K1911312-007

Service Request: K1911312
Date Collected: 08/12/19 13:30
Date Received: 12/04/19 09:40
Basis: Dry

IVBA Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	3.01	mg/Kg	0.49	0.06	5	12/20/19 12:38	12/19/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU87A
Lab Code: K1911312-008

Service Request: K1911312
Date Collected: 08/19/19 11:00
Date Received: 12/04/19 09:40
Basis: Dry

Total Metals – IVBA Analysis

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	29.3	mg/Kg	0.50	0.06	5	12/19/19 13:28	12/18/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU87A
Lab Code: K1911312-008

Service Request: K1911312
Date Collected: 08/19/19 11:00
Date Received: 12/04/19 09:40
Basis: Dry

IVBA Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	4.42	mg/Kg	0.48	0.06	5	12/20/19 12:40	12/19/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU88A
Lab Code: K1911312-009

Service Request: K1911312
Date Collected: 08/20/19 08:20
Date Received: 12/04/19 09:40
Basis: Dry

Total Metals – IVBA Analysis

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	28.4	mg/Kg	0.49	0.06	5	12/19/19 13:31	12/18/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU88A
Lab Code: K1911312-009

Service Request: K1911312
Date Collected: 08/20/19 08:20
Date Received: 12/04/19 09:40
Basis: Dry

IVBA Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	4.24	mg/Kg	0.49	0.06	5	12/20/19 12:41	12/19/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU103
Lab Code: K1911312-010

Service Request: K1911312
Date Collected: 08/20/19 09:45
Date Received: 12/04/19 09:40
Basis: Dry

Total Metals – IVBA Analysis

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	31.4	mg/Kg	0.48	0.06	5	12/19/19 13:33	12/18/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU103
Lab Code: K1911312-010

Service Request: K1911312
Date Collected: 08/20/19 09:45
Date Received: 12/04/19 09:40
Basis: Dry

IVBA Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	3.92	mg/Kg	0.48	0.06	5	12/20/19 12:43	12/19/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU152
Lab Code: K1911312-011

Service Request: K1911312
Date Collected: 08/20/19 11:35
Date Received: 12/04/19 09:40

Basis: Dry

Total Metals – IVBA Analysis

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	25.9	mg/Kg	0.49	0.06	5	12/19/19 13:36	12/18/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU152
Lab Code: K1911312-011

Service Request: K1911312
Date Collected: 08/20/19 11:35
Date Received: 12/04/19 09:40

Basis: Dry

IVBA Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	1.47	mg/Kg	0.50	0.06	5	12/20/19 12:45	12/19/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU202
Lab Code: K1911312-012

Service Request: K1911312
Date Collected: 08/28/19 12:05
Date Received: 12/04/19 09:40

Basis: Dry

Total Metals – IVBA Analysis

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	27.7	mg/Kg	0.49	0.06	5	12/19/19 13:39	12/18/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU202
Lab Code: K1911312-012

Service Request: K1911312
Date Collected: 08/28/19 12:05
Date Received: 12/04/19 09:40
Basis: Dry

IVBA Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	1.85	mg/Kg	0.49	0.06	5	12/20/19 12:47	12/19/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU186
Lab Code: K1911312-013

Service Request: K1911312
Date Collected: 09/18/19 10:50
Date Received: 12/04/19 09:40
Basis: Dry

Total Metals – IVBA Analysis

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	26.5	mg/Kg	0.49	0.06	5	12/19/19 13:41	12/18/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU186
Lab Code: K1911312-013

Service Request: K1911312
Date Collected: 09/18/19 10:50
Date Received: 12/04/19 09:40
Basis: Dry

IVBA Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	1.68	mg/Kg	0.48	0.06	5	12/20/19 12:49	12/19/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU270
Lab Code: K1911312-014

Service Request: K1911312
Date Collected: 08/26/19 09:40
Date Received: 12/04/19 09:40
Basis: Dry

Total Metals – IVBA Analysis

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	45.6	mg/Kg	0.50	0.06	5	12/19/19 13:44	12/18/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU270
Lab Code: K1911312-014

Service Request: K1911312
Date Collected: 08/26/19 09:40
Date Received: 12/04/19 09:40
Basis: Dry

IVBA Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	1.92	mg/Kg	0.49	0.06	5	12/20/19 12:55	12/19/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU90C
Lab Code: K1911312-016

Service Request: K1911312
Date Collected: 08/22/19 08:35
Date Received: 12/06/19 09:40

Basis: Dry

Total Metals – IVBA Analysis

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	29.3	mg/Kg	0.49	0.06	5	12/19/19 14:06	12/18/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: 2003.DU90C
Lab Code: K1911312-016

Service Request: K1911312
Date Collected: 08/22/19 08:35
Date Received: 12/06/19 09:40

Basis: Dry

IVBA Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	3.38	mg/Kg	0.49	0.06	5	12/20/19 12:57	12/19/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: Method Blank
Lab Code: KQ1918583-03

Service Request: K1911312
Date Collected: NA
Date Received: NA
Basis: Dry

Total Metals – IVBA Analysis

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	ND U	mg/Kg	0.50	0.06	5	12/19/19 12:23	12/18/19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil
Sample Name: Method Blank
Lab Code: KQ1918584-03

Service Request: K1911312
Date Collected: NA
Date Received: NA
Basis: Dry

IVBA Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6020A	ND U	mg/Kg	0.50	0.06	5	12/20/19 12:08	12/19/19	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: EnviroServices & Training Center, LLC
Project KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil

Service Request: K1911312
Date Collected: 09/18/19
Date Received: 12/04/19
Date Analyzed: 12/19/19

Replicate Sample Summary
Total Metals – IVBA Analysis

Sample Name: 2003.DU19
Lab Code: K1911312-001

Units: mg/Kg
Basis: Dry

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample	Average	RPD	RPD Limit
					KQ1918583-01 Result			
Arsenic	6020A	0.48	0.06	39.1	37.5	38.3	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: EnviroServices & Training Center, LLC
Project KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil

Service Request: K1911312**Date Collected:** 09/18/19**Date Received:** 12/04/19**Date Analyzed:** 12/20/19**Replicate Sample Summary****IVBA Metals****Sample Name:** 2003.DU19**Units:** mg/Kg**Lab Code:** K1911312-001**Basis:** Dry

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample	Average	RPD	RPD Limit
					KQ1918584-01 Result			
Arsenic	6020A	0.48	0.06	3.02	3.14	3.08	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil

Service Request: K1911312
Date Collected: 09/18/19
Date Received: 12/04/19
Date Analyzed: 12/19/19
Date Extracted: 12/18/19

Matrix Spike Summary
Total Metals – IVBA Analysis

Sample Name: 2003.DU19
Lab Code: K1911312-001
Analysis Method: 6020A
Prep Method: EPA 3050B

Units: mg/Kg
Basis: Dry

Matrix Spike
KQ1918583-02

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Arsenic	39.1	129	99.7	90	75-125

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil

Service Request: K1911312
Date Collected: 09/18/19
Date Received: 12/04/19
Date Analyzed: 12/20/19
Date Extracted: 12/19/19

Matrix Spike Summary
IVBA Metals

Sample Name: 2003.DU19
Lab Code: K1911312-001
Analysis Method: 6020A
Prep Method: EPA 9200.2-86

Units: mg/Kg
Basis: Dry

Matrix Spike
KQ1918584-02

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Arsenic	3.02	34.6	95.2	33 N	75-125

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil

Service Request: K1911312
Date Analyzed: 12/19/19

Lab Control Sample Summary
Total Metals – IVBA Analysis

Units:mg/Kg
Basis:Dry

Lab Control Sample
KQ1918583-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Arsenic	6020A	150	171	88	66-122

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: EnviroServices & Training Center, LLC
Project: KOA RIDGE DEVELOPMENT PROJECT/18-2003
Sample Matrix: Soil

Service Request: K1911312

Date Analyzed: 12/20/19

Lab Control Sample Summary

IVBA Metals

Units:mg/Kg

Basis:Dry

Lab Control Sample

KQ1918584-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Arsenic	6020A	103	100	103	80-120