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**SOIL SCREENING SURVEY REPORT  
FOR  
PHASE 2 OAHU COMMUNITY CORRECTIONAL CENTER  
HDOA ANIMAL QUARANTINE STATION  
99-951 HALAWA VALLEY STREET  
AIEA, ISLAND OF OAHU 96701**

**MNA PROJECT 02819\_2  
AHL PROJECT No. 6930.001  
DAGS JOB No. 12-27-5713**

**DECEMBER 22, 2020  
REVISED JANUARY 8, 2021**



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December 22, 2020  
Revised January 8, 2021



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## TABLE OF CONTENTS

<b>LIST OF ABBREVIATIONS .....</b>	<b>iv</b>
<b>EXECUTIVE SUMMARY .....</b>	<b>v</b>
<b>1.0 INTRODUCTION.....</b>	<b>1</b>
<b>2.0 POTENTIAL SITE CONTAMINATION SOURCES .....</b>	<b>1</b>
2.1 Petroleum Contamination .....	1
2.2 Pesticides.....	1
2.3 Heavy Metals .....	2
2.4 Chemicals of Potential Concern.....	2
<b>3.0 SAMPLING AND ANALYSIS .....</b>	<b>2</b>
3.1 Decision Units.....	2
3.2 Soil Sampling.....	8
3.2.1 Soil Sampling for Volatile Compounds.....	8
3.2.2 Soil Sampling for Non-Volatile Compounds Analyses.....	8
3.3 Laboratory MI Sample Processing.....	9
3.4 Borehole Closure, Decontamination, and Investigation-Derived Waste .....	9
3.5 Preservation and Transportation .....	10
<b>4.0 ANALYTICAL RESULTS .....</b>	<b>10</b>
4.1 Kennel and Vegetated Areas: DU-01, 02, 03, 04, and 07.....	10
4.2 Building Areas: DU-05, 06, and 08 .....	12
4.3 Roadways and Landscaped Areas: DU-09 .....	12
4.4 Maintenance Shop: DU-10 .....	12
4.5 Refrigerator Area: DU-12 .....	13
4.6 Former UST Area .....	13
4.7 South Perimeter Roadway: B1 to B5 .....	14
<b>5.0 DATA QUALITY REVIEW .....</b>	<b>32</b>
<b>6.0 CONCLUSION AND RECOMMENDATION .....</b>	<b>33</b>
<b>7.0 LIMITATIONS .....</b>	<b>35</b>
<b>REFERENCES.....</b>	<b>36</b>

### TABLES

Table 1.	Summary of Soil Sampling and Analysis .....	4
Table 2.	Soil Analytical Results: DU-01 .....	11
Table 3.	Soil Analytical Results: DU-02 to 04, and 07.....	16
Table 4.	Soil Analytical Results: DU-05, 06, and 08.....	18
Table 5.	Soil Analytical Results: DU-09 and 10.....	20
Table 6.	Soil Analytical Results: DU-12 .....	24
Table 7.	Soil Analytical Results: Former UST Area .....	28
Table 8.	Soil Analytical Results: South Perimeter Roadway.....	30

Table 9. Summary of Data Quality Review for DU-01 ..... 33  
Table 10. Summary of Data Quality Review for DU-12 ..... 33

**APPENDICES**

Appendix A Figures  
    Figure 1. Site Location Map  
    Figure 2a. Decision Unit Location Map 1 of 4  
    Figure 2b. Decision Unit Location Map 2 of 4  
    Figure 2c. Decision Unit Location Map 3 of 4  
    Figure 2d. Decision Unit Location Map 4 of 4  
  
Appendix B Field Notes, Forms, and Logs  
Appendix C Laboratory Analytical Reports

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## LIST OF ABBREVIATIONS

AQS	Animal Quarantine Station
bgs	below ground surface
COC	Chain-of-Custody
COPC	Chemical of Potential Concern
DU	Decision Unit
EAL	Environmental Action Level
EPA	Environmental Protection Agency, United States
ft	foot/feet
HDOA	Hawaii Department of Agriculture
HDOH	Hawaii Department of Health
IDW	Investigation-Derived Waste
LCS/LCSD	Laboratory Control Sample/Laboratory Control Sample Duplicate
mg/kg	milligrams per kilogram
MI	Multi-Incremental
mL	milliliters
MNA	Myounghee Noh & Associates, L.L.C.
MS/MSD	Matrix Spike/Matrix Spike Duplicate
OCCC	Oahu Community Correctional Center
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PPE	Personal Protective Equipment
RCRA	Resource Conservation and Recovery Act
TGM	Technical Guidance Manual
TPH-GRO/DRO/RRO	Total Petroleum Hydrocarbons as Gasoline/Diesel/Residual Range Organics
UCL	Upper Confidence Limit
UST	Underground Storage Tank
VOC	Volatile Organic Compounds

## EXECUTIVE SUMMARY

Myounghee Noh & Associates, L.L.C., under contract with Architects Hawaii Limited, conducted a soil screening survey for Phase 2 Design of the Oahu Community Correctional Center (OCCC) at the Hawaii Department of Agriculture (HDOA) Animal Quarantine Station (AQS), 99-951 Halawa Valley Street, Aiea, Hawaii. The objective of the screening survey was to identify the presence of potentially hazardous soil contaminants, and associated risks that may be encountered during soil disturbance and earthwork for construction of the new OCCC.

There were known releases in the project site vicinity at the Red Hill Bulk Fuel Facility and in under the H-3 Freeway, in an unknown location. At the Red Hill Bulk Fuel Facility, the Chemicals of Potential Concern (COPC) were petroleum contaminants. For the H-3 release, Polychlorinated Biphenyls (PCB) were the COPC. The AQS was built prior to 1978, thus, heavy metal lead was a COPC. Previous application of pesticides was also considered a potential historical contamination source.

During September - October 2020, multi-incremental (MI) soil samples were collected from 11 Decision Units (DU). Additionally, composite soil samples were collected from three borings advanced around a former underground storage tank (UST), and discrete samples were collected from five borings located on the southern boundary, near the Red Hill Bulk Fuel Storage Facility site. The following table provides a description of sampling locations.

Decision Unit	Location	Sampling Depths (ft)	Chemicals of Potential Concern	Rationale
1	Main portion of AQS	0-0.5 0.5-1	Pesticides Lead/Arsenic	Potential former use of pesticides. Flaking of LCP/LBP.
2	Central portion of AQS	0-0.5 0.5-1	Pesticides Lead/Arsenic	Potential former use of pesticides. Flaking of LCP/LBP.
3	North portion of AQS	0-0.5 0.5-1	Pesticides Lead/Arsenic	Potential former use of pesticides. Flaking of LCP/LBP.
4	East portion of site, operated by Army Morale, Welfare, and Recreation (MWR)	0-0.5 0.5-1	Pesticides Lead/Arsenic	Potential former use of pesticides. Flaking of LCP/LBP.
5	0-2 ft around perimeter of existing water shed foundation	0-0.5 0.5-1	Pesticides Lead/Arsenic	Potential former use of pesticides. Flaking of LCP/LBP.
6	0-2 ft around perimeter of existing cottage foundation	0-0.5 0.5-1	Pesticides Lead/Arsenic	Potential former use of pesticides. Flaking of LCP/LBP.
7	Northeast portion of site, surrounds DU-5 and 6	0-0.5 0.5-1	Pesticides Lead/Arsenic	Potential former use of pesticides. Flaking of LCP/LBP.
8	0-2 ft around perimeter of two existing duplexes	0-0.5 0.5-1	Pesticides Lead/Arsenic	Potential former use of pesticides. Flaking of LCP/LBP.
9	Western most portion of site, includes roadways	0-0.5 0.5-1	Pesticides Lead/Arsenic	Potential former use of pesticides. Potential PCB release. Flaking of LCP/LBP.
10	Maintenance Shop	0-0.5 0.5-1 1-2	Pesticides Lead/Arsenic PCB	Potential former use of pesticides. Petroleum releases from use as maintenance shop.
12	Refrigerator storage area, surrounded by DU-04	0-0.5 0.5-1	TPH-GRO/DRO/RRO PAH, VOC, PCB RCRA 8 Metals Pesticides	Petroleum or refrigerants releases from long term storage of refrigerators and other equipment.

Decision Unit	Location	Sampling Depths (ft)	Chemicals of Potential Concern	Rationale
---	Former Underground Storage Tank (UST) Area	0-0.5 0.5-1 1-2 2-5	TPH-GRO/DRO/RRO PAH, VOC, PCB RCRA 8 Metals Pesticides	Petroleum releases from former UST.
---	South boundary of site, B1-B5	5-10	TPH-DRO/RRO PAH, VOC	Petroleum releases from Red Hill Bulk Fuel Storage Facility

Based on past releases in the project area vicinity, lead-containing paints on buildings, and potential former pesticide use, the COPCs were identified as the following:

- Total Petroleum Hydrocarbons as Gasoline/Diesel/Residual Range Organics (TPH-GRO/DRO/RRO)
- Polycyclic Aromatic Hydrocarbons (PAH)
- Polychlorinated Biphenyls (PCB)
- Resource Conservation and Recovery Act (RCRA) 8 Metals
- Organochlorine pesticides
- Organophosphate pesticides

The analytical results were compared to the Hawaii Department of Health Tier 1 Environmental Action Levels (EAL) for sites located more than 150 meter from surface water and above a drinking water resource for unrestricted (residential) and restricted (commercial/industrial) land use.

TPH-DRO was measured in the soil sample collected at the Former Underground Storage Tank (UST) Area at 680 milligrams per kilogram, equal to the Tier 1 EAL for restricted land use. Measurable levels of various COPCs were found in the samples; however, none were found in the samples at or exceeding the Tier 1 EALs for unrestricted land use. Based on the findings of the soil screening survey of 13 sampling areas, MNA recommends the following:

- ***Soil disturbance at the Former UST Area with the Maintenance Shop Area:*** TPH-DRO was measured in soil equal to the Tier 1 EAL for restricted land use, 680 mg/kg. Soil in this area should be considered petroleum-impacted, down to 5 ft bgs. Further investigation is warranted in accordance with the Hawaii Department of Health Technical Guidance Manual to ensure that the limits of contamination are delineated. Options during construction may include engineering or institutional controls, in-situ/ex-situ treatment, or removal. Impacted soils must be characterized prior to taken offsite for disposal per State and County requirements.
- ***Excavated soils outside the Former UST Area:*** These soils may be used as backfill in the same area and depths where they are excavated from. Excess soils that will be transported offsite for disposal must be characterized to ensure compliance with recipient guidelines and requirements. For soil or waste characterization, the Contractor must collect representative soil samples (e.g., multi-incremental sampling technique).
- For other demolition/construction areas, there are reportable levels of TPH, PAH, PCB, and heavy metals. While the findings were below the EALs for unrestricted land use, earthwork may cause potential exposures to the site workers and nearby facility users via fugitive dust. The Contractor must anticipate hazards and implement engineering controls, such as water misting and wind barriers, to prevent exposures to humans and the environment.



## **1.0 INTRODUCTION**

Myounghee Noh & Associates, L.L.C. (MNA), under contract with Architects Hawaii Limited, conducted a soil screening survey for the Phase 2 Design of Oahu Community Correctional Center (OCCC), located at the Hawaii Department of Agriculture (HDOA) Animal Quarantine Station (AQS), 99-951 Halawa Valley Street, Aiea, Hawaii (Appendix A, Figure 1). The Phase 2 design includes, but are not limited to, the following construction:

- Buildings to support OCCC project including pre-release, detention, and warehouse/plant.
- Parking area(s)
- Service yard and road
- Perimeter fencing/security
- Retention basin
- Underground utilities

The objective of the screening survey was to identify the presence of potentially hazardous soil contaminants that may be encountered during demolition and earthwork for construction.

## **2.0 POTENTIAL SITE CONTAMINATION SOURCES**

### **2.1 Petroleum Contamination**

There is potential to encounter petroleum contaminants at the Maintenance Shop, where petroleum products were likely used to maintain equipment/vehicles, and where an underground storage tank (UST) was located and previously closed.

In 2014, there was a known release of approximately 27,000 gallons of jet fuel (JP-8) from Tank #5 the Red Hill Bulk Fuel Storage Facility, located south of the project site. Based on the fuels stored at the facility, petroleum contaminants such as middle distillates are the Chemicals of Potential Concern (COPC) (U.S. Environmental Protection Agency, 2017).

### **2.2 Pesticides**

Chlorinated pesticides are synthetic compounds that were historically used as insecticides on food crops and as termiticides in and around buildings. From the mid-to late 1980s, the use and commercial production of certain chlorinated pesticides (e.g., chlordane, heptachlor, aldrin, dieldrin, and endrin) have been prohibited in the U.S. and many other countries. However, residues from these and other chlorinated pesticides may still be present beneath and around structures that were treated prior to their prohibition. There is the potential that chlorinated pesticides were applied to buildings or beneath foundations, which may have been previously present in the area.

Organophosphates are a class of insecticides used in agriculture, homes, gardens, and veterinary practice (U.S. EPA, 2013). After organophosphates are applied, they may be present in the soil surface water, and on the surface of plants. Although they can move through the soil and contaminated groundwater, they rapidly breakdown and do not bioaccumulate in the environment (U.S. Centers for Disease Control and Prevention, 2020).

## **2.3 Heavy Metals**

Arsenic-based pesticides, such as sodium arsenite, were historically used as herbicides and pesticides. Because inorganic arsenic is stable in the environment, it can remain in the soil decades after application. Lead is also a common soil contaminant and historically used in paints. Surface soil in close proximity to buildings could be impacted over a period of years from the flaking of lead paints onto the ground surface. Arsenic and lead would be expected to remain in the surface soils and generally do not leach downward because these heavy metals bind to soil particles and/or sediments. Additionally, heavy metals such as cadmium and chromium can be related to petroleum contamination.

## **2.4 Chemicals of Potential Concern**

Based on the former uses of the site and potential contamination sources, the following COPCs in soil were identified.

- Total Petroleum Hydrocarbons as Gasoline, Diesel, and Residual Range Organics (TPH-GRO/DRO/RRO) by the Environmental Protection Agency (EPA) Method 8015M
- 18 priority pollutant Polycyclic Aromatic Hydrocarbons (PAH) by EPA Method 8270C-SIM
- Volatile Organic Compounds (VOC) by EPA Method 8260B
- Polychlorinated Biphenyls (PCB) by EPA Method 8082
- Resource Conservation and Recovery Act (RCRA) 8 Metals by EPA Method 6010B/7471A (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver)
- Organochlorine pesticides by EPA Method 8081A
- Organophosphate pesticides by EPA Method 8141A

## **3.0 SAMPLING AND ANALYSIS**

### **3.1 Decision Units**

The soil screening survey was conducted in 11 Decision Units (DU), as well as three additional sampling areas. The DUs/sampling areas were determined based on current and previous land uses and COPC. Table 1 presents the DUs and sampling areas. The DU locations are presented in Appendix A.

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**Table 1. Summary of Soil Sampling and Analysis**

DU: Location	Sample Type (no. increments)	Sample Depth (ft bgs)	Sample ID	Analytes (EPA Method)									Notes
				TPH-DRO/RRO (8015B)	TPH-GRO (8015)	VOC (8260)	PAH (8270-SIM)	RCRA 8 Metals (6010/7471 A)	PCB (8082)	Chlorinated Pesticides (8081A)	Organophosphate Pesticides (614)	Lead, Arsenic (6010B)	
01: Main portion of AQS, currently used. South, east, and west of HDOA building (~9 acres)	MIS (50)	0-0.5	2819-01-1A Primary							X	X	X	Manual soil sample collection.
	MIS (50)		2819-01-1B Duplicate							X	X	X	
	MIS (50)		2819-01-1C Triplicate							X	X	X	
	MIS (50)	0.5-1	2819-01-2							X	X	X	
02: Central portion of AQS, mostly unused kennels and overgrown vegetation. North of HDOA building (~3 acres)	MIS (50)	0-0.5	2819-02-1							X	X	X	Manual soil sample collection.
	MIS (50)	0.5-1	2819-02-2							X	X	X	
03: North most portion of AQS. Includes bee area, vegetation compost pile, unused kennels, and overgrown vegetation (~1.5 acres)	MIS (50)	0-0.5	2819-03-1							X	X	X	Manual soil sample collection.
	MIS (50)	0.5-1	2819-03-2							X	X	X	
04: Eastern most portion of site, operated by MWR (~2.5 acres)	MIS (50)	0-0.5	2819-04-1							X	X	X	Manual soil sample collection.
	MIS (50)	0.5-1	2819-04-2							X	X	X	
05: 0-2 ft around perimeter of existing water shed foundation (~100 sq.ft.)	MIS (50)	0-0.5	2819-05-1							X	X	X	Manual soil sample collection.
	MIS (50)	0.5-1	2819-05-2							X	X	X	
06: 0-2 ft around perimeter of existing cottage foundation (~500 sq.ft.)	MIS (50)	0-0.5	2819-06-1							X	X	X	Manual soil sample collection.
	MIS (50)	0.5-1	2819-06-2							X	X	X	
07: Area around DU-05 and 06, northeastern portion of site (~10,000 sq.ft.)	MIS (50)	0-0.5	2819-07-1							X	X	X	Manual soil sample collection.
	MIS (50)	0.5-1	2819-07-2							X	X	X	
08: 0-2 ft around the perimeters of two existing duplexes (~700 sq.ft.)	MIS (50)	0-0.5	2819-08-1							X	X	X	Manual soil sample collection.
	MIS (50)	0.5-1	2819-08-2							X	X	X	
	MIS (30)	0-0.5	2819-09-1	X			X	X	X				

DU: Location	Sample Type (no. increments)	Sample Depth (ft bgs)	Sample ID	Analytes (EPA Method)									Notes
				TPH-DRO/ RRO (8015B)	TPH- GRO (8015)	VOC (8260)	PAH (8270- SIM)	RCRA 8 Metals (6010/7471 A)	PCB (8082)	Chlorinated Pesticides (8081A)	Organophosphate Pesticides (614)	Lead, Arsenic (6010B)	
09: Western most portion of site, includes roadways and areas near H-3 Overpass (~3 acres)	MIS (30)	0.5-1	2819-09-2	X			X	X					Sample collection with drill rig.
	MIS (30)	1-2	2819-09-3	X			X	X					
10: Maintenance Shop where buildings are planned for demolition (~20,000 sq.ft.)	MIS (15)	0-0.5	2819-10-1	X			X	X	X	X	X		Sample collection with drill rig.
	MIS (15)	0.5-1	2819-10-2	X			X	X		X	X		
	MIS (15)	1-2	2819-10-3	X			X	X					
12: Refrigerator Area (~3,000 sq.ft.)	MIS (50)	0-0.5	2819-12-1A Primary					X	X	X	X		Manual soil sample collection.
	MIS (50)	0-0.5	2819-12-1B Duplicate					X	X	X	X		
	MIS (50)	0-0.5	2819-12-1C Triplicate					X	X	X	X		
	MIS (50)	0.5-1	2819-12-2					X	X	X	X		
	B6 Discrete (1)	0.75	2819-B6		X	X							
	B7 Discrete (1)	0.75	2819-B7		X	X							
	B8 Discrete (1)	0.75	2819-B8		X	X							
Area around former UST and gas pump (~20 sq.ft.)	Composite (3)	0-0.5	2819-11-1	X			X	X	X	X	X		Sample collection with drill rig.
	Composite (3)	0.5-1	2819-11-2	X			X	X		X	X		
	Composite (3)	1-2	2819-11-3	X			X	X					
	Composite (3)	2-5	2819-11-4	X	X	X	X	X					
Southern boundary of site, to the north of Red Hill, borings B1 to B5 (~1 acre sq.ft.)	B1 Discrete (1)	5-10	2819-B1	X		X	X	X					Potential encroaching petroleum contaminati
	B2 Discrete (1)	5-10	2819-B2	X		X	X	X					

DU: Location	Sample Type (no. increments)	Sample Depth (ft bgs)	Sample ID	Analytes (EPA Method)									Notes
				TPH-DRO/RRO (8015B)	TPH-GRO (8015)	VOC (8260)	PAH (8270-SIM)	RCRA 8 Metals (6010/7471 A)	PCB (8082)	Chlorinated Pesticides (8081A)	Organophosphate Pesticides (614)	Lead, Arsenic (6010B)	
	B3 Discrete (1)	5-10	2819-B3	X		X	X	X					on from the Red Hill Bulk Fuel Storage Facility
	B4 Discrete (1)	5-10	2819-B4	X		X	X	X					
	B5 Discrete (1)	5-10	2819-B5	X		X	X	X					

**Abbreviations/Acronyms:**

AQS Animal Quarantine Station  
DU Decision Unit  
ft bgs feet below ground surface  
HDOA Hawaii Department of Agriculture  
MIS Multi-Incremental Sample  
PAH Polycyclic Aromatic Hydrocarbons

PCB Polychlorinated Aromatic Hydrocarbons  
RCRA Resource Conservation and Recovery Act  
TPH-GRO/DRO/RRO Total Petroleum Hydrocarbons as Gasoline/Diesel/Residual Range Organics  
VOC Volatile Organic Compounds

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## **3.2 Soil Sampling**

During 14-15 September 2020, a geophysical survey was conducted at each boring location prior to drilling and sample collection in DU-09, 10, and 11. During 16 September to 01 October 2020, soil samples were collected from the project decision units. Five borings that were advanced to 10 feet below ground surface (ft bgs). Groundwater was not encountered; therefore, no groundwater samples were collected.

Prior to collection of soil samples, the soil cores from the areas with potential petroleum contamination were visually assessed for signs of contamination. Following inspection of the soil cores, composite or multi-incremental (MI) soil samples were collected from the pre-determined sampling depth interval.

### ***3.2.1 Soil Sampling for Volatile Compounds***

For sampling at B1 through B5, along the south perimeter road, soil samples for the volatile organic compounds (VOC) were first collected using a 5-gram Terra Core® sampler to minimize the loss of VOC during sample collection. For each sample, sixty 5-gram increments were collected from the targeted depth interval, 5-10 feet below ground surface (ft bgs). All increments were transferred directly into the laboratory-supplied sample containers preserved with 300 milliliters (mL) of methanol. Approximately 300 grams of soil (5-gram x 60 increments) were collected for each sample. The soil samples were hand-delivered to Advanced Analytical Laboratory, Inc., Honolulu, Hawaii.

For soil sampling within DU-12, the Refrigerator Area, three holes were dug down to 0.75 ft bgs. For each discrete sample, a Terra Core® sampler was used to collect 5-grams of soil into each of four laboratory prepared 25-mL glass vials containing methanol. Discrete soil VOC samples for were sent to Enthalpy Analytical, Berkley, California, via overnight express.

### ***3.2.2 Soil Sampling for Non-Volatile Compounds Analyses***

Following sample collection for VOC, soil samples for non-volatiles were collected. Samples were collected using either a hand-held drill equipped with an auger attachment, or a direct-push drill rig, depending on the sampling depth. Soil samples for analysis of non-volatile compounds were shipped to Enthalpy Analytical laboratory, Berkeley, California, via overnight express.

For composite soil samples, entire soil cores from the targeted depth interval were combined. For example, sample 2819-11-1, continuous core wedges were collected from 0-0.5 ft bgs from three borings to generate one bulk soil sample. For discrete soil samples, approximately one half of the soil core from the targeted depth interval was collected.

Each sample was transferred into a 1-gallon plastic sealable bag, sealed, double-bagged, labeled, and placed in a chilled insulated chest. The samples were submitted to Enthalpy Analytical laboratory (refer to Section 3.3 for the details). Enthalpy Analytical laboratory processed samples using the MI procedure for all composite samples which included drying, sieving, and sub-sampling prior to weighting, digestion, and analysis.



A set of triplicate samples were collected from DU-01 and -12 of surface soil (0-0.5 ft bgs) at predetermined, independent locations. The following sampling protocol was used to collect the primary, duplicate, and triplicate samples.

- Step 1: Collect primary incremental soil samples (2819-01-1A).
- Step 2: Collect duplicate incremental soil samples approximately 1 ft north (2819-01-1B) of the primary increment locations (separate borings from primary).
- Step 3: Collect triplicate incremental soil samples approximate 1 ft east (2819-01-1C) of the primary increment locations (separate borings from primary and duplicate).

Field notes are provided in Appendix B.

### **3.3 Laboratory MI Sample Processing**

The composite and MI soil samples for non-volatile analysis were processed by Enthalpy Analytical laboratory, using an incremental sub-sampling procedure (Lab. SOP No. CS 2.4), as follows:

1. Empty the entire field sample into a clean, stainless steel sheet pan. Remove extraneous materials such as twigs, large stones, etc., then distribute the sample across the pan to a depth of ¼ to ½ inches.
2. Place the pan in a drying rack. Dry at room temperature until the sample is visibly dry. This process takes anywhere from overnight to a week, depending on the material.
3. After the sample is dry and free-flowing, sieve the entire remaining sample through a 2-millimeter sieve. Place the sieve into another clean stainless steel pan and pour some of the sample into the sieve. Shake to allow the smaller material to pass through the sieve. Aggregates are considered part of the sample and are broken up to pass through the sieve.
4. Redistribute the sieved sample across the pan to a uniform depth of ¼ to ½ inch.
5. Use a small spatula or scoop with a flat bottom and rectangular shape to ensure a representative distribution of particle size. Incrementally sample the spread-out soil using a random grid pattern by collecting 30 increments to approximately 1 gram sub-sample each for a 30-gram sample.
6. Record the final weight and proceed to the applicable extraction or digestion procedure.

### **3.4 Borehole Closure, Decontamination, and Investigation-Derived Waste**

Upon completion of soil sampling, boreholes were closed by filling any remaining soil spoils and topped with hydrated bentonite to ground surface, or for paved areas, soil spoils to 0.5 ft bgs then topped with cold patch.

Decontamination requirements were reduced by using disposable tools and disposable core sleeves. Sampling equipment requiring decontamination was the drill rig sample core, drill auger bit, and small sampling tools (e.g., bucket, trowels). In between DU sampling, the sampling tools

were decontaminated as follows: (1) wash with a non-phosphate detergent Liquinox® and potable water solution; (2) rinse with potable water; and (3) rinse with distilled water.

Investigation-derived waste (IDW) included disposable personal protective equipment (PPE) and disposable plastic sample liners. Approximately 15 trash bags of PPE and plastic sample liners were generated and disposed of in a municipal waste dumpster.

### **3.5 Preservation and Transportation**

All samples were labeled and recorded on a chain-of-custody (COC) document. Chilled samples were packed in a cooler with frozen blue ice for shipping. Soil samples for volatile analysis of MI samples were hand-delivered to Advanced Analytical Laboratory in Honolulu. Samples for non-volatile analyses and discrete VOC samples were shipped to the Enthalpy Analytical laboratory, Berkeley, California, via overnight express.

## **4.0 ANALYTICAL RESULTS**

The analytical results for contaminants were compared to the Hawaii Department of Health (HDOH) Tier 1 Environmental Action Levels (EAL) above a drinking water resource and located more than 150 meters from surface water for unrestricted (residential) and restricted (commercial/industrial) land uses (State of Hawaii Department of Health, rev. Fall 2017). Tables 2 through 7 provide summaries of the soil analytical results. The laboratory analytical reports are provided in Appendix C.

### **4.1 Kennel and Vegetated Areas: DU-01, 02, 03, 04, and 07**

MI soil samples were collected from two sampling depths, 0-0.5 ft and 0.5-1 ft bgs, using a hand-held drill with auger attachment. For each MI sample, 50 increments were collected. For the DU-01 MI sample collected at 0-0.5 ft bgs, a duplicate and triplicate were collected. There were no indications of contamination such as discolored/stained soils or odors. Collectively, these DUs had a total area of approximately 16.25 acres.

Reportable levels of arsenic were measured in DU-01, 04, and 07, ranging from 1.3 to 2.3 milligrams per kilogram (mg/kg), below the Tier 1 EAL of 24 mg/kg for unrestricted land use. Lead was measured in all samples ranging from 8.4 to 28 mg/kg, below the EAL of 200 mg/kg for unrestricted land use.

No measurable levels of organochlorine and organophosphate pesticides were found in any of the MI soil samples (Tables 2 and 3).

**Table 2. Soil Analytical Results: DU-01**

Sample ID/ Depth Analytes	Analytical Results (mg/kg)				Tier 1 Environmental Action Level (mg/kg)	
	2819-01-1A 0-0.5 ft bgs Primary	2819-01-1B 0-0.5 ft bgs Duplicate	2819-01-1C 0-0.5 ft bgs TriPLICATE	2819-01-2 0.5-1 ft bgs	Unrestricted	Restricted
<b>Metals (EPA 6010B)</b>						
Arsenic	ND (5.0)	ND (5.0)	ND (5.0)	1.5	24	95
Lead	8.6	8.4	9.8	7.0	200	800
<b>Organochlorine Pesticides (EPA 8081A)</b>						
alpha-BHC	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	0.075 <sup>1</sup>	0.075 <sup>1</sup>
beta-BHC	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)		
gamma-BHC	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)		
delta-BHC	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)		
Heptachlor	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	1.3	5.6
Aldrin	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	3.9	8.4
Heptachlor epoxide	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	0.2	2.7
Endosulfan I	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	13 <sup>2</sup>	13 <sup>2</sup>
Endosulfan II	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)		
Endosulfan sulfate	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)		
Dieldrin	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	2.5	24
4,4'-DDD	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	2.2	8.4
4,4'-DDE	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	1.9	8.2
4,4'-DDT	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	1.8	5.6
Endrin	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	3.8 <sup>3</sup>	30 <sup>3</sup>
Endrin aldehyde	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)		
Chlordane (technical)	ND (0.083)	ND (0.083)	ND (0.083)	ND (0.083)	17 <sup>4</sup>	23 <sup>4</sup>
Methoxychlor	ND(0.017)	ND(0.017)	ND(0.017)	ND(0.017)	16	16
Toxaphene	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	0.48	1.8
<b>Organophosphorus Pesticides (EPA 8141A)</b>						
Azinphos-methyl	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Bolstar	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Chlorpyrifos	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Coumaphos	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Demeton-o/s	ND (0.00099)	ND (0.00099)	ND (0.00098)	ND (0.00099)	---	---
Diazinon	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Dichlorvos	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Disulfoton	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Ethoprop	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Fensulfothion	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Fenthion	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Merphos	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Methyl parathion	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Mevinphos	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Naled	ND (0.0040)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Phorate	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Ronnel	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Stirophos	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	---	---
Tokuthion	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Trichloronate	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---

**Criteria:** Hawaii Department of Health Tier 1 Environmental Action Levels with unrestricted (residential) and restricted (commercial/industrial) land uses above a non-drinking water resource and more than 150 meters from surface water (State of Hawaii Department of Health, rev. Fall 2017).

**Notes:**

<sup>1</sup> EAL is for Hexachlorocyclohexane ("BHC" as Lindane) = Alpha- + Beta- + Gamma- + Delta-BHC

<sup>2</sup> EAL is for Endosulfan = Endosulfan I + Endosulfan II + Endosulfan sulfate

<sup>3</sup> EAL is for Endrin = Endrin + Endrin aldehyde + Endrin ketone

**Abbreviations/Acronyms:**

---	not analyzed	mg/kg	milligrams per kilogram
ft bgs	feet below ground surface	ND (00)	not detected (laboratory reporting limit)
ID	identifier		

## **4.2 Building Areas: DU-05, 06, and 08**

MI soil samples were collected from two sampling depths, 0-0.5 ft and 0.5-1 ft bgs, using a hand-held drill with auger attachment. For each MI sample, 50 increments were collected around the buildings' perimeters, from the building foundation to 2 feet out from the foundation. The buildings included a cottage, tow duplexes, and a water shed and collectively, these DUs encompassed approximately 1,300 sq. ft. There were no indications of contamination such as discolored/stained soils or odors.

Reportable levels of arsenic were measured in all soil samples, ranging from 1.4 to 3.4 mg/kg, below the EAL of 24 mg/kg for unrestricted land use. Lead was measured in all samples ranging from 7.9 to 18 mg/kg, below the EAL of 200 mg/kg for unrestricted land use. No measurable levels of organochlorine and organophosphate pesticides were found in any of the MI soil samples (Table 4).

## **4.3 Roadways and Landscaped Areas: DU-09**

MI soil samples were collected from three sampling depths, 0-0.5 ft, 0.5-1, and 1-2 ft bgs, using a direct-push drill rig. For each MI sample, 30 increments were collected from the approximately 3-acre DU. There were no indications of contamination such as discolored/stained soils or odors observed.

Reportable levels of TPH-DRO and RRO were found in the surface soil sample (0-0.5 ft bgs) at 23 and 58 mg/kg, respectively, below the Tier 1 EALs for 220 mg/kg DRO and 500 mg/kg RRO for unrestricted land use. No measurable levels of TPH-DRO and RRO were found in the soil samples collected at 0.5-1 ft and 1-2 ft bgs.

Arsenic, barium, chromium, and lead were measured in the soil samples below the Tier I EALs for unrestricted land use. No measurable levels of PAH, PCB, organochlorine pesticides, and organophosphate pesticides were found in any of the MI soil samples (Table 5).

## **4.4 Maintenance Shop: DU-10**

MI soil samples were collected from three sampling depths, 0-0.5 ft, 0.5-1, and 1-2 ft bgs, using a direct-push drill rig. For each MI sample, 15 increments were collected from the asphalt-paved exterior areas of the maintenance shop, which encompassed approximately 20,000 sq. ft. Additional sampling of at least 30 increments would be required to delineate COPCs, if present. There were no indications of contamination such as discolored/stained soils or odors.

Reportable levels of TPH-DRO and RRO were found in the surface soil sample at 150 and 250 mg/kg, respectively, below the EALs for 220 mg/kg DRO and 500 mg/kg RRO for unrestricted

land use. No measurable levels of TPH-DRO and RRO were found in the soils samples from 0.5-1 ft and 1-2 ft bgs.

Measurable levels of arsenic, barium, cadmium, chromium, and lead were found in the soil samples but below the Tier I EALs for unrestricted land use. No measurable levels of PAH, PCB, organochlorine pesticides, and organophosphate pesticides were found in any of the MI soil samples (Table 5).

#### **4.5 Refrigerator Area: DU-12**

MI soil samples were collected from two sampling depths, 0-0.5 ft and 0.5-1 ft bgs, using a hand-held drill with auger attachment. Fifty increments were collected for each MI sample within the approximately 3,000-sq. ft. DU. For the MI sample collected at 0-0.5 ft bgs, a duplicate and triplicate were collected from independent locations. A trowel was used to dig down to 0.75 ft bgs at three independent locations for collection of discrete samples for VOC. There were no indications of contamination such as discolored/stained soils or odors.

Acetone was measured at 0.25 mg/kg in one of the discrete soil samples, below the Tier 1 EAL of 9.5 mg/kg for unrestricted land use. Acetone was not measured in any other samples. No other VOC were measured in the soil samples. Measurable levels of arsenic, barium, cadmium, chromium, and lead were found in all of the MI soil samples but below the Tier 1 EALs for unrestricted land use.

No measurable levels of TPH-GRO, PCB, organochlorine pesticides, and organophosphate pesticides were found in any of the soil samples (Table 7).

#### **4.6 Former UST Area**

Composite soil samples were collected from four sampling depths, 0-0.5 ft, 0.5-1 ft, 1-2 ft, and 2-5 ft bgs, using a direct-push drill rig. Three borings were advanced and three subsamples were collected for each composite sample. The UST area was approximately 20 sq. ft.

Elevated level of TPH-DRO was measured in the soil sample collected at 1-2 ft bgs at 680 mg/kg, exceeding the EAL for unrestricted land use (220 mg/kg) and equal to the EAL for restricted land use. TPH-DRO was also measured in the 0-0.5 ft and 0.5-1 ft bgs samples but below the EAL for unrestricted land use. Measurable levels of TPH-RRO were found in the samples from 0-0.5 ft and 1-2 ft bgs at 130 mg/kg and 390 mg/kg, respectively, but below the EAL of 500 mg/kg for unrestricted land use.



**Former UST Area at the Maintenance Shop where TPH-DRO exceeded the EALs.**

Reportable levels of fluoranthene, pyrene, benzo(a)anthracene, chrysene, and benzo(b)fluoranthene were found in the composite soil sample collected at 1-2 ft bgs; but were below the Tier 1 EALs for unrestricted land use. No other PAH were measured in the soil samples.

Aroclor-1260 was measured at 0.035 mg/kg in the soil sample collected at 0-0.5 ft bgs, below the EAL of 1.2 mg/kg for unrestricted land use. No other PCB congeners were measured in the soil samples. No measurable levels of TPH-GRO, organochlorine pesticides, and organophosphate pesticides were found in any of the soil samples (Table 7).

#### **4.7 South Perimeter Roadway: B1 to B5**

Discrete soil samples were collected from each boring, B1 through B5, from 5-10 ft bgs, using a direct-push drill rig. The roadway had an area of approximately 1-acre. There were no indications of contamination such as discolored/stained soils or odors.

Measurable level of TPH-RRO was found at 64 mg/kg in the soil sample collected from B1 (5-10 ft bgs), below the Tier 1 EAL of 100 mg/kg. Arsenic, barium, chromium, and lead were also measured in the discrete soil samples below the EALs for unrestricted land use.

No measurable levels of TPH-DRO, PAH, VOC, organochlorine pesticides, and organophosphate pesticides were found in any of the soil samples (Table 8).

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**Table 3. Soil Analytical Results: DU-02 to 04, and 07**

Decision Unit/ Location	Analytical Results (mg/kg)								Tier 1 Environmental Action Level (mg/kg)	
	DU-02 Kennel Area, Central		DU-03 Kennel Area, North		DU-04 Kennel Area, East		DU-07 Vegetated Area			
Sample ID/ Analytes Depth	2819-02-1 0-0.5 ft bgs	2819-02-2 0.5-1 ft bgs	2819-03-1 0-0.5 ft bgs	2819-03-2 0.5-1 ft bgs	2819-04-1 0-0.5 ft bgs	2819-04-2 0.5-1 ft bgs	2819-07-1 0-0.5 ft bgs	2819-07-2 0.5-1 ft bgs	Unrestrict- ed	Restricted
<b>Metals (EPA 6010B)</b>										
Arsenic	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	2.1	1.3	2.3	24	95
Lead	23	28	25	25	16	8.5	17	15	200	800
<b>Organochlorine Pesticides (EPA 8081A)</b>										
alpha-BHC	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	0.075 <sup>1</sup>	0.075 <sup>1</sup>
beta-BHC	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)		
gamma-BHC	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)		
delta-BHC	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)		
Heptachlor	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	1.3	5.6
Aldrin	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	3.9	8.4
Heptachlor epoxide	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	0.2	2.7
Endosulfan I	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	13 <sup>2</sup>	13 <sup>2</sup>
Endosulfan II	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)		
Endosulfan sulfate	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)		
Dieldrin	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	0.023	ND (0.0083)	ND (0.0083)	ND (0.0083)	2.5	24
4,4'-DDD	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	2.2	8.4
4,4'-DDE	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	1.9	8.2
4,4'-DDT	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	1.8	5.6
Endrin	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	3.8 <sup>3</sup>	30 <sup>3</sup>
Endrin aldehyde	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)		
Chlordane (technical)	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	17 <sup>4</sup>	23 <sup>4</sup>
Methoxychlor	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	16	16
Toxaphene	ND (0.083)	ND (0.083)	ND (0.083)	ND (0.083)	ND (0.083)	ND (0.083)	ND (0.083)	ND (0.083)	0.48	1.8
<b>Organophosphorus Pesticides (EPA 8141A)</b>										
Azinphos-methyl	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Bolstar	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00098)	ND (0.00049)	ND (0.00049)	---	---
Chlorpyrifos	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Coumaphos	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Demeton-o/s	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.00099)	ND (0.0004)	ND (0.00098)	ND (0.00098)	---	---
Diazinon	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Dichlorvos	ND (0.00050), F1	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Disulfoton	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Ethoprop	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---



Decision Unit/ Location	Analytical Results (mg/kg)								Tier 1 Environmental Action Level (mg/kg)	
	DU-02 Kennel Area, Central		DU-03 Kennel Area, North		DU-04 Kennel Area, East		DU-07 Vegetated Area			
Sample ID/ Analytes Depth	2819-02-1 0-0.5 ft bgs	2819-02-2 0.5-1 ft bgs	2819-03-1 0-0.5 ft bgs	2819-03-2 0.5-1 ft bgs	2819-04-1 0-0.5 ft bgs	2819-04-2 0.5-1 ft bgs	2819-07-1 0-0.5 ft bgs	2819-07-2 0.5-1 ft bgs	Unrestrict- ed	Restricted
Fensulfothion	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Fenthion	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Merphos	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Methyl parathion	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Mevinphos	ND (0.00050), F1	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Naled	ND (0.0040)	ND (0.0040)	ND (0.0040)	ND (0.0040)	ND (0.0040)	ND (0.0040)	ND (0.0039)	ND (0.0039)	---	---
Phorate	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Ronnel	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Stirophos	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	---	---
Tokuthion	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Trichloronate	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---

**Criteria:** Hawaii Department of Health Tier 1 Environmental Action Levels with unrestricted (residential) and restricted (commercial/industrial) land uses above a non-drinking water resource and more than 150 meters from surface water (State of Hawaii Department of Health, rev. Fall 2017).

**Notes:**

<sup>1</sup> EAL is for Hexachlorocyclohexane ("BHC" as Lindane) = Alpha- + Beta- + Gamma- + Delta-BHC

<sup>2</sup> EAL is for Endosulfan = Endosulfan I + Endosulfan II + Endosulfan sulfate

<sup>3</sup> EAL is for Endrin = Endrin + Endrin aldehyde + Endrin ketone

**Laboratory flag:**

F1 MS and/or MSDS recovery exceeds control limits.

**Abbreviations/Acronyms:**

--- not analyzed

ft bgs feet below ground surface

ID identifier

mg/kg milligrams per kilogram

ND (00) not detected (laboratory reporting limit)

**Table 4. Soil Analytical Results: DU-05, 06, and 08**

Decision Unit/ Location	Analytical Results (mg/kg)						Tier 1 Environmental Action Level (mg/kg)	
	DU-05 Water Shed		DU-06 Abandoned Manager's Cottage		DU-08 Two Duplexes		Unrestricted	Restricted
Sample ID/ Depth	2819-05-1 0-0.5 ft bgs	2819-05-2 0.5-1 ft bgs	2819-06-1 0-0.5 ft bgs	2819-06-2 0.5-1 ft bgs	2819-08-1 0-0.5 ft bgs	2819-08-2 0.5-1 ft bgs		
<b>Metals (EPA 6010B)</b>								
Arsenic	1.4	1.4	2.0	2.5	3.4	2.7	24	95
Lead	18	18	12	7.9	18	13	200	800
<b>Organochlorine Pesticides (EPA 8081A)</b>								
alpha-BHC	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	0.075 <sup>1</sup>	0.075 <sup>1</sup>
beta-BHC	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)		
gamma-BHC	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)		
delta-BHC	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)		
Heptachlor	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	1.3	5.6
Aldrin	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	3.9	8.4
Heptachlor epoxide	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	0.2	2.7
Endosulfan I	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	13 <sup>2</sup>	13 <sup>2</sup>
Endosulfan II	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)		
Endosulfan sulfate	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)		
Dieldrin	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	2.5	24
4,4'-DDD	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	2.2	8.4
4,4'-DDE	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	1.9	8.2
4,4'-DDT	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	1.8	5.6
Endrin	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	3.8 <sup>3</sup>	30 <sup>3</sup>
Endrin aldehyde	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)	ND (0.0083)		
Chlordane (technical)	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	17 <sup>4</sup>	23 <sup>4</sup>
Methoxychlor	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	16	16
Toxaphene	ND (0.083)	ND (0.083)	ND (0.083)	ND (0.083)	ND (0.083)	ND (0.083)	0.48	1.8
<b>Organophosphorus Pesticides (EPA 8141A)</b>								
Azinphos-methyl	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Bolstar	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Chlorpyrifos	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Coumaphos	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Demeton-o/s	ND (0.0010)	ND (0.00099)	ND (0.00099)	ND (0.00099)	ND (0.00098)	ND (0.00099)	---	---
Diazinon	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Dichlorvos	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Disulfoton	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Ethoprop	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Fensulfothion	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Fenthion	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---

Decision Unit/ Location	Analytical Results (mg/kg)						Tier 1 Environmental Action Level (mg/kg)	
	DU-05 Water Shed		DU-06 Abandoned Manager's Cottage		DU-08 Two Duplexes		Unrestricted	Restricted
Sample ID/ Depth	2819-05-1 0-0.5 ft bgs	2819-05-2 0.5-1 ft bgs	2819-06-1 0-0.5 ft bgs	2819-06-2 0.5-1 ft bgs	2819-08-1 0-0.5 ft bgs	2819-08-2 0.5-1 ft bgs		
Merphos	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Methyl parathion	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Mevinphos	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Naled	ND (0.0040)	ND (0.0040)	ND (0.0039)	ND (0.0040)	ND (0.0039)	ND (0.0039)	---	---
Phorate	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Ronnel	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Stirophos	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	---	---
Tokuthion	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---
Trichloronate	ND (0.00050)	ND (0.00050)	ND (0.00049)	ND (0.00049)	ND (0.00049)	ND (0.00049)	---	---

**Criteria:** Hawaii Department of Health Tier 1 Environmental Action Levels with unrestricted (residential) and restricted (commercial/industrial) land uses above a non-drinking water resource and more than 150 meters from surface water (State of Hawaii Department of Health, rev. Fall 2017).

**Notes:**

<sup>1</sup> EAL is for Hexachlorocyclohexane ("BHC" as Lindane) = Alpha- + Beta- + Gamma- + Delta-BHC

<sup>2</sup> EAL is for Endosulfan = Endosulfan I + Endosulfan II + Endosulfan sulfate

<sup>3</sup> EAL is for Endrin = Endrin + Endrin aldehyde + Endrin ketone

**Abbreviations/Acronyms:**

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

ND (00) not detected (laboratory reporting limit)

ID identifier

**Table 5. Soil Analytical Results: DU-09 and 10**

Decision Unit/ Location	Analytical Results (mg/kg)						Tier 1 Environmental Action Level (mg/kg)	
	DU-09 Roadways and Landscaped Areas			DU-10 Maintenance Shop				
Sample ID/ Depth	2819-09-1 0-0.5 ft bgs	2819-09-2 0.5-1 ft bgs	2819-09-3 1-2 ft bgs	2819-10-1 0-0.5 ft bgs	2819-10-2 0.5-1 ft bgs	2819-10-3 1-2 ft bgs	Unrestricted	Restricted
<b>Total Petroleum Hydrocarbons (EPA 8015M)</b>								
Diesel Range Organics	23	ND (22)	ND (22)	150	ND (25)	ND (25)	220	680
Residual Range Organics	58	ND (44)	ND (45)	250	ND (50)	ND (51)	500	1,000
<b>Polycyclic Aromatic Hydrocarbons (EPA 8270C-SIM)</b>								
Naphthalene	ND (0.036)	ND (0.015)	ND (0.037)	ND (0.37)	ND (0.017)	ND (0.017)	4.4	4.4
1-Methylnaphthalene	ND (0.036)	ND (0.015)	ND (0.037)	ND (0.37)	ND (0.017)	ND (0.017)	4.2	4.2
2-Methylnaphthalene	ND (0.036)	ND (0.015)	ND (0.037)	ND (0.37)	ND (0.017)	ND (0.017)	4.1	4.1
Acenaphthylene	ND (0.036)	ND (0.015)	ND (0.037)	ND (0.37)	ND (0.017)	ND (0.017)	100	100
Acenaphthene	ND (0.036)	ND (0.015)	ND (0.037)	ND (0.37)	ND (0.017)	ND (0.017)	120	120
Fluorene	ND (0.036)	ND (0.015)	ND (0.037)	ND (0.37)	ND (0.017)	ND (0.017)	93	93
Phenanthrene	ND (0.036)	ND (0.015)	ND (0.037)	ND (0.37)	ND (0.017)	ND (0.017)	460	500
Anthracene	ND (0.036)	ND (0.015)	ND (0.037)	ND (0.37)	ND (0.017)	ND (0.017)	4.2	4.2
Fluoranthene	ND (0.036)	ND (0.015)	ND (0.037)	ND (0.37)	ND (0.017)	ND (0.017)	120	120
Pyrene	ND (0.036)	ND (0.015)	ND (0.037)	ND (0.37)	ND (0.017)	ND (0.017)	44	44
Benzo(a) anthracene	ND (0.036)	ND (0.015)	ND (0.037)	ND (0.37)	ND (0.017)	ND (0.017)	10	10
Chrysene	ND (0.036)	ND (0.015)	ND (0.037)	ND (0.37)	ND (0.017)	ND (0.017)	30	30
Benzo(b)fluoranthene	ND (0.036)	ND (0.015)	ND (0.037)	ND (0.37)	ND (0.017)	ND (0.017)	11	21
Benzo(k)fluoranthene	ND (0.036)	ND (0.015)	ND (0.037)	ND (0.37)	ND (0.017)	ND (0.017)	39	39
Benzo(a)pyrene	ND (0.036)	ND (0.015)	ND (0.037)	ND (0.37)	ND (0.017)	ND (0.017)	3.6	15
Indeno(1,2,3-cd)pyrene	ND (0.036)	ND (0.015)	ND (0.037)	ND (0.37)	ND (0.017)	ND (0.017)	11	31
Dibenzo(a,h)anthracene	ND (0.036)	ND (0.015)	ND (0.037)	ND (0.37)	ND (0.017)	ND (0.017)	1.1	18
Benzo(g,h,i)perylene	ND (0.036)	ND (0.015)	ND (0.037)	ND (0.37)	ND (0.017)	ND (0.017)	35	35
<b>Polychlorinated Biphenyls (EPA 8082)</b>								
Aroclor-1016	ND (0.017)	---	---	ND (0.017)	---	---	1.2 (Total PCB)	8.6 (Total PCB)
Aroclor-1221	ND (0.017)	---	---	ND (0.017)	---	---		
Aroclor-1232	ND (0.017)	---	---	ND (0.017)	---	---		
Aroclor-1242	ND (0.017)	---	---	ND (0.017)	---	---		
Aroclor-1248	ND (0.017)	---	---	ND (0.017)	---	---		
Aroclor-1254	ND (0.017)	---	---	ND (0.017)	---	---		
Aroclor-1260	ND (0.017)	---	---	ND (0.017)	---	---		
Aroclor-1262	ND (0.017)	---	---	ND (0.017)	---	---		
Aroclor-1268	ND (0.017)	---	---	ND (0.017)	---	---		
<b>Resource Conservation and Recovery Act 8 Metals (EPA 6010B/7471A)</b>								
Arsenic	1.6	1.4	1.4	ND (0.50)	1.6	1.7	24	95
Barium	76	120	67	65	140	120	1,000	2,500

Cadmium	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	0.36	14	72
Chromium	120	110	100	91	170	190	1,100	1,100
Lead	7.2	5.5	5.3	13	58	33	200	800
Mercury	ND (0.15)	ND (0.14)	ND (0.16)	ND (0.14)	ND (0.15)	ND (0.17)	4.7	61
Selenium	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	78	1,000
Silver	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	78	1,000
<b>Organochlorine Pesticides (EPA 8081A)</b>								
alpha-BHC	ND (0.0083)	ND (0.0083)	---	ND (0.0083)	ND (0.0017)	---	0.075 <sup>1</sup>	0.075 <sup>1</sup>
beta-BHC	ND (0.0083)	ND (0.0083)	---	ND (0.0083)	ND (0.0017)	---		
gamma-BHC	ND (0.0083)	ND (0.0083)	---	ND (0.0083)	ND (0.0017)	---		
delta-BHC	ND (0.0083)	ND (0.0083)	---	ND (0.0083)	ND (0.0017)	---		
Heptachlor	ND (0.0083)	ND (0.0083)	---	ND (0.0083)	ND (0.0017)	---	1.3	5.6
Aldrin	ND (0.0083)	ND (0.0083)	---	ND (0.0083)	ND (0.0017)	---	3.9	8.4
Heptachlor epoxide	ND (0.0083)	ND (0.0083)	---	ND (0.0083)	ND (0.0017)	---	0.2	2.7
Endosulfan I	ND (0.0083)	ND (0.0083)	---	ND (0.0083)	ND (0.0017)	---	13 <sup>2</sup>	13 <sup>2</sup>
Endosulfan II	ND (0.0083)	ND (0.0083)	---	ND (0.0083)	ND (0.0017)	---		
Endosulfan sulfate	ND (0.0083)	ND (0.0083)	---	ND (0.0083)	ND (0.0017)	---		
Dieldrin	ND (0.0083)	ND (0.0083)	---	ND (0.0083)	ND (0.0017)	---	2.5	24
4,4'-DDD	ND (0.0083)	ND (0.0083)	---	ND (0.0083)	ND (0.0017)	---	2.2	8.4
4,4'-DDE	ND (0.0083)	ND (0.0083)	---	ND (0.0083)	ND (0.0017)	---	1.9	8.2
4,4'-DDT	ND (0.0083)	ND (0.0083)	---	ND (0.0083)	ND (0.0017)	---	1.8	5.6
Endrin	ND (0.0083)	ND (0.0083)	---	ND (0.0083)	ND (0.0017)	---	3.8 <sup>3</sup>	30 <sup>3</sup>
Endrin aldehyde	ND (0.0083)	ND (0.0083)	---	ND (0.0083)	ND (0.0017)	---		
Chlordane (technical)	ND (0.017)	ND (0.017)	---	ND (0.017)	ND (0.0033)	---	17 <sup>4</sup>	23 <sup>4</sup>
Methoxychlor	ND (0.17)	ND (0.17)	---	ND (0.17)	ND (0.033)	---	16	16
Toxaphene	ND (0.083)	ND (0.083)	---	ND (0.083)	ND (0.017)	---	0.48	1.8
<b>Organophosphorus Pesticides (EPA 8141A)</b>								
Azinphos-methyl	(0.1)	(0.1)	---	(0.1)	(0.1)	---	---	---
Bolstar	(0.0400)	(0.0400)	---	(0.0400)	(0.0400)	---	---	---
Chlorpyrifos	(0.0400)	(0.0400)	---	(0.0400)	(0.0400)	---	---	---
Coumaphos	(0.0400)	(0.0400)	---	(0.0400)	(0.0400)	---	---	---
Demeton-o/s	(0.0800)	(0.0800)	---	(0.0800)	(0.0800)	---	---	---
Diazinon	(0.0400)	(0.0400)	---	(0.0400)	(0.0400)	---	---	---
Dichlorvos	(0.0400)	(0.0400)	---	(0.0400)	(0.0400)	---	---	---
Disulfoton	(0.0400)	(0.0400)	---	(0.0400)	(0.0400)	---	---	---
Ethoprop	(0.0400)	(0.0400)	---	(0.0400)	(0.0400)	---	---	---
Fensulfothion	(0.0400)	(0.0400)	---	(0.0400)	(0.0400)	---	---	---
Fenthion	(0.0400)	(0.0400)	---	(0.0400)	(0.0400)	---	---	---
Merphos	(0.0400)	(0.0400)	---	(0.0400)	(0.0400)	---	---	---
Methyl parathion	(0.0400)	(0.0400)	---	(0.0400)	(0.0400)	---	---	---
Mevinphos	(0.1)	(0.1)	---	(0.1)	(0.1)	---	---	---

Naled	(0.1)	(0.1)	---	(0.1)	(0.1)	---	---	---
Phorate	(0.0400)	(0.0400)	---	(0.0400)	(0.0400)	---	---	---
Ronnel	(0.0400)	(0.0400)	---	(0.0400)	(0.0400)	---	---	---
Stirophos	(0.0400)	(0.0400)	---	(0.0400)	(0.0400)	---	---	---
Tokuthion	(0.0400)	(0.0400)	---	(0.0400)	(0.0400)	---	---	---
Trichloronate	(0.0400)	(0.0400)	---	(0.0400)	(0.0400)	---	---	---

**Criteria:** Hawaii Department of Health Tier 1 Environmental Action Levels with unrestricted (residential) and restricted (commercial/industrial) land uses above a non-drinking water resource and more than 150 meters from surface water (State of Hawaii Department of Health, rev. Fall 2017).

**Abbreviations/Acronyms:**

--- not analyzed  
ft bgs feet below ground surface  
ID identifier  
mg/kg milligrams per kilogram  
ND (00) not detected (laboratory reporting limit)

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**Table 6. Soil Analytical Results: DU-12**

Analytes	Sample ID/ Depth	Analytical Results (mg/kg)						Tier 1 Environmental Action Level (mg/kg)		
		Multi-Incremental Samples			Discrete Samples			Unrestricted	Restricted	
		2819-12-1A 0-0.5 ft bgs Primary	2819-12-1B 0-0.5 ft bgs Duplicate	2819-12-1C 0-0.5 ft bgs Triplicate	2819-12-2 0.5-1 ft bgs	2819-B6 0.75 ft bgs	2819-B7 0.75 ft bgs			2819-B8 0.75 ft bgs
<b>Total Petroleum Hydrocarbons (EPA 8015M)</b>										
Gasoline Range Organics	---	---	---	---	---	ND (4.1)	ND (4.1)	ND (3.6)	100	500
<b>Volatile Organic Compounds (8260D)</b>										
3-Chloropropene	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
cis-1,4-Dichloro-2-butene	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
trans-1,4-Dichloro-2-butene	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
Freon 12	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
Chloromethane	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	4	11
Vinyl Chloride	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.036	0.35
Bromomethane	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.22	0.36
Chloroethane	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	1.2	1.2
Trichlorofluoromethane	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
Acetone	---	---	---	---	---	0.25	ND (0.12)	ND (0.0081)	9.5	9.5
Freon 113	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
1,1-Dichloroethene	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
Methylene Chloride	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.12	0.12
MTBE	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.028	0.028
trans-1,2-Dichloroethene	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	3.6	6.5
1,1-Dichloroethane	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
2-Butanone	---	---	---	---	---	ND (0.12)	ND (0.12)	ND (0.0081)	---	---
cis-1,2-Dichloroethene	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
2,2-Dichloropropane	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
Chloroform	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.026	0.19
Bromochloromethane	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
1,1,1-Trichloroethane	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	23	23
1,1-Dichloropropene	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
Carbon Tetrachloride	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.1	0.73
1,2-Dichloroethane	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.023	0.07
Benzene	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.3	0.3
Trichloroethene	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
1,2-Dichloropropane	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.14	0.14
Bromodichloromethane	---	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.0025	0.0025



Analytes	Sample ID/ Depth	Analytical Results (mg/kg)						Tier 1 Environmental Action Level (mg/kg)	
		Multi-Incremental Samples			Discrete Samples			Unrestricted	Restricted
		2819-12-1A 0-0.5 ft bgs Primary	2819-12-1B 0-0.5 ft bgs Duplicate	2819-12-1C 0-0.5 ft bgs TriPLICATE	2819-12-2 0.5-1 ft bgs	2819-B6 0.75 ft bgs	2819-B7 0.75 ft bgs		
Dibromomethane	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
4-Methyl-2-Pentanone	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
cis-1,3-Dichloropropene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	2.5 <sup>5</sup>	24 <sup>5</sup>
trans-1,3-Dichloropropene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)		
Toluene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	3.2	3.2
1,1,2-Trichloroethane	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.0089	0.062
1,3-Dichloropropane	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
Tetrachloroethene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
Dibromochloromethane	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.0094	0.0094
1,2-Dibromoethane	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.00042	0.00042
Chlorobenzene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	2.2	2.9
1,1,1,2-Tetrachloroethane	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.018	0.018
Ethylbenzene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	3.7	3.7
m,p-Xylenes	---	---	---	---	ND (0.012)	ND (0.012)	ND (0.0081)	2.1 <sup>6</sup>	2.1 <sup>6</sup>
o-Xylene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)		
Styrene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.69	0.69
Bromoform	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
Isopropylbenzene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.018	0.018
1,1,2,2-Tetrachloroethane	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.005	0.013
1,2,3-Trichloropropane	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
Propylbenzene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
Bromobenzene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
1,3,5-Trimethylbenzene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
2-Chlorotoluene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
4-Chlorotoluene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
tert-Butylbenzene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
1,2,4-Trimethylbenzene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
sec-Butylbenzene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
para-Isopropyl Toluene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
1,3-Dichlorobenzene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.57	0.57
1,4-Dichlorobenzene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.055	0.39
n-Butylbenzene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
1,2-Dichlorobenzene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.75	0.75

Analytes	Sample ID/ Depth	Analytical Results (mg/kg)						Tier 1 Environmental Action Level (mg/kg)	
		Multi-Incremental Samples			Discrete Samples			Unrestricted	Restricted
		2819-12-1A 0-0.5 ft bgs Primary	2819-12-1B 0-0.5 ft bgs Duplicate	2819-12-1C 0-0.5 ft bgs TriPLICATE	2819-12-2 0.5-1 ft bgs	2819-B6 0.75 ft bgs	2819-B7 0.75 ft bgs		
I,2-Dibromo-3-Chloropropane	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.00081	0.00081
1,2,4-Trichlorobenzene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.18	1.4
Hexachlorobutadiene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	0.041	0.041
Naphthalene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	4.4	4.4
1,2,3-Trichlorobenzene	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	---	---
Xylene (total)	---	---	---	---	ND (0.0061)	ND (0.0058)	ND (0.0081)	2.1 <sup>6</sup>	2.1 <sup>6</sup>
<b>Polychlorinated Biphenyls (EPA 8082)</b>									
Aroclor-1016	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	---	---	---	1.2 (Total PCB)	8.6 (Total PCB)
Aroclor-1221	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	---	---	---		
Aroclor-1232	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	---	---	---		
Aroclor-1242	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	---	---	---		
Aroclor-1248	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	---	---	---		
Aroclor-1254	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	---	---	---		
Aroclor-1260	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	---	---	---		
Aroclor-1262	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	---	---	---		
Aroclor-1268	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	---	---	---		
<b>Resource Conservation and Recovery Act 8 Metals (EPA 6010B/7471A)</b>									
Arsenic	3.2	2.7	3.0	2.5	---	---	---	24	95
Barium	43	29	34	26	---	---	---	1,000	2,500
Cadmium	0.75	0.55	0.58	0.43	---	---	---	14	72
Chromium	120	78	95	63	---	---	---	1,100	1,100
Lead	19	12	14	9.6	---	---	---	200	800
Mercury	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.14)	---	---	---	4.7	61
Selenium	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	---	---	---	78	1,000
Silver	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	---	---	---	78	1,000
<b>Organochlorine Pesticides (EPA 8081A)</b>									
alpha-BHC	ND (0.0017)	ND (0.0083)	ND (0.0083)	ND (0.0017)	---	---	---	0.075 <sup>1</sup>	0.075 <sup>1</sup>
beta-BHC	ND (0.0017)	ND (0.0017)	ND (0.0017)	ND (0.0017)	---	---	---		
gamma-BHC	ND (0.0017)	ND (0.0017)	ND (0.0017)	ND (0.0017)	---	---	---		
delta-BHC	ND (0.0017)	ND (0.0017)	ND (0.0017)	ND (0.0017)	---	---	---		
Heptachlor	ND (0.0017)	ND (0.0017)	ND (0.0017)	ND (0.0017)	---	---	---	1.3	5.6
Aldrin	ND (0.0017)	ND (0.0017)	ND (0.0017)	ND (0.0017)	---	---	---	3.9	8.4
Heptachlor epoxide	ND (0.0017)	ND (0.0017)	ND (0.0017)	ND (0.0017)	---	---	---	0.2	2.7
Endosulfan I	ND (0.0017)	ND (0.0017)	ND (0.0017)	ND (0.0017)	---	---	---	13 <sup>2</sup>	13 <sup>2</sup>
Endosulfan II	ND (0.0017)	ND (0.0017)	ND (0.0017)	ND (0.0017)	---	---	---		
Endosulfan sulfate	ND (0.0017)	ND (0.0017)	ND (0.0017)	ND (0.0017)	---	---	---		

Analytes	Sample ID/ Depth	Analytical Results (mg/kg)						Tier 1 Environmental Action Level (mg/kg)	
		Multi-Incremental Samples			Discrete Samples			Unrestricted	Restricted
		2819-12-1A 0-0.5 ft bgs Primary	2819-12-1B 0-0.5 ft bgs Duplicate	2819-12-1C 0-0.5 ft bgs TriPLICATE	2819-12-2 0.5-1 ft bgs	2819-B6 0.75 ft bgs	2819-B7 0.75 ft bgs		
Dieldrin	ND (0.0017)	ND (0.0017)	ND (0.0017)	ND (0.0017)	---	---	---	2.5	24
4,4'-DDD	ND (0.0017)	ND (0.0017)	ND (0.0017)	ND (0.0017)	---	---	---	2.2	8.4
4,4'-DDE	ND (0.0017)	ND (0.0017)	ND (0.0017)	ND (0.0017)	---	---	---	1.9	8.2
4,4'-DDT	ND (0.0017)	ND (0.0017)	ND (0.0017)	ND (0.0017)	---	---	---	1.8	5.6
Endrin	ND (0.0017)	ND (0.0017)	ND (0.0017)	ND (0.0017)	---	---	---	3.8 <sup>3</sup>	30 <sup>3</sup>
Endrin aldehyde	ND (0.0017)	ND (0.0017)	ND (0.0017)	ND (0.0017)	---	---	---		
Chlordane (technical)	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	---	---	---	17 <sup>4</sup>	23 <sup>4</sup>
Methoxychlor	ND (0.0033)	ND (0.0033)	ND (0.0033)	ND (0.0033)	---	---	---	16	16
Toxaphene	ND (0.03)	ND (0.03)	ND (0.03)	ND (0.03)	---	---	---	0.48	1.8
Organophosphorus Pesticides (EPA 8141A)									
Azinphos-methyl	ND (0.00049)	ND (0.00050)	ND (0.00050)	ND (0.00049)	---	---	---	---	---
Bolstar	ND (0.00049)	ND (0.00050)	ND (0.00050)	ND (0.00049)	---	---	---	---	---
Chlorpyrifos	ND (0.00049)	ND (0.00050)	ND (0.00050)	ND (0.00049)	---	---	---	---	---
Coumaphos	ND (0.00049)	ND (0.00050)	ND (0.00050)	ND (0.00049)	---	---	---	---	---
Demeton-o/s	ND (0.00099)	ND (0.00099)	ND (0.00010)	ND (0.00099)	---	---	---	---	---
Diazinon	ND (0.00049)	ND (0.00050)	ND (0.00050)	ND (0.00049)	---	---	---	---	---
Dichlorvos	ND (0.00049)	ND (0.00050)	ND (0.00050)	ND (0.00049)	---	---	---	---	---
Disulfoton	ND (0.00049)	ND (0.00050)	ND (0.00050)	ND (0.00049)	---	---	---	---	---
Ethoprop	ND (0.00049)	ND (0.00050)	ND (0.00050)	ND (0.00049)	---	---	---	---	---
Fensulfothion	ND (0.00049)	ND (0.00050)	ND (0.00050)	ND (0.00049)	---	---	---	---	---
Fenthion	ND (0.00049)	ND (0.00050)	ND (0.00050)	ND (0.00049)	---	---	---	---	---
Merphos	ND (0.00049)	ND (0.00050)	ND (0.00050)	ND (0.00049)	---	---	---	---	---
Methyl parathion	ND (0.00049)	ND (0.00050)	ND (0.00050)	ND (0.00049)	---	---	---	---	---
Mevinphos	ND (0.00049)	ND (0.00050)	ND (0.00050)	ND (0.00049)	---	---	---	---	---
Naled	ND (0.0039)	ND (0.0040)	ND (0.0040)	ND (0.0040)	---	---	---	---	---
Phorate	ND (0.00049)	ND (0.00049)	ND (0.00050)	ND (0.00049)	---	---	---	---	---
Ronnel	ND (0.00049)	ND (0.00049)	ND (0.00050)	ND (0.00049)	---	---	---	---	---
Stirophos	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	---	---	---	---	---
Tokuthion	ND (0.00049)	ND (0.00049)	ND (0.00050)	ND (0.00049)	---	---	---	---	---
Trichloronate	ND (0.00049)	ND (0.00049)	ND (0.00050)	ND (0.00049)	---	---	---	---	---

**Criteria:** Hawaii Department of Health Tier 1 Environmental Action Levels with unrestricted (residential) and restricted (commercial/industrial) land uses above a non-drinking water resource and more than 150 meters from surface water (State of Hawaii Department of Health, rev. Fall 2017).

**Abbreviations/Acronyms:**

--- not analyzed  
ft bgs feet below ground surface  
ID identifier  
mg/kg milligrams per kilogram  
ND (00) not detected (laboratory reporting limit)

**Table 7. Soil Analytical Results: Former UST Area**

Analytes	Sample ID/ Depth	Analytical Results (mg/kg)				Tier 1 Environmental Action Level (mg/kg)	
		2819-11-1 0-0.5 ft bgs	2819-11-2 0.5-1 ft bgs	2819-11-3 1-2 ft bgs	2819-11-4 2-5 ft bgs	Unrestricted	Restricted
<b>Total Petroleum Hydrocarbons (EPA 8015M)</b>							
TPH-GRO		---	---	---	ND (10.0)	100	500
TPH-DRO		51	31	<b>680</b>	ND (0.24)	220	680
TPH-RRO		130	ND (44)	390	ND (0.49)	500	1,000
<b>Polycyclic Aromatic Hydrocarbons (EPA 8270C-SIM)</b>							
Naphthalene		ND (0.38)	ND (0.037)	ND (0.016)	ND (0.016)	4.4	4.4
1-Methylnaphthalene		ND (0.38)	ND (0.037)	ND (0.016)	ND (0.016)	4.2	4.2
2-Methylnaphthalene		ND (0.38)	ND (0.037)	ND (0.016)	ND (0.016)	4.1	4.1
Acenaphthylene		ND (0.38)	ND (0.037)	ND (0.016)	ND (0.016)	100	100
Acenaphthene		ND (0.38)	ND (0.037)	ND (0.016)	ND (0.016)	120	120
Fluorene		ND (0.38)	ND (0.037)	ND (0.016)	ND (0.016)	93	93
Phenanthrene		ND (0.38)	ND (0.037)	ND (0.016)	ND (0.016)	460	500
Anthracene		ND (0.38)	ND (0.037)	ND (0.016)	ND (0.016)	4.2	4.2
Fluoranthene		ND (0.38)	ND (0.037)	0.035	ND (0.016)	120	120
Pyrene		ND (0.38)	ND (0.037)	0.023	ND (0.016)	44	44
Benzo(a) anthracene		ND (0.38)	ND (0.037)	0.019	ND (0.016)	10	10
Chrysene		ND (0.38)	ND (0.037)	0.023	ND (0.016)	30	30
Benzo(b)fluoranthene		ND (0.38)	ND (0.037)	0.019	ND (0.016)	11	21
Benzo(k)fluoranthene		ND (0.38)	ND (0.037)	ND (0.016)	ND (0.016)	39	39
Benzo(a)pyrene		ND (0.38)	ND (0.037)	ND (0.016)	ND (0.016)	3.6	15
Indeno(1,2,3-cd) pyrene		ND (0.38)	ND (0.037)	ND (0.016)	ND (0.016)	11	31
Dibenzo(a,h) anthracene		ND (0.38)	ND (0.037)	ND (0.016)	ND (0.016)	1.1	18
Benzo(g,h,i)perylene		ND (0.38)	ND (0.037)	ND (0.016)	ND (0.016)	35	35
<b>Polychlorinated Biphenyls (EPA 8082)</b>							
Aroclor-1016		ND (0.017)	---	---	---	1.2 (Total PCB)	8.6 (Total PCB)
Aroclor-1221		ND (0.017)	---	---	---		
Aroclor-1232		ND (0.017)	---	---	---		
Aroclor-1242		ND (0.017)	---	---	---		
Aroclor-1248		ND (0.017)	---	---	---		
Aroclor-1254		ND (0.017)	---	---	---		
Aroclor-1260		0.035	---	---	---		
Aroclor-1262		ND (0.017)	---	---	---		
Aroclor-1268		ND (0.017)	---	---	---		
<b>Resource Conservation and Recovery Act 8 Metals (EPA 6010B/7471A)</b>							
Arsenic		1.2	2.8	2.8	1.9	24	95
Barium		89	130	150	210	1,000	2,500
Cadmium		ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	14	72
Chromium		140	190	180	240	1,100	1,100
Lead		54	54	40	36	200	800
Mercury		ND (0.14)	ND (0.14)	ND (0.16)	ND (0.16)	4.7	61
Selenium		ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	78	1,000
Silver		ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	78	1,000
<b>Organochlorine Pesticides (EPA 8081A)</b>							
alpha-BHC		ND (0.0083)	ND (0.0017)	---	---	0.075 <sup>1</sup>	0.075 <sup>1</sup>
beta-BHC		ND (0.0083)	ND (0.0017)	---	---		
gamma-BHC		ND (0.0083)	ND (0.0017)	---	---		
delta-BHC		ND (0.0083)	ND (0.0017)	---	---		
Heptachlor		ND (0.0083)	ND (0.0017)	---	---	1.3	5.6
Aldrin		ND (0.0083)	ND (0.0017)	---	---	3.9	8.4

Architects Hawaii Limited – Soil Screening Survey for Phase 2 OCCC  
HDOA Animal Quarantine Station, 99-951 Halawa Valley Street, Aiea, Oahu

Heptachlor epoxide	ND (0.0083)	ND (0.0017)	---	---	0.2	2.7
Endosulfan I	ND (0.0083)	ND (0.0017)	---	---	13 <sup>2</sup>	13 <sup>2</sup>
Endosulfan II	ND (0.0083)	ND (0.0017)	---	---		
Endosulfan sulfate	ND (0.0083)	ND (0.0017)	---	---		
Dieldrin	ND (0.0083)	ND (0.0017)	---	---	2.5	24
4,4'-DDD	ND (0.0083)	ND (0.0017)	---	---	2.2	8.4
4,4'-DDE	ND (0.0083)	ND (0.0017)	---	---	1.9	8.2
4,4'-DDT	ND (0.0083)	ND (0.0017)	---	---	1.8	5.6
Endrin	ND (0.0083)	ND (0.0017)	---	---	3.8 <sup>3</sup>	30 <sup>3</sup>
Endrin aldehyde	ND (0.0083)	ND (0.0017)	---	---		
Chlordane (technical)	ND (0.083)	ND (0.017)	---	---	17 <sup>4</sup>	23 <sup>4</sup>
Methoxychlor	ND (0.017)	ND (0.0033)	---	---	16	16
Toxaphene	ND (0.17)	ND (0.033)	---	---	0.48	1.8
<b>Organophosphorus Pesticides (EPA 8141A)</b>						
Azinphos-methyl	(0.1)	(0.1)	---	---	---	---
Bolstar	(0.0400)	(0.0400)	---	---	---	---
Chlorpyrifos	(0.0400)	(0.0400)	---	---	---	---
Coumaphos	(0.0400)	(0.0400)	---	---	---	---
Demeton-o/s	(0.0800)	(0.0800)	---	---	---	---
Diazinon	(0.0400)	(0.0400)	---	---	---	---
Dichlorvos	(0.0400)	(0.0400)	---	---	---	---
Disulfoton	(0.0400)	(0.0400)	---	---	---	---
Ethoprop	(0.0400)	(0.0400)	---	---	---	---
Fensulfothion	(0.0400)	(0.0400)	---	---	---	---
Fenthion	(0.0400)	(0.0400)	---	---	---	---
Merphos	(0.0400)	(0.0400)	---	---	---	---
Methyl parathion	(0.0400)	(0.0400)	---	---	---	---
Mevinphos	(0.1)	(0.1)	---	---	---	---
Naled	(0.1)	(0.1)	---	---	---	---
Phorate	(0.0400)	(0.0400)	---	---	---	---
Ronnel	(0.0400)	(0.0400)	---	---	---	---
Stirophos	(0.0400)	(0.0400)	---	---	---	---
Tokuthion	(0.0400)	(0.0400)	---	---	---	---
Trichloronate	(0.0400)	(0.0400)	---	---	---	---

**Criteria:** Hawaii Department of Health Tier 1 Environmental Action Levels with unrestricted (residential) and restricted (commercial/industrial) land uses above a non-drinking water resource and more than 150 meters from surface water (State of Hawaii Department of Health, rev. Fall 2017).

**Bold** value exceeds the Tier 1 Environmental Action Level.

**Abbreviations/Acronyms:**

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

ND (00) not detected (laboratory reporting limit)

ID identifier

**Table 8. Soil Analytical Results: South Perimeter Roadway**

Sample ID/ Analytes Depth	Analytical Results (mg/kg)					Tier 1 Environmental Action Level (mg/kg)	
	2819-B1 5-10 ft bgs	2819-B2 5-10 ft bgs	2819-B3 5-10 ft bgs	2819-B4 5-10 ft bgs	2819-B5 5-10 ft bgs	Unrestrict- ed	Restricted
<b>Total Petroleum Hydrocarbons (EPA 8015M)</b>							
TPH-DRO	ND (22)	ND (21)	ND (23)	ND (120)	ND (23)	500	1,000
TPH-RRO	64	ND (41)	ND (45)	ND (230)	ND (46)	100	500
<b>Polycyclic Aromatic Hydrocarbons (EPA 8270C-SIM)</b>							
Naphthalene	ND (0.15)	ND (0.0069)	ND (0.0 76)	ND (0.078)	ND (0.016)	4.4	4.4
1-Methylnaphthalene	ND (0.15)	ND (0.0069)	ND (0.0 76)	ND (0.078)	ND (0.016)	4.2	4.2
2-Methylnaphthalene	ND (0.15)	ND (0.0069)	ND (0.0 76)	ND (0.078)	ND (0.016)	4.1	4.1
Acenaphthylene	ND (0.15)	ND (0.0069)	ND (0.0 76)	ND (0.078)	ND (0.016)	100	100
Acenaphthene	ND (0.15)	ND (0.0069)	ND (0.0 76)	ND (0.078)	ND (0.016)	120	120
Fluorene	ND (0.15)	ND (0.0069)	ND (0.0 76)	ND (0.078)	ND (0.016)	93	93
Phenanthrene	ND (0.15)	ND (0.0069)	ND (0.0 76)	ND (0.078)	ND (0.016)	460	500
Anthracene	ND (0.15)	ND (0.0069)	ND (0.0 76)	ND (0.078)	ND (0.016)	4.2	4.2
Fluoranthene	ND (0.15)	ND (0.0069)	ND (0.0 76)	ND (0.078)	ND (0.016)	120	120
Pyrene	ND (0.15)	ND (0.0069)	ND (0.0 76)	ND (0.078)	ND (0.016)	44	44
Benzo(a) anthracene	ND (0.15)	ND (0.0069)	ND (0.0 76)	ND (0.078)	ND (0.016)	10	10
Chrysene	ND (0.15)	ND (0.0069)	ND (0.0 76)	ND (0.078)	ND (0.016)	30	30
Benzo(b)fluoranthene	ND (0.15)	ND (0.0069)	ND (0.0 76)	ND (0.078)	ND (0.016)	11	21
Benzo(k)fluoranthene	ND (0.15)	ND (0.0069)	ND (0.0 76)	ND (0.078)	ND (0.016)	39	39
Benzo(a)pyrene	ND (0.15)	ND (0.0069)	ND (0.0 76)	ND (0.078)	ND (0.016)	3.6	15
Indeno(1,2,3- cd)pyrene	ND (0.15)	ND (0.0069)	ND (0.0 76)	ND (0.078)	ND (0.016)	11	31
Dibenzo(a,h)anthracene	ND (0.15)	ND (0.0069)	ND (0.0 76)	ND (0.078)	ND (0.016)	1.1	18
Benzo(g,h,i)perylene	ND (0.15)	ND (0.0069)	ND (0.0 76)	ND (0.078)	ND (0.016)	35	35
<b>Metals (EPA 6010B/7471A)</b>							
Arsenic	1.9	ND (0.50)	ND (0.50)	0.87	1.2	24	95
Barium	140	75	77	98	140	1,000	2,500
Cadmium	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	14	72
Chromium	130	96	130	140	130	1,100	1,100
Lead	34	2.8	2.7	15	57	200	800
Mercury	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.16)	ND (0.16)	4.7	61
Selenium	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	78	1,000
Silver	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	78	1,000
<b>Volatile Organic Compounds (EPA 8260B)</b>							
Chloromethane	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	4	11
Vinyl chloride	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	0.036	0.35
Bromomethane	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	0.22	0.36
Chloroethane	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	1.2	1.2
Trichlorofluoromethane	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	---	---
1,1-Dichloroethene	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	---	---
Methylene Chloride	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	0.12	0.12
Methyl T-Butyl Ether (MTBE)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	0.028	0.028
trans-1,2-Dichloroethene	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	3.6	6.5
1,1-Dichloroethane	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	0.11	0.11
2,2-Dichloropropane	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	---	---
cis-1,2-Dichloroethene	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	---	---
Chloroform	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.026	0.19
1,1,1-Trichloroethane	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	23	23

Architects Hawaii Limited – Soil Screening Survey for Phase 2 OCCC  
HDOA Animal Quarantine Station, 99-951 Halawa Valley Street, Aiea, Oahu

Carbon tetrachloride	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	0.1	0.73
1,1-Dichloropropene	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	---	---
Benzene	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	0.3	0.3
1,2-Dichloroethane (EDC)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	0.023	0.07
Trichloroethene	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	---	---
1,2-Dichloropropane	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	0.14	0.14
Dibromomethane	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	---	---
Bromodichloromethane	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	0.0025	0.0025
Toluene	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	3.2	3.2
1,1,2-Trichloroethane	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	0.0089	0.062
Tetrachloroethene	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	0.098	0.64
1,3-Dichloropropane	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	---	---
Dibromochloromethane	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	0.0094	0.0094
1,2-Dibromoethane (EDB)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	0.00042	0.00042
Chlorobenzene	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	2.2	2.9
1,1,1,2-Tetrachloroethane	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	0.018	0.018
Ethyl benzene	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	3.7	3.7
m,p-Xylenes	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	2.1 <sup>1</sup>	2.1 <sup>1</sup>
o-Xylene	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)		
Styrene	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	0.91	0.91
Bromoform	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	0.69	0.69
Isopropyl benzene	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)		
1,2,3-Trichloropropane	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	0.005	0.013
Bromobenzene	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	---	---
1,1,2,2-Tetrachloroethane	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	0.0014	0.0014
n-Propylbenzene	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	---	---
2-Chlorotoluene	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	---	---
4-Chlorotoluene	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	---	---
1,3,5-Trimethylbenzene	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	---	---
tert-Butylbenzene	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	---	---
1,2,4-Trimethylbenzene	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	---	---
sec-Butylbenzene	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	---	---
1,3-Dichlorobenzene	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	0.57	0.57
p-Isopropyltoluene	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	---	---
1,4-Dichlorobenzene	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	0.055	0.39
1,2-Dichlorobenzene	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	0.75	0.75
n-Butylbenzene	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)	---	---
1,2-Dibromo-3-Chloropropane	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.00081	0.00081
1,2,4-Trichlorobenzene	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	0.18	1.4
Hexachlorobutadiene	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.041	0.041
Naphthalene	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	4.4	4.4
1,2,3-Trichlorobenzene	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	---	---

**Criteria:** Hawaii Department of Health Tier 1 Environmental Action Levels with unrestricted (residential) and restricted (commercial/industrial) land uses above a non-drinking water resource and more than 150 meters from surface water (State of Hawaii Department of Health, rev. Fall 2017).

**Notes:**

<sup>1</sup> EAL is for Xylenes = m,p- + o-Xylene

**Abbreviations/Acronyms:**

-- not analyzed

ft bgs feet below ground surface

ID identifier

mg/kg milligrams per kilogram

ND (00) not detected (laboratory reporting limit)

## 5.0 DATA QUALITY REVIEW

MNA conducted an analytical data quality review to determine the usability of the data generated by performing a data check for sample preservation methods, technical sample holding times, method blanks, laboratory control sample/laboratory control sample duplicate (LCS/LCSD), matrix spike/matrix spike duplicate (MS/MSD), and surrogate recoveries. All samples were labeled and recorded in a COC document. The LCS/LCSD, MS/MSD, and surrogate recoveries were within the laboratory acceptable ranges. Technical holding times for all analytes were met.

Methylene chloride was measured at 0.0051 mg/kg in the method blank; but the analyte was not detected in the samples at or above the reporting limits.

All COPC reporting limits were below the Tier 1 EALs for unrestricted land use, with the exception of the discrete samples collected at B1 though B6. For these samples, 11 compounds had reporting limits above the EALs for unrestricted land use. VOCs with reporting limits below the EALs did not have measurable levels of VOCs. Additionally, no other COPCs were measured in these samples above the EALs; therefore, it is unlikely that VOCs are present in the B1 to B5 soil samples above the EALs for unrestricted land use.

Field performance was reviewed by comparing the results of triplicate MI samples to support the reproducibility of the sampling technique and analytical practice and representativeness of the samples. Average, standard deviation, and relative standard deviation (RSD) between the triplicate samples were evaluated when analytes were detected above the reporting limits. If the RSD between field triplicate samples is 35% or less, the total error is considered within a reasonable range for precision and reproducibility for field sampling activities. The RSD was calculated using the following equation.

$$RSD (\%) = \frac{100s}{\bar{x}}$$

Where:  $\bar{x}$  = Average, s = Standard deviation

The upper confidence level (UCL) of the average was calculated using the Chebyshev method for comparison to the EALs. The UCL was calculated using the following equation.

$$95\% UCL = average + \left( \sqrt{\frac{1}{\alpha}} - 1 \times \frac{SD}{\sqrt{r}} \right)$$

Where: SD = Standard deviation; r = number of replicate samples;  
 $\alpha$  = acceptable level of potential decision error (0.05 for a 95% UCL);



$t = (1-\alpha)^{\text{th}}$  quantile of the Student’s-t distribution with (r-1) degrees of freedom

A duplicate and triplicate MI sample was collected from DU-01 and -12 from the surface soil, 0 to 0.5 ft bgs. The primary, duplicate, and triplicate MI samples were collected at independent locations, with separate samples collected in the same method as the primary sample. The data comparison between triplicate samples is presented in Tables 8 and 9. The RSD for the measured analytes, arsenic, barium, cadmium, chromium, and lead, ranged from 8% to 24%, below the 35% agreement, indicating acceptable precision.

**Table 9. Summary of Data Quality Review for DU-01**

Analytes	Sample ID	Analytical Results (mg/kg)			Field Performance Review			Tier 1 EAL (mg/kg)
	Depth	2819-01-1A Primary	2819-01-1B Duplicate	2819-01-1C Triplicate	Average (mg/kg)	Standard Deviation	RSD (%)	Unrestricted
<b>Resource Conservation and Recovery Act 8 Metals (EPA 6020/7471A)</b>								
Arsenic		3.2	2.7	3.0	3	0.3	8	24
Barium		43	29	34	35.3	7.1	20	1,000
Cadmium		0.75	0.55	0.58	0.6	0.1	17	14
Chromium		120	78	95	97.7	21.1	22	1,100
Lead		19	12	14	15	3.6	24	200

**Table 10. Summary of Data Quality Review for DU-12**

Analytes	Sample ID	Analytical Results (mg/kg)			Field Performance Review			Tier 1 EAL (mg/kg)
	Depth	2819-12-1A Primary	2819-12-1B Duplicate	2819-12-1C Triplicate	Average (mg/kg)	Standard Deviation	RSD (%)	Unrestricted
<b>Resource Conservation and Recovery Act 8 Metals (EPA 6020/7471A)</b>								
Lead		8.6	8.4	9.8	8.9	0.8	8	200

**Criteria:** Hawaii Department of Health Tier 1 Environmental Action Levels with unrestricted (residential) land uses above a drinking water resource and more than 150 meters from surface water (State of Hawaii Department of Health, rev. Fall 2017).

**Abbreviations/Acronyms:**

ID identifier  
ft bgs feet below ground surface  
mg/kg milligrams per kilogram  
RSD relative standard deviation

## 6.0 CONCLUSION AND RECOMMENDATION

The objective of the screening survey was to identify the presence of potentially hazardous soil contaminants and associated risks that may be encountered during construction and earthwork.

In September and October 2020, MNA conducted a soil sampling at the AQS, which is the proposed site for the new OCCC. Based on the past releases in the project area vicinity, lead paints on buildings, and potential former pesticide use, the soil COPC were identified as TPH-GRO/DRO/RRO, PAH, PCB, RCRA 8 Metals, organochlorine pesticides, and organophosphate pesticides. The analytical results were compared to the HDOH EAL for sites more than 150 meter from surface water and above a drinking water resource for unrestricted (i.e., residential) and restricted (i.e., commercial/industrial) land use.

TPH-DRO was measured in the composite soil sample collected at the Former UST Area at 680 mg/kg, equal to the Tier 1 EAL for restricted land use. Soils from this area must be considered petroleum-impacted and require engineering or institutional controls, in-situ/ex-situ treatment, or removal. Soil in the Former UST Area should be excavated down to 5 ft bgs, and MI soil samples

must be collected at the limits of excavation in accordance with the HDOH TGM to ensure that the limits of contamination are delineated and assessed. No other COPCs were measured within the project site at or exceeding the Tier 1 EALs for unrestricted land use.

## RECOMMENDATIONS

Based on the review of previous site investigations and findings of the screening survey, MNA recommends the following:

- ***Soil disturbance at the Former UST Area with the Maintenance Shop Area:*** TPH-DRO was measured in soil equal to the Tier 1 EAL for restricted land use, 680 mg/kg. Soil in this area should be considered petroleum-impacted, down to 5 ft bgs. Further investigation is warranted in accordance with the Hawaii Department of Health Technical Guidance Manual to ensure that the limits of contamination are delineated. Options during construction may include engineering or institutional controls, in-situ/ex-situ treatment, or removal. Impacted soils must be characterized prior to taken offsite for disposal per State and County requirements.

For work within the Former UST Area, the Contractor must prepare a Soil Management Plan including a Health and Safety Plan and a Sampling and Analysis Plan. The Plan must be reviewed and approved by the Government prior to site disturbance within the Former UST Area.

- ***Excavated soils outside the Former UST Area:*** These soils may be used as backfill in the same area and depths where they are excavated from. Excess soils that will be transported offsite for disposal must be characterized to ensure compliance with recipient guidelines and requirements. For soil or waste characterization, the Contractor must collect representative soil samples (e.g., multi-incremental sampling technique).
- For other demolition/construction areas, there are reportable levels of TPH, PAH, PCB, and heavy metals. While the findings were below the EALs for unrestricted land use, earthwork may cause potential exposures to the site workers and nearby facility users via fugitive dust. The Contractor must anticipate hazards and implement engineering controls, such as water misting and wind barriers, to prevent exposures to humans and the environment.
- The Contractor must conduct excavation monitoring for signs of contamination, such as discolored/stained soil or odors. The Contractor must provide hazard communication for the workers prior to any soil disturbance.
- Erosion control measures shall be implemented, and precautions must be taken to mitigate impacts to storm drain systems and/or nearby body of water.
- The use of Best Management Practices, such as dust control and erosion control, must be implemented to minimize exposure of workers and other facility users to these soils and to prevent surface runoff to the marine environment.

## **7.0 LIMITATIONS**

The information provided in this report is for the Contractor's information only and is limited to soil conditions at the specific sample locations and depths. The Contractor must perform due diligence as required for the construction and conduct work in accordance with all applicable U.S. federal, state, and installation regulations and procedures.

## REFERENCES

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## **APPENDIX A    FIGURES**

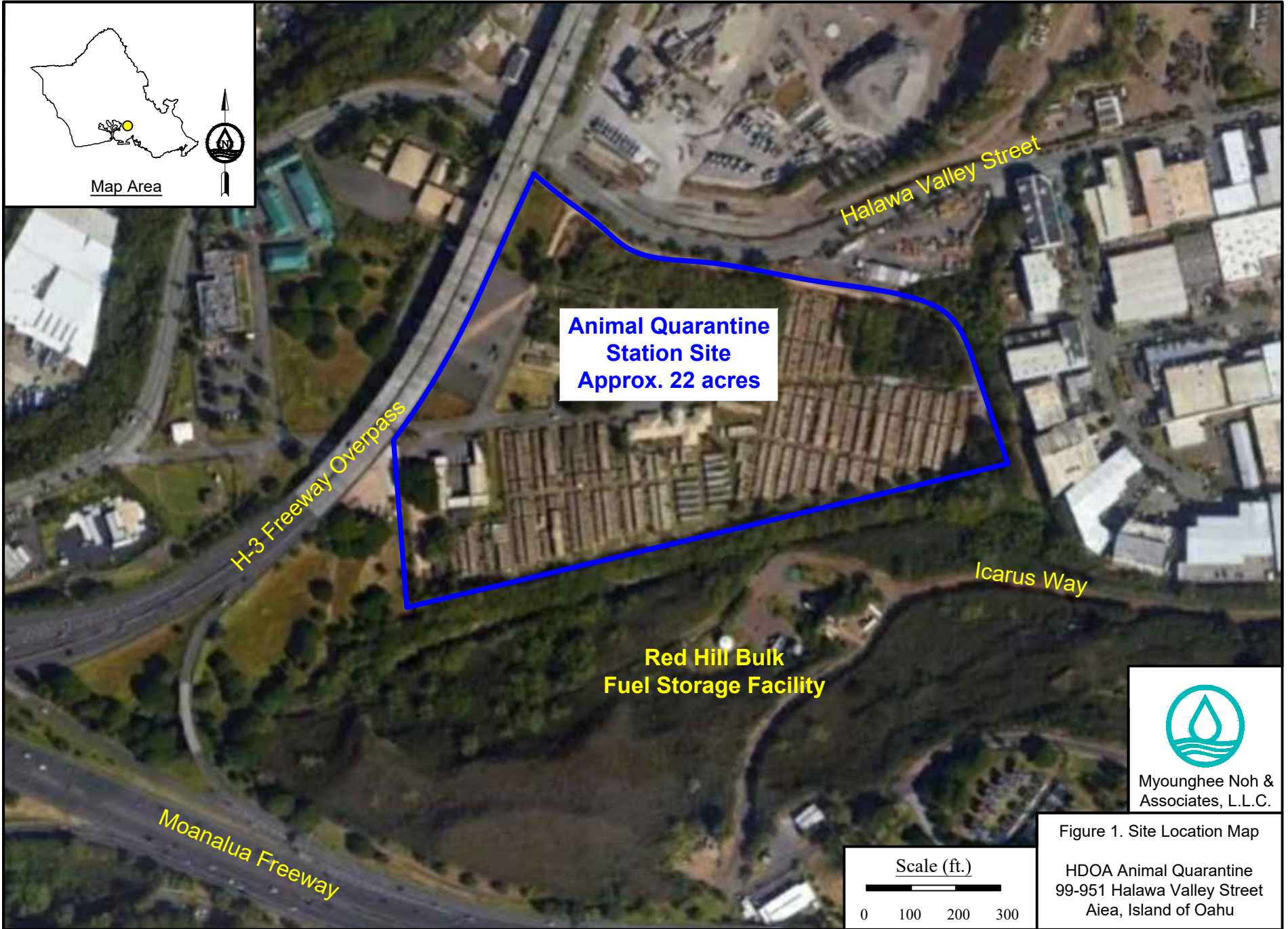
Figure 1.    Site Location Map

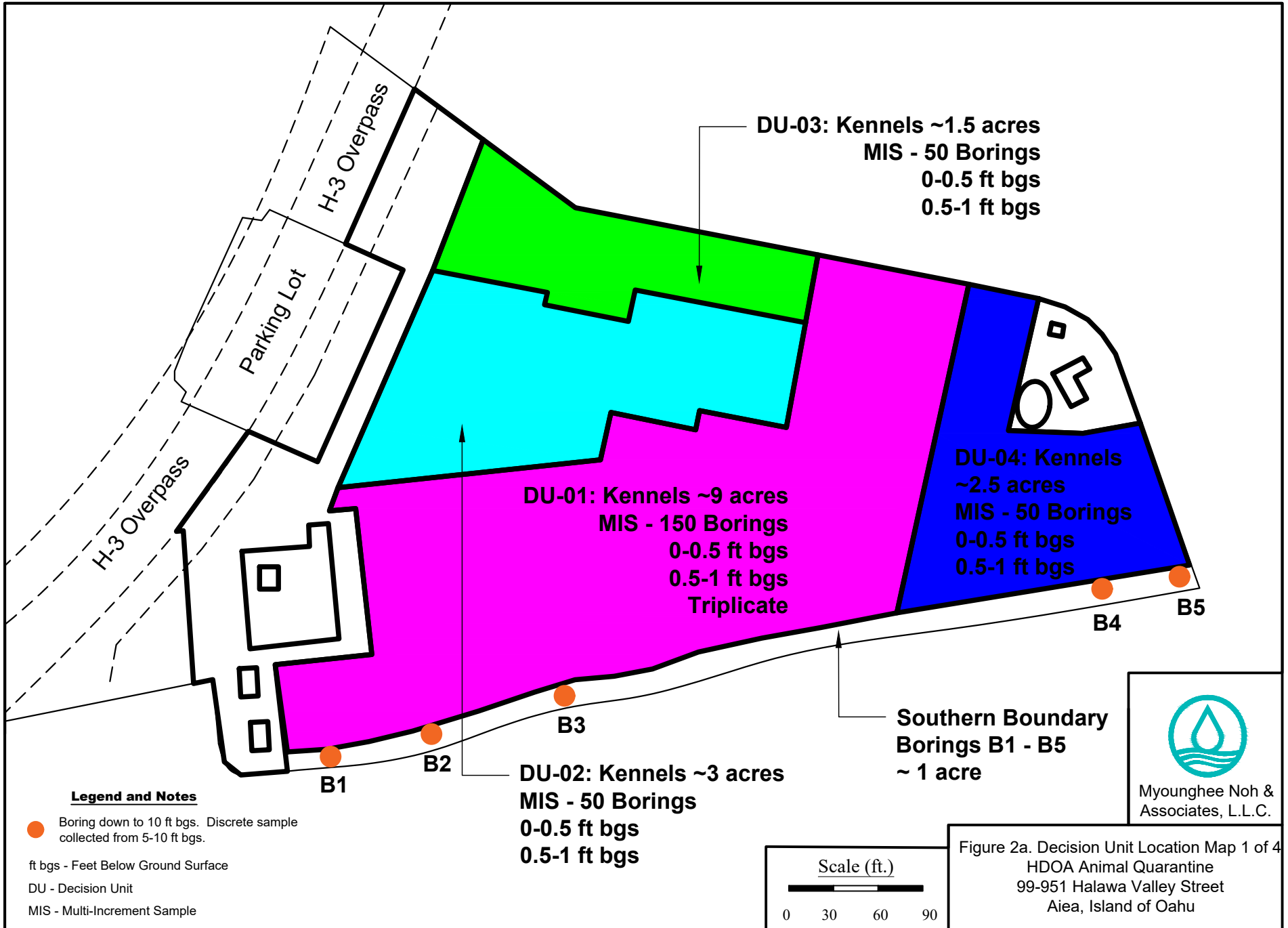
Figure 2a.    Decision Unit Location Map 1 of 4

Figure 2b.    Decision Unit Location Map 2 of 4

Figure 2c.    Decision Unit Location Map 3 of 4

Figure 2d.    Decision Unit Location Map 4 of 4





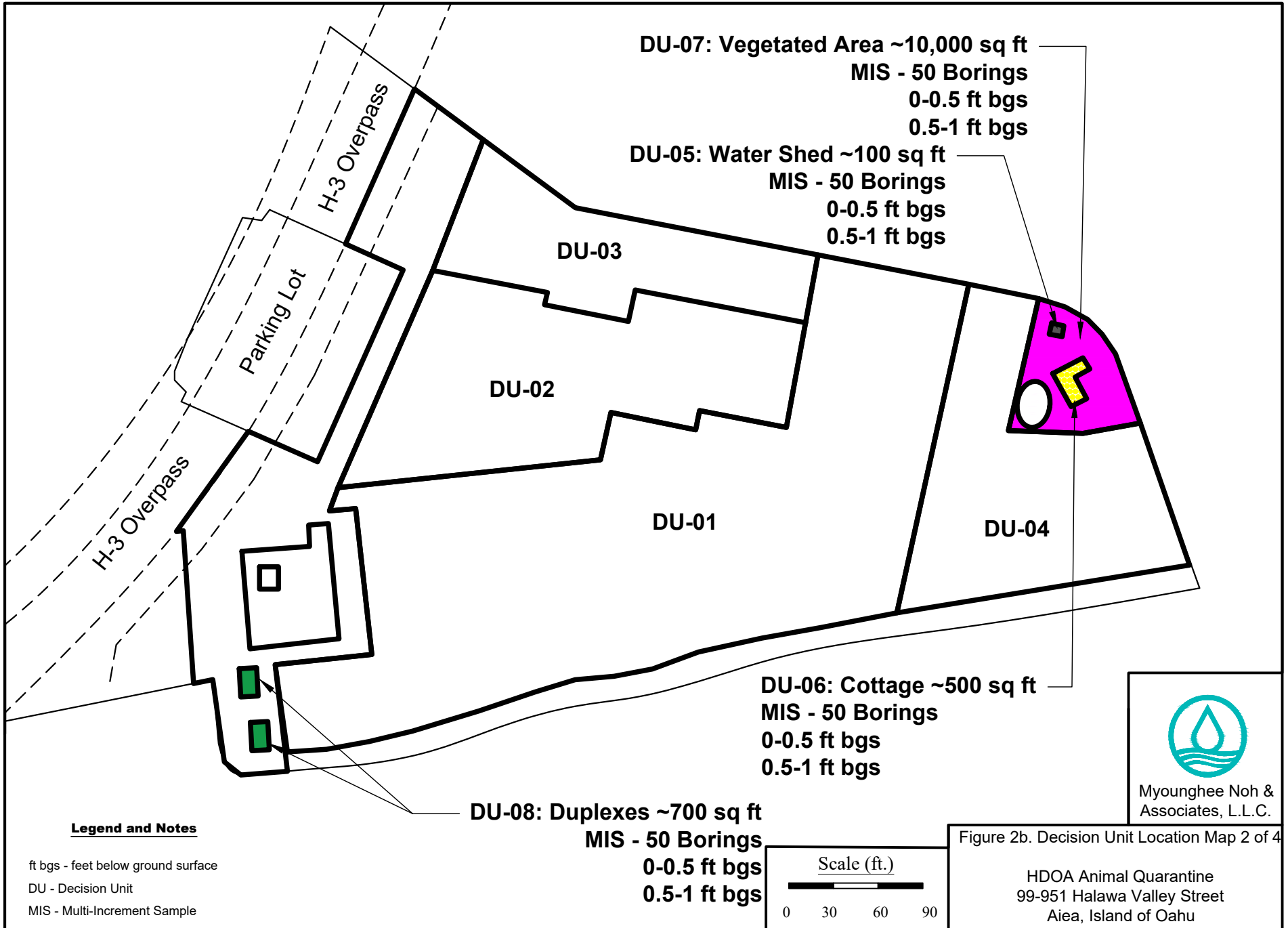


Figure 2b. Decision Unit Location Map 2 of 4



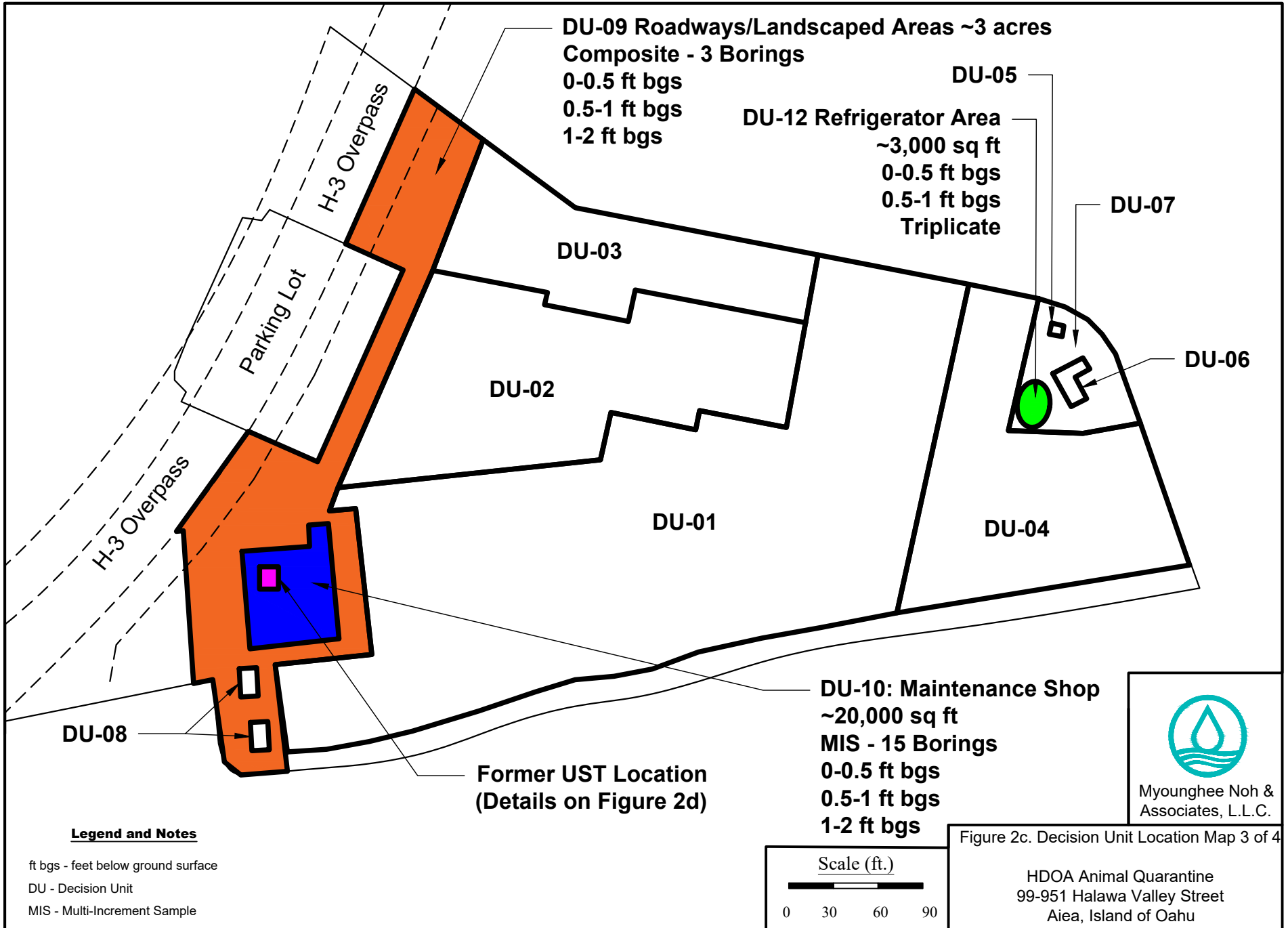
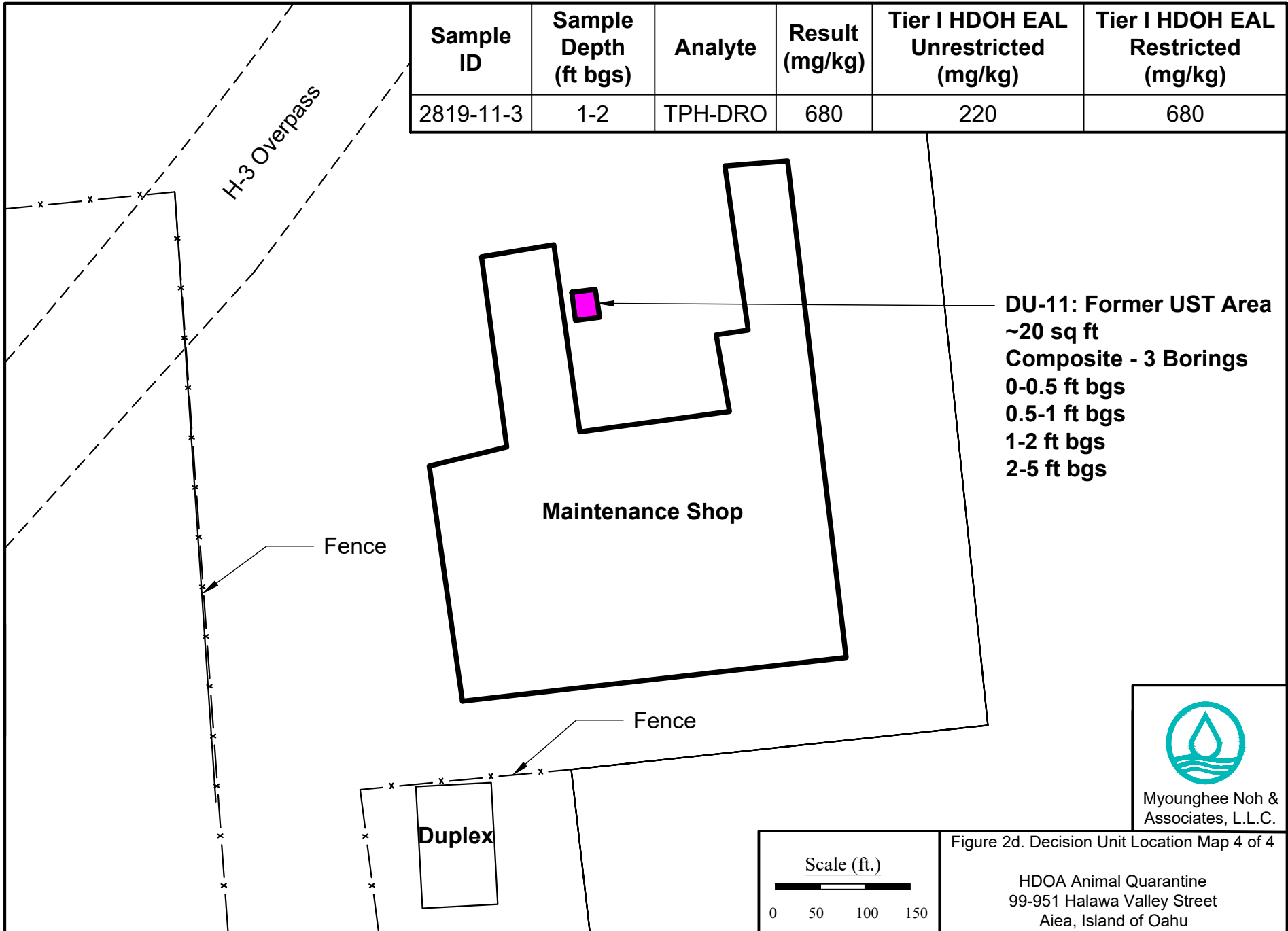


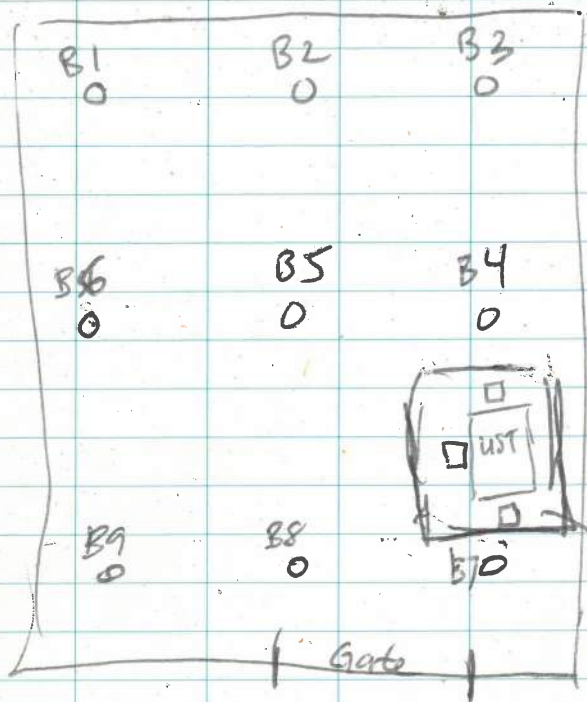
Figure 2c. Decision Unit Location Map 3 of 4

Sample ID	Sample Depth (ft bgs)	Analyte	Result (mg/kg)	Tier I HDOH EAL Unrestricted (mg/kg)	Tier I HDOH EAL Restricted (mg/kg)
2819-11-3	1-2	TPH-DRO	680	220	680



## **APPENDIX B    FIELD NOTES, FORMS, AND LOGS**

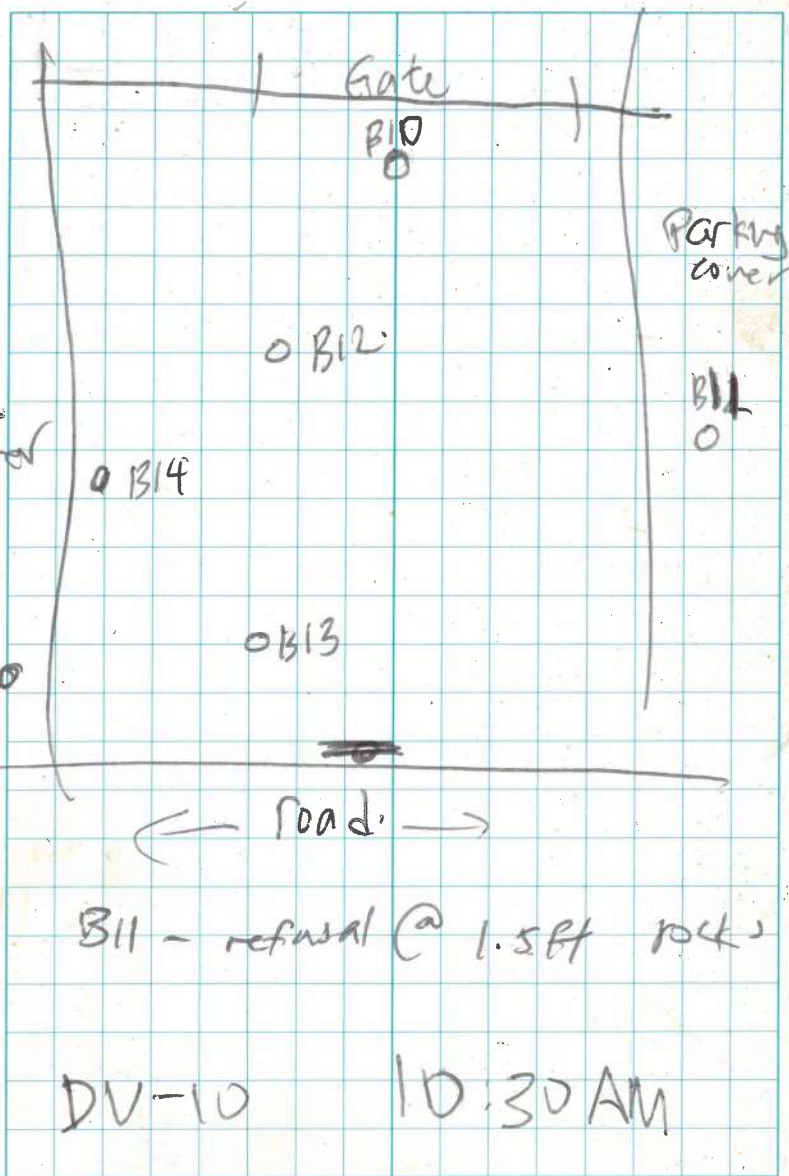
DU-10



B5 - refusal @ 1.5 ft rocks

DU-11

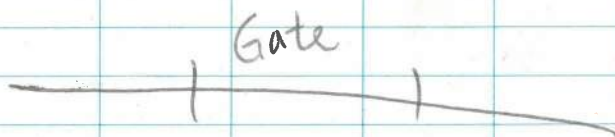
DU-10



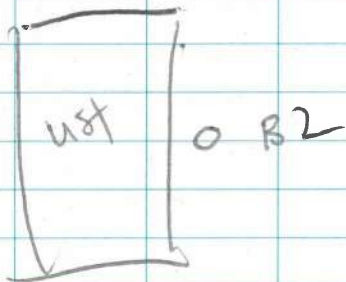
B11 - refusal @ 1.5 ft rocks

DU-10 10:30 AM

Location \_\_\_\_\_ Date \_\_\_\_\_

Project / Client 2819-2 OCCCDU-11

○ B1

○  
B3

DU-11 - 11:45 AM

Location \_\_\_\_\_ Date 9/17/2023 107Project / Client 2819-2 OCCCDU-09 | 12:20 → 9/17

2819-09-1	1.811 kg
2819-09-2	1.912 kg
2819-09-3	2.692 kg

DU-10 | 10:30

2819-10-1	2.033 kg
2819-10-2	2.773 kg
2819-10-3	2.219 kg

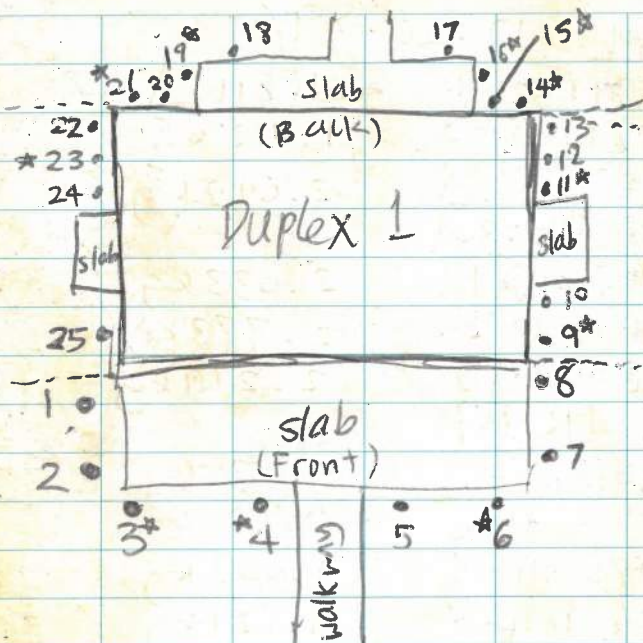
DU-11 | 11:45

2819-11-1	0.475 kg
2819-11-2	0.616 kg
2819-11-3	1.062 kg
2819-11-4	1.121 kg

Red Hill (Dixies)

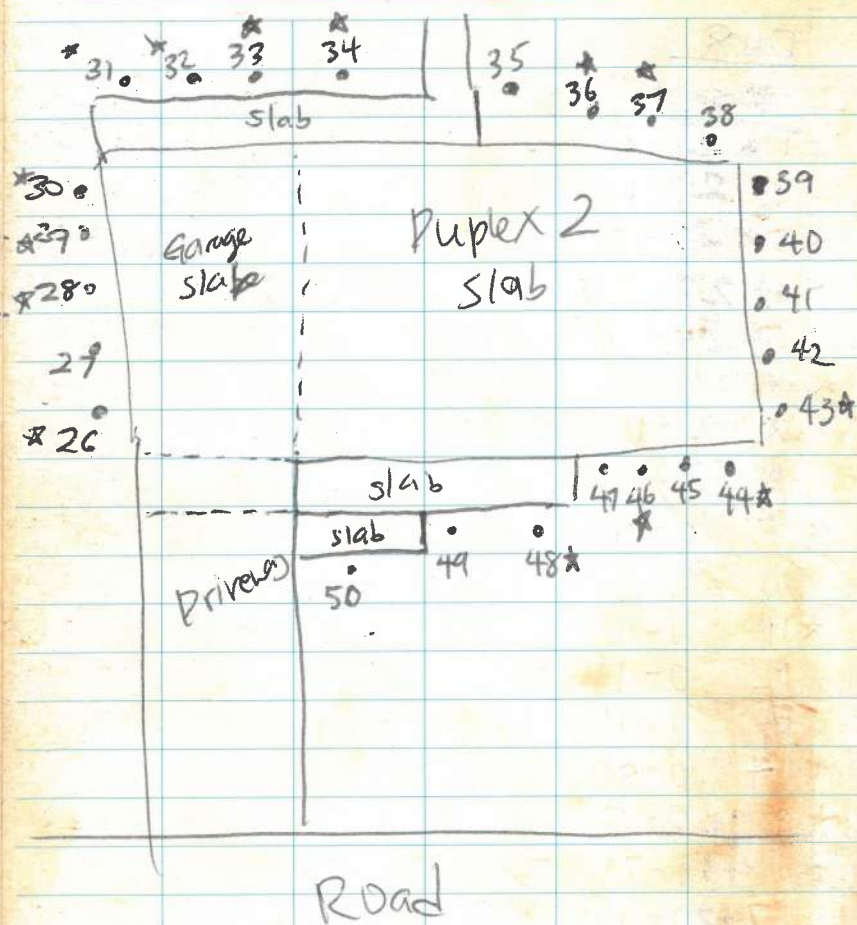
2819-B1	0.589 kg
2819-B2	0.678 kg
2819-B3	0.665 kg
2819-B4	0.562 kg
2819-B5	0.390 kg

13:0013:3013:5014:2514:45



Road

DU-8			
Boring #	Depth	Boring #	Depth
1	0-1'	23	0-7"
2	0-1'	24	0-1'
*3	0-7"	25	0-1'
*4	0-8"		
5	0-1'		
*6	0-9"		
7	0-1'		
8	0-1'		
*9	0-11"		
10	0-1'		
*11	0-11"		
12	0-1'		
13	0-1'		
*14	0-8"		
*15	0-7"		
*16	0-7"		
17	0-1'		
18	0-1'		
*19	0-8"		
20	0-1'		
21	0-6"		
22	0-1'		



\* Battery lasts for 27 holes.

DU-08	Duplex 2	Boring#	Depth	Boring#	Depth
		* 26	0-8"	48	0-8"
		27	0-1"	* 49	0-1"
		* 28	0-5"	50	0-1"
		* 29	0-8"		
		* 30	0-8"		
		* 31	0-6"		
		* 32	0-6"		
		* 33	0-4"		
		* 34	0-8"		
		35	0-1"		
		* 36	0-7"		
		* 37	0-10"		
		* 38	0-7"		
		39	0-1"		
		40	0-1"		
		41	0-1"		
		42	0-1"		
		* 43	0-7"		
		* 44	0-3"		
		45	0-1"		
		46	0-6"		
		47	0-1"		

9/21  
9/22

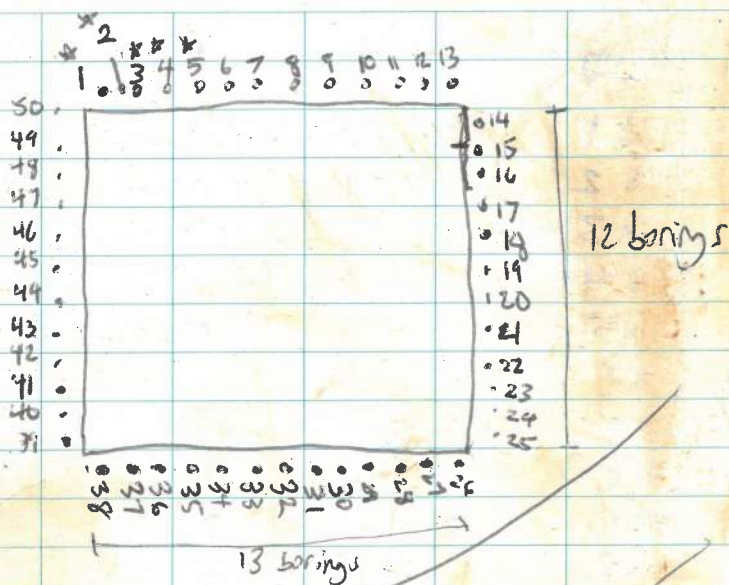
DU-08  
9:50

DU-05 Watershed

9/22/2020

2819-2

13-13-12-12 each side



Boring #	Depth
* 45	0-6"
* 46	0-2"
* 47	0-4"
* 48	0-10"
49	0-1"
* 50	0-7"

DU-05

14:25

DU-05

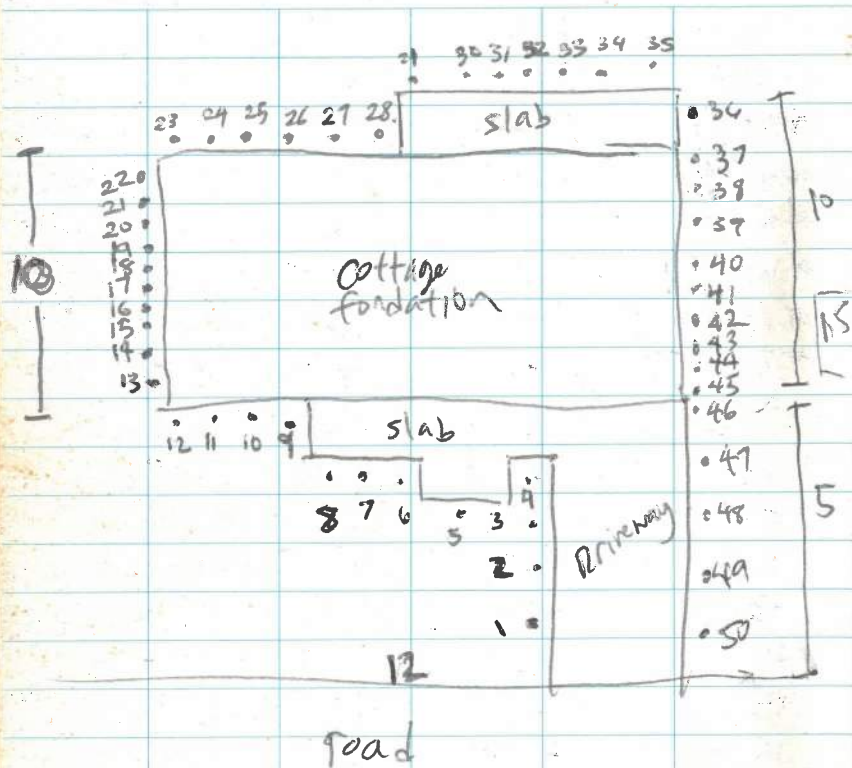
9/22/2020

DU-05

Boring #	Depth	Boring #	Depth
* 1	0-5"	* 23	0-5"
* 2	0-2"	* 24	0-9"
* 3	0-2"	* 25	0-1"
* 4	0-9"	* 26	0-5"
* 5	0-8"	* 27	0-5"
* 6	0-8"	* 28	0-8"
* 7	0-9"	* 29	0-5"
* 8	0-7"	* 30	0-6"
* 9	0-8"	* 31	0-7"
* 10	0-7"	* 32	0-6"
* 11	0-8"	33	0-1"
* 12	0-9"	* 34	0-7"
* 13	0-7"	* 35	0-8"
* 14	0-9"	* 36	0-7"
* 15	0-5"	* 37	6-9"
* 16	0-5"	* 38	0-8"
* 17	0-5"	* 39	0-6"
* 18	0-5"	* 40	0-2"
* 19	0-5"	* 41	0-10"
* 20	0-5"	* 42	0-7"
* 21	0-5"	* 43	0-9"
* 22	0-3"	* 44	0-6"



Location DU-06 Existing cottage Foundation Date 9/23/2020  
 Project / Client 2819-2 OCCC  
 13



Boring #	Depth
49	0-1'
50	0-1'

DU-06  
11:45

\*22 (no sample for 0.5-1.0)

Location DU-06 Date 9/23/2020 115  
 Project / Client \_\_\_\_\_

Boring #	Depth	Boring #	Depth
*1	0-5"	25	0-1'
2	0-1'	26	0-1'
*3	0-11"	27	0-1'
*4	0-11.5"	*28	0-9"
*5	0-6"	*29	0-2"
*6	0-3"	*30	0-9"
*7	0-2"	*31	0-5"
*8	0-4"	32	0-1'
9	0-1'	33	0-1'
*10	0-3"	34	0-1'
*11	0-7"	*35	0-5"
*12	0-4"	*36	0-10"
13	0-1'	*37	0-7"
14	0-1'	*38	0-8"
15	0-1'	*39	0-9"
16	0-1'	*40	0-9"
17	0-1'	*41	0-9"
18	0-11"	*42	0-10"
19	0-1'	43	0-1'
*20	0-2"	44	0-1'
21	0-1'	*45	0-10"
22	0-1'	*46	0-10"
23	0-1'	*47	0-7"
*24	0-8"	48	0-10"

DU-07 10:55

9/23/2020

→ start @ 21

DU-01

9/24/2020 117

2819-2

9/24/2020

13:50

1350

9/29/2020 @ 21

Boring #	Depth	Boring #	Depth
* 1	0-8"	* 26	0-8"
* 2	0-6"	27	0-1"
* 3	0-5"	28	0-1"
* 4	0-5"	29	0-1"
* 5	0-8"	30	0-1"
* 6	0-8"	* 31	0-8"
7	0-1"	* 32	0-10"
* 8	0-6"	* 33	0-3"
* 9	0-8"	* 34	0-8"
* 10	0-11"	* 35	0-11"
* 11	0-5"	* 36	0-5"
* 12	0-7"	* 37	0-8"
13	0-1'	* 38	0-6.5"
* 14	0-7"	* 39	0-11"
* 15	0-11"	* 40	0-11"
* 16	0-7"	* 41	0-2"
* 17	0-10"	* 42	0-2"
* 18	0-8"	* 43	0-2"
* 19	0-7"	* 44	0-2"
* 20	0-9"	* 45	0-2"
21	0-1'	* 46	0-4"
* 22	0-6"	* 47	0-4"
23	0-4"	* 48	0-8"
24	0-6"	* 49	0-8"
25	0-8"	* 50	0-5"

Boring #	Depth	Boring #	Depth
* 1	0-5.5"	* 26	0-3"
* 2	0-8"	* 27	0-9"
* 3	0-6"	* 28	0-10"
* 4	0-8"	* 29	0-4"
* 5	0-7"	* 30	0-7"
* 6	0-9"	* 31	0-3"
* 7	0-2"	* 32	0-8"
* 8	0-5.5"	* 33	0-8"
* 9	0-5.5"	* 34	0-5.5"
* 10	0-8"	* 35	0-9"
* 11	0-5"	36	0-1'
12	0-1'	37	0-1'
* 13	0-9"	* 38	0-5.5"
* 14	0-9"	* 39	0-8"
* 15	0-3"	* 40	0-8"
16	0-1'	* 41	0-10"
* 17	0-9"	* 42	0-2"
* 18	0-10"	* 43	0-3"
* 19	0-6"	* 44	0-5.5"
* 20	0-8"	* 45	0-6"
* 21	0-8"	46	0-1'
* 22	0-6.5"	* 47	0-4"
- 23	0-1'	* 48	0-3"
9/24 * 24	0-2"	49	0-5"
* 25	0-10"	50	0-4" <i>fit in the rain.</i>

118

Location

DU-12 IIA

Date

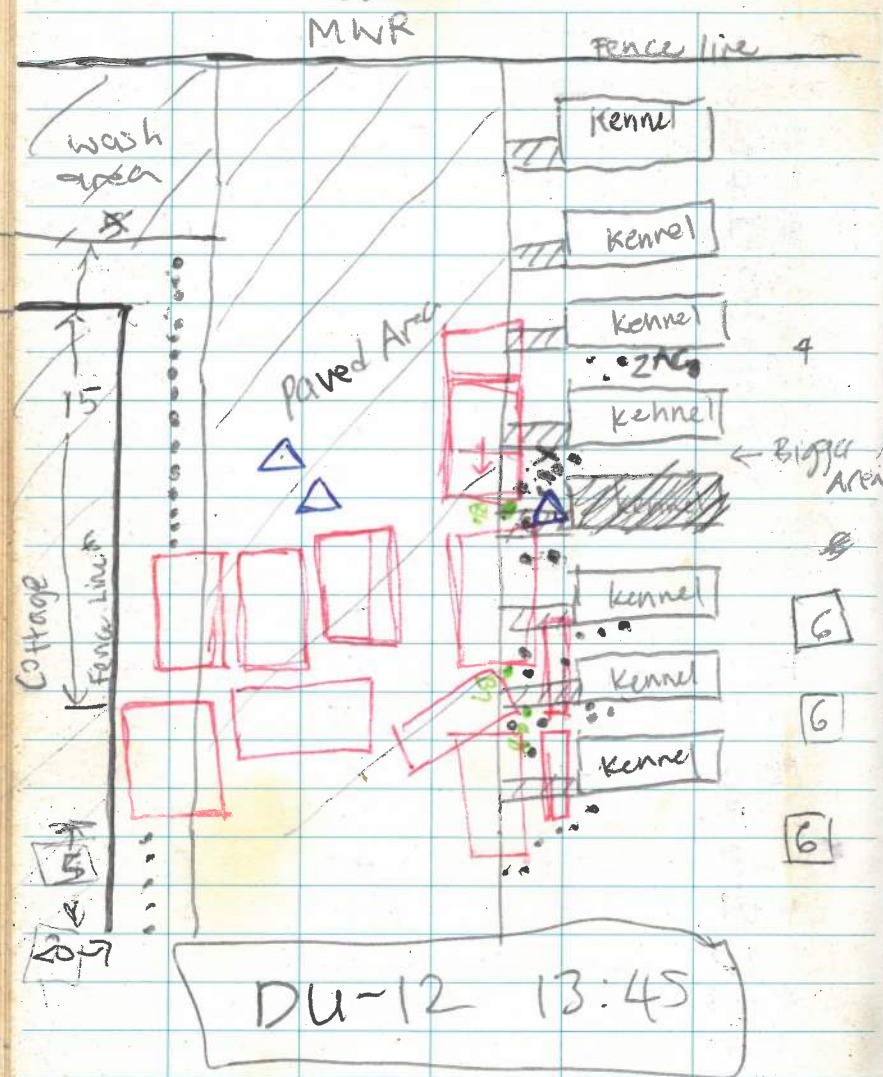
9/25/2022

Project / Client

2819-2 OCCC

MNA Personnel:

Chanel, BC, CL



□ - refrigerator (more fridges down)

△ - lawn mower

Location

DU-12 IIA

Date

9/25/2022 119

Project / Client

2819-2 OCCC

Boring#

Depth

Boring#

Depth

* 1	0-11"	* 26	0-5"
* 2	0-7"	* 27	0-7"
* 3	0-7"	* 28	0-2"
* 4	0-11"	* 29	0-6.5"
* 5	0-8"	* 30	0-6"
6	0-1"	* 31	0-10"
* 7	0-6"	* 32	0-8"
8	0-1"	33	0-1
* 9	0-11"	* 34	0-10"
* 10	0-7"	* 35	0-2"
* 11	0-7"	* 36	0-8"
12	0-1"	* 37	0-10"
* 13	0-10"	* 38	0-1"
* 14	0-7"	* 39	0-8"
15	0-1"	* 40	0-5.5"
* 16	0-11"	* 41	0-11"
17	0-1"	* 42	0-8"
18	0-1"	* 43	0-5"
* 19	0-7"	* 44	0-6.5"
20	0-1"	* 45	0-6"
* 21	0-10"	* 46	0-6"
* 22	0-4"	* 47	0-5"
* 23	0-6.5"	* 48	0-6"
* 24	0-6"	* 49	0-7"
* 25	0-4"	* 50	0-6" <i>note in the rain</i>

DU-12

10:10

9/28/2020

OCCC

2819-2

IB

Boring #	Depth	Boring #	Depth
* 1	0-4"	* 26	0-5"
2	0-6"	27	0-6"
3	0-6"	28	0-6"
4	0-6"	* 29	0-2"
5	0-6"	* 30	0-3"
6	0-6"	31	0-6"
7	0-6"	* 32	0-5"
8	0-6"	33	0-6"
9	0-6"	34	0-6"
* 10	0-3"	35	0-6"
11	0-6"	36	0-6"
12	0-6"	37	0-6"
13	0-6"	38	0-6"
14	0-6"	39	0-6"
15	0-6"	40	0-6"
* 16	0-3"	* 41	0-4"
17	0-6"	42	0-6"
18	0-6"	43	0-6"
* 19	0-1"	44	0-6"
20	0-6"	* 45	0-3"
21	0-6"	46	0-6"
* 22	0-2"	47	0-6"
23	0-6"	* 48	0-2"
24	0-6"	* 49	0-4"
* 25	0-3"	50	0-6"

DU-12

IC

9/28/2020

11:05

Boring #	Depth	Boring #	Depth
1	0-6"	26	0-6"
2	0-6"	* 27	0-3"
3	0-6"	28	0-6"
4	0-6"	* 29	0-3"
5	0-6"	* 30	0-2"
6	0-6"	31	0-6"
7	0-6"	* 32	0-3"
8	0-6"	33	0-6"
* 9	0-5.5"	34	0-6"
10	0-6"	35	0-6"
* 11	0-5.5"	* 36	0-3"
12	0-6"	37	0-6"
13	0-6"	38	0-6"
14	0-6"	* 39	0-5.5"
15	0-6"	40	0-6"
16	0-6"	41	0-6"
17	0-6"	42	0-6"
18	0-6"	43	0-6"
19	0-6"	44	0-6"
20	0-6"	* 45	0-5"
21	0-6"	46	0-6"
* 22	0-5"	47	0-6"
23	0-6"	48	0-6"
* 24	0-5"	* 49	0-5.5"
* 25	0-5"	* 50	0-5.5" <i>note in the rain.</i>

122

Location

DU-04

0-40 9/28/2020

Date

Project / Client

2819-2

DCCC

40-50

9/29/2020

Boring #	Depth	Boring #	Depth
* 1	0-5.5"	* 26	0-4"
* 2	0-7"	* 27	0-9"
* 3	0-5"	* 28	0-6"
* 4	0-7"	2A	0-1'
* 5	0-7"	* 30	0-9"
* 6	0-4'	* 31	0-6.5"
* 7	0-6"	* 32	0-2"
* 8	0-10"	* 33	0-11"
* 9	0-7"	* 34	0-5"
* 10	0-2'	* 35	0-5.5"
* 11	0-3"	* 36	0-9"
* 12	0-10"	* 37	0-10"
13	0-1'	* 38	0-9"
14	0-1'	* 39	0-10"
15	0-1'	* 9/29-40	0-11"
* 16	0-4"	* 41	0-5"
17	0-1'	* 42	0-8"
* 18	0-7"	* 43	0-11"
* 19	0-4"	* 44	0-4"
* 20	0-5"	45	0-1"
21	0-1"	* 46	0-4"
* 22	0-7"	* 47	0-6"
* 23	0-5.5"	* 48	0-6"
* 24	0-8"	* 49	0-6"
* 25	0-5.5"	* 50	0-3"

Location

DU-01 (1B)

11:15

9/29/2020

123

Date

Project / Client

2819-2

DCCC

9/30/2020

Boring #	Depth	Boring #	Depth
<del>1</del>	0-6"	26	0-6"
2	0-6"	27	0-6"
3	0-6"	28	0-6"
4	0-6"	29	0-6"
* 5	0-3"	30	0-6"
6	0-6"	31	0-6"
7	0-6"	* 32	0-4"
* 8	0-3"	33	0-6"
9	0-6"	34	0-6"
* 10	0-4"	35	0-6"
* 11	0-4.5"	* 36	0-2"
12	0-6"	* 37	0-3"
* 13	0-2"	38	0-6"
14	0-6"	39	0-6"
15	0-6"	40	0-6"
16	0-6"	41	0-6"
* 17	0-5.5"	* 42	0-5"
18	0-6"	43	0-6"
19	0-6"	44	0-6"
20	0-6"	45	0-6"
21	0-6"	46	0-6"
* 22	0-2"	* 47	0-6"
23	0-6"	48	0-6"
24	0-6"	49	0-6"
25	0-6"	50	0-6"

9/30

Rite in the Rain

124

Location

DU-01 [IC] [11:15] 9/29/2020

Date

Project / Client

2819-2 DCCC

9/30/2020

Boring #	Depth	Boring #	Depth
1	0-6"	26	0-6"
2	0-6"	27	0-6"
3	0-6"	28	0-6"
4	0-6"	29	0-6"
* 5	0-4"	30	0-6"
6	0-4"	31	0-6"
7	0-4"	32	0-6"
* 8	0-3"	33	0-6"
9	0-6"	34	0-6"
* 10	0-4"	35	0-6"
11	0-6"	36	0-6"
12	0-6"	37	0-6"
13	0-6"	38	0-6"
14	0-6"	39	0-6"
15	0-6"	40	0-6"
16	0-6"	41	0-6"
* 17	0-5.5"	42	0-6"
18	0-6"	43	0-6"
19	0-6"	44	0-6"
20	0-6"	45	0-6"
21	0-6"	46	0-6"
* 22	0-4"	47	0-6"
9/30 23	0-6"	48	0-6"
24	0-6"	49	0-6"
25	0-6"	50	0-6"

Location

Date 9/30/2020 125

Project / Client

Sample ID	Date	Time	Weight (kg)
2819-01-1A	9/29	13:50	1.820 kg
2819-01-1B	9/30	11:15	2.334 kg
2819-01-1C	9/30	11:15	2.023 kg
2819-01-2	9/29	13:50	<del>1.820</del> 1.765 kg
2819-02-1	10/2	11:20	1.261
2819-02-2	10/2	11:20	1.780
2819-03-1	10/2	13:55	1.304
2819-03-2	10/2	13:55	1.448
2819-04-1	9/29	9:30	2.849
2819-04-2	9/29	9:30	1.618
2819-12-1A	9/25	13:45	1.127
2819-12-1B	9/28	10:10	1.938
2819-12-1C	9/28	11:05	1.728
2819-12-2	9/25	13:45	1.879

Rite in the Rain

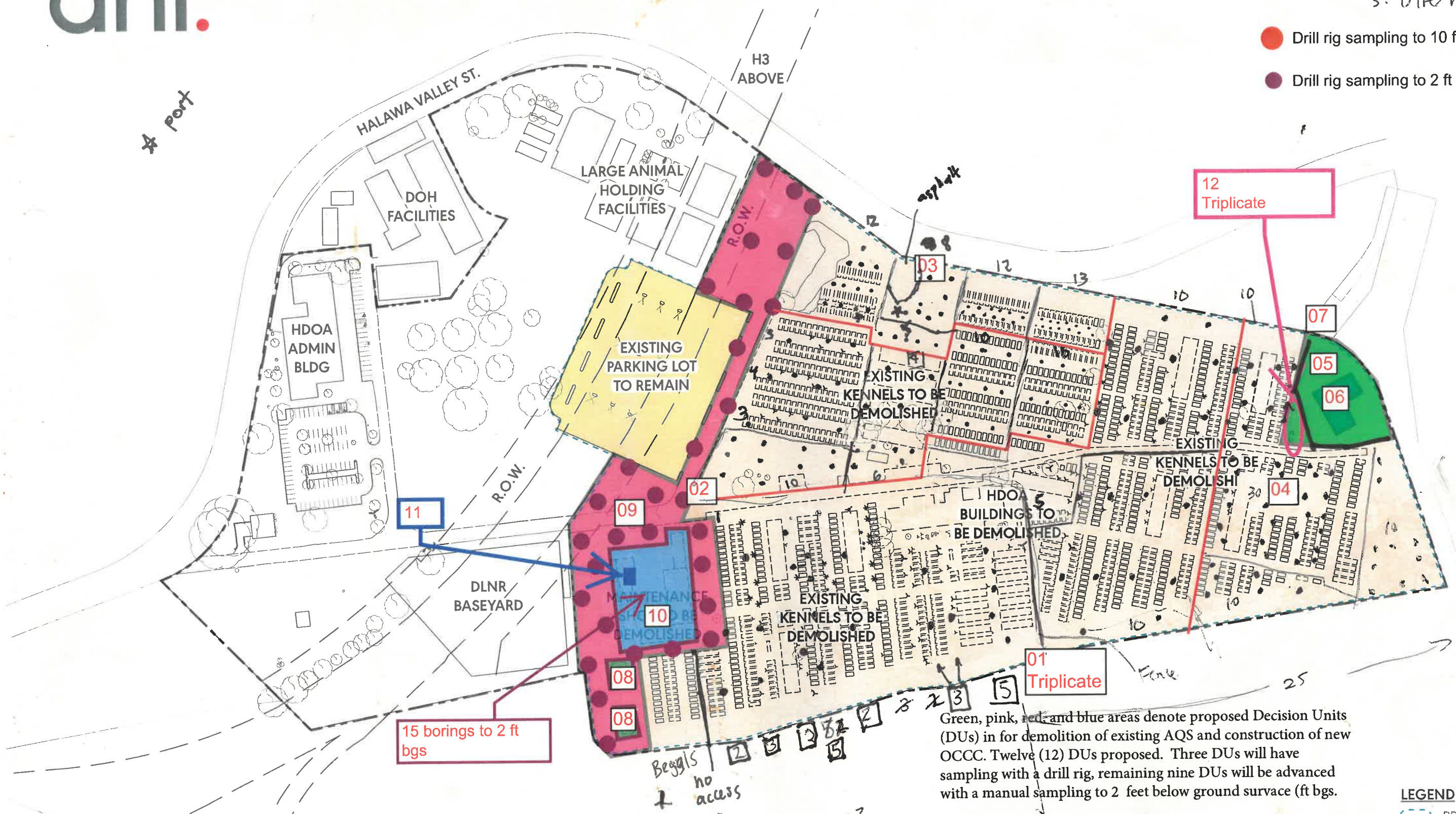
Boring #	Depth	Boring #	Depth
* 1	0-7"	* 26	0-4"
* 2	0-2'	* 27	0-2'
3	0-12"	* 28	0-16
* 4	0-6"	* 29	0-8"
* 5	0-8"	* 30	0-9"
* 6	0-6.5"	* 31	0-9"
* 7	0-11"	32	0-1'
* 8	0-10"	* 33	0-6.5"
* 9	0-6.5"	34	0-1'
* 10	0-10"	35	0-1'
* 11	0-7"	36	0-1'
* 12	0-4"	37	0-1'
* 13	0-6'	* 38	0-7"
* 14	0-7"	* 39	0-9"
* 15	0-6.5'	* 40	0-9"
* 16	0-8"	* 41	0-9"
* 17	0-6.5	* 42	0-9"
* 18	0-9"	* 43	0-7"
19	0-12"	* 44	0-1'
* 20	0-11"	* 45	0-9"
* 21	0-11"	* 46	0-6.5"
* 22	0-9"	* 47	0-8"
23	0-10"	* 48	0-8"
* 24	0-9"	* 49	0-8"
* 25	0-11"	* 50	0-3"

Boring #	Depth	Boring #	Depth
* 1	0-5.5"	* 26	0-5'
* 2	0-10"	* 27	0-7"
3	0-1'	* 28	0-8"
4	0-1'	* 29	0-5"
5	0-1'	* 30	0-7"
6	0-1'	10/2 * 31	0-8"
* 7	0-9"	32	0-1'
* 8	0-7"	* 33	0-2"
9	0-1'	* 34	0-3"
10	0-1'	35	0-1'
11	0-1'	* 36	0-8"
* 12	0-6"	37	0-1'
13	0-1"	38	0-11"
* 14	0-5.5"	* 39	0-5.5"
* 15	0-9"	40	0-1'
16	0-1'	* 41	0-7"
* 17	0-11"	* 42	0-10"
18	0-1'	43	0-1'
* 19	0-6"	44	0-1'
20	0-1'	* 45	0-8"
* 21	0-6"	* 46	0-9"
22	0-1'	47	0-1'
* 23	0-8"	* 48	0-3"
* 24	0-4"	* 49	0-11"
* 25	0-5"	50	0-11"

Figure 1. Proposed Decision Units and Boring Locations

coordinate w/ Mary  
 1. Beagle  
 2. Ag dogs (last row)  
 3. Other half of DU-01

- Drill rig sampling to 10 ft bgs (5 borings)
- Drill rig sampling to 2 ft bgs (30 borings)



15 borings to 2 ft bgs

Green, pink, red, and blue areas denote proposed Decision Units (DUs) in for demolition of existing AQS and construction of new OCCC. Twelve (12) DUs proposed. Three DUs will have sampling with a drill rig, remaining nine DUs will be advanced with a manual sampling to 2 feet below ground surface (ft bgs).

**LEGEND**

- PRU boundary
- Property line
- Existing parking lot
- Demolition area
- Structures to be demolished

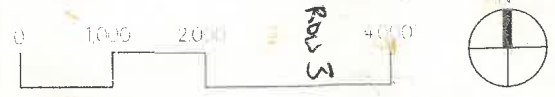
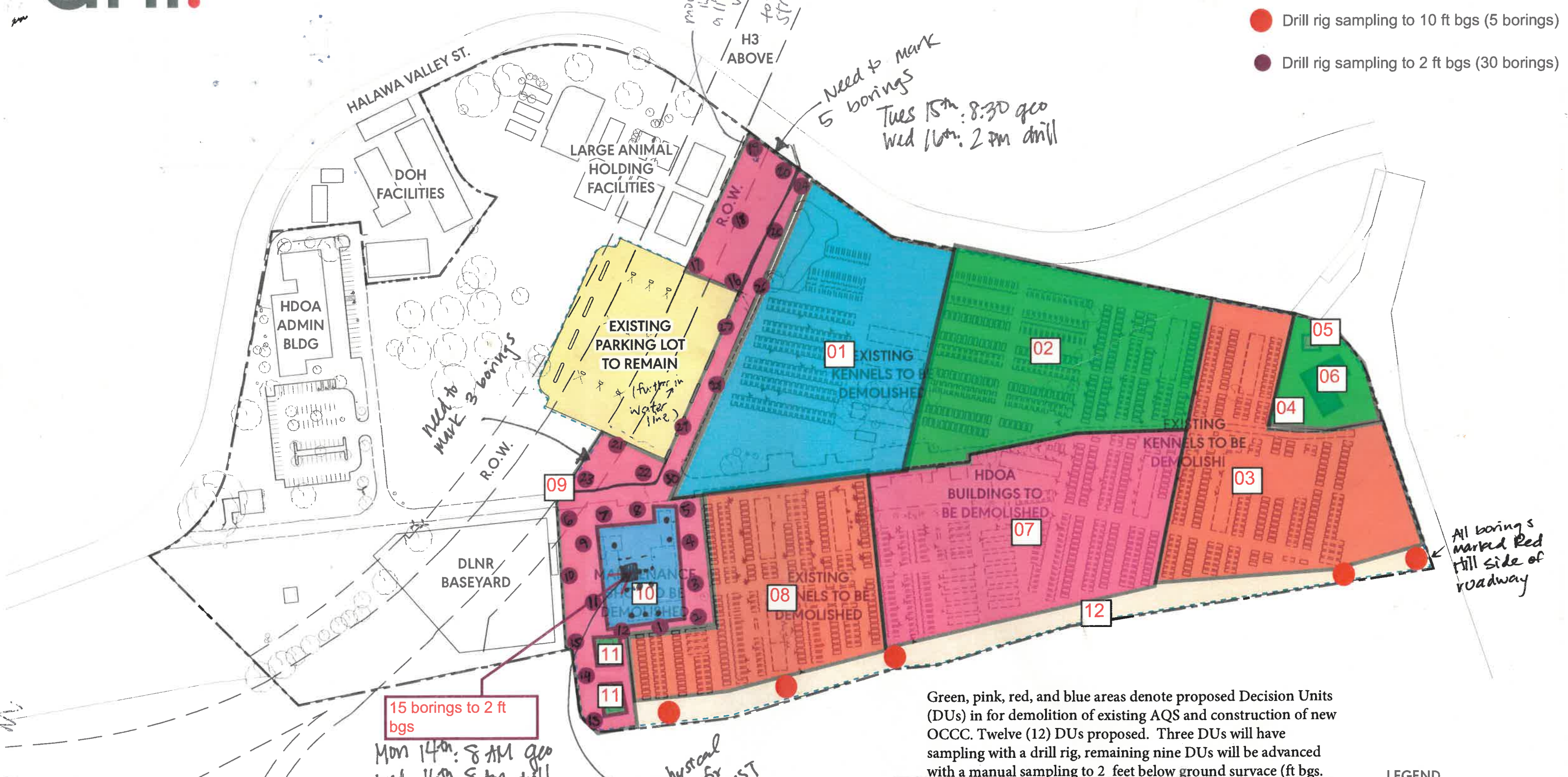




Figure 1. Proposed Decision Units and Boring Locations

- Drill rig sampling to 10 ft bgs (5 borings)
- Drill rig sampling to 2 ft bgs (30 borings)



Green, pink, red, and blue areas denote proposed Decision Units (DUs) in for demolition of existing AQS and construction of new OCCC. Twelve (12) DUs proposed. Three DUs will have sampling with a drill rig, remaining nine DUs will be advanced with a manual sampling to 2 feet below ground surface (ft bgs).

- LEGEND**
- PRU boundary
  - Property line
  - Existing parking lot
  - Demolition area
  - Structures to be demolished



HGS - Van Garcia 808-561-6599  
 HDOA (cattle) - Jason Moniz 808-960-8409  
 Xavier (cattle) - 808-483-7103 } they have the keys  
 Kristy (cattle) - 808-483-7106 }

**Project:**  
**Project Location:**  
**Project Number:**

**Log of Boring** Bi  
**Sheet 1 of 1**

Date(s) Drilled <u>9/14/20</u>	Logged By <u>BL</u>	Checked By <u>CL</u>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>Duq</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0-0.5 silt	
	2						0.5-2.0 silt/sand	
	4							
	6							
	8							
	10							

Project:  
 Project Location:  
 Project Number:

**Log of Boring B2**  
**Sheet 1 of 1**

Date(s) Drilled <u>9/16/20</u>	Logged By <u>BC</u>	Checked By <u>CL</u>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>DW 9</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
0							0 - 0.5 silt	
							0.5 - 1.0 silt/sand	
2							1 - 2.1 silt/gravel/corall	
4								
6								
8								
10								

Project:  
 Project Location:  
 Project Number:

**Log of Boring B3**  
**Sheet 1 of 1**

Date(s) Drilled 9/16/20	Logged By BC	Checked By CL
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>PO9</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0-0.5 silt	
							0.5-1.0 silt/gravel	
	2						1.0-2.0 clay/gravel	
	4							
	6							
	8							
	10							

Project:  
 Project Location:  
 Project Number:

Log of Boring B4  
 Sheet 1 of 1

Date(s) Drilled <u>9/16/20</u>	Logged By <u>BL</u>	Checked By <u>CL</u>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>Du 9</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0-0.5 silt	
	2						0.5-2.0 silt/gravel mix	
	4							
	6							
	8							
	10							

Project:  
 Project Location:  
 Project Number:

**Log of Boring B5**  
**Sheet 1 of 1**

Date(s) Drilled 9/16/20	Logged By IBC	Checked By CL
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location DU9	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0.0-0.5 silt	
	2						0.5-2.0 silt / gravel	
	4							
	6							
	8							
	10							

Project:  
 Project Location:  
 Project Number:

**Log of Boring** BC  
**Sheet 1 of 1**

Date(s) Drilled	9/17/20	Logged By	BC	Checked By	CL
Drilling Method		Drill Bit Size/Type		Total Depth of Borehole	
Drill Rig Type		Drilling Contractor		Approximate Surface Elevation	
Groundwater Level and Date Measured		Sampling Method(s)		Hammer Data	
Borehole Backfill		Location	Du 9		

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0-0.3 s&gt;ect	
							0.3-1.0 silt/clay/gravel mix	
							1.0-1.1 rock layer	
	2						1.1-1.9 silt/clay	
							1.9-2.0 rock	
	4							
	6							
	8							
	10							

Project:  
 Project Location:  
 Project Number:

Log of Boring B7  
 Sheet 1 of 1

Date(s) Drilled	9/17/20	Logged By	BC	Checked By	CL
Drilling Method		Drill Bit Size/Type		Total Depth of Borehole	
Drill Rig Type		Drilling Contractor		Approximate Surface Elevation	
Groundwater Level and Date Measured		Sampling Method(s)		Hammer Data	
Borehole Backfill		Location	D49		

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0-0.5 rock layer	
							0.5-1.0 rock/clay mix	
							1.0-1.5 rock layer	
	2						1.5-2.0 clay	
	4							
	6							
	8							
	10							



Project:  
 Project Location:  
 Project Number:

**Log of Boring** BS  
 Sheet 1 of 1

Date(s) Drilled <u>9/17/20</u>	Logged By <u>BL</u>	Checked By <u>CL</u>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>D49</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
0							0-0.5 <sup>gravel</sup> / <del>rock</del> / silt mix	
2							1.5-2.0 silt / rock mix	
4								
6								
8								
10								

Project:

Project Location:

Project Number:

Log of Boring B9

Sheet 1 of 1

Date(s) Drilled 9/11/20	Logged By BC	Checked By CL
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location D47	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0-1.5 gravel / silt mix	
	2						1.5-2.0 silt / rock mix	
	4							
	6							
	8							
	10							

Project:

Project Location:

Project Number:

Log of Boring B10

Sheet 1 of 1

Date(s) Drilled

9/17/20

Logged By

BC

Checked By

CL

Drilling Method

Drill Bit Size/Type

Total Depth of Borehole

Drill Rig Type

Drilling Contractor

Approximate Surface Elevation

Groundwater Level and Date Measured

Sampling Method(s)

Hammer Data

Borehole Backfill

Location

D49

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0-0.5 Sand/coral	
	2						0.5-2.0 Clay/gravel mix	
	4							
	6							
	8							
	10							

Project:  
 Project Location:  
 Project Number:

Log of Boring B11  
 Sheet 1 of 1

Date(s) Drilled <u>2/17/20</u>	Logged By <u>BC</u>	Checked By <u>CL</u>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>D49</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
0							0 - 0.5 rocks / silt mix	
							0.5 - 0.8 tree root	
							<del>0.8 - 1.0</del>	
2							0.6 - 2.0 rocks / silt mix	
4								
6								
8								
10								

Project:  
 Project Location:  
 Project Number:

**Log of Boring** 012  
 Sheet 1 of 1

Date(s) Drilled <u>9/17/20</u>	Logged By <u>BC</u>	Checked By <u>CC</u>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>D49</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0							
	2						<p>0.0-1.0 s:it</p> <p>1.0-2.0 sand/coral</p>	
	4							
	6							
	8							
	10							

Project:

Project Location:

Project Number:

# Log of Boring B13

## Sheet 1 of 1

Date(s)  
Drilled

9/17/20

Logged By

BL

Checked By

CL

Drilling  
Method

Drill Bit  
Size/Type

Total Depth  
of Borehole

Drill Rig  
Type

Drilling  
Contractor

Approximate  
Surface Elevation

Groundwater Level  
and Date Measured

Sampling  
Method(s)

Hammer  
Data

Borehole  
Backfill

Location

D49

Elevation (feet)

Depth (feet)

Sample Type

Sample Number

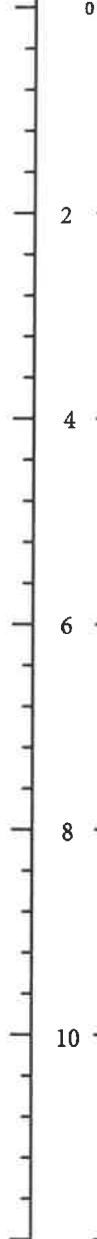
Sampling Resistance,  
blows/ft

USCS Symbol

Graphic Log

MATERIAL DESCRIPTION

REMARKS AND OTHER TESTS



0.0 - 1.0 silt

1.0 - 2.0 sand / coml

Project:  
 Project Location:  
 Project Number:

**Log of Boring** B14  
 Sheet 1 of 1

Date(s) Drilled	9/17/20	Logged By	BL	Checked By	CL
Drilling Method		Drill Bit Size/Type		Total Depth of Borehole	
Drill Rig Type		Drilling Contractor		Approximate Surface Elevation	
Groundwater Level and Date Measured		Sampling Method(s)		Hammer Data	
Borehole Backfill		Location	Du9		

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0-1 sand/soil	
	2						1.0-2.0 silt/gravel	
	4							
	6							
	8							
	10							

Project:  
 Project Location:  
 Project Number:

Log of Boring B15  
 Sheet 1 of 1

Date(s) Drilled 9/17/20	Logged By BC	Checked By LL
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location 047	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0-2.0 sand/corn	
	2							
	4							
	6							
	8							
	10							



Project:  
 Project Location:  
 Project Number:

**Log of Boring** B16  
 Sheet 1 of 1

Date(s) Drilled <b>9/17/20</b>	Logged By	Checked By
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <b>D49</b>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0-0.5 silt 0.5-1.0 gravel <del>mk</del>	
	2						1.0-2.0 <del>mk</del> silt/gravel mix	
	4							
	6							
	8							
	10							

Project:  
 Project Location:  
 Project Number:

Log of Boring B17  
 Sheet 1 of 1

Date(s) Drilled 9/17/20	Logged By BC	Checked By CL
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location D47	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0							
	2						<del>0-2.0</del> 0-2.0 silt/gumal mix	
	4							
	6							
	8							
	10							

Project:  
 Project Location:  
 Project Number:

**Log of Boring** 1314  
 Sheet 1 of 1

Date(s) Drilled <u>9/17/20</u>	Logged By <u>BC</u>	Checked By <u>CL</u>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>Du 9</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
0							0 - 2.0 silt/gravel mix	
2								
4								
6								
8								
10								

<b>Project:</b> <b>Project Location:</b> <b>Project Number:</b>	<b>Log of Boring</b> <u>1319</u> <b>Sheet 1 of 1</b>
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Date(s) Drilled <u>9/17/20</u>	Logged By <u>BCL</u>	Checked By <u>CL</u>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>Dug</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
0							0-2.0- silt/gravel	
2								
4								
6								
8								
10								

**Project:**  
**Project Location:**  
**Project Number:**

**Log of Boring B20**  
**Sheet 1 of 1**

Date(s) Drilled <u>9/17/20</u>	Logged By <u>BK</u>	Checked By <u>CL</u>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>D49</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0							
	2							
	4							
	6							
	8							
	10							
							0-2.0 clay / gravel mix	

**Project:**  
**Project Location:**  
**Project Number:**

**Log of Boring** B21  
**Sheet 1 of 1**

Date(s) Drilled <u>9/11/20</u>	Logged By <u>BC</u>	Checked By <u>CL</u>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>D49</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0-2 silt/gravel mix	
	2							
	4							
	6							
	8							
	10							

Project:

Project Location:

Project Number:

Log of Boring B 22

Sheet 1 of 1

Date(s) Drilled <u>9/11/20</u>	Logged By <u>BC</u>	Checked By <u>CL</u>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>D49</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0							
	2						0-2.0 silt/rock mixture	
	4							
	6							
	8							
	10							

Project:  
 Project Location:  
 Project Number:

**Log of Boring** B23  
**Sheet 1 of 1**

Date(s) Drilled <u>9/17/20</u>	Logged By <u>Bc</u>	Checked By <u>CL</u>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>D49</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0 - 2.0 silt / rock mix	
	2							
	4							
	6							
	8							
	10							



**Project:**  
**Project Location:**  
**Project Number:**

**Log of Boring** B24  
**Sheet 1 of 1**

Date(s) Drilled <u>9/17/20</u>	Logged By	Checked By <u>CL</u>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>D49</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0-0.5 silt gravel	
	2						0.5-2.0 clay/gravel	
	4							
	6							
	8							
	10							

Project:

Project Location:

Project Number:

Log of Boring B25  
Sheet 1 of 1

Date(s) Drilled 9/17/20

Logged By DL

Checked By CL

Drilling Method

Drill Bit Size/Type

Total Depth of Borehole

Drill Rig Type

Drilling Contractor

Approximate Surface Elevation

Groundwater Level and Date Measured

Sampling Method(s)

Hammer Data

Borehole Backfill

Location D4 7

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0-0.3 sand/corn	
							0.3-1.0 silt/gravel	
	2						1.0-2.0 clay	
	4							
	6							
	8							
	10							

Project:  
 Project Location:  
 Project Number:

**Log of Boring** B26  
 Sheet 1 of 1

Date(s) Drilled <u>9/11/26</u>	Logged By <u>BC</u>	Checked By <u>CL</u>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>D09</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0-0.3 sand / coral	
							0.3-1.0 silt sand mix	
	2						1.0-2.0 clay / gravel mix	
	4							
	6							
	8							
	10							

Project:

Project Location:

Project Number:

Log of Boring B27

Sheet 1 of 1

Date(s) Drilled <u>7/17/20</u>	Logged By <u>BC</u>	Checked By <u>CL</u>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>D49</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0.0-0.3 asphalt	
	2						0.3-2.0 clay / gravel mix	
	4							
	6							
	8							
	10							

Project:  
 Project Location:  
 Project Number:

**Log of Boring** B28  
 Sheet 1 of 1

Date(s) Drilled 9/17/20	Logged By BC	Checked By CL
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location D49	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0-0.5 asphalt 0.3-0.5 fill	
	2						0.5-2.0 clay / gravel mix	
	4							
	6							
	8							
	10							

Project:  
 Project Location:  
 Project Number:

**Log of Boring** B29  
**Sheet 1 of 1**

Date(s) Drilled	9/17/20	Logged By	BC	Checked By	CL
Drilling Method		Drill Bit Size/Type		Total Depth of Borehole	
Drill Rig Type		Drilling Contractor		Approximate Surface Elevation	
Groundwater Level and Date Measured		Sampling Method(s)		Hammer Data	
Borehole Backfill		Location	D 4 9		

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0-0.3 asphalt 0.3-0.5 fill	
	2						0.5-2.0 clay/gravel mix	
	4							
	6							
	8							
	10							

Project:

Project Location:

Project Number:

Log of Boring B30

Sheet 1 of 1

Date(s)  
Drilled

9/17/20

Logged By

BC

Checked By

CL

Drilling  
Method

Drill Bit  
Size/Type

Total Depth  
of Borehole

Drill Rig  
Type

Drilling  
Contractor

Approximate  
Surface Elevation

Groundwater Level  
and Date Measured

Sampling  
Method(s)

Hammer  
Data

Borehole  
Backfill

Location

D49

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0-0.3 mptst 0.3-0.5 fill	
	2						0.5-2.0 clay/gravel	
	4							
	6							
	8							
	10							

Project:  
 Project Location:  
 Project Number:

Log of Boring B1  
 Sheet 1 of 1

Date(s) Drilled	9/16/2020	Logged By	BC	Checked By	CL
Drilling Method		Drill Bit Size/Type		Total Depth of Borehole	
Drill Rig Type		Drilling Contractor		Approximate Surface Elevation	
Groundwater Level and Date Measured		Sampling Method(s)		Hammer Data	
Borehole Backfill		Location	DU10		

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0-0.3 asphalt	
							0.3-0.5 fill/gravel	
							<del>0.5-1.0 fill/gravel</del>	
	2						1.5-2.0 sand/gravel	
	4							
	6							
	8							
	10							



Project:  
 Project Location:  
 Project Number:

Log of Boring B2  
 Sheet 1 of 1

Date(s) Drilled	9/14/20	Logged By	BC	Checked By	CL
Drilling Method		Drill Bit Size/Type		Total Depth of Borehole	
Drill Rig Type		Drilling Contractor		Approximate Surface Elevation	
Groundwater Level and Date Measured		Sampling Method(s)		Hammer Data	
Borehole Backfill		Location	DU 10		

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0-0.3 asphalt	
							0.3-0.5 fill	
	2						0.5-2.0 <del>cl</del> silty / sandy	
	4							
	6							
	8							
	10							

Project:  
 Project Location:  
 Project Number:

**Log of Boring B3**  
**Sheet 1 of 1**

Date(s) Drilled <u>9/16/20</u>	Logged By <u>BC</u>	Checked By <u>CL</u>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>D40</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0.0-0.3 <u>asphalt</u>	
							0.3-0.5 <u>fill</u>	
	2						0.5-2.0 <u>soil/gravel</u>	
	4							
	6							
	8							
	10							

Project:

Project Location:

Project Number:

Log of Boring B4

Sheet 1 of 1

Date(s)  
Drilled

9/16/26

Logged By

IBC

Checked By

CL

Drilling  
Method

Drill Bit  
Size/Type

Total Depth  
of Borehole

Drill Rig  
Type

Drilling  
Contractor

Approximate  
Surface Elevation

Groundwater Level  
and Date Measured

Sampling  
Method(s)

Hammer  
Data

Borehole  
Backfill

Location

Du10

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0.0 - 0.3 asphalt	
							0.3 - 0.5 fill	
							0.5 - 1.6 silt/sand	
	2						1.6 - 2.0 rock/gravel	
	4							
	6							
	8							
	10							

Project:

Project Location:

Project Number:

Log of Boring BS

Sheet 1 of 1

Date(s) Drilled 9/16/20	Logged By BL	Checked By CL
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location D410	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0.0-0.3 asphalt	
							0.3-0.5 fill	
							0.5-1.5 silt/gravel	
	2							1.5 refusal (rock)
	4							
	6							
	8							
	10							

Project:

Project Location:

Project Number:

Log of Boring 136

Sheet 1 of 1

Date(s) Drilled 9/16/20	Logged By BC	Checked By CL
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location D410	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0.0 - 0.3 asphalt	
							0.3 - 0.5 RH	
	2						0.5 - 2.0 silt/clay/gravel	
	4							
	6							
	8							
	10							

Project:  
 Project Location:  
 Project Number:

**Log of Boring B 7**  
 Sheet 1 of 1

Date(s) Drilled <b>9/16/20</b>	Logged By <b>BC</b>	Checked By <b>CL</b>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <b>D410</b>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0.0-0.3 <i>asphlt</i> 0.3-0.5 <i>fill</i> 0.5-1.9 <i>clay/gravel</i> 1.9-2.0 <i>rock</i>	
	2							
	4							
	6							
	8							
	10							

Project:

Project Location:

Project Number:

Log of Boring B8

Sheet 1 of 1

Date(s) Drilled	9/16/20	Logged By	Bc	Checked By	EL
Drilling Method		Drill Bit Size/Type		Total Depth of Borehole	
Drill Rig Type		Drilling Contractor		Approximate Surface Elevation	
Groundwater Level and Date Measured		Sampling Method(s)		Hammer Data	
Borehole Backfill		Location	Du10		

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
0							0.0 - 0.3 asphalt	
							0.3 - 0.5 fill	
2							0.5 - 2.0 clay / rock	
4								
6								
8								
10								

Project:  
 Project Location:  
 Project Number:

**Log of Boring** B9  
**Sheet 1 of 1**

Date(s) Drilled <u>9/16/20</u>	Logged By <u>BC</u>	Checked By <u>CL</u>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>DUIO</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
0							0.0-0.3 <del>all</del> asphalt	
							0.3-0.5 fill	
2							0.5-2.0 clay / gravel	
4								
6								
8								
10								



Project:

Project Location:

Project Number:

# Log of Boring B10

## Sheet 1 of 1

Date(s) Drilled 9/16/20	Logged By BC	Checked By CL
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location DU10	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
0	0						0.0 - 0.3 asphalt	
							0.3 - 0.5 All	
2							0.5 - 2.0 clay / <del>silt</del> gravel	
4								
6								
8								
10								

Project:  
 Project Location:  
 Project Number:

**Log of Boring** B11  
 Sheet 1 of 1

Date(s) Drilled	9/16/20	Logged By	BC	Checked By	CL
Drilling Method		Drill Bit Size/Type		Total Depth of Borehole	
Drill Rig Type		Drilling Contractor		Approximate Surface Elevation	
Groundwater Level and Date Measured		Sampling Method(s)		Hammer Data	
Borehole Backfill		Location	0410		

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0.0 - 0.3 asphalt 0.3 - 0.5 fill 0.5 - 1.5 silty rock	
	2							1.5 refusal (rock)
	4							
	6							
	8							
	10							

Project:  
 Project Location:  
 Project Number:

**Log of Boring**  B12   
 Sheet 1 of 1

Date(s) Drilled <u> 9/16/20 </u>	Logged By <u> BC </u>	Checked By <u> CL </u>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u> DU10 </u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						<u> 0.0 - 0.3 asphalt </u> <u> 0.3 - 0.5 fill </u>	
	2						<u> 0.5 - 2.0 clay / gravel </u>	
	4							
	6							
	8							
	10							

Project:  
 Project Location:  
 Project Number:

Log of Boring B13  
 Sheet 1 of 1

Date(s) Drilled	7/16/20	Logged By	BC	Checked By	CL
Drilling Method		Drill Bit Size/Type		Total Depth of Borehole	
Drill Rig Type		Drilling Contractor		Approximate Surface Elevation	
Groundwater Level and Date Measured		Sampling Method(s)		Hammer Data	
Borehole Backfill		Location	D46		

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0.0 - 0.3 asphalt	
							0.3 - 0.5 fill	
	2						<del>0.5 - 2.0</del> silt/gravel	
	4							
	6							
	8							
	10							

Project:

Project Location:

Project Number:

Log of Boring B14

Sheet 1 of 1

Date(s) Drilled	9/16/20	Logged By	BC	Checked By	CL
Drilling Method		Drill Bit Size/Type		Total Depth of Borehole	
Drill Rig Type		Drilling Contractor		Approximate Surface Elevation	
Groundwater Level and Date Measured		Sampling Method(s)		Hammer Data	
Borehole Backfill		Location	D410		

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
0	0						0.0 - 0.3 asphalt	
							0.3 - 0.0 fill	
2							0.5 - 2.0 clay / silt / gravel	
4								
6								
8								
10								

Project:  
 Project Location:  
 Project Number:

Log of Boring B 15  
 Sheet 1 of 1

Date(s) Drilled	9/16/20	Logged By	BC	Checked By	CL
Drilling Method		Drill Bit Size/Type		Total Depth of Borehole	
Drill Rig Type		Drilling Contractor		Approximate Surface Elevation	
Groundwater Level and Date Measured		Sampling Method(s)		Hammer Data	
Borehole Backfill		Location	D410		

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
0							0-0.3 asphalt 0.3-0.5 fill	
2							0.5-2.0 silt/gravel	
4								
6								
8								
10								

Project:

Project Location:

Project Number:

Log of Boring B1

Sheet 1 of 1

Date(s) Drilled	Logged By	Checked By
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>D411</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0.0 - 0.3 asphalt 0.3 - 0.5 fill	
	2							
	4							
	6						0.5 - 5.0 clay/gravel mix	
	8							
	10							

**Project:**  
**Project Location:**  
**Project Number:**

**Log of Boring** B2  
**Sheet 1 of 1**

Date(s) Drilled	9/16/20	Logged By	BC	Checked By	CL
Drilling Method		Drill Bit Size/Type		Total Depth of Borehole	
Drill Rig Type		Drilling Contractor		Approximate Surface Elevation	
Groundwater Level and Date Measured		Sampling Method(s)		Hammer Data	
Borehole Backfill		Location	DH11		

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0.0 - 0.3 asphalt 0.3 - 0.5 fill	
	2							
	4							
	5						0.5 - 5.0 clay/gravel	
	6							
	8							
	10							



Project:

Project Location:

Project Number:

Log of Boring B3

Sheet 1 of 1

Date(s) Drilled

9/16/20

Logged By

BC

Checked By

CL

Drilling Method

Drill Bit Size/Type

Total Depth of Borehole

Drill Rig Type

Drilling Contractor

Approximate Surface Elevation

Groundwater Level and Date Measured

Sampling Method(s)

Hammer Data

Borehole Backfill

Location

Dull

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0.0 - 0.3 asphalt 0.3 - 0.5 fill	
	2							
	4						0.5 - 4.6 clay / <del>sand</del> gravel 4.6 - 50 rock	
	6							
	8							
	10							

Project:  
 Project Location:  
 Project Number:

Log of Boring B1  
 Sheet 1 of 1

Date(s) Drilled	9/16/20	Logged By	BL	Checked By	CL
Drilling Method		Drill Bit Size/Type		Total Depth of Borehole	
Drill Rig Type		Drilling Contractor		Approximate Surface Elevation	
Groundwater Level and Date Measured		Sampling Method(s)		Hammer Data	
Borehole Backfill		Location	Red Hill		

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0-0.5 silt	
	2						0.5-2.5 corrl / sand	
	4						2.5-5.0 silt / gravel mix	0.5 no sample taken
							5.0-5.5 silt	
	6							
	8						5.5-8.0 silt / gravel	
	10						8.0-10.0 clay silt / gravel mix	

Project:

Project Location:

Project Number:

Log of Boring B2

Sheet 1 of 1

Date(s) Drilled

9/14/20

Logged By BC

Checked By CL

Drilling Method

Drill Bit Size/Type

Total Depth of Borehole

Drill Rig Type

Drilling Contractor

Approximate Surface Elevation

Groundwater Level and Date Measured

Sampling Method(s)

Hammer Data

Borehole Backfill

Location Red Hill

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
0							0.0 - 0.5 silt	
2							0.5 - 2.5 coral/sand	0-5 No sample taken
4							2.5 - 5.0 silt/gravel mix	
6								
8							5.0 - 8.0 silt/gravel	
10							8.0 - 10.0 clay/gravel mix	

Project:

Project Location:

Project Number:

Log of Boring B3

Sheet 1 of 1

Date(s) Drilled	Logged By	Checked By
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>2nd Hill</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0.0 - 0.5 silt	
	2						0.5 - 2.0 coml / sand	No sample 0-5
	4						2.5 - 5.0 silt / gravel mix	
	6							
	8						5.0 - 8.0 silt / gravel mix	
	10						9.0 - 10.0 clay / gravel mix	

Project:  
 Project Location:  
 Project Number:

**Log of Boring B4**  
**Sheet 1 of 1**

Date(s) Drilled <u>9/16/20</u>	Logged By <u>BC</u>	Checked By <u>CL</u>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>Red Hill</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0.0 - 0.5 - silt	No sample 0-5
	2						0.5 - 2.5 - coal / sand	
	4						2.5 - 5.0 - silt / gravel mix	
	6						5.0 - 6.0 - silt / gravel mix	
	8							
	10						6.0 - 10.0 - clay / gravel mix	

Project:  
Project Location:  
Project Number:

Log of Boring B 5  
Sheet 1 of 1

Date(s) Drilled	Logged By <u>BC</u>	Checked By <u>CL</u>
Drilling Method	Drill Bit Size/Type	Total Depth of Borehole
Drill Rig Type	Drilling Contractor	Approximate Surface Elevation
Groundwater Level and Date Measured	Sampling Method(s)	Hammer Data
Borehole Backfill	Location <u>Red Hill</u>	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0						0.0 - 0.5 silt	0-5.0 no sample
	2						0.5 - 2.5 sand/cornl	
	4						2.5 - 5.0 silt/gravel mix	
	6						5.0 - 7.5 silt/gravel mix	
	8						7.5 - 8.0 tree root	7.5 - 8.0 tree root
	10						9.0 - 10.0 silt/gravel mix	

## **APPENDIX C    LABORATORY ANALYTICAL REPORTS**



Enthalpy Analytical  
931 West Barkley Ave  
Orange, CA 92868  
(714) 771-6900

enthalpy.com

Lab Job Number: 433735  
Report Level: II  
Report Date: 10/16/2020

**Analytical Report** *prepared for:*

Jennah Oshiro  
Myounghee Noh & Associates  
99-1046 Iwaena Street  
210A  
Aiea, HI 96701

Project: 2819\_2 - PH2 Oahu Community Correctional Center

*Authorized for release by:*

John Goyette, Service Center Manager  
(510) 204-2233 Ext 13112  
[john.goyette@enthalpy.com](mailto:john.goyette@enthalpy.com)

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, CDC ELITE Member



### Sample Summary

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Jennah Oshiro	Lab Job #:	433735
Myounghee Noh & Associates	Project No:	2819_2
99-1046 Iwaena Street	Location:	PH2 Oahu Community Correctional Center
210A	Date Received:	09/18/20
Aiea, HI 96701		

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Sample ID	Lab ID	Collected	Matrix
2819-09-1	433735-001	09/17/20 12:20	Soil
2819-09-2	433735-002	09/17/20 12:20	Soil
2819-09-3	433735-003	09/17/20 12:20	Soil
2819-10-1	433735-004	09/16/20 10:30	Soil
2819-10-2	433735-005	09/16/20 10:30	Soil
2819-10-3	433735-006	09/16/20 10:30	Soil
2819-11-1	433735-007	09/16/20 11:45	Soil
2819-11-2	433735-008	09/16/20 11:45	Soil
2819-11-3	433735-009	09/16/20 11:45	Soil
2819-11-4	433735-010	09/16/20 11:45	Soil
2819-B1	433735-011	09/16/20 13:00	Soil
2819-B2	433735-012	09/16/20 13:30	Soil
2819-B3	433735-013	09/16/20 13:50	Soil
2819-B4	433735-014	09/16/20 14:25	Soil
2819-B5	433735-015	09/16/20 14:45	Soil

## Case Narrative

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Myounghee Noh & Associates  
99-1046 Iwaena Street  
210A  
Aiea, HI 96701  
Jennah Oshiro

Lab Job Number: 433735  
Project No: 2819\_2  
Location: PH2 Oahu Community Correctional Center  
Date Received: 09/18/20

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This data package contains sample and QC results for fifteen soil samples, requested for the above referenced project on 09/18/20. The samples were received cold and intact. The samples were processed according to HDOH guidelines.

### **TPH-Extractables by GC (EPA 8015M):**

2819-B4 (lab # 433735-014) was diluted due to the dark color of the sample extract. No other analytical problems were encountered.

### **Semivolatile Organics by GC/MS SIM (EPA 8270C-SIM):**

High response was observed for benzo(a)pyrene in the CCV analyzed 09/28/20 13:09; affected data was qualified with "b". High recovery was observed for benzo(k)fluoranthene in the BSD for batch 253303; the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated samples. High surrogate recovery was observed for nitrobenzene-d5 in 2819-B1 (lab # 433735-011); no target analytes were detected in the sample. High surrogate recovery was observed for terphenyl-d14 in 2819-B1 (lab # 433735-011); no target analytes were detected in the sample. Many samples were diluted due to the dark color of the sample extracts. No other analytical problems were encountered.

### **Pesticides (EPA 8081A):**

All samples underwent florasil cleanup using EPA Method 3620C. Low surrogate recoveries were observed for TCMX in a number of samples. Low surrogate recoveries were observed for decachlorobiphenyl in a number of samples. 2819-10-1 (lab # 433735-004), 2819-10-2 (lab # 433735-005), and 2819-11-1 (lab # 433735-007) were diluted due to the dark color of the sample extracts. No other analytical problems were encountered.

### **PCBs (EPA 8082):**

Low surrogate recoveries were observed for decachlorobiphenyl (PCB) in 2819-09-1 (lab # 433735-001), 2819-10-1 (lab # 433735-004), and 2819-11-1 (lab # 433735-007). No other analytical problems were encountered.

### **Metals (EPA 6010B and EPA 7471A):**

High response was observed for selenium in the CCV analyzed 10/02/20 16:10; affected data was qualified with "b". High responses were observed for mercury in the CCV analyzed 10/01/20 19:03 and the CCV analyzed 10/01/20 19:22; affected data was qualified with "b". No other analytical problems were encountered.

### **Moisture (ASTM D2216):**

No analytical problems were encountered.

### **Organophosphorus Pesticides (EPA 8141A):**

American Environmental Testing in Burbank, CA performed the analysis (NELAP certified). Please see the American Environmental Testing case narrative.

## Detection Summary for 433735

**Client:** Myounghee Noh & Associates

**Project:** 2819\_2

**Location:** PH2 Oahu Community Correctional Center

Sample ID: 2819-09-1 Lab ID: 433735-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
DRO C10-C28	23		22	mg/Kg	Dry	1.000	EPA 8015M	EPA 3580
RRO C28-C44	58		43	mg/Kg	Dry	1.000	EPA 8015M	EPA 3580
Arsenic	1.6		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	76		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	120		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	7.2		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	8		1	%	As Recd	1.000	ASTM D2216	METHOD

Sample ID: 2819-09-2 Lab ID: 433735-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	1.4		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	120		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	110		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	5.5		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	10		1	%	As Recd	1.000	ASTM D2216	METHOD

Sample ID: 2819-09-3 Lab ID: 433735-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	1.4		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	67		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	100		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	5.3		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	11		1	%	As Recd	1.000	ASTM D2216	METHOD

Sample ID: 2819-10-1 Lab ID: 433735-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
DRO C10-C28	150		22	mg/Kg	Dry	1.000	EPA 8015M	EPA 3580
RRO C28-C44	250		44	mg/Kg	Dry	1.000	EPA 8015M	EPA 3580
Barium	65		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	91		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	13		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	10		1	%	As Recd	1.000	ASTM D2216	METHOD

## Detection Summary for 433735

Sample ID: 2819-10-2 Lab ID: 433735-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	1.6		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	140		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	170		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	58		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	20		1	%	As Recd	1.000	ASTM D2216	METHOD

Sample ID: 2819-10-3 Lab ID: 433735-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	1.7		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	120		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cadmium	0.36		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	190		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	33		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	21		1	%	As Recd	1.000	ASTM D2216	METHOD

Sample ID: 2819-11-1 Lab ID: 433735-007

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
DRO C10-C28	51		23	mg/Kg	Dry	1.000	EPA 8015M	EPA 3580
RRO C28-C44	130		45	mg/Kg	Dry	1.000	EPA 8015M	EPA 3580
Aroclor-1260	35		17	ug/Kg	As Recd	1.000	EPA 8082	EPA 3546
Arsenic	1.2		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	89		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	140		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	20		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	12		1	%	As Recd	1.000	ASTM D2216	METHOD

Sample ID: 2819-11-2 Lab ID: 433735-008

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
DRO C10-C28	31		22	mg/Kg	Dry	1.000	EPA 8015M	EPA 3580
Arsenic	2.8		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	130		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	190		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	54		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	10		1	%	As Recd	1.000	ASTM D2216	METHOD

## Detection Summary for 433735

Sample ID: 2819-11-3 Lab ID: 433735-009

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
DRO C10-C28	680		24	mg/Kg	Dry	1.000	EPA 8015M	EPA 3580
RRO C28-C44	390		48	mg/Kg	Dry	1.000	EPA 8015M	EPA 3580
Fluoranthene	35		16	ug/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Pyrene	23		16	ug/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Benzo(a)anthracene	19		16	ug/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Chrysene	23		16	ug/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Benzo(b)fluoranthene	19		16	ug/Kg	Dry	2.000	EPA 8270C-SIM	EPA 3550C
Arsenic	2.8		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	150		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	180		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	41		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	17		1	%	As Recd	1.000	ASTM D2216	METHOD

Sample ID: 2819-11-4 Lab ID: 433735-010

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	1.9		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	210		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	240		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	36		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	18		1	%	As Recd	1.000	ASTM D2216	METHOD

Sample ID: 2819-B1 Lab ID: 433735-011

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
RRO C28-C44	64		44	mg/Kg	Dry	1.000	EPA 8015M	EPA 3580
Arsenic	1.9		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	140		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	130		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	34		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	9		1	%	As Recd	1.000	ASTM D2216	METHOD

Sample ID: 2819-B2 Lab ID: 433735-012

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Barium	75		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	96		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	2.8		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	3		1	%	As Recd	1.000	ASTM D2216	METHOD

## Detection Summary for 433735

Sample ID: 2819-B3 Lab ID: 433735-013

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Barium	77		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	130		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	2.7		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	12		1	%	As Recd	1.000	ASTM D2216	METHOD

Sample ID: 2819-B4 Lab ID: 433735-014

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	0.87		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	98		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	140		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	15		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	14		1	%	As Recd	1.000	ASTM D2216	METHOD

Sample ID: 2819-B5 Lab ID: 433735-015

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	1.2		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	140		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	130		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	57		0.50	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	14		1	%	As Recd	1.000	ASTM D2216	METHOD

# Enthalpy Analytical LLC

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Berkeley, CA 94710  
(510) 486-0900 Phone  
(510) 486-0532 Fax

# CHAIN OF CUSTODY

Chain of Custody #: \_\_\_\_\_

C&T LOGIN # 433735

Project No: 2819\_2  
Project Name: PH2 Oahu Community Correctional Center  
EDD Format: \_\_\_\_\_ Rpt Level:  II  III  IV  
Turnaround Time:  RUSH \_\_\_\_\_  Standard

Sampler: Bryan Chinaka and Celeste Lim  
Report To: Jennah Oshiro  
Company: Myounghee Noh & Associates  
Telephone: 808-853-3139  
Email: jennah@noh-associates.com

## Analytical Request

Lab No.	Sample ID.	Sampling		Matrix		# of Containers	Chemical Preservative				
		Date	Time	Water	Soil		HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	None
1	2819-09-1	09/17/20	12:20	X		1					X
2	2819-09-2	09/17/20	12:20	X		1					X
3	2819-09-3	09/17/20	12:20	X		1					X
4	2819-10-1	09/16/20	10:30	X		1					X
5	2819-10-2	09/16/20	10:30	X		1					X
6	2819-10-3	09/16/20	10:30	X		1					X
7	2819-11-1	09/16/20	11:45	X		1					X
8	2819-11-2	09/16/20	11:45	X		1					X
9	2819-11-3	09/16/20	11:45	X		1					X
10	2819-11-4	09/16/20	11:45	X		1					X

TPH-DRO/RRO (8015B)	PAH (8270-SIM)	RCRA 8 Metals (610/7471A)	PCB (8082)	Chlorinated Pesticides (8081A)	Organophosphate Pesticides (614)	MIS Prep												
X	X	X	X			X												
X	X	X				X												
X	X	X				X												
X	X	X	X	X	X	X												
X	X	X		X	X	X												
X	X	X	X	X	X	X												
X	X	X	X	X	X	X												
X	X	X				X												
X	X	X				X												
X	X	X				X												

Notes:	SAMPLE RECEIPT <input type="checkbox"/> Intact <input type="checkbox"/> Cold <input type="checkbox"/> On Ice <input type="checkbox"/> Ambient	RELINQUISHED BY:	RECEIVED BY:
		<i>Celeste</i> 9/17/2020 15:00 DATE/TIME	<i>[Signature]</i> 9/18/20 10:11 DATE/TIME
		<i>[Signature]</i> 9/29/20 1300 DATE/TIME	<i>[Signature]</i> 1030 DATE/TIME
		DATE/TIME	DATE/TIME

**Enthalpy Analytical LLC**

2323 Fifth Street  
Berkeley, CA 94710  
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(510) 486-0532 Fax

**CHAIN OF CUSTODY**

Chain of Custody #: \_\_\_\_\_

C&T LOGIN # 433735

Project No: 2819\_2  
Project Name: PH2 Oahu Community Correctional Center  
EDD Format: \_\_\_\_\_ Rpt Level:  II  III  IV  
Turnaround Time:  RUSH \_\_\_\_\_  Standard

Sampler: Bryan Chinaka and Celeste Lim  
Report To: Jennah Oshiro  
Company: Myounghee Noh & Associates  
Telephone: 808-853-3139  
Email: jennah@noh-associates.com

**Analytical Request**

TPH-DRO/RRO (8015B)	PAH (8270-SIM)	RCRA 8 Metals (610/7471A)	PCB (8082)	Chlorinated Pesticides (8081A)	Organophosphate Pesticides (614)	MIS Prep														
X	X	X				X														
X	X	X				X														
X	X	X				X														
X	X	X				X														
X	X	X				X														

Lab No.	Sample ID.	Sampling		Matrix			Chemical Preservative					
		Date	Time	Water	Soil		# of Containers	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	None
	2819-B1	09/16/20	13:00	X			1					X
	2819-B2	09/16/20	13:30	X			1					X
	2819-B3	09/16/20	13:50	X			1					X
	2819-B4	09/16/20	14:25	X			1					X
	2819-B5	09/16/20	14:45	X			1					X

Notes:	SAMPLE RECEIPT <input type="checkbox"/> Intact <input type="checkbox"/> Cold <input type="checkbox"/> On Ice <input type="checkbox"/> Ambient	<b>RELINQUISHED BY:</b> <i>Celeste</i> 9/17/2020 15:00 DATE/TIME	<b>RECEIVED BY:</b> <i>[Signature]</i> 9/18/20 10:11 DATE/TIME
		DATE/TIME	DATE/TIME
		DATE/TIME	DATE/TIME
		DATE/TIME	DATE/TIME



**SAMPLE RECEIPT CHECKLIST**



Section 1: Login # 433735 Client: MNA  
 Date Received: 9/18/20 Project: \_\_\_\_\_

Section 2: Shipping info (if applicable) FEDEX 7715 6177 6218  
 Are custody seals present?  No, or  Yes. If yes, where?  on cooler,  on samples,  on package  
 Date: \_\_\_\_\_ How many 2  Signature,  Initials,  None  
 Were custody seals intact upon arrival?  Yes  No  N/A  
 Samples received in a cooler?  Yes, how many? \_\_\_\_\_  No (skip Section 3 below)  
 If no cooler Sample Temp (°C): \_\_\_\_\_ using IR Gun #  B, or  C  
 Samples received on ice directly from the field. Cooling process had begun  
 If in cooler: Date Opened 9/18/20 By (print) MAG (sign) [Signature]

Section 3: **Important: Notify PM if temperature exceeds 6°C or arrive frozen.**  
 Packing in cooler: (if other, describe) \_\_\_\_\_  
 Bubble Wrap,  Foam blocks,  Bags,  None,  Cloth material,  Cardboard,  Styrofoam,  Paper towels  
 Samples received on ice directly from the field. Cooling process had begun  
 Type of ice used:  Wet,  Blue/Gel,  None Temperature blank(s) included?  Yes,  No  
 Temperature measured using  Thermometer ID: \_\_\_\_\_, or IR Gun #  B  C  
 Cooler Temp (°C): #1: 5.4, #2: \_\_\_\_\_, #3: \_\_\_\_\_, #4: \_\_\_\_\_, #5: \_\_\_\_\_, #6: \_\_\_\_\_, #7: \_\_\_\_\_

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable	<input checked="" type="checkbox"/>		
Were Method 5035 sampling containers present?		<input checked="" type="checkbox"/>	
If YES, what time were they transferred to freezer?			
Did all bottles arrive unbroken/unopened?	<input checked="" type="checkbox"/>		
Are there any missing / extra samples?		<input checked="" type="checkbox"/>	
Are samples in the appropriate containers for indicated tests?	<input checked="" type="checkbox"/>		
Are sample labels present, in good condition and complete?	<input checked="" type="checkbox"/>		
Does the container count match the COC?	<input checked="" type="checkbox"/>		
Do the sample labels agree with custody papers?	<input checked="" type="checkbox"/>		
Was sufficient amount of sample sent for tests requested?	<input checked="" type="checkbox"/>		
Did you change the hold time in LIMS for unpreserved VOAs?			<input checked="" type="checkbox"/>
Did you change the hold time in LIMS for preserved terracores?			<input checked="" type="checkbox"/>
Are bubbles > 6mm present in VOA samples?			<input checked="" type="checkbox"/>
Was the client contacted concerning this sample delivery?		<input checked="" type="checkbox"/>	
If YES, who was called? _____ By _____ Date: _____			

Section 5:

	YES	NO	N/A
Are the samples appropriately preserved? (if N/A, skip the rest of section 5)	<input checked="" type="checkbox"/>		
Did you check preservatives for all bottles for each sample?	<input checked="" type="checkbox"/>		
Did you document your preservative check? pH strip lot# _____, pH strip lot# _____, pH strip lot# _____	<input checked="" type="checkbox"/>		

Preservative added:  
 H2SO4 lot# \_\_\_\_\_ added to samples \_\_\_\_\_ on/at \_\_\_\_\_  
 HCL lot# \_\_\_\_\_ added to samples \_\_\_\_\_ on/at \_\_\_\_\_  
 HNO3 lot# \_\_\_\_\_ added to samples \_\_\_\_\_ on/at \_\_\_\_\_  
 NaOH lot# \_\_\_\_\_ added to samples \_\_\_\_\_ on/at \_\_\_\_\_

Section 6:  
 Explanations/Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Date Logged In 9/18/20 By (print) ZLA (sign) \_\_\_\_\_  
 Date Labeled 9/23/20 By (print) MAG (sign) [Signature]



# ENTHALPY ANALYTICAL

## SAMPLE ACCEPTANCE CHECKLIST

**Section 1**  
 Client: Myounghee Noh & Associates Project: \_\_\_\_\_  
 Date Received: 9/26/2020 Sampler's Name Present:  Yes  No

**Section 2**  
 Sample(s) received in a cooler?  Yes, How many? 1  No (skip section 2) Sample Temp (°C) (No Cooler) : \_\_\_\_\_  
 Sample Temp (°C), One from each cooler: #1: 5.5 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_  
*(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)*  
 Shipping Information: \_\_\_\_\_

**Section 3**  
 Was the cooler packed with:  Ice  Ice Packs  Bubble Wrap  Styrofoam  
 Paper  None  Other \_\_\_\_\_  
 Cooler Temp (°C): #1: 3.2 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓	✓	
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)			✓
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?			✓
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✓
Was a sufficient amount of sample submitted for the requested tests?	✓		

**Section 5 Explanations/Comments**  
 \_\_\_\_\_  
 \_\_\_\_\_

**Section 6**  
 For discrepancies, how was the Project Manager notified?  Verbal PM Initials: \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Email (email sent to/on): \_\_\_\_\_ / \_\_\_\_\_  
 Project Manager's response:  
 \_\_\_\_\_

Completed By:  Date: 9/26/2020

# CHAIN OF CUSTODY

**Enthalpy Analytical LLC**  
 2323 Fifth Street  
 Berkeley, CA 94710  
 (510) 486-0900 Phone  
 (510) 486-0532 Fax

Chain of Custody #: \_\_\_\_\_

C&T LOGIN # 433735

Project No: 2819\_2  
 Project Name: PH2 Oahu Community Correctional Center  
 EDD Format: \_\_\_\_\_ Rpt Level: X II  III  IV  
 Turnaround Time:  RUSH \_\_\_\_\_ \* Standard  
 Sampler: Bryan Chinaka and Celeste Lim  
 Report To: Jennah Oshiro  
 Company: Myounghee Noh & Associates  
 Telephone: 808-853-3139  
 Email: jennah@noh-associates.com

Analytical Request	
TFH-DRO/RRO (8015B)	X
PAH (8270-SIM)	X
RCRA 8 Metals (610/7471A)	X
PCB (8082)	X
Chlorinated Pesticides (8081A)	
Organophosphate Pesticides (614)	
MIS Prep	X

Lab No.	Sample ID.	Sampling		Matrix			Chemical Preservative				
		Date	Time	Water	Soil	# of Containers	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	None
1	2819-09-1	09/17/20	12:20	X		1					X
2	2819-09-2	09/17/20	12:20	X		1					X
3	2819-09-3	09/17/20	12:20	X		1					X
4	2819-10-1	09/16/20	10:30	X		1					X
5	2819-10-2	09/16/20	10:30	X		1					X
6	2819-10-3	09/16/20	10:30	X		1					X
7	2819-11-1	09/16/20	11:45	X		1					X
8	2819-11-2	09/16/20	11:45	X		1					X
9	2819-11-3	09/16/20	11:45	X		1					X
10	2819-11-4	09/16/20	11:45	X		1					X

Notes: \_\_\_\_\_

RELINQUISHED BY:		RECEIVED BY:	
DATE/TIME	SIGNATURE	DATE/TIME	SIGNATURE
9/17/2020 15:00	<i>[Signature]</i>	9/18/20 10:11	<i>[Signature]</i>
1300	<i>[Signature]</i>	9/20/20 10:30	<i>[Signature]</i>

**Enthalpy Analytical LLC**  
 2323 Fifth Street  
 Berkeley, CA 94710  
 (510) 486-0900 Phone  
 (510) 486-0532 Fax

# CHAIN OF CUSTODY

C&T LOGIN # 433735

Project No: 2819\_2 Sampler: Bryan Chinaka and Celeste Lim  
 Project Name: PH2 Oahu Community Correctional Center Report To: Jennah Oshiro  
 EDD Format: \_\_\_\_\_ Rpt Level:  II  III  IV  
 Turnaround Time:  RUSH  Standard  
 Telephone: 808-853-3139  
 Email: jennah@noh-associates.com

Analytical Request	
TPH-DRO/RRO (8015B)	X
PAH (8270-SIM)	X
RCRA 8 Metals (610/7471A)	X
PCB (8082)	X
Chlorinated Pesticides (8081A)	X
Organophosphate Pesticides (614)	X
MIS Prep	X

Lab No.	Sample ID.	Sampling		Matrix			Chemical Preservative				
		Date	Time	Water	Soil	# of Containers	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	None
	2819-B1	09/16/20	13:00	X		1					X
	2819-B2	09/16/20	13:30	X		1					X
	2819-B3	09/16/20	13:50	X		1					X
	2819-B4	09/16/20	14:25	X		1					X
	2819-B5	09/16/20	14:45	X		1					X

Notes:	RELINQUISHED BY:		RECEIVED BY:	
	<input type="checkbox"/> Intact <input type="checkbox"/> Cold <input type="checkbox"/> On Ice <input type="checkbox"/> Ambient	Celeste 9/17/2020 15:00 DATE/TIME	[Signature] 9/18/20 10:11 DATE/TIME	[Signature] DATE/TIME

**SAMPLE RECEIPT CHECKLIST**



Section 1: Login # 433735

Client: MNA

Date Received: 9/18/20

Project: \_\_\_\_\_

Section 2: Shipping info (if applicable) FEDEX 7715 6177 6218

Are custody seals present?  No, or  Yes. If yes, where?  on cooler,  on samples,  on package

Date: \_\_\_\_\_ How many 2  Signature,  Initials,  None

Were custody seals intact upon arrival?  Yes  No  N/A

Samples received in a cooler?  Yes, how many? \_\_\_\_\_  No (skip Section 3 below)

If no cooler Sample Temp (°C): \_\_\_\_\_ using IR Gun #  B, or  C

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

If in cooler: Date Opened 9/18/20 By (print) MAG (sign) [Signature]

Section 3: **Important: Notify PM if temperature exceeds 6°C or arrive frozen.**

Packing in cooler: (if other, describe) \_\_\_\_\_

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

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

Type of ice used:  Wet,  Blue/Gel,  None Temperature blank(s) included?  Yes,  No

Temperature measured using  Thermometer ID: \_\_\_\_\_, or IR Gun #  B  C

Cooler Temp (°C): #1: 5.4, #2: \_\_\_\_\_, #3: \_\_\_\_\_, #4: \_\_\_\_\_, #5: \_\_\_\_\_, #6: \_\_\_\_\_, #7: \_\_\_\_\_

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable	<input checked="" type="checkbox"/>		
Were Method 5035 sampling containers present?		<input checked="" type="checkbox"/>	
If YES, what time were they transferred to freezer?			
Did all bottles arrive unbroken/unopened?	<input checked="" type="checkbox"/>		
Are there any missing / extra samples?		<input checked="" type="checkbox"/>	
Are samples in the appropriate containers for indicated tests?	<input checked="" type="checkbox"/>		
Are sample labels present, in good condition and complete?	<input checked="" type="checkbox"/>		
Does the container count match the COC?	<input checked="" type="checkbox"/>		
Do the sample labels agree with custody papers?	<input checked="" type="checkbox"/>		
Was sufficient amount of sample sent for tests requested?	<input checked="" type="checkbox"/>		
Did you change the hold time in LIMS for unpreserved VOAs?			<input checked="" type="checkbox"/>
Did you change the hold time in LIMS for preserved terracores?			<input checked="" type="checkbox"/>
Are bubbles > 6mm present in VOA samples?			<input checked="" type="checkbox"/>
Was the client contacted concerning this sample delivery?		<input checked="" type="checkbox"/>	
If YES, who was called? _____ By _____ Date: _____			

Section 5:	YES	NO	N/A
Are the samples appropriately preserved? (if N/A, skip the rest of section 5)			
Did you check preservatives for all bottles for each sample?			
Did you document your preservative check?			
pH strip lot# _____, pH strip lot# _____, pH strip lot# _____			
Preservative added:			
<input type="checkbox"/> H2SO4 lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> HCL lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> HNO3 lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> NaOH lot# _____ added to samples _____ on/at _____			

Section 6:  
 Explanations/Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Date Logged In 9/18/20 By (print) ZLA (sign) \_\_\_\_\_  
 Date Labeled 9/23/20 By (print) MAG (sign) [Signature]



# ENTHALPY ANALYTICAL

## SAMPLE ACCEPTANCE CHECKLIST

**Section 1**  
 Client: Myounghee Noh & Associates Project: \_\_\_\_\_  
 Date Received: 9/26/2020 Sampler's Name Present:  Yes  No

**Section 2**  
 Sample(s) received in a cooler?  Yes, How many? 1  No (skip section 2) Sample Temp (°C) (No Cooler) : \_\_\_\_\_  
 Sample Temp (°C), One from each cooler: #1: 5.5 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_  
*(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)*  
 Shipping Information: \_\_\_\_\_

**Section 3**  
 Was the cooler packed with:  Ice  Ice Packs  Bubble Wrap  Styrofoam  
 Paper  None  Other \_\_\_\_\_  
 Cooler Temp (°C): #1: 3.2 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓	✓	
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)			✓
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?			✓
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✓
Was a sufficient amount of sample submitted for the requested tests?	✓		

**Section 5 Explanations/Comments**  
 \_\_\_\_\_  
 \_\_\_\_\_

**Section 6**  
 For discrepancies, how was the Project Manager notified?  Verbal PM Initials: \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Email (email sent to/on): \_\_\_\_\_ / \_\_\_\_\_  
 Project Manager's response:  
 \_\_\_\_\_

Completed By:  Date: 9/26/20

## Extractable Carbon Chain

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-09-1

**Moisture:** 8%

**Prepared:** 09/29/20

**Type:** SAMPLE

**Diln Fac:** 1.000

**Analyzed:** 09/30/20

**Lab ID:** 433735-001

**Batch#:** 253401

**Prep:** EPA 3580

**Matrix:** Soil

**Sampled:** 09/17/20

**Analysis:** EPA 8015M

**Basis:** dry

**Received:** 09/18/20

**Analyst:** MES

Analyte	Result	RL	Units
DRO C10-C28	23	22	mg/Kg
RRO C28-C44	58	43	mg/Kg

Surrogate	%REC	Limits
n-Triacontane	86	70-130

**Field ID:** 2819-09-2

**Moisture:** 10%

**Prepared:** 09/29/20

**Type:** SAMPLE

**Diln Fac:** 1.000

**Analyzed:** 09/30/20

**Lab ID:** 433735-002

**Batch#:** 253401

**Prep:** EPA 3580

**Matrix:** Soil

**Sampled:** 09/17/20

**Analysis:** EPA 8015M

**Basis:** dry

**Received:** 09/18/20

**Analyst:** MES

Analyte	Result	RL	Units
DRO C10-C28	ND	22	mg/Kg
RRO C28-C44	ND	44	mg/Kg

Surrogate	%REC	Limits
n-Triacontane	86	70-130

**Field ID:** 2819-09-3

**Moisture:** 11%

**Prepared:** 09/29/20

**Type:** SAMPLE

**Diln Fac:** 1.000

**Analyzed:** 09/30/20

**Lab ID:** 433735-003

**Batch#:** 253401

**Prep:** EPA 3580

**Matrix:** Soil

**Sampled:** 09/17/20

**Analysis:** EPA 8015M

**Basis:** dry

**Received:** 09/18/20

**Analyst:** MES

Analyte	Result	RL	Units
DRO C10-C28	ND	22	mg/Kg
RRO C28-C44	ND	45	mg/Kg

Surrogate	%REC	Limits
n-Triacontane	84	70-130

## Extractable Carbon Chain

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-10-1

**Moisture:** 10%

**Prepared:** 09/29/20

**Type:** SAMPLE

**Diln Fac:** 1.000

**Analyzed:** 09/30/20

**Lab ID:** 433735-004

**Batch#:** 253401

**Prep:** EPA 3580

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8015M

**Basis:** dry

**Received:** 09/18/20

**Analyst:** MES

Analyte	Result	RL	Units
DRO C10-C28	150	22	mg/Kg
RRO C28-C44	250	44	mg/Kg

Surrogate	%REC	Limits
n-Triacontane	84	70-130

**Field ID:** 2819-10-2

**Moisture:** 20%

**Prepared:** 09/29/20

**Type:** SAMPLE

**Diln Fac:** 1.000

**Analyzed:** 09/30/20

**Lab ID:** 433735-005

**Batch#:** 253401

**Prep:** EPA 3580

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8015M

**Basis:** dry

**Received:** 09/18/20

**Analyst:** MES

Analyte	Result	RL	Units
DRO C10-C28	ND	25	mg/Kg
RRO C28-C44	ND	50	mg/Kg

Surrogate	%REC	Limits
n-Triacontane	83	70-130

**Field ID:** 2819-10-3

**Moisture:** 21%

**Prepared:** 09/29/20

**Type:** SAMPLE

**Diln Fac:** 1.000

**Analyzed:** 09/30/20

**Lab ID:** 433735-006

**Batch#:** 253401

**Prep:** EPA 3580

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8015M

**Basis:** dry

**Received:** 09/18/20

**Analyst:** MES

Analyte	Result	RL	Units
DRO C10-C28	ND	25	mg/Kg
RRO C28-C44	ND	51	mg/Kg

Surrogate	%REC	Limits
n-Triacontane	84	70-130



## Extractable Carbon Chain

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-11-1

**Moisture:** 12%

**Prepared:** 09/29/20

**Type:** SAMPLE

**Diln Fac:** 1.000

**Analyzed:** 09/30/20

**Lab ID:** 433735-007

**Batch#:** 253401

**Prep:** EPA 3580

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8015M

**Basis:** dry

**Received:** 09/18/20

**Analyst:** MES

Analyte	Result	RL	Units
DRO C10-C28	51	23	mg/Kg
RRO C28-C44	130	45	mg/Kg

Surrogate	%REC	Limits
n-Triacontane	80	70-130

**Field ID:** 2819-11-2

**Moisture:** 10%

**Prepared:** 09/29/20

**Type:** SAMPLE

**Diln Fac:** 1.000

**Analyzed:** 10/01/20

**Lab ID:** 433735-008

**Batch#:** 253401

**Prep:** EPA 3580

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8015M

**Basis:** dry

**Received:** 09/18/20

**Analyst:** MES

Analyte	Result	RL	Units
DRO C10-C28	31	22	mg/Kg
RRO C28-C44	ND	44	mg/Kg

Surrogate	%REC	Limits
n-Triacontane	83	70-130

**Field ID:** 2819-11-3

**Moisture:** 17%

**Prepared:** 09/29/20

**Type:** SAMPLE

**Diln Fac:** 1.000

**Analyzed:** 09/30/20

**Lab ID:** 433735-009

**Batch#:** 253401

**Prep:** EPA 3580

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8015M

**Basis:** dry

**Received:** 09/18/20

**Analyst:** MES

Analyte	Result	RL	Units
DRO C10-C28	680	24	mg/Kg
RRO C28-C44	390	48	mg/Kg

Surrogate	%REC	Limits
n-Triacontane	85	70-130

## Extractable Carbon Chain

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-11-4

**Moisture:** 18%

**Prepared:** 09/29/20

**Type:** SAMPLE

**Diln Fac:** 1.000

**Analyzed:** 09/30/20

**Lab ID:** 433735-010

**Batch#:** 253401

**Prep:** EPA 3580

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8015M

**Basis:** dry

**Received:** 09/18/20

**Analyst:** MES

Analyte	Result	RL	Units
DRO C10-C28	ND	24	mg/Kg
RRO C28-C44	ND	49	mg/Kg

Surrogate	%REC	Limits
n-Triacontane	87	70-130

**Field ID:** 2819-B1

**Moisture:** 9%

**Prepared:** 09/29/20

**Type:** SAMPLE

**Diln Fac:** 1.000

**Analyzed:** 09/30/20

**Lab ID:** 433735-011

**Batch#:** 253401

**Prep:** EPA 3580

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8015M

**Basis:** dry

**Received:** 09/18/20

**Analyst:** MES

Analyte	Result	RL	Units
DRO C10-C28	ND	22	mg/Kg
<b>RRO C28-C44</b>	<b>64</b>	<b>44</b>	<b>mg/Kg</b>

Surrogate	%REC	Limits
n-Triacontane	85	70-130

**Field ID:** 2819-B2

**Moisture:** 3%

**Prepared:** 09/29/20

**Type:** SAMPLE

**Diln Fac:** 1.000

**Analyzed:** 09/30/20

**Lab ID:** 433735-012

**Batch#:** 253401

**Prep:** EPA 3580

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8015M

**Basis:** dry

**Received:** 09/18/20

**Analyst:** MES

Analyte	Result	RL	Units
DRO C10-C28	ND	21	mg/Kg
RRO C28-C44	ND	41	mg/Kg

Surrogate	%REC	Limits
n-Triacontane	85	70-130

## Extractable Carbon Chain

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-B3

**Moisture:** 12%

**Prepared:** 09/29/20

**Type:** SAMPLE

**Diln Fac:** 1.000

**Analyzed:** 09/30/20

**Lab ID:** 433735-013

**Batch#:** 253401

**Prep:** EPA 3580

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8015M

**Basis:** dry

**Received:** 09/18/20

**Analyst:** MES

Analyte	Result	RL	Units
DRO C10-C28	ND	23	mg/Kg
RRO C28-C44	ND	45	mg/Kg

Surrogate	%REC	Limits
n-Triacontane	85	70-130

**Field ID:** 2819-B4

**Moisture:** 14%

**Prepared:** 09/29/20

**Type:** SAMPLE

**Diln Fac:** 5.000

**Analyzed:** 09/30/20

**Lab ID:** 433735-014

**Batch#:** 253401

**Prep:** EPA 3580

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8015M

**Basis:** dry

**Received:** 09/18/20

**Analyst:** MES

Analyte	Result	RL	Units
DRO C10-C28	ND	120	mg/Kg
RRO C28-C44	ND	230	mg/Kg

Surrogate	%REC	Limits
n-Triacontane	107	70-130

**Field ID:** 2819-B5

**Moisture:** 14%

**Prepared:** 09/29/20

**Type:** SAMPLE

**Diln Fac:** 1.000

**Analyzed:** 09/30/20

**Lab ID:** 433735-015

**Batch#:** 253401

**Prep:** EPA 3580

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8015M

**Basis:** dry

**Received:** 09/18/20

**Analyst:** MES

Analyte	Result	RL	Units
DRO C10-C28	ND	23	mg/Kg
RRO C28-C44	ND	46	mg/Kg

Surrogate	%REC	Limits
n-Triacontane	81	70-130

## Extractable Carbon Chain

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BLANK

**Batch#:** 253401

**Analysis:** EPA 8015M

**Lab ID:** QC887482

**Prepared:** 09/29/20

**Analyst:** MES

**Matrix:** Soil

**Analyzed:** 09/30/20

**Diln Fac:** 1.000

**Prep:** EPA 3580

Analyte	Result	RL	Units
DRO C10-C28	ND	20	mg/Kg
RRO C28-C44	ND	40	mg/Kg

Surrogate	%REC	Limits
n-Triacontane	86	70-130

Legend

**ND:** Not Detected

**RL:** Reporting Limit

### Extractable Carbon Chain: Batch QC

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BS  
**Lab ID:** QC887483  
**Matrix:** Soil  
**Diln Fac:** 1.000

**Batch#:** 253401  
**Prepared:** 09/29/20  
**Analyzed:** 09/30/20  
**Prep:** EPA 3580

**Analysis:** EPA 8015M  
**Analyst:** MES

Analyte	Spiked	Result	%REC	Limits	Units
DRO C10-C28	500.0	435.7	87	76-122	mg/Kg

Surrogate	%REC	Limits
n-Triacontane	81	70-130

**Type:** BSD  
**Lab ID:** QC887484  
**Matrix:** Soil  
**Diln Fac:** 1.000

**Batch#:** 253401  
**Prepared:** 09/29/20  
**Analyzed:** 09/30/20  
**Prep:** EPA 3580

**Analysis:** EPA 8015M  
**Analyst:** MES

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
DRO C10-C28	500.0	444.4	89	76-122	mg/Kg	2	20

Surrogate	%REC	Limits
n-Triacontane	81	70-130

Legend

**RPD:** Relative Percent Difference

## Polyaromatic Hydrocarbons by 8270 SIM

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-09-1

**Diln Fac:** 5.000

**Analyzed:** 09/28/20

**Lab ID:** 433735-001

**Batch#:** 253303

**Prep:** EPA 3550C

**Matrix:** Soil

**Sampled:** 09/17/20

**Analysis:** EPA 8270C-SIM

**Basis:** dry

**Received:** 09/18/20

**Analyst:** TJW

**Moisture:** 8%

**Prepared:** 09/26/20

Analyte	Result	RL	Units
1-Methylnaphthalene	ND	36	ug/Kg
2-Methylnaphthalene	ND	36	ug/Kg
Naphthalene	ND	36	ug/Kg
Acenaphthylene	ND	36	ug/Kg
Acenaphthene	ND	36	ug/Kg
Fluorene	ND	36	ug/Kg
Phenanthrene	ND	36	ug/Kg
Anthracene	ND	36	ug/Kg
Fluoranthene	ND	36	ug/Kg
Pyrene	ND	36	ug/Kg
Benzo(a)anthracene	ND	36	ug/Kg
Chrysene	ND	36	ug/Kg
Benzo(b)fluoranthene	ND	36	ug/Kg
Benzo(k)fluoranthene	ND	36	ug/Kg
Benzo(a)pyrene	ND	36	ug/Kg
Indeno(1,2,3-cd)pyrene	ND	36	ug/Kg
Dibenz(a,h)anthracene	ND	36	ug/Kg
Benzo(g,h,i)perylene	ND	36	ug/Kg

Surrogate	%REC	Limits
Nitrobenzene-d5	78	27-125
2-Fluorobiphenyl	83	30-120
Terphenyl-d14	125	33-155

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Polyaromatic Hydrocarbons by 8270 SIM

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-09-2

**Diln Fac:** 2.000

**Analyzed:** 09/28/20

**Lab ID:** 433735-002

**Batch#:** 253303

**Prep:** EPA 3550C

**Matrix:** Soil

**Sampled:** 09/17/20

**Analysis:** EPA 8270C-SIM

**Basis:** dry

**Received:** 09/18/20

**Analyst:** TJW

**Moisture:** 10%

**Prepared:** 09/26/20

Analyte	Result	RL	Units
1-Methylnaphthalene	ND	15	ug/Kg
2-Methylnaphthalene	ND	15	ug/Kg
Naphthalene	ND	15	ug/Kg
Acenaphthylene	ND	15	ug/Kg
Acenaphthene	ND	15	ug/Kg
Fluorene	ND	15	ug/Kg
Phenanthrene	ND	15	ug/Kg
Anthracene	ND	15	ug/Kg
Fluoranthene	ND	15	ug/Kg
Pyrene	ND	15	ug/Kg
Benzo(a)anthracene	ND	15	ug/Kg
Chrysene	ND	15	ug/Kg
Benzo(b)fluoranthene	ND	15	ug/Kg
Benzo(k)fluoranthene	ND	15	ug/Kg
Benzo(a)pyrene	ND	15	ug/Kg
Indeno(1,2,3-cd)pyrene	ND	15	ug/Kg
Dibenz(a,h)anthracene	ND	15	ug/Kg
Benzo(g,h,i)perylene	ND	15	ug/Kg
Surrogate	%REC	Limits	
Nitrobenzene-d5	98	27-125	
2-Fluorobiphenyl	78	30-120	
Terphenyl-d14	114	33-155	

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Polyaromatic Hydrocarbons by 8270 SIM

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-09-3

**Diln Fac:** 5.000

**Analyzed:** 09/28/20

**Lab ID:** 433735-003

**Batch#:** 253303

**Prep:** EPA 3550C

**Matrix:** Soil

**Sampled:** 09/17/20

**Analysis:** EPA 8270C-SIM

**Basis:** dry

**Received:** 09/18/20

**Analyst:** TJW

**Moisture:** 11%

**Prepared:** 09/26/20

Analyte	Result	RL	Units
1-Methylnaphthalene	ND	37	ug/Kg
2-Methylnaphthalene	ND	37	ug/Kg
Naphthalene	ND	37	ug/Kg
Acenaphthylene	ND	37	ug/Kg
Acenaphthene	ND	37	ug/Kg
Fluorene	ND	37	ug/Kg
Phenanthrene	ND	37	ug/Kg
Anthracene	ND	37	ug/Kg
Fluoranthene	ND	37	ug/Kg
Pyrene	ND	37	ug/Kg
Benzo(a)anthracene	ND	37	ug/Kg
Chrysene	ND	37	ug/Kg
Benzo(b)fluoranthene	ND	37	ug/Kg
Benzo(k)fluoranthene	ND	37	ug/Kg
Benzo(a)pyrene	ND	37	ug/Kg
Indeno(1,2,3-cd)pyrene	ND	37	ug/Kg
Dibenz(a,h)anthracene	ND	37	ug/Kg
Benzo(g,h,i)perylene	ND	37	ug/Kg

Surrogate	%REC	Limits
Nitrobenzene-d5	117	27-125
2-Fluorobiphenyl	95	30-120
Terphenyl-d14	134	33-155

Legend

**ND:** Not Detected

**RL:** Reporting Limit



## Polyaromatic Hydrocarbons by 8270 SIM

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-10-1

**Diln Fac:** 5.000

**Analyzed:** 09/28/20

**Lab ID:** 433735-004

**Batch#:** 253303

**Prep:** EPA 3550C

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8270C-SIM

**Basis:** dry

**Received:** 09/18/20

**Analyst:** TJW

**Moisture:** 10%

**Prepared:** 09/26/20

Analyte	Result	RL	Units
1-Methylnaphthalene	ND	370	ug/Kg
2-Methylnaphthalene	ND	370	ug/Kg
Naphthalene	ND	370	ug/Kg
Acenaphthylene	ND	370	ug/Kg
Acenaphthene	ND	370	ug/Kg
Fluorene	ND	370	ug/Kg
Phenanthrene	ND	370	ug/Kg
Anthracene	ND	370	ug/Kg
Fluoranthene	ND	370	ug/Kg
Pyrene	ND	370	ug/Kg
Benzo(a)anthracene	ND	370	ug/Kg
Chrysene	ND	370	ug/Kg
Benzo(b)fluoranthene	ND	370	ug/Kg
Benzo(k)fluoranthene	ND	370	ug/Kg
Benzo(a)pyrene	ND	370	ug/Kg
Indeno(1,2,3-cd)pyrene	ND	370	ug/Kg
Dibenz(a,h)anthracene	ND	370	ug/Kg
Benzo(g,h,i)perylene	ND	370	ug/Kg
Surrogate	%REC	Limits	
Nitrobenzene-d5	115	27-125	
2-Fluorobiphenyl	101	30-120	
Terphenyl-d14	144	33-155	

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Polyaromatic Hydrocarbons by 8270 SIM

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-10-2

**Diln Fac:** 2.000

**Analyzed:** 09/28/20

**Lab ID:** 433735-005

**Batch#:** 253303

**Prep:** EPA 3550C

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8270C-SIM

**Basis:** dry

**Received:** 09/18/20

**Analyst:** TJW

**Moisture:** 20%

**Prepared:** 09/26/20

Analyte	Result	RL	Units
1-Methylnaphthalene	ND	17	ug/Kg
2-Methylnaphthalene	ND	17	ug/Kg
Naphthalene	ND	17	ug/Kg
Acenaphthylene	ND	17	ug/Kg
Acenaphthene	ND	17	ug/Kg
Fluorene	ND	17	ug/Kg
Phenanthrene	ND	17	ug/Kg
Anthracene	ND	17	ug/Kg
Fluoranthene	ND	17	ug/Kg
Pyrene	ND	17	ug/Kg
Benzo(a)anthracene	ND	17	ug/Kg
Chrysene	ND	17	ug/Kg
Benzo(b)fluoranthene	ND	17	ug/Kg
Benzo(k)fluoranthene	ND	17	ug/Kg
Benzo(a)pyrene	ND	17	ug/Kg
Indeno(1,2,3-cd)pyrene	ND	17	ug/Kg
Dibenz(a,h)anthracene	ND	17	ug/Kg
Benzo(g,h,i)perylene	ND	17	ug/Kg

Surrogate	%REC	Limits
Nitrobenzene-d5	105	27-125
2-Fluorobiphenyl	98	30-120
Terphenyl-d14	140	33-155

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Polyaromatic Hydrocarbons by 8270 SIM

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-10-3

**Diln Fac:** 2.000

**Analyzed:** 09/28/20

**Lab ID:** 433735-006

**Batch#:** 253303

**Prep:** EPA 3550C

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8270C-SIM

**Basis:** dry

**Received:** 09/18/20

**Analyst:** TJW

**Moisture:** 21%

**Prepared:** 09/26/20

Analyte	Result	RL	Units
1-Methylnaphthalene	ND	17	ug/Kg
2-Methylnaphthalene	ND	17	ug/Kg
Naphthalene	ND	17	ug/Kg
Acenaphthylene	ND	17	ug/Kg
Acenaphthene	ND	17	ug/Kg
Fluorene	ND	17	ug/Kg
Phenanthrene	ND	17	ug/Kg
Anthracene	ND	17	ug/Kg
Fluoranthene	ND	17	ug/Kg
Pyrene	ND	17	ug/Kg
Benzo(a)anthracene	ND	17	ug/Kg
Chrysene	ND	17	ug/Kg
Benzo(b)fluoranthene	ND	17	ug/Kg
Benzo(k)fluoranthene	ND	17	ug/Kg
Benzo(a)pyrene	ND	17	ug/Kg
Indeno(1,2,3-cd)pyrene	ND	17	ug/Kg
Dibenz(a,h)anthracene	ND	17	ug/Kg
Benzo(g,h,i)perylene	ND	17	ug/Kg

Surrogate	%REC	Limits
Nitrobenzene-d5	98	27-125
2-Fluorobiphenyl	85	30-120
Terphenyl-d14	119	33-155

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Polyaromatic Hydrocarbons by 8270 SIM

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-11-1

**Diln Fac:** 5.000

**Analyzed:** 09/28/20

**Lab ID:** 433735-007

**Batch#:** 253303

**Prep:** EPA 3550C

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8270C-SIM

**Basis:** dry

**Received:** 09/18/20

**Analyst:** TJW

**Moisture:** 12%

**Prepared:** 09/26/20

Analyte	Result	RL	Units
1-Methylnaphthalene	ND	380	ug/Kg
2-Methylnaphthalene	ND	380	ug/Kg
Naphthalene	ND	380	ug/Kg
Acenaphthylene	ND	380	ug/Kg
Acenaphthene	ND	380	ug/Kg
Fluorene	ND	380	ug/Kg
Phenanthrene	ND	380	ug/Kg
Anthracene	ND	380	ug/Kg
Fluoranthene	ND	380	ug/Kg
Pyrene	ND	380	ug/Kg
Benzo(a)anthracene	ND	380	ug/Kg
Chrysene	ND	380	ug/Kg
Benzo(b)fluoranthene	ND	380	ug/Kg
Benzo(k)fluoranthene	ND	380	ug/Kg
Benzo(a)pyrene	ND	380	ug/Kg
Indeno(1,2,3-cd)pyrene	ND	380	ug/Kg
Dibenz(a,h)anthracene	ND	380	ug/Kg
Benzo(g,h,i)perylene	ND	380	ug/Kg
Surrogate	%REC	Limits	
Nitrobenzene-d5	113	27-125	
2-Fluorobiphenyl	102	30-120	
Terphenyl-d14	143	33-155	

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Polyaromatic Hydrocarbons by 8270 SIM

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-11-2

**Diln Fac:** 5.000

**Analyzed:** 09/28/20

**Lab ID:** 433735-008

**Batch#:** 253303

**Prep:** EPA 3550C

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8270C-SIM

**Basis:** dry

**Received:** 09/18/20

**Analyst:** TJW

**Moisture:** 10%

**Prepared:** 09/26/20

Analyte	Result	RL	Units
1-Methylnaphthalene	ND	37	ug/Kg
2-Methylnaphthalene	ND	37	ug/Kg
Naphthalene	ND	37	ug/Kg
Acenaphthylene	ND	37	ug/Kg
Acenaphthene	ND	37	ug/Kg
Fluorene	ND	37	ug/Kg
Phenanthrene	ND	37	ug/Kg
Anthracene	ND	37	ug/Kg
Fluoranthene	ND	37	ug/Kg
Pyrene	ND	37	ug/Kg
Benzo(a)anthracene	ND	37	ug/Kg
Chrysene	ND	37	ug/Kg
Benzo(b)fluoranthene	ND	37	ug/Kg
Benzo(k)fluoranthene	ND	37	ug/Kg
Benzo(a)pyrene	ND	37	ug/Kg
Indeno(1,2,3-cd)pyrene	ND	37	ug/Kg
Dibenz(a,h)anthracene	ND	37	ug/Kg
Benzo(g,h,i)perylene	ND	37	ug/Kg

Surrogate	%REC	Limits
Nitrobenzene-d5	116	27-125
2-Fluorobiphenyl	89	30-120
Terphenyl-d14	132	33-155

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Polyaromatic Hydrocarbons by 8270 SIM

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-11-3

**Diln Fac:** 2.000

**Analyzed:** 09/28/20

**Lab ID:** 433735-009

**Batch#:** 253303

**Prep:** EPA 3550C

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8270C-SIM

**Basis:** dry

**Received:** 09/18/20

**Analyst:** TJW

**Moisture:** 17%

**Prepared:** 09/26/20

Analyte	Result	RL	Units
1-Methylnaphthalene	ND	16	ug/Kg
2-Methylnaphthalene	ND	16	ug/Kg
Naphthalene	ND	16	ug/Kg
Acenaphthylene	ND	16	ug/Kg
Acenaphthene	ND	16	ug/Kg
Fluorene	ND	16	ug/Kg
Phenanthrene	ND	16	ug/Kg
Anthracene	ND	16	ug/Kg
<b>Fluoranthene</b>	<b>35</b>	16	ug/Kg
<b>Pyrene</b>	<b>23</b>	16	ug/Kg
<b>Benzo(a)anthracene</b>	<b>19</b>	16	ug/Kg
<b>Chrysene</b>	<b>23</b>	16	ug/Kg
<b>Benzo(b)fluoranthene</b>	<b>19</b>	16	ug/Kg
Benzo(k)fluoranthene	ND	16	ug/Kg
Benzo(a)pyrene	ND	16	ug/Kg
Indeno(1,2,3-cd)pyrene	ND	16	ug/Kg
Dibenz(a,h)anthracene	ND	16	ug/Kg
Benzo(g,h,i)perylene	ND	16	ug/Kg

Surrogate	%REC	Limits
Nitrobenzene-d5	72	27-125
2-Fluorobiphenyl	59	30-120
Terphenyl-d14	98	33-155

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Polyaromatic Hydrocarbons by 8270 SIM

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-11-4

**Diln Fac:** 2.000

**Analyzed:** 09/28/20

**Lab ID:** 433735-010

**Batch#:** 253303

**Prep:** EPA 3550C

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8270C-SIM

**Basis:** dry

**Received:** 09/18/20

**Analyst:** TJW

**Moisture:** 18%

**Prepared:** 09/26/20

Analyte	Result	RL	Units
1-Methylnaphthalene	ND	16	ug/Kg
2-Methylnaphthalene	ND	16	ug/Kg
Naphthalene	ND	16	ug/Kg
Acenaphthylene	ND	16	ug/Kg
Acenaphthene	ND	16	ug/Kg
Fluorene	ND	16	ug/Kg
Phenanthrene	ND	16	ug/Kg
Anthracene	ND	16	ug/Kg
Fluoranthene	ND	16	ug/Kg
Pyrene	ND	16	ug/Kg
Benzo(a)anthracene	ND	16	ug/Kg
Chrysene	ND	16	ug/Kg
Benzo(b)fluoranthene	ND	16	ug/Kg
Benzo(k)fluoranthene	ND	16	ug/Kg
Benzo(a)pyrene	ND	16	ug/Kg
Indeno(1,2,3-cd)pyrene	ND	16	ug/Kg
Dibenz(a,h)anthracene	ND	16	ug/Kg
Benzo(g,h,i)perylene	ND	16	ug/Kg

Surrogate	%REC	Limits
Nitrobenzene-d5	121	27-125
2-Fluorobiphenyl	92	30-120
Terphenyl-d14	133	33-155

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Polyaromatic Hydrocarbons by 8270 SIM

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-B1

**Diln Fac:** 2.000

**Analyzed:** 09/28/20

**Lab ID:** 433735-011

**Batch#:** 253303

**Prep:** EPA 3550C

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8270C-SIM

**Basis:** dry

**Received:** 09/18/20

**Analyst:** TJW

**Moisture:** 9%

**Prepared:** 09/26/20

Analyte	Result	RL	Units
1-Methylnaphthalene	ND	150	ug/Kg
2-Methylnaphthalene	ND	150	ug/Kg
Naphthalene	ND	150	ug/Kg
Acenaphthylene	ND	150	ug/Kg
Acenaphthene	ND	150	ug/Kg
Fluorene	ND	150	ug/Kg
Phenanthrene	ND	150	ug/Kg
Anthracene	ND	150	ug/Kg
Fluoranthene	ND	150	ug/Kg
Pyrene	ND	150	ug/Kg
Benzo(a)anthracene	ND	150	ug/Kg
Chrysene	ND	150	ug/Kg
Benzo(b)fluoranthene	ND	150	ug/Kg
Benzo(k)fluoranthene	ND	150	ug/Kg
Benzo(a)pyrene	ND	150	ug/Kg
Indeno(1,2,3-cd)pyrene	ND	150	ug/Kg
Dibenz(a,h)anthracene	ND	150	ug/Kg
Benzo(g,h,i)perylene	ND	150	ug/Kg
Surrogate	%REC	Limits	
Nitrobenzene-d5	136 *	27-125	
2-Fluorobiphenyl	117	30-120	
Terphenyl-d14	169 *	33-155	

Legend

\*: Value is outside QC limits

**ND:** Not Detected

**RL:** Reporting Limit



## Polyaromatic Hydrocarbons by 8270 SIM

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-B2

**Diln Fac:** 1.000

**Analyzed:** 09/28/20

**Lab ID:** 433735-012

**Batch#:** 253303

**Prep:** EPA 3550C

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8270C-SIM

**Basis:** dry

**Received:** 09/18/20

**Analyst:** TJW

**Moisture:** 3%

**Prepared:** 09/26/20

Analyte	Result	RL	Units
1-Methylnaphthalene	ND	6.9	ug/Kg
2-Methylnaphthalene	ND	6.9	ug/Kg
Naphthalene	ND	6.9	ug/Kg
Acenaphthylene	ND	6.9	ug/Kg
Acenaphthene	ND	6.9	ug/Kg
Fluorene	ND	6.9	ug/Kg
Phenanthrene	ND	6.9	ug/Kg
Anthracene	ND	6.9	ug/Kg
Fluoranthene	ND	6.9	ug/Kg
Pyrene	ND	6.9	ug/Kg
Benzo(a)anthracene	ND	6.9	ug/Kg
Chrysene	ND	6.9	ug/Kg
Benzo(b)fluoranthene	ND	6.9	ug/Kg
Benzo(k)fluoranthene	ND	6.9	ug/Kg
Benzo(a)pyrene	ND	6.9	ug/Kg
Indeno(1,2,3-cd)pyrene	ND	6.9	ug/Kg
Dibenz(a,h)anthracene	ND	6.9	ug/Kg
Benzo(g,h,i)perylene	ND	6.9	ug/Kg

Surrogate	%REC	Limits
Nitrobenzene-d5	114	27-125
2-Fluorobiphenyl	91	30-120
Terphenyl-d14	131	33-155

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Polyaromatic Hydrocarbons by 8270 SIM

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-B3

**Diln Fac:** 1.000

**Analyzed:** 09/28/20

**Lab ID:** 433735-013

**Batch#:** 253303

**Prep:** EPA 3550C

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8270C-SIM

**Basis:** dry

**Received:** 09/18/20

**Analyst:** TJW

**Moisture:** 12%

**Prepared:** 09/26/20

Analyte	Result	RL	Units
1-Methylnaphthalene	ND	7.6	ug/Kg
2-Methylnaphthalene	ND	7.6	ug/Kg
Naphthalene	ND	7.6	ug/Kg
Acenaphthylene	ND	7.6	ug/Kg
Acenaphthene	ND	7.6	ug/Kg
Fluorene	ND	7.6	ug/Kg
Phenanthrene	ND	7.6	ug/Kg
Anthracene	ND	7.6	ug/Kg
Fluoranthene	ND	7.6	ug/Kg
Pyrene	ND	7.6	ug/Kg
Benzo(a)anthracene	ND	7.6	ug/Kg
Chrysene	ND	7.6	ug/Kg
Benzo(b)fluoranthene	ND	7.6	ug/Kg
Benzo(k)fluoranthene	ND	7.6	ug/Kg
Benzo(a)pyrene	ND	7.6	ug/Kg
Indeno(1,2,3-cd)pyrene	ND	7.6	ug/Kg
Dibenz(a,h)anthracene	ND	7.6	ug/Kg
Benzo(g,h,i)perylene	ND	7.6	ug/Kg

Surrogate	%REC	Limits
Nitrobenzene-d5	94	27-125
2-Fluorobiphenyl	77	30-120
Terphenyl-d14	112	33-155

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Polyaromatic Hydrocarbons by 8270 SIM

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-B4

**Diln Fac:** 10.00

**Analyzed:** 09/28/20

**Lab ID:** 433735-014

**Batch#:** 253303

**Prep:** EPA 3550C

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8270C-SIM

**Basis:** dry

**Received:** 09/18/20

**Analyst:** TJW

**Moisture:** 14%

**Prepared:** 09/26/20

Analyte	Result	RL	Units
1-Methylnaphthalene	ND	780	ug/Kg
2-Methylnaphthalene	ND	780	ug/Kg
Naphthalene	ND	780	ug/Kg
Acenaphthylene	ND	780	ug/Kg
Acenaphthene	ND	780	ug/Kg
Fluorene	ND	780	ug/Kg
Phenanthrene	ND	780	ug/Kg
Anthracene	ND	780	ug/Kg
Fluoranthene	ND	780	ug/Kg
Pyrene	ND	780	ug/Kg
Benzo(a)anthracene	ND	780	ug/Kg
Chrysene	ND	780	ug/Kg
Benzo(b)fluoranthene	ND	780	ug/Kg
Benzo(k)fluoranthene	ND	780	ug/Kg
Benzo(a)pyrene	ND	780	ug/Kg
Indeno(1,2,3-cd)pyrene	ND	780	ug/Kg
Dibenz(a,h)anthracene	ND	780	ug/Kg
Benzo(g,h,i)perylene	ND	780	ug/Kg
Surrogate	%REC	Limits	
Nitrobenzene-d5	82	27-125	
2-Fluorobiphenyl	78	30-120	
Terphenyl-d14	148	33-155	

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Polyaromatic Hydrocarbons by 8270 SIM

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-B5

**Diln Fac:** 2.000

**Analyzed:** 09/28/20

**Lab ID:** 433735-015

**Batch#:** 253303

**Prep:** EPA 3550C

**Matrix:** Soil

**Sampled:** 09/16/20

**Analysis:** EPA 8270C-SIM

**Basis:** dry

**Received:** 09/18/20

**Analyst:** TJW

**Moisture:** 14%

**Prepared:** 09/26/20

Analyte	Result	RL	Units
1-Methylnaphthalene	ND	16	ug/Kg
2-Methylnaphthalene	ND	16	ug/Kg
Naphthalene	ND	16	ug/Kg
Acenaphthylene	ND	16	ug/Kg
Acenaphthene	ND	16	ug/Kg
Fluorene	ND	16	ug/Kg
Phenanthrene	ND	16	ug/Kg
Anthracene	ND	16	ug/Kg
Fluoranthene	ND	16	ug/Kg
Pyrene	ND	16	ug/Kg
Benzo(a)anthracene	ND	16	ug/Kg
Chrysene	ND	16	ug/Kg
Benzo(b)fluoranthene	ND	16	ug/Kg
Benzo(k)fluoranthene	ND	16	ug/Kg
Benzo(a)pyrene	ND	16	ug/Kg
Indeno(1,2,3-cd)pyrene	ND	16	ug/Kg
Dibenz(a,h)anthracene	ND	16	ug/Kg
Benzo(g,h,i)perylene	ND	16	ug/Kg

Surrogate	%REC	Limits
Nitrobenzene-d5	109	27-125
2-Fluorobiphenyl	92	30-120
Terphenyl-d14	132	33-155

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Polyaromatic Hydrocarbons by 8270 SIM: Batch QC

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BLANK

**Batch#:** 253303

**Analysis:** EPA 8270C-SIM

**Lab ID:** QC887228

**Prepared:** 09/26/20

**Analyst:** TJW

**Matrix:** Soil

**Analyzed:** 09/28/20

**Diln Fac:** 1.000

**Prep:** EPA 3550C

Analyte	Result	RL	Units
1-Methylnaphthalene	ND	6.7	ug/Kg
2-Methylnaphthalene	ND	6.7	ug/Kg
Naphthalene	ND	6.7	ug/Kg
Acenaphthylene	ND	6.7	ug/Kg
Acenaphthene	ND	6.7	ug/Kg
Fluorene	ND	6.7	ug/Kg
Phenanthrene	ND	6.7	ug/Kg
Anthracene	ND	6.7	ug/Kg
Fluoranthene	ND	6.7	ug/Kg
Pyrene	ND	6.7	ug/Kg
Benzo(a)anthracene	ND	6.7	ug/Kg
Chrysene	ND	6.7	ug/Kg
Benzo(b)fluoranthene	ND	6.7	ug/Kg
Benzo(k)fluoranthene	ND	6.7	ug/Kg
Benzo(a)pyrene	ND	6.7	ug/Kg
Indeno(1,2,3-cd)pyrene	ND	6.7	ug/Kg
Dibenz(a,h)anthracene	ND	6.7	ug/Kg
Benzo(g,h,i)perylene	ND	6.7	ug/Kg
Surrogate	%REC	Limits	
Nitrobenzene-d5	97	27-125	
2-Fluorobiphenyl	84	30-120	
Terphenyl-d14	114	33-155	

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Polyaromatic Hydrocarbons by 8270 SIM: Batch QC

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BS

**Batch#:** 253303

**Analysis:** EPA 8270C-SIM

**Lab ID:** QC887229

**Prepared:** 09/26/20

**Analyst:** TJW

**Matrix:** Soil

**Analyzed:** 09/28/20

**Diln Fac:** 1.000

**Prep:** EPA 3550C

Analyte	Spiked	Result	%REC	Limits	Units	Qual
1-Methylnaphthalene	33.33	27.98	84	28-130	ug/Kg	
2-Methylnaphthalene	33.33	24.67	74	33-130	ug/Kg	
Naphthalene	33.33	28.22	85	25-130	ug/Kg	
Acenaphthylene	33.33	27.28	82	28-130	ug/Kg	
Acenaphthene	33.33	27.89	84	32-130	ug/Kg	
Fluorene	33.33	31.23	94	35-130	ug/Kg	
Phenanthrene	33.33	32.35	97	35-132	ug/Kg	
Anthracene	33.33	30.19	91	34-136	ug/Kg	
Fluoranthene	33.33	35.17	106	34-139	ug/Kg	
Pyrene	33.33	32.50	98	35-134	ug/Kg	
Benzo(a)anthracene	33.33	36.05	108	30-132	ug/Kg	
Chrysene	33.33	32.08	96	29-130	ug/Kg	
Benzo(b)fluoranthene	33.33	38.96	117	32-137	ug/Kg	
Benzo(k)fluoranthene	33.33	38.48	115	32-130	ug/Kg	
Benzo(a)pyrene	33.33	34.52	104	10-138	ug/Kg	b
Indeno(1,2,3-cd)pyrene	33.33	36.78	110	34-132	ug/Kg	
Dibenz(a,h)anthracene	33.33	35.84	108	32-130	ug/Kg	
Benzo(g,h,i)perylene	33.33	32.09	96	27-130	ug/Kg	
<b>Surrogate</b>			<b>%REC</b>	<b>Limits</b>		
Nitrobenzene-d5			109	27-125		
2-Fluorobiphenyl			93	30-120		
Terphenyl-d14			123	33-155		

## Polyaromatic Hydrocarbons by 8270 SIM: Batch QC

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BSD  
**Lab ID:** QC887230  
**Matrix:** Soil  
**Diln Fac:** 1.000

**Batch#:** 253303  
**Prepared:** 09/26/20  
**Analyzed:** 09/28/20  
**Prep:** EPA 3550C

**Analysis:** EPA 8270C-SIM  
**Analyst:** TJW

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim	Qual
1-Methylnaphthalene	33.33	32.40	97	28-130	ug/Kg	15	35	
2-Methylnaphthalene	33.33	31.34	94	33-130	ug/Kg	24	35	
Naphthalene	33.33	32.37	97	25-130	ug/Kg	14	35	
Acenaphthylene	33.33	31.42	94	28-130	ug/Kg	14	35	
Acenaphthene	33.33	33.36	100	32-130	ug/Kg	18	35	
Fluorene	33.33	37.72	113	35-130	ug/Kg	19	35	
Phenanthrene	33.33	37.81	113	35-132	ug/Kg	16	35	
Anthracene	33.33	36.03	108	34-136	ug/Kg	18	35	
Fluoranthene	33.33	41.26	124	34-139	ug/Kg	16	35	
Pyrene	33.33	38.46	115	35-134	ug/Kg	17	35	
Benzo(a)anthracene	33.33	44.01	132	30-132	ug/Kg	20	35	
Chrysene	33.33	36.26	109	29-130	ug/Kg	12	35	
Benzo(b)fluoranthene	33.33	44.91	135	32-137	ug/Kg	14	35	
Benzo(k)fluoranthene	33.33	45.55	137 *	32-130	ug/Kg	17	35	
Benzo(a)pyrene	33.33	40.76	122	10-138	ug/Kg	17	35	b
Indeno(1,2,3-cd)pyrene	33.33	42.58	128	34-132	ug/Kg	15	35	
Dibenz(a,h)anthracene	33.33	42.52	128	32-130	ug/Kg	17	35	
Benzo(g,h,i)perylene	33.33	37.15	111	27-130	ug/Kg	15	35	

Surrogate	%REC	Limits
Nitrobenzene-d5	108	27-125
2-Fluorobiphenyl	104	30-120
Terphenyl-d14	140	33-155

**Legend**

\*: Value is outside QC limits

RPD: Relative Percent Difference

b: See narrative

## Organochlorine Pesticides

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-10-1

**Batch#:** 253299

**Prep:** EPA 3546

**Lab ID:** 433735-004

**Sampled:** 09/16/20

**Analysis:** EPA 8081A

**Matrix:** Soil

**Received:** 09/18/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 09/25/20

**Diln Fac:** 5.000

**Analyzed:** 09/28/20

Analyte	Result	RL	Units
alpha-BHC	ND	8.3	ug/Kg
beta-BHC	ND	8.3	ug/Kg
gamma-BHC	ND	8.3	ug/Kg
delta-BHC	ND	8.3	ug/Kg
Heptachlor	ND	8.3	ug/Kg
Aldrin	ND	8.3	ug/Kg
Heptachlor epoxide	ND	8.3	ug/Kg
Endosulfan I	ND	8.3	ug/Kg
Dieldrin	ND	8.3	ug/Kg
4,4'-DDE	ND	8.3	ug/Kg
Endrin	ND	8.3	ug/Kg
Endosulfan II	ND	8.3	ug/Kg
Endosulfan sulfate	ND	8.3	ug/Kg
4,4'-DDD	ND	8.3	ug/Kg
Endrin aldehyde	ND	8.3	ug/Kg
Endrin ketone	ND	8.3	ug/Kg
4,4'-DDT	ND	8.3	ug/Kg
Methoxychlor	ND	17	ug/Kg
Toxaphene	ND	170	ug/Kg
Chlordane (Technical)	ND	83	ug/Kg

Surrogate	%REC	Limits
TCMX	2 *	23-120
Decachlorobiphenyl	5 *	24-120

**Legend**

\*: Value is outside QC limits

ND: Not Detected

RL: Reporting Limit









## Organochlorine Pesticides: Batch QC

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BLANK  
**Lab ID:** QC887215  
**Matrix:** Soil  
**Diln Fac:** 1.000

**Batch#:** 253299  
**Prepared:** 09/25/20  
**Analyzed:** 09/28/20  
**Prep:** EPA 3546

**Analysis:** EPA 8081A  
**Analyst:** KTD

Analyte	Result	RL	Units
alpha-BHC	ND	1.7	ug/Kg
beta-BHC	ND	1.7	ug/Kg
gamma-BHC	ND	1.7	ug/Kg
delta-BHC	ND	1.7	ug/Kg
Heptachlor	ND	1.7	ug/Kg
Aldrin	ND	1.7	ug/Kg
Heptachlor epoxide	ND	1.7	ug/Kg
Endosulfan I	ND	1.7	ug/Kg
Dieldrin	ND	1.7	ug/Kg
4,4'-DDE	ND	1.7	ug/Kg
Endrin	ND	1.7	ug/Kg
Endosulfan II	ND	1.7	ug/Kg
Endosulfan sulfate	ND	1.7	ug/Kg
4,4'-DDD	ND	1.7	ug/Kg
Endrin aldehyde	ND	1.7	ug/Kg
Endrin ketone	ND	1.7	ug/Kg
4,4'-DDT	ND	1.7	ug/Kg
Methoxychlor	ND	3.3	ug/Kg
Toxaphene	ND	33	ug/Kg
Chlordane (Technical)	ND	17	ug/Kg

Surrogate	%REC	Limits
TCMX	54	23-120
Decachlorobiphenyl	47	24-120

**Legend**
**ND:** Not Detected  
**RL:** Reporting Limit

## Organochlorine Pesticides: Batch QC

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BS  
**Lab ID:** QC887216  
**Matrix:** Soil  
**Diln Fac:** 1.000

**Batch#:** 253299  
**Prepared:** 09/25/20  
**Analyzed:** 09/28/20  
**Prep:** EPA 3546

**Analysis:** EPA 8081A  
**Analyst:** KTD

Analyte	Spiked	Result	%REC	Limits	Units
alpha-BHC	16.67	9.265	56	22-129	ug/Kg
beta-BHC	16.67	9.722	58	28-125	ug/Kg
gamma-BHC	16.67	9.896	59	22-128	ug/Kg
delta-BHC	16.67	8.679	52	24-131	ug/Kg
Heptachlor	16.67	9.088	55	18-124	ug/Kg
Aldrin	16.67	5.607	34	23-120	ug/Kg
Heptachlor epoxide	16.67	8.594	52	26-120	ug/Kg
Endosulfan I	16.67	9.509	57	25-126	ug/Kg
Dieldrin	16.67	9.062	54	23-124	ug/Kg
4,4'-DDE	16.67	8.689	52	28-121	ug/Kg
Endrin	16.67	9.560	57	25-127	ug/Kg
Endosulfan II	16.67	7.027	42	29-121	ug/Kg
Endosulfan sulfate	16.67	8.020	48	30-121	ug/Kg
4,4'-DDD	16.67	7.954	48	26-120	ug/Kg
Endrin aldehyde	16.67	4.121	25	10-120	ug/Kg
Endrin ketone	16.67	7.677	46	28-125	ug/Kg
4,4'-DDT	16.67	7.064	42	22-125	ug/Kg
Methoxychlor	16.67	7.673	46	28-130	ug/Kg
<b>Surrogate</b>			<b>%REC</b>	<b>Limits</b>	
TCMX			66	23-120	
Decachlorobiphenyl			60	24-120	

## Organochlorine Pesticides: Batch QC

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BSD  
**Lab ID:** QC887217  
**Matrix:** Soil  
**Diln Fac:** 1.000

**Batch#:** 253299  
**Prepared:** 09/25/20  
**Analyzed:** 09/28/20  
**Prep:** EPA 3546

**Analysis:** EPA 8081A  
**Analyst:** KTD

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
alpha-BHC	16.61	9.175	55	22-129	ug/Kg	1	20
beta-BHC	16.61	9.496	57	28-125	ug/Kg	2	20
gamma-BHC	16.61	9.709	58	22-128	ug/Kg	2	20
delta-BHC	16.61	8.432	51	24-131	ug/Kg	3	20
Heptachlor	16.61	8.812	53	18-124	ug/Kg	3	20
Aldrin	16.61	5.449	33	23-120	ug/Kg	3	20
Heptachlor epoxide	16.61	8.243	50	26-120	ug/Kg	4	20
Endosulfan I	16.61	9.104	55	25-126	ug/Kg	4	20
Dieldrin	16.61	8.636	52	23-124	ug/Kg	4	20
4,4'-DDE	16.61	8.239	50	28-121	ug/Kg	5	20
Endrin	16.61	9.249	56	25-127	ug/Kg	3	20
Endosulfan II	16.61	6.740	41	29-121	ug/Kg	4	20
Endosulfan sulfate	16.61	7.473	45	30-121	ug/Kg	7	20
4,4'-DDD	16.61	7.500	45	26-120	ug/Kg	6	20
Endrin aldehyde	16.61	3.972	24	10-120	ug/Kg	3	20
Endrin ketone	16.61	7.401	45	28-125	ug/Kg	3	20
4,4'-DDT	16.61	6.936	42	22-125	ug/Kg	1	20
Methoxychlor	16.61	7.331	44	28-130	ug/Kg	4	20

Surrogate	%REC	Limits
TCMX	66	23-120
Decachlorobiphenyl	57	24-120

Legend

**RPD:** Relative Percent Difference

## Polychlorinated Biphenyls (PCBs)

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-09-1

**DiIn Fac:** 1.000

**Analyzed:** 09/28/20

**Type:** SAMPLE

**Batch#:** 253299

**Prep:** EPA 3546

**Lab ID:** 433735-001

**Sampled:** 09/17/20

**Analysis:** EPA 8082

**Matrix:** Soil

**Received:** 09/18/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 09/25/20

Analyte	Result	RL	Units
Aroclor-1016	ND	17	ug/Kg
Aroclor-1221	ND	17	ug/Kg
Aroclor-1232	ND	17	ug/Kg
Aroclor-1242	ND	17	ug/Kg
Aroclor-1248	ND	17	ug/Kg
Aroclor-1254	ND	17	ug/Kg
Aroclor-1260	ND	17	ug/Kg
Aroclor-1262	ND	17	ug/Kg
Aroclor-1268	ND	17	ug/Kg

Surrogate	%REC	Limits
Decachlorobiphenyl (PCB)	18 *	19-121

**Field ID:** 2819-10-1

**DiIn Fac:** 1.000

**Analyzed:** 09/28/20

**Type:** SAMPLE

**Batch#:** 253299

**Prep:** EPA 3546

**Lab ID:** 433735-004

**Sampled:** 09/16/20

**Analysis:** EPA 8082

**Matrix:** Soil

**Received:** 09/18/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 09/25/20

Analyte	Result	RL	Units
Aroclor-1016	ND	17	ug/Kg
Aroclor-1221	ND	17	ug/Kg
Aroclor-1232	ND	17	ug/Kg
Aroclor-1242	ND	17	ug/Kg
Aroclor-1248	ND	17	ug/Kg
Aroclor-1254	ND	17	ug/Kg
Aroclor-1260	ND	17	ug/Kg
Aroclor-1262	ND	17	ug/Kg
Aroclor-1268	ND	17	ug/Kg

Surrogate	%REC	Limits
Decachlorobiphenyl (PCB)	3 *	19-121

## Polychlorinated Biphenyls (PCBs)

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-11-1

**DiIn Fac:** 1.000

**Analyzed:** 09/28/20

**Type:** SAMPLE

**Batch#:** 253299

**Prep:** EPA 3546

**Lab ID:** 433735-007

**Sampled:** 09/16/20

**Analysis:** EPA 8082

**Matrix:** Soil

**Received:** 09/18/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 09/25/20

Analyte	Result	RL	Units
Aroclor-1016	ND	17	ug/Kg
Aroclor-1221	ND	17	ug/Kg
Aroclor-1232	ND	17	ug/Kg
Aroclor-1242	ND	17	ug/Kg
Aroclor-1248	ND	17	ug/Kg
Aroclor-1254	ND	17	ug/Kg
<b>Aroclor-1260</b>	<b>35</b>	17	ug/Kg
Aroclor-1262	ND	17	ug/Kg
Aroclor-1268	ND	17	ug/Kg

Surrogate	%REC	Limits
Decachlorobiphenyl (PCB)	11 *	19-121

**Type:** BLANK

**Batch#:** 253299

**Analysis:** EPA 8082

**Lab ID:** QC887215

**Prepared:** 09/25/20

**Analyst:** KTD

**Matrix:** Soil

**Analyzed:** 09/28/20

**DiIn Fac:** 1.000

**Prep:** EPA 3546

Analyte	Result	RL	Units
Aroclor-1016	ND	17	ug/Kg
Aroclor-1221	ND	17	ug/Kg
Aroclor-1232	ND	17	ug/Kg
Aroclor-1242	ND	17	ug/Kg
Aroclor-1248	ND	17	ug/Kg
Aroclor-1254	ND	17	ug/Kg
Aroclor-1260	ND	17	ug/Kg
Aroclor-1262	ND	17	ug/Kg
Aroclor-1268	ND	17	ug/Kg

Surrogate	%REC	Limits
Decachlorobiphenyl (PCB)	53	19-121

Legend

\*: Value is outside QC limits

ND: Not Detected

RL: Reporting Limit



## Polychlorinated Biphenyls (PCBs): Batch QC

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BS

**Batch#:** 253299

**Analysis:** EPA 8082

**Lab ID:** QC887218

**Prepared:** 09/25/20

**Analyst:** KTD

**Matrix:** Soil

**Analyzed:** 09/28/20

**DiIn Fac:** 1.000

**Prep:** EPA 3546

Analyte	Spiked	Result	%REC	Limits	Units
Aroclor-1016	166.7	138.1	83	14-150	ug/Kg
Aroclor-1260	166.7	110.9	67	10-150	ug/Kg

Surrogate	%REC	Limits
Decachlorobiphenyl (PCB)	63	19-121

**Type:** BSD

**Batch#:** 253299

**Analysis:** EPA 8082

**Lab ID:** QC887219

**Prepared:** 09/25/20

**Analyst:** KTD

**Matrix:** Soil

**Analyzed:** 09/28/20

**DiIn Fac:** 1.000

**Prep:** EPA 3546

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
Aroclor-1016	166.1	149.6	90	14-150	ug/Kg	8	20
Aroclor-1260	166.1	117.7	71	10-150	ug/Kg	6	20

Surrogate	%REC	Limits
Decachlorobiphenyl (PCB)	67	19-121

Legend

**RPD:** Relative Percent Difference

## Metals Analytical Report

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-09-1

**Matrix:** Soil

**Received:** 09/18/20

**Type:** SAMPLE

**DiIn Fac:** 1.000

**Lab ID:** 433735-001

**Sampled:** 09/17/20

Analyte	Result	RL	Units	Basis	Moisture	Batch#	Prepared	Analyzed	Prep	Analysis	Analyst
<b>Arsenic</b>	<b>1.6</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Barium</b>	<b>76</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Cadmium	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Chromium</b>	<b>120</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Lead</b>	<b>7.2</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Mercury	ND	0.15	mg/Kg	dry	8%	253611	10/01/20	10/01/20	METHOD	EPA 7471A	JDB
Selenium	ND	1.5	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Silver	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN

**Field ID:** 2819-09-2

**Matrix:** Soil

**Received:** 09/18/20

**Type:** SAMPLE

**DiIn Fac:** 1.000

**Lab ID:** 433735-002

**Sampled:** 09/17/20

Analyte	Result	RL	Units	Basis	Moisture	Batch#	Prepared	Analyzed	Prep	Analysis	Analyst
<b>Arsenic</b>	<b>1.4</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Barium</b>	<b>120</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Cadmium	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Chromium</b>	<b>110</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Lead</b>	<b>5.5</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Mercury	ND	0.14	mg/Kg	dry	10%	253611	10/01/20	10/01/20	METHOD	EPA 7471A	JDB
Selenium	ND	1.5	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Silver	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN

**Field ID:** 2819-09-3

**Matrix:** Soil

**Received:** 09/18/20

**Type:** SAMPLE

**DiIn Fac:** 1.000

**Lab ID:** 433735-003

**Sampled:** 09/17/20

Analyte	Result	RL	Units	Basis	Moisture	Batch#	Prepared	Analyzed	Prep	Analysis	Analyst
<b>Arsenic</b>	<b>1.4</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Barium</b>	<b>67</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Cadmium	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Chromium</b>	<b>100</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Lead</b>	<b>5.3</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Mercury	ND	0.16	mg/Kg	dry	11%	253611	10/01/20	10/01/20	METHOD	EPA 7471A	JDB
Selenium	ND	1.5	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Silver	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN

## Metals Analytical Report

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-10-1

**Matrix:** Soil

**Received:** 09/18/20

**Type:** SAMPLE

**DiIn Fac:** 1.000

**Lab ID:** 433735-004

**Sampled:** 09/16/20

Analyte	Result	RL	Units	Basis	Moisture	Batch#	Prepared	Analyzed	Prep	Analysis	Analyst
Arsenic	ND	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Barium</b>	<b>65</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Cadmium	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Chromium</b>	<b>91</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Lead</b>	<b>13</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Mercury	ND	0.14	mg/Kg	dry	10%	253611	10/01/20	10/01/20	METHOD	EPA 7471A	JDB
Selenium	ND	1.5	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Silver	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN

**Field ID:** 2819-10-2

**Matrix:** Soil

**Received:** 09/18/20

**Type:** SAMPLE

**DiIn Fac:** 1.000

**Lab ID:** 433735-005

**Sampled:** 09/16/20

Analyte	Result	RL	Units	Basis	Moisture	Batch#	Prepared	Analyzed	Prep	Analysis	Analyst
<b>Arsenic</b>	<b>1.6</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Barium</b>	<b>140</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Cadmium	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Chromium</b>	<b>170</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Lead</b>	<b>58</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Mercury	ND	0.15	mg/Kg	dry	20%	253611	10/01/20	10/01/20	METHOD	EPA 7471A	JDB
Selenium	ND	1.5	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Silver	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN

**Field ID:** 2819-10-3

**Matrix:** Soil

**Received:** 09/18/20

**Type:** SAMPLE

**DiIn Fac:** 1.000

**Lab ID:** 433735-006

**Sampled:** 09/16/20

Analyte	Result	RL	Units	Basis	Moisture	Batch#	Prepared	Analyzed	Prep	Analysis	Analyst
<b>Arsenic</b>	<b>1.7</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Barium</b>	<b>120</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Cadmium</b>	<b>0.36</b>	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Chromium</b>	<b>190</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Lead</b>	<b>33</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Mercury	ND	0.17	mg/Kg	dry	21%	253611	10/01/20	10/01/20	METHOD	EPA 7471A	JDB
Selenium	ND	1.5	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Silver	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN

## Metals Analytical Report

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-11-1

**Matrix:** Soil

**Received:** 09/18/20

**Type:** SAMPLE

**DiIn Fac:** 1.000

**Lab ID:** 433735-007

**Sampled:** 09/16/20

Analyte	Result	RL	Units	Basis	Moisture	Batch#	Prepared	Analyzed	Prep	Analysis	Analyst
<b>Arsenic</b>	<b>1.2</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Barium</b>	<b>89</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Cadmium	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Chromium</b>	<b>140</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Lead</b>	<b>20</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Mercury	ND	0.14	mg/Kg	dry	12%	253611	10/01/20	10/01/20	METHOD	EPA 7471A	JDB
Selenium	ND	1.5	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Silver	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN

**Field ID:** 2819-11-2

**Matrix:** Soil

**Received:** 09/18/20

**Type:** SAMPLE

**DiIn Fac:** 1.000

**Lab ID:** 433735-008

**Sampled:** 09/16/20

Analyte	Result	RL	Units	Basis	Moisture	Batch#	Prepared	Analyzed	Prep	Analysis	Analyst
<b>Arsenic</b>	<b>2.8</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Barium</b>	<b>130</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Cadmium	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Chromium</b>	<b>190</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Lead</b>	<b>54</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Mercury	ND	0.14	mg/Kg	dry	10%	253611	10/01/20	10/01/20	METHOD	EPA 7471A	JDB
Selenium	ND	1.5	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Silver	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN

**Field ID:** 2819-11-3

**Matrix:** Soil

**Received:** 09/18/20

**Type:** SAMPLE

**DiIn Fac:** 1.000

**Lab ID:** 433735-009

**Sampled:** 09/16/20

Analyte	Result	RL	Units	Basis	Moisture	Batch#	Prepared	Analyzed	Prep	Analysis	Analyst
<b>Arsenic</b>	<b>2.8</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Barium</b>	<b>150</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Cadmium	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Chromium</b>	<b>180</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Lead</b>	<b>41</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Mercury	ND	0.16	mg/Kg	dry	17%	253611	10/01/20	10/01/20	METHOD	EPA 7471A	JDB
Selenium	ND	1.5	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Silver	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN

## Metals Analytical Report

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-11-4

**Matrix:** Soil

**Received:** 09/18/20

**Type:** SAMPLE

**DiIn Fac:** 1.000

**Lab ID:** 433735-010

**Sampled:** 09/16/20

Analyte	Result	RL	Units	Basis	Moisture	Batch#	Prepared	Analyzed	Prep	Analysis	Analyst
<b>Arsenic</b>	<b>1.9</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Barium</b>	<b>210</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Cadmium	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Chromium</b>	<b>240</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Lead</b>	<b>36</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Mercury	ND	0.16	mg/Kg	dry	18%	253611	10/01/20	10/01/20	METHOD	EPA 7471A	JDB
Selenium	ND	1.5	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Silver	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN

**Field ID:** 2819-B1

**Matrix:** Soil

**Received:** 09/18/20

**Type:** SAMPLE

**DiIn Fac:** 1.000

**Lab ID:** 433735-011

**Sampled:** 09/16/20

Analyte	Result	RL	Units	Basis	Moisture	Batch#	Prepared	Analyzed	Prep	Analysis	Analyst
<b>Arsenic</b>	<b>1.9</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Barium</b>	<b>140</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Cadmium	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Chromium</b>	<b>130</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Lead</b>	<b>34</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Mercury	ND	0.14	mg/Kg	dry	9%	253611	10/01/20	10/01/20	METHOD	EPA 7471A	JDB
Selenium	ND	1.5	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Silver	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN

**Field ID:** 2819-B2

**Matrix:** Soil

**Received:** 09/18/20

**Type:** SAMPLE

**DiIn Fac:** 1.000

**Lab ID:** 433735-012

**Sampled:** 09/16/20

Analyte	Result	RL	Units	Basis	Moisture	Batch#	Prepared	Analyzed	Prep	Analysis	Analyst
Arsenic	ND	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Barium</b>	<b>75</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Cadmium	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Chromium</b>	<b>96</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Lead</b>	<b>2.8</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Mercury	ND	0.14	mg/Kg	dry	3%	253611	10/01/20	10/01/20	METHOD	EPA 7471A	JDB
Selenium	ND	1.5	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Silver	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN

## Metals Analytical Report

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-B3

**Matrix:** Soil

**Received:** 09/18/20

**Type:** SAMPLE

**DiIn Fac:** 1.000

**Lab ID:** 433735-013

**Sampled:** 09/16/20

Analyte	Result	RL	Units	Basis	Moisture	Batch#	Prepared	Analyzed	Prep	Analysis	Analyst
Arsenic	ND	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Barium</b>	<b>77</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Cadmium	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Chromium</b>	<b>130</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Lead</b>	<b>2.7</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Mercury	ND	0.15	mg/Kg	dry	12%	253611	10/01/20	10/01/20	METHOD	EPA 7471A	JDB
Selenium	ND	1.5	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Silver	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN

**Field ID:** 2819-B4

**Matrix:** Soil

**Received:** 09/18/20

**Type:** SAMPLE

**DiIn Fac:** 1.000

**Lab ID:** 433735-014

**Sampled:** 09/16/20

Analyte	Result	RL	Units	Basis	Moisture	Batch#	Prepared	Analyzed	Prep	Analysis	Analyst
<b>Arsenic</b>	<b>0.87</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Barium</b>	<b>98</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Cadmium	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Chromium</b>	<b>140</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Lead</b>	<b>15</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Mercury	ND	0.16	mg/Kg	dry	14%	253611	10/01/20	10/01/20	METHOD	EPA 7471A	JDB
Selenium	ND	1.5	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Silver	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN

**Field ID:** 2819-B5

**Matrix:** Soil

**Received:** 09/18/20

**Type:** SAMPLE

**DiIn Fac:** 1.000

**Lab ID:** 433735-015

**Sampled:** 09/16/20

Analyte	Result	RL	Units	Basis	Moisture	Batch#	Prepared	Analyzed	Prep	Analysis	Analyst
<b>Arsenic</b>	<b>1.2</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Barium</b>	<b>140</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Cadmium	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Chromium</b>	<b>130</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
<b>Lead</b>	<b>57</b>	0.50	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Mercury	ND	0.16	mg/Kg	dry	14%	253611	10/01/20	10/01/20	METHOD	EPA 7471A	JDB
Selenium	ND	1.5	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN
Silver	ND	0.25	mg/Kg	air dried		253638	10/02/20	10/02/20	EPA 3050B	EPA 6010B	KLN

## Metals Analytical Report

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BLANK  
**Lab ID:** QC888008  
**Matrix:** Soil  
**Diln Fac:** 1.000

**Batch#:** 253611  
**Prepared:** 10/01/20  
**Analyzed:** 10/01/20  
**Prep:** METHOD

**Analysis:** EPA 7471A  
**Analyst:** JDB

Analyte	Result	RL	Units
Mercury	ND	0.14	mg/Kg

**Type:** BLANK  
**Lab ID:** QC888074  
**Matrix:** Soil  
**Diln Fac:** 1.000

**Batch#:** 253638  
**Prepared:** 10/02/20  
**Analyzed:** 10/02/20  
**Prep:** EPA 3050B

**Analysis:** EPA 6010B  
**Analyst:** KLN

Analyte	Result	RL	Units
Arsenic	ND	0.50	mg/Kg
Barium	ND	0.50	mg/Kg
Cadmium	ND	0.25	mg/Kg
Chromium	ND	0.50	mg/Kg
Lead	ND	0.50	mg/Kg
Selenium	ND	1.5	mg/Kg
Silver	ND	0.25	mg/Kg

Legend

**ND:** Not Detected

**RL:** Reporting Limit

### Metals Analytical Report: Batch QC

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** LCS

**Batch#:** 253611

**Analysis:** EPA 7471A

**Lab ID:** QC888009

**Prepared:** 10/01/20

**Analyst:** JDB

**Matrix:** Soil

**Analyzed:** 10/01/20

**Diln Fac:** 1.000

**Prep:** METHOD

Analyte	Spiked	Result	%REC	Limits	Units
Mercury	0.8333	0.8487	102	80-120	mg/Kg



### Metals Analytical Report: Batch QC

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** ZZZZZZZZZZ

**Basis:** as received

**Prepared:** 10/01/20

**Type:** MS

**Diln Fac:** 1.000

**Analyzed:** 10/01/20

**MSS Lab ID:** 434274-005

**Batch#:** 253611

**Prep:** METHOD

**Lab ID:** QC888010

**Sampled:** 09/30/20

**Analysis:** EPA 7471A

**Matrix:** Soil

**Received:** 09/30/20

**Analyst:** JDB

Analyte	MSS Result	Spiked	Result	%REC	Limits	Units	Qual
Mercury	0.05394	0.8065	0.9140	107	75-125	mg/Kg	b

**Field ID:** ZZZZZZZZZZ

**Basis:** as received

**Prepared:** 10/01/20

**Type:** MSD

**Diln Fac:** 1.000

**Analyzed:** 10/01/20

**MSS Lab ID:** 434274-005

**Batch#:** 253611

**Prep:** METHOD

**Lab ID:** QC888011

**Sampled:** 09/30/20

**Analysis:** EPA 7471A

**Matrix:** Soil

**Received:** 09/30/20

**Analyst:** JDB

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim	Qual
Mercury	0.8333	0.9519	108	75-125	mg/Kg	1	20	b

Legend

**RPD:** Relative Percent Difference

**b:** See narrative

## Metals Analytical Report: Batch QC

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BS

**Batch#:** 253638

**Analysis:** EPA 6010B

**Lab ID:** QC888075

**Prepared:** 10/02/20

**Analyst:** KLN

**Matrix:** Soil

**Analyzed:** 10/02/20

**DiIn Fac:** 1.000

**Prep:** EPA 3050B

Analyte	Spiked	Result	%REC	Limits	Units	Qual
Arsenic	100.0	97.78	98	80-120	mg/Kg	
Barium	100.0	96.06	96	80-120	mg/Kg	
Cadmium	100.0	96.77	97	80-120	mg/Kg	
Chromium	100.0	98.07	98	80-120	mg/Kg	
Lead	100.0	97.80	98	80-120	mg/Kg	
Selenium	100.0	85.65	86	80-120	mg/Kg	b
Silver	100.0	94.48	94	80-120	mg/Kg	

**Type:** BSD

**Batch#:** 253638

**Analysis:** EPA 6010B

**Lab ID:** QC888076

**Prepared:** 10/02/20

**Analyst:** KLN

**Matrix:** Soil

**Analyzed:** 10/02/20

**DiIn Fac:** 1.000

**Prep:** EPA 3050B

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim	Qual
Arsenic	100.0	101.8	102	80-120	mg/Kg	4	20	
Barium	100.0	96.90	97	80-120	mg/Kg	1	20	
Cadmium	100.0	101.4	101	80-120	mg/Kg	5	20	
Chromium	100.0	103.0	103	80-120	mg/Kg	5	20	
Lead	100.0	102.4	102	80-120	mg/Kg	5	20	
Selenium	100.0	89.54	90	80-120	mg/Kg	4	20	b
Silver	100.0	99.71	100	80-120	mg/Kg	5	20	

Legend

**RPD:** Relative Percent Difference

**b:** See narrative

## Moisture

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-09-1

**Batch#:** 253305

**Prep:** METHOD

**Lab ID:** 433735-001

**Sampled:** 09/17/20

**Analysis:** ASTM D2216

**Matrix:** Soil

**Received:** 09/18/20

**Analyst:** WWC

**DiIn Fac:** 1.000

**Analyzed:** 09/26/20

Analyte	Result	RL	Units
Moisture, Percent	8	1	%

**Field ID:** 2819-09-2

**Batch#:** 253305

**Prep:** METHOD

**Lab ID:** 433735-002

**Sampled:** 09/17/20

**Analysis:** ASTM D2216

**Matrix:** Soil

**Received:** 09/18/20

**Analyst:** WWC

**DiIn Fac:** 1.000

**Analyzed:** 09/26/20

Analyte	Result	RL	Units
Moisture, Percent	10	1	%

**Field ID:** 2819-09-3

**Batch#:** 253305

**Prep:** METHOD

**Lab ID:** 433735-003

**Sampled:** 09/17/20

**Analysis:** ASTM D2216

**Matrix:** Soil

**Received:** 09/18/20

**Analyst:** WWC

**DiIn Fac:** 1.000

**Analyzed:** 09/26/20

Analyte	Result	RL	Units
Moisture, Percent	11	1	%

**Field ID:** 2819-10-1

**Batch#:** 253305

**Prep:** METHOD

**Lab ID:** 433735-004

**Sampled:** 09/16/20

**Analysis:** ASTM D2216

**Matrix:** Soil

**Received:** 09/18/20

**Analyst:** WWC

**DiIn Fac:** 1.000

**Analyzed:** 09/26/20

Analyte	Result	RL	Units
Moisture, Percent	10	1	%

**Field ID:** 2819-10-2

**Batch#:** 253305

**Prep:** METHOD

**Lab ID:** 433735-005

**Sampled:** 09/16/20

**Analysis:** ASTM D2216

**Matrix:** Soil

**Received:** 09/18/20

**Analyst:** WWC

**DiIn Fac:** 1.000

**Analyzed:** 09/26/20

Analyte	Result	RL	Units
Moisture, Percent	20	1	%

**Field ID:** 2819-10-3

**Batch#:** 253305

**Prep:** METHOD

**Lab ID:** 433735-006

**Sampled:** 09/16/20

**Analysis:** ASTM D2216

**Matrix:** Soil

**Received:** 09/18/20

**Analyst:** WWC

**DiIn Fac:** 1.000

**Analyzed:** 09/26/20

Analyte	Result	RL	Units
Moisture, Percent	21	1	%

## Moisture

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-11-1

**Batch#:** 253305

**Prep:** METHOD

**Lab ID:** 433735-007

**Sampled:** 09/16/20

**Analysis:** ASTM D2216

**Matrix:** Soil

**Received:** 09/18/20

**Analyst:** WWC

**DiIn Fac:** 1.000

**Analyzed:** 09/26/20

Analyte	Result	RL	Units
Moisture, Percent	12	1	%

**Field ID:** 2819-11-2

**Batch#:** 253305

**Prep:** METHOD

**Lab ID:** 433735-008

**Sampled:** 09/16/20

**Analysis:** ASTM D2216

**Matrix:** Soil

**Received:** 09/18/20

**Analyst:** WWC

**DiIn Fac:** 1.000

**Analyzed:** 09/26/20

Analyte	Result	RL	Units
Moisture, Percent	10	1	%

**Field ID:** 2819-11-3

**Batch#:** 253305

**Prep:** METHOD

**Lab ID:** 433735-009

**Sampled:** 09/16/20

**Analysis:** ASTM D2216

**Matrix:** Soil

**Received:** 09/18/20

**Analyst:** WWC

**DiIn Fac:** 1.000

**Analyzed:** 09/26/20

Analyte	Result	RL	Units
Moisture, Percent	17	1	%

**Field ID:** 2819-11-4

**Batch#:** 253305

**Prep:** METHOD

**Lab ID:** 433735-010

**Sampled:** 09/16/20

**Analysis:** ASTM D2216

**Matrix:** Soil

**Received:** 09/18/20

**Analyst:** WWC

**DiIn Fac:** 1.000

**Analyzed:** 09/26/20

Analyte	Result	RL	Units
Moisture, Percent	18	1	%

**Field ID:** 2819-B1

**Batch#:** 253306

**Prep:** METHOD

**Lab ID:** 433735-011

**Sampled:** 09/16/20

**Analysis:** ASTM D2216

**Matrix:** Soil

**Received:** 09/18/20

**Analyst:** WWC

**DiIn Fac:** 1.000

**Analyzed:** 09/26/20

Analyte	Result	RL	Units
Moisture, Percent	9	1	%

**Field ID:** 2819-B2

**Batch#:** 253306

**Prep:** METHOD

**Lab ID:** 433735-012

**Sampled:** 09/16/20

**Analysis:** ASTM D2216

**Matrix:** Soil

**Received:** 09/18/20

**Analyst:** WWC

**DiIn Fac:** 1.000

**Analyzed:** 09/26/20

Analyte	Result	RL	Units
Moisture, Percent	3	1	%

## Moisture

**Lab #:** 433735

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-B3

**Batch#:** 253306

**Prep:** METHOD

**Lab ID:** 433735-013

**Sampled:** 09/16/20

**Analysis:** ASTM D2216

**Matrix:** Soil

**Received:** 09/18/20

**Analyst:** WWC

**DiIn Fac:** 1.000

**Analyzed:** 09/26/20

Analyte	Result	RL	Units
Moisture, Percent	12	1	%

**Field ID:** 2819-B4

**Batch#:** 253306

**Prep:** METHOD

**Lab ID:** 433735-014

**Sampled:** 09/16/20

**Analysis:** ASTM D2216

**Matrix:** Soil

**Received:** 09/18/20

**Analyst:** WWC

**DiIn Fac:** 1.000

**Analyzed:** 09/26/20

Analyte	Result	RL	Units
Moisture, Percent	14	1	%

**Field ID:** 2819-B5

**Batch#:** 253306

**Prep:** METHOD

**Lab ID:** 433735-015

**Sampled:** 09/16/20

**Analysis:** ASTM D2216

**Matrix:** Soil

**Received:** 09/18/20

**Analyst:** WWC

**DiIn Fac:** 1.000

**Analyzed:** 09/26/20

Analyte	Result	RL	Units
Moisture, Percent	14	1	%

Legend

RL: Reporting Limit

### Moisture: Batch QC

**Lab #:** 433735      **Project#:** 2819\_2  
**Client:** Myounghee Noh & Associates      **Location:** PH2 Oahu Community Correctional Ce...

<b>Field ID:</b> 2819-11-4	<b>Diln Fac:</b> 1.000	<b>Prep:</b> METHOD
<b>Type:</b> SDUP	<b>Batch#:</b> 253305	<b>Analysis:</b> ASTM D2216
<b>MSS Lab ID:</b> 433735-010	<b>Sampled:</b> 09/16/20	<b>Analyst:</b> WWC
<b>Lab ID:</b> QC887234	<b>Received:</b> 09/18/20	
<b>Matrix:</b> Soil	<b>Analyzed:</b> 09/26/20	

Analyte	MSS Result	Result	RL	Units	RPD	Lim
Moisture, Percent	18.12	17.86	1.000	%	1	26

<b>Field ID:</b> 2819-B5	<b>Diln Fac:</b> 1.000	<b>Prep:</b> METHOD
<b>Type:</b> SDUP	<b>Batch#:</b> 253306	<b>Analysis:</b> ASTM D2216
<b>MSS Lab ID:</b> 433735-015	<b>Sampled:</b> 09/16/20	<b>Analyst:</b> WWC
<b>Lab ID:</b> QC887235	<b>Received:</b> 09/18/20	
<b>Matrix:</b> Soil	<b>Analyzed:</b> 09/26/20	

Analyte	MSS Result	Result	RL	Units	RPD	Lim
Moisture, Percent	14.40	13.96	1.000	%	3	26

Legend

**RL:** Reporting Limit

**RPD:** Relative Percent Difference

Laboratory Job Number 433735  
Subcontracted Products  
American Environmental Testing



## AMERICAN ENVIRONMENTAL TESTING LABORATORY

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TEL (888) 288-AETL • (818) 845-8200 • www.aetlab.com

October 14, 2020

AETL Job No: BBJ0075  
Received Date: 10/07/2020  
Project Number: 433735

Enthalpy Analytical  
931 W. Barkley Ave.  
Orange, CA 92868  
Telephone: (714) 771-6900

Attention: John Goyette

Project Name: 433735

Site:

Enclosed please find the results of analyses for samples which were analyzed as specified on the attached chain of custody. If you have any questions concerning this report, please do not hesitate to call.

Checked By:

Harriet Torosyan  
Project Manager

Approved By:

Corey Jones  
Project Manager





## Table of Contents

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Client Project Name: OPP & Herbicide D33735)  
Work Order Number: BBJ0075

1	Cover Letter .....	1
2	Sample Condition on Receipt .....	3
3	Chain of Custody .....	4
4	Cooler Receipt Form .....	5
5	Case Narrative .....	6
6	Samples Received .....	7
7	Positive Hits Summary .....	9
8	Analytical Results .....	10
9	Quality Control Results .....	14
10	Qualifiers and Definitions .....	16



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Enthalpy Analytical  
931 W. Barkley Ave.  
Orange, CA 92868

AETL Job Number: BBJ0075  
Project Number: 433735  
Attention: John Goyette  
Project Name: OPP & Herbicide

Reported: 10/14/2020 16:01

## Sample Condition on Receipt

Cooler ID: Default Cooler

Temperature: 3.2 °C

Are the COCs Correct	Y		
Labels Legible	Y	Containers In Good Condition	Y
COC/Labels Agree	Y	Samples Preserved Properly	Y
Sufficient Sample Volume	Y	Sufficient Holding Time for all Tests	Y
Sample Labels intact	Y	Received on Ice	Y



Subcontract Laboratory:

American Environmental Testing  
2834 North Naomi Street  
Burbank, CA 91504-2023  
ATTN: Jim Lin  
PO #: Required, to be sent via email

Enthalpy Order: EO-433735

PM: John Goyette  
Email: john.goyette@enthalpy.com  
CC: incomingreports@enthalpy.com  
Phone: (510) 204-2233 Ext 13112

*BBJ0075*

Results Due: Standard TAT

Report Level: II

Report To: RL

EDDs:

Notes:

Sample ID	Collected	Lab ID	# Cont.	Matrix	Analysis Requested	Comment
2819-10-1	16-SEP-2020 10:30	433735-004	1	Soil	Organophosphorus Pesticides	<i>BBJ0075.01</i>
2819-10-2	16-SEP-2020 10:30	433735-005	1	Soil	Organophosphorus Pesticides	<i>BBJ0075.02</i>
2819-11-1	16-SEP-2020 11:45	433735-007	1	Soil	Organophosphorus Pesticides	<i>BBJ0075.03</i>
2819-11-2	16-SEP-2020 11:45	433735-008	1	Soil	Organophosphorus Pesticides	<i>BBJ0075.04</i>

<b>Notes:</b>	<b>Relinquished By:</b>	<b>Received By:</b>
	<i>[Signature]</i>	<i>Sangis Dineh</i>
	Date: <i>10-6-20 1248</i>	Date: <i>10/2/20 0800</i>
	Date:	Date:
	Date:	Date:



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**COOLER RECEIPT FORM**

Client Name: *Enthalpy Analytical*

Project Name:

AETL Job Number: *BBJ0075*

Date Received: *10/7/2020* Received by: *Sargis Piroh*

Carrier:  AETL Courier  Client  GLS  FedEx  UPS  
 Others:

Samples were received in:  Cooler ( *1* )  Other (Specify):

Inside temperature of shipping container No 1: *3.2°C*, No 2: , No 3:

Type of sample containers:  VOA,  Glass bottles,  Wide mouth jars,  HDPE bottles,  Metal sleeves,  Others (Specify):

How are samples preserved:  None,  Ice,  Blue Ice,  Dry Ice  
 None,  HNO<sub>3</sub>,  NaOH,  ZnOAc,  HCl,  Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>,  
 MeOH  
 Other (Specify):

	Yes	No, explain below	Name, if client was notified.
1. Are the COCs Correct?	<i>✓</i>		
2. Are the Sample labels legible?	<i>✓</i>		
3. Do samples match the COC?	<i>✓</i>		
4. Are the required analyses clear?	<i>✓</i>		
5. Is there enough samples for required analysis?	<i>✓</i>		
6. Are samples sealed with evidence tape?	<i>N/A</i>		
7. Are sample containers in good condition?	<i>✓</i>		
8. Are samples preserved?	<i>✓</i>		
9. Are samples preserved properly for the intended analysis?	<i>✓</i>		
10. Are the VOAs free of headspace?	<i>N/A</i>		
11. Are the jars free of headspace?	<i>↓</i>		

**PLEASE NOTE ALL SAMPLES WILL BE DISPOSED OF 30 DAYS AFTER RECEIVING DATE. IF AETL IS INFORMED OTHERWISE, THERE WILL BE A STORAGE CHARGE PER SAMPLE PER MONTH FOR ANY SAMPLE HELD BEYOND 30 DAYS.**

Explain all "No" answers for above questions:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



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Enthalpy Analytical  
931 W. Barkley Ave.  
Orange, CA 92868

AETL Job Number: BBJ0075  
Project Number: 433735  
Attention: John Goyette  
Project Name: OPP & Herbicide

Reported: 10/14/2020 16:01

## Case Narrative

The following "Sample Received" Section summarizes the samples received and associated analyses requested as specified on the enclosed chain of custody.

Results as reported by the laboratory apply only to 1) the items tested, 2) as the samples are received, and 3) the accuracy of information provided. Information supplied by the customer that may affect validity of results and may be contained in this report include Project Name/Number, Site Location, Sample Locations, Sampling Dates/Times, Sample ID, Sample Preservation, Sample Matrix, Sample Properties, Field Blanks, Field Duplicates, Field Spikes, and Site Historical Data.

Accreditation applies only to the test methods listed on each scope of accreditation held by the laboratory; certifications held by the laboratory may not apply to results supplied in this report.

Unless otherwise noted, all results of soil and solid samples are based on wet weight.

No analytical non-conformances were encountered.

Qualifiers are noted in the report.



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Enthalpy Analytical 931 W. Barkley Ave. Orange, CA 92868	AETL Job Number: BBJ0075 Project Number: 433735 Attention: John Goyette Project Name: OPP & Herbicide	Reported: 10/14/2020 16:01
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## Samples Received

**AETL received the following samples on 10/07/2020 with the following specifications**

Project Name:			
Site:			
<b>Client ID</b> 2819-10-1			<b>Sample Date</b> 09/16/2020 10:30
<b>Lab ID</b> BBJ0075-01	<b>Matrix</b> Soil	HT1	<b>Quantity of Containers</b> 1
<b>Analysis</b> EPA 8141A	<b>Units</b> ug/kg		<b>TAT</b> 5
<hr/>			
<b>Client ID</b> 2819-10-2			<b>Sample Date</b> 09/16/2020 10:30
<b>Lab ID</b> BBJ0075-02	<b>Matrix</b> Soil	HT1	<b>Quantity of Containers</b> 1
<b>Analysis</b> EPA 8141A	<b>Units</b> ug/kg		<b>TAT</b> 5
<hr/>			
<b>Client ID</b> 2819-11-1			<b>Sample Date</b> 09/16/2020 11:45
<b>Lab ID</b> BBJ0075-03	<b>Matrix</b> Soil	HT1	<b>Quantity of Containers</b> 1
<b>Analysis</b> EPA 8141A	<b>Units</b> ug/kg		<b>TAT</b> 5
<hr/>			
<b>Client ID</b> 2819-11-2			<b>Sample Date</b> 09/16/2020 11:45
<b>Lab ID</b> BBJ0075-04	<b>Matrix</b> Soil	HT1	<b>Quantity of Containers</b> 1
<b>Analysis</b> EPA 8141A	<b>Units</b> ug/kg		<b>TAT</b> 5



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Enthalpy Analytical	AETL Job Number:	BBJ0075	
931 W. Barkley Ave.	Project Number:	433735	
Orange, CA 92868	Attention:	John Goyette	
	Project Name:	OPP & Herbicide	Reported: 10/14/2020 16:01

## Samples Received (Continued)

**AETL received the following samples on 10/07/2020 with the following specifications**

Project Name:  
Site:

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**Total Number of Samples received: 4**



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Enthalpy Analytical 931 W. Barkley Ave. Orange, CA 92868	AETL Job Number: BBJ0075 Project Number: 433735 Attention: John Goyette Project Name: OPP & Herbicide	Reported: 10/14/2020 16:01
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## Positive Hits Summary

Lab ID	Client ID	Received			
Method	Analyte	Result	Qualifier	Unit	Analyzed

**No positive results reported!**





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Enthalpy Analytical 931 W. Barkley Ave. Orange, CA 92868	AETL Job Number: BBJ0075 Project Number: 433735 Attention: John Goyette Project Name: OPP & Herbicide	Reported: 10/14/2020 16:01
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## Analytical Results

**Client ID: 2819-10-1**  
**Lab ID: BBJ0075-01 (Soil)**

Analyte	Result	Qualifier	Dilution	RL	Units	Prepared Date/Time	Analyzed Date/Time	Batch	Analyst Initials	Prep. Method
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### Organophosphorus Pesticides

**Method: EPA 8141A**

Azinphos-methyl	ND	HT1	1	100	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Bolstar (Sulprofos)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Chloropyrifos (Dursban)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Coumaphos	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Demeton-O & S	ND	HT1	1	80.0	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Diazinon	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Diazinon (2)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Dichlorvos (DDVP, Diclorovos)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Disulfoton	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Ethoprop	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Fensulfothion	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Fenthion	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Malathion	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Merphos	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Methyl parathion (Parathion methyl)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Mevinphos	ND	HT1	1	100	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Naled	ND	HT1	1	100	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Phorate (Phosphorodithioic acid)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Ronnel	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Tetrachlorvinphos (Stirophos)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Tokuthion (Prothiofos)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
Trichloronate	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B

<i>Surrogate: Tributylphosphate</i>	Recovery	58.4% HT1	Acceptance Criteria	52-129		10/08/20 12:43	10/08/20 15:37	BOJ0189	ATS	3550B
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The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document. No duplication of this report is allowed, except in its entirety without written approval of the laboratory.



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Enthalpy Analytical 931 W. Barkley Ave. Orange, CA 92868	AETL Job Number: BBJ0075 Project Number: 433735 Attention: John Goyette Project Name: OPP & Herbicide	Reported: 10/14/2020 16:01
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## Analytical Results

Client ID: 2819-10-2

Lab ID: BBJ0075-02 (Soil)

Analyte	Result	Qualifier	Dilution	RL	Units	Prepared Date/Time	Analyzed Date/Time	Batch	Analyst Initials	Prep. Method
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### Organophosphorus Pesticides

Method: EPA 8141A

Azinphos-methyl	ND	HT1	1	100	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Bolstar (Sulprofos)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Chloropyrifos (Dursban)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Coumaphos	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Demeton-O & S	ND	HT1	1	80.0	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Diazinon	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Diazinon (2)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Dichlorvos (DDVP, Diclorovos)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Disulfoton	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Ethoprop	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Fensulfothion	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Fenthion	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Malathion	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Merphos	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Methyl parathion (Parathion methyl)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Mevinphos	ND	HT1	1	100	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Naled	ND	HT1	1	100	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Phorate (Phosphorodithioic acid)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Ronnel	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Tetrachlorvinphos (Stirophos)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Tokuthion (Prothiofos)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
Trichloronate	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B

Recovery Acceptance Criteria

Surrogate: Tributylphosphate	92.0% HT1	52-129	10/08/20 12:43	10/08/20 16:10	BOJ0189	ATS	3550B
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Enthalpy Analytical  
 931 W. Barkley Ave.  
 Orange, CA 92868

AETL Job Number: BBJ0075  
 Project Number: 433735  
 Attention: John Goyette  
 Project Name: OPP & Herbicide

Reported: 10/14/2020 16:01

## Analytical Results

Client ID: 2819-11-1

Lab ID: BBJ0075-03 (Soil)

Analyte	Result	Qualifier	Dilution	RL	Units	Prepared Date/Time	Analyzed Date/Time	Batch	Analyst Initials	Prep. Method
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### Organophosphorus Pesticides

Method: EPA 8141A

Azinphos-methyl	ND	HT1	1	100	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Bolstar (Sulprofos)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Chloropyrifos (Dursban)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Coumaphos	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Demeton-O & S	ND	HT1	1	80.0	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Diazinon	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Diazinon (2)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Dichlorvos (DDVP, Diclorovos)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Disulfoton	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Ethoprop	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Fensulfothion	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Fenthion	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Malathion	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Merphos	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Methyl parathion (Parathion methyl)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Mevinphos	ND	HT1	1	100	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Naled	ND	HT1	1	100	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Phorate (Phosphorodithioic acid)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Ronnel	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Tetrachlorvinphos (Stirophos)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Tokuthion (Prothiofos)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B
Trichloronate	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 16:43	BOJ0189	ATS	3550B

Recovery

Acceptance Criteria

Surrogate: Tributylphosphate

62.4% HT1

52-129

10/08/20 12:43

10/08/20 16:43

BOJ0189

ATS

3550B



# AMERICAN ENVIRONMENTAL TESTING LABORATORY

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Enthalpy Analytical  
 931 W. Barkley Ave.  
 Orange, CA 92868

AETL Job Number: BBJ0075  
 Project Number: 433735  
 Attention: John Goyette  
 Project Name: OPP & Herbicide

Reported: 10/14/2020 16:01

## Analytical Results

Client ID: 2819-11-2

Lab ID: BBJ0075-04 (Soil)

Analyte	Result	Qualifier	Dilution	RL	Units	Prepared Date/Time	Analyzed Date/Time	Batch	Analyst Initials	Prep. Method
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### Organophosphorus Pesticides

Method: EPA 8141A

Azinphos-methyl	ND	HT1	1	100	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Bolstar (Sulprofos)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Chloropyrifos (Dursban)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Coumaphos	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Demeton-O & S	ND	HT1	1	80.0	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Diazinon	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Diazinon (2)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Dichlorvos (DDVP, Diclorovos)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Disulfoton	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Ethoprop	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Fensulfothion	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Fenthion	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Malathion	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Merphos	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Methyl parathion (Parathion methyl)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Mevinphos	ND	HT1	1	100	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Naled	ND	HT1	1	100	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Phorate (Phosphorodithioic acid)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Ronnel	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Tetrachlorvinphos (Stirophos)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Tokuthion (Prothiofos)	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B
Trichloronate	ND	HT1	1	40.0	ug/kg	10/08/20 12:43	10/08/20 17:16	BOJ0189	ATS	3550B

Recovery

Acceptance Criteria

Surrogate: Tributylphosphate

55.4% HT1

52-129

10/08/20 12:43

10/08/20 17:16

BOJ0189

ATS

3550B



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Enthalpy Analytical 931 W. Barkley Ave. Orange, CA 92868	AETL Job Number: BBJ0075 Project Number: 433735 Attention: John Goyette Project Name: OPP & Herbicide	Reported: 10/14/2020 16:01
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## Quality Control Results

### Organophosphorus Pesticides (EPA 8141A)

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
<b>Batch: B0J0189 - 3550B</b>				<b>Prepared: 10/08/2020 12:43</b>						
Method Blank (B0J0189-BLK1)				<b>Analyzed: 10/08/2020 15:04</b>						
Azinphos-methyl	ND	100	ug/kg							
Bolstar (Sulprofos)	ND	40.0	ug/kg							
Chloropyrifos (Dursban)	ND	40.0	ug/kg							
Coumaphos	ND	40.0	ug/kg							
Demeton-O & S	ND	80.0	ug/kg							
Diazinon	ND	40.0	ug/kg							
Diazinon (2)	ND	40.0	ug/kg							
Dichlorvos (DDVP, Diclorovos)	ND	40.0	ug/kg							
Disulfoton	ND	40.0	ug/kg							
Ethoprop	ND	40.0	ug/kg							
Fensulfothion	ND	40.0	ug/kg							
Fenthion	ND	40.0	ug/kg							
Malathion	ND	40.0	ug/kg							
Merphos	ND	40.0	ug/kg							
Methyl parathion (Parathion methyl)	ND	40.0	ug/kg							
Mevinphos	ND	100	ug/kg							
Naled	ND	100	ug/kg							
Phorate (Phosphorodithioic acid)	ND	40.0	ug/kg							
Ronnel	ND	40.0	ug/kg							
Tetrachlorvinphos (Stirophos)	ND	40.0	ug/kg							
Tokuthion (Prothiofos)	ND	40.0	ug/kg							
Trichloronate	ND	40.0	ug/kg							
Surrogate: Tributylphosphate	155		ug/kg	250		61.9	52-129			



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Enthalpy Analytical 931 W. Barkley Ave. Orange, CA 92868	AETL Job Number: BBJ0075 Project Number: 433735 Attention: John Goyette Project Name: OPP & Herbicide	Reported: 10/14/2020 16:01
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## Quality Control Results

### Organophosphorus Pesticides (EPA 8141A)

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
<b>Batch: B0J0189 - 3550B (Continued)</b>				<b>Prepared: 10/08/2020 12:43</b>						
LCS (B0J0189-BS1)				<b>Analyzed: 10/08/2020 13:59</b>						
Bolstar (Sulprofos)	110	40.0	ug/kg	200		55.2	25-150			
Ethoprop	118	40.0	ug/kg	200		58.8	40-140			
Phorate (Phosphorodithioic acid)	120	40.0	ug/kg	200		59.9	40-140			
Ronnel	128	40.0	ug/kg	200		64.0	30-130			
-----										
<i>Surrogate: Tributylphosphate</i>	<i>172</i>		<i>ug/kg</i>	<i>250</i>		<i>68.8</i>	<i>52-129</i>			
<b>LCS (B0J0189-BSD1)</b>				<b>Analyzed: 10/08/2020 14:32</b>						
Bolstar (Sulprofos)	133	40.0	ug/kg	200		66.4	25-150	18.4	40	
Ethoprop	133	40.0	ug/kg	200		66.4	40-140	12.2	40	
Phorate (Phosphorodithioic acid)	132	40.0	ug/kg	200		66.1	40-140	9.94	40	
Ronnel	150	40.0	ug/kg	200		75.2	30-130	16.0	40	
-----										
<i>Surrogate: Tributylphosphate</i>	<i>137</i>		<i>ug/kg</i>	<i>250</i>		<i>54.6</i>	<i>52-129</i>			



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Enthalpy Analytical	AETL Job Number:	BBJ0075	
931 W. Barkley Ave.	Project Number:	433735	
Orange, CA 92868	Attention:	John Goyette	
	Project Name:	OPP & Herbicide	Reported: 10/14/2020 16:01

## Qualifiers and Definitions

ITEM	Qualifiers
HT1	This sample was received with the EPA recommended holding time expired.
HT1	This sample was received with the EPA recommended holding time expired.

ITEM	Definitions
% wt	Percent Weight
%REC	Percent Recovery
°C	Degrees Celsius
AETL	American Environmental Testing Laboratory, LLC
C	Carbon
CARB	California Air Resources Board
COC	Chain of Custody
DRO	Diesel Range Organics
Dup	Duplicate
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency
GRO	Gasoline Range Organics
HC	Hydrocarbon
LACSD	Los Angeles County Sanitation Districts
LCS	Laboratory Control Sample - A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes.
LCSD	Laboratory Control Sample Duplicate - A replicate of Laboratory Control Sample.
LOQ	Limit of Quantitation
MDL	Method Detection Limit - The minimum measured concentration of a substance that can be reported with 99% confidence. MDL is statistically derived number which is specific for each instrument, each method and each compound.
mg/kg	Miligrams per Kilogram
mg/L	Miligrams per Liter
MRO	Motor oil Range Organics
MS	Matrix Spike - A sample prepared, taken through all sample preparation and analytical steps of the procedure and analyzed as an independent test results.
MSD	Matrix Spike Duplicate - A replicate of Matrix Spike Sample.
N	No
ND	Analyte is not detected below Method Detection Limit.
ng/m3	Nanograms per cubic meter
NIOSH	National Institute for Occupational Safety and Health
nL/L	Nanoliters per Liter
NTU	Nephelometric Turbidity Units
Ohm-cm	Ohms per centimeter
OSHA	Occupational Safety and Health Administration



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Enthalpy Analytical	AETL Job Number:	BBJ0075	
931 W. Barkley Ave.	Project Number:	433735	
Orange, CA 92868	Attention:	John Goyette	
	Project Name:	OPP & Herbicide	Reported: 10/14/2020 16:01

PCB	Polychlorinated Biphenyl
RL	Reporting Limit - The lowest concentration at which an analyte can be detected in a sample and its concentration can be reported with a specified degree of confidence, accuracy and precision. For usage at AETL, RL is equivalent to LOQ.
RPD	Relative Percent Difference
SIM	Selective Ion Monitoring
SPLP	Synthetic Precipitation Leaching Procedure
STLC	Soluble Threshold Limit Concentration
TCLP	Toxicity Characteristic Leaching Procedure
TPH	Total Petroleum Hydrocarbons
TTLC	Total Threshold Limit Concentrations
ug/kg	Micrograms per Kilogram
ug/L	Micrograms per Liter
ug/m3	Micrograms per cubic meter
WET	Waste Extraction Test
Y	Yes
ZHE	Zero Headspace Extraction





Enthalpy Analytical  
931 West Barkley Ave  
Orange, CA 92868  
(714) 771-6900

enthalpy.com

Lab Job Number: 434076  
Report Level: II  
Report Date: 10/28/2020

**Analytical Report** *prepared for:*

Jennah Oshiro  
Myounghee Noh & Associates  
99-1046 Iwaena Street  
210A  
Aiea, HI 96701

Project: 2819\_2 - PH2 Oahu Community Correctional Center

*Authorized for release by:*

John Goyette, Service Center Manager  
(510) 204-2233 Ext 13112  
[john.goyette@enthalpy.com](mailto:john.goyette@enthalpy.com)

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, CDC ELITE Member

### Sample Summary

---

Jennah Oshiro	Lab Job #:	434076
Myounghee Noh & Associates	Project No:	2819_2
99-1046 Iwaena Street	Location:	PH2 Oahu Community Correctional Center
210A	Date Received:	09/25/20
Aiea, HI 96701		

---

Sample ID	Lab ID	Collected	Matrix
2819-05-1	434076-001	09/22/20 14:25	Soil
2819-05-2	434076-002	09/22/20 14:25	Soil
2819-06-1	434076-003	09/23/20 11:45	Soil
2819-06-2	434076-004	09/23/20 11:45	Soil
2819-07-1	434076-005	09/24/20 10:55	Soil
2819-07-2	434076-006	09/24/20 10:55	Soil
2819-08-1	434076-007	09/22/20 09:50	Soil
2819-08-2	434076-008	09/22/20 09:50	Soil

## Case Narrative

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Myounghee Noh & Associates  
99-1046 Iwaena Street  
210A  
Aiea, HI 96701  
Jennah Oshiro

Lab Job Number: 434076  
Project No: 2819\_2  
Location: PH2 Oahu Community Correctional Center  
Date Received: 09/25/20

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This data package contains sample and QC results for eight soil samples, requested for the above referenced project on 09/25/20. The samples were received cold and intact.

### **Pesticides (EPA 8081A):**

All samples underwent florisil cleanup using EPA Method 3620C. High surrogate recovery was observed for TCMX in 2819-06-1 (lab # 434076-003); the corresponding decachlorobiphenyl surrogate recovery was within limits, and no target analytes were detected in the sample. High surrogate recovery was observed for decachlorobiphenyl in the method blank for batch 253584; the corresponding TCMX surrogate recovery was within limits, and no target analytes were detected in the sample. Many samples were diluted due to the dark color of the sample extracts. No other analytical problems were encountered.

### **Metals (EPA 6020):**

Matrix spikes were not performed for this analysis in batch 254036 due to insufficient sample amount. No other analytical problems were encountered.

### **Organophosphorus Pesticides (EPA 8141A):**

Eurofins CalScience in Garden Grove, CA performed the analysis (NELAP certified). Please see the Eurofins CalScience case narrative.

## Detection Summary for 434076

**Client:** Myounghee Noh & Associates

**Project:** 2819\_2

**Location:** PH2 Oahu Community Correctional Center

Sample ID: 2819-05-1 Lab ID: 434076-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	1.4		1.0	mg/Kg	As Recd	2.000	EPA 6020	EPA 3050B
Lead	18		0.10	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B

Sample ID: 2819-05-2 Lab ID: 434076-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	1.4		0.50	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Lead	13		0.10	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B

Sample ID: 2819-06-1 Lab ID: 434076-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	2.0		0.50	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Lead	12		0.10	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B

Sample ID: 2819-06-2 Lab ID: 434076-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	2.5		0.50	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Lead	7.9		0.10	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B

Sample ID: 2819-07-1 Lab ID: 434076-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	1.3		0.50	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Lead	17		0.10	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B

Sample ID: 2819-07-2 Lab ID: 434076-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	2.3		0.50	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Lead	15		0.10	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B

## Detection Summary for 434076

Sample ID: 2819-08-1	Lab ID: 434076-007
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Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	3.4		1.0	mg/Kg	As Recd	2.000	EPA 6020	EPA 3050B
Lead	18		0.10	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B

Sample ID: 2819-08-2	Lab ID: 434076-008
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Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	2.7		0.50	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Lead	13		0.10	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B

**Enthalpy Analytical LLC**

2323 Fifth Street  
 Berkeley, CA 94710  
 (510) 486-0900 Phone  
 (510) 486-0532 Fax

**CHAIN OF CUSTODY**

Chain of Custody #: \_\_\_\_\_

C&T LOGIN # 434076

Project No: 2819\_2  
 Project Name: PH2 Oahu Community Correctional Center  
 EDD Format: \_\_\_\_\_ Rpt Level:  II  III  IV  
 Turnaround Time:  RUSH \_\_\_\_\_  Standard

Sampler: Bryan Chinaka and Celeste Lim  
 Report To: Jennah Oshiro  
 Company: Myounghee Noh & Associates  
 Telephone: 808-853-3139  
 Email: jennah@noh-associates.com

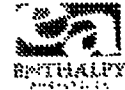
**Analytical Request**

TPH-DRO/RRO (8015B)	PAH (8270-SIM)	RCRA 8 Metals (6020/7471A)	PCB (8082)	Chlorinated Pesticides (8081A)	Organophosphate Pesticides (614)	Lead and Arsenic (6020)	MIS Prep													
				X	X	X	X													
				X	X	X	X													
				X	X	X	X													
				X	X	X	X													
				X	X	X	X													
				X	X	X	X													
				X	X	X	X													
				X	X	X	X													

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative						
		Date	Time	Water	Soil			# of Containers	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	None	
	2819-05-1	09/22/20	14:25	X				1						X
	2819-05-2	09/22/20	14:25	X				1						X
	2819-06-1	09/23/20	11:45	X				1						X
	2819-06-2	09/23/20	11:45	X				1						X
	2819-07-1	09/24/20	10:55	X				1						X
	2819-07-2	09/24/20	10:55	X				1						X
	2819-08-1	09/22/20	9:50	X				1						X
	2819-08-2	09/22/20	9:50	X				1						X

Notes:	SAMPLE RECEIPT <input type="checkbox"/> Intact <input type="checkbox"/> Cold <input type="checkbox"/> On Ice <input type="checkbox"/> Ambient		RELINQUISHED BY:				RECEIVED BY:			
			[Signature] 9/24/20 13:00 DATE/TIME		[Signature] 9-25-20 16:20 DATE/TIME					
			[Signature] 9/29/20 12:14 DATE/TIME		[Signature] 9/30/20 11:54 DATE/TIME					
				DATE/TIME		DATE/TIME				

**SAMPLE RECEIPT CHECKLIST**



Section 1: Login # 434076 Client: MNA  
 Date Received: 9/25/20 Project: \_\_\_\_\_

Section 2: Shipping info (if applicable) FEDEX 7716 2407 3551  
 Are custody seals present?  No, or  Yes. If yes, where?  on cooler,  on samples,  on package  
 Date: 9/24/20 How many 2  Signature,  Initials,  None  
 Were custody seals intact upon arrival?  Yes  No  N/A  
 Samples received in a cooler?  Yes, how many? 1  No (skip Section 3 below)  
 If no cooler Sample Temp (°C): \_\_\_\_\_ using IR Gun #  B, or  C  
 Samples received on ice directly from the field. Cooling process had begun  
 If in cooler: Date Opened 9/25/20 By (print) MAG (sign) [Signature]

**Section 3: Important: Notify PM if temperature exceeds 6°C or arrive frozen.**

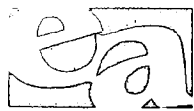
Packing in cooler: (if other, describe) \_\_\_\_\_  
 Bubble Wrap,  Foam blocks,  Bags,  None,  Cloth material,  Cardboard,  Styrofoam,  Paper towels  
 Samples received on ice directly from the field. Cooling process had begun  
 Type of ice used:  Wet,  Blue/Gel,  None Temperature blank(s) included?  Yes,  No  
 Temperature measured using  Thermometer ID: \_\_\_\_\_, or IR Gun #  B  C  
 Cooler Temp (°C): #1: 3.3, #2: \_\_\_\_\_, #3: \_\_\_\_\_, #4: \_\_\_\_\_, #5: \_\_\_\_\_, #6: \_\_\_\_\_, #7: \_\_\_\_\_

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable	<input checked="" type="checkbox"/>		
Were Method 5035 sampling containers present?		<input checked="" type="checkbox"/>	
IF YES, what time were they transferred to freezer?			
Did all bottles arrive unbroken/unopened?	<input checked="" type="checkbox"/>		
Are there any missing / extra samples?		<input checked="" type="checkbox"/>	
Are samples in the appropriate containers for indicated tests?	<input checked="" type="checkbox"/>		
Are sample labels present, in good condition and complete?	<input checked="" type="checkbox"/>		
Does the container count match the COC?	<input checked="" type="checkbox"/>		
Do the sample labels agree with custody papers?	<input checked="" type="checkbox"/>		
Was sufficient amount of sample sent for tests requested?	<input checked="" type="checkbox"/>		
Did you change the hold time in LIMS for unpreserved VOAs?			<input checked="" type="checkbox"/>
Did you change the hold time in LIMS for preserved terracores?			<input checked="" type="checkbox"/>
Are bubbles > 6mm present in VOA samples?			<input checked="" type="checkbox"/>
Was the client contacted concerning this sample delivery?		<input checked="" type="checkbox"/>	
IF YES, who was called? _____ By _____ Date: _____			

Section 5:	YES	NO	N/A
Are the samples appropriately preserved? (if N/A, skip the rest of section 5)			
Did you check preservatives for all bottles for each sample?			
Did you document your preservative check? pH strip lot# _____, pH strip lot# _____, pH strip lot# _____			
Preservative added:			
<input type="checkbox"/> H2SO4 lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> HCL lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> HNO3 lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> NaOH lot# _____ added to samples _____ on/at _____			

Section 6:  
 Explanations/Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Date Logged in 9/28/20 By (print) ZLA (sign) \_\_\_\_\_  
 Date Labeled 9/29/20 By (print) MAG (sign) [Signature]



# ENTHALPY ANALYTICAL

## SAMPLE ACCEPTANCE CHECKLIST

**Section 1**  
 Client: MYOUNGHEE N&H & ASSO. Project: \_\_\_\_\_  
 Date Received: 9/30/20 Sampler's Name Present:  Yes  No

**Section 2**  
 Sample(s) received in a cooler?  Yes, How many? 1  No (skip section 2) Sample Temp (°C) (No Cooler): \_\_\_\_\_  
 Sample Temp (°C), One from each cooler: #1: 5.4 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_  
 (Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)  
 Shipping Information: GCS

**Section 3**  
 Was the cooler packed with:  Ice  Ice Packs  Bubble Wrap  Styrofoam  
 Paper  None  Other \_\_\_\_\_  
 Cooler Temp (°C): #1: 3.5 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_

Section 4	YES	NO	N/A
Was a COC received?	/		
Are sample IDs present?	/		
Are sampling dates & times present?	/		
Is a relinquished signature present?	/		
Are the tests required clearly indicated on the COC?	/		
Are custody seals present?		/	
If custody seals are present, were they intact?			/
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)			/
Did all samples arrive intact? If no, indicate in Section 4 below.	/		
Did all bottle labels agree with COC? (ID, dates and times)	/		
Were the samples collected in the correct containers for the required tests?	/		
Are the containers labeled with the correct preservatives?			/
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			/
Was a sufficient amount of sample submitted for the requested tests?	/		

**Section 5 Explanations/Comments**  
RECEIVED 2 - 2 oz GUSIS JARS (MJS) PER SAMPLE.

**Section 6**  
 For discrepancies, how was the Project Manager notified?  Verbal PM Initials: \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Email (email sent to/on): \_\_\_\_\_ / \_\_\_\_\_  
 Project Manager's response:

Completed By: [Signature] Date: 9/30/20





800-322-5555  
www.gls-us.com

**Ship From**  
ANTHALPY ANALYTICAL  
JOHN GOYETTE  
323 5TH STREET  
BERKELEY, CA 94710

Tracking #: 550601037



CPS

**Ship To**  
ANTHALPY ANALYTICAL (ORG)  
SAMPLE RECEIVING  
31 W BARKLEY AVE.  
ORANGE, CA 92868

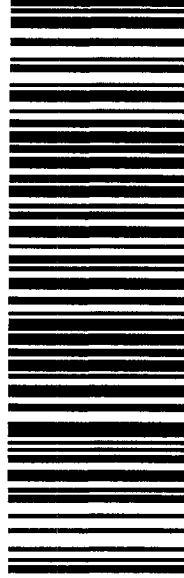
ORANGE

S92868A

MOOD: \$0.00  
Weight: 0 lb(s)  
Reference:

Delivery Instructions:

Signature Type: STANDARD



27891074

ORC CA927-C11

*Handwritten:* 2/25/2020

Print Date: 9/29/2020 10:41 AM

## Organochlorine Pesticides

<b>Lab #:</b> 434076	<b>Project#:</b> 2819_2	
<b>Client:</b> Myounghee Noh & Associates	<b>Location:</b> PH2 Oahu Community Correctional Ce...	
<b>Field ID:</b> 2819-05-1	<b>Batch#:</b> 253584	<b>Prep:</b> EPA 3546
<b>Lab ID:</b> 434076-001	<b>Sampled:</b> 09/22/20	<b>Analysis:</b> EPA 8081A
<b>Matrix:</b> Soil	<b>Received:</b> 09/25/20	<b>Analyst:</b> KTD
<b>Basis:</b> air dried	<b>Prepared:</b> 10/01/20	
<b>Diln Fac:</b> 5.000	<b>Analyzed:</b> 10/01/20	

Analyte	Result	RL	Units
alpha-BHC	ND	8.3	ug/Kg
beta-BHC	ND	8.3	ug/Kg
gamma-BHC	ND	8.3	ug/Kg
delta-BHC	ND	8.3	ug/Kg
Heptachlor	ND	8.3	ug/Kg
Aldrin	ND	8.3	ug/Kg
Heptachlor epoxide	ND	8.3	ug/Kg
Endosulfan I	ND	8.3	ug/Kg
Dieldrin	ND	8.3	ug/Kg
4,4'-DDE	ND	8.3	ug/Kg
Endrin	ND	8.3	ug/Kg
Endosulfan II	ND	8.3	ug/Kg
Endosulfan sulfate	ND	8.3	ug/Kg
4,4'-DDD	ND	8.3	ug/Kg
Endrin aldehyde	ND	8.3	ug/Kg
Endrin ketone	ND	8.3	ug/Kg
4,4'-DDT	ND	8.3	ug/Kg
Methoxychlor	ND	17	ug/Kg
Toxaphene	ND	170	ug/Kg
Chlordane (Technical)	ND	83	ug/Kg

Surrogate	%REC	Limits
TCMX	73	23-120
Decachlorobiphenyl	45	24-120

Legend

**ND:** Not Detected  
**RL:** Reporting Limit

### Organochlorine Pesticides

**Lab #:** 434076

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-05-2

**Batch#:** 253584

**Prep:** EPA 3546

**Lab ID:** 434076-002

**Sampled:** 09/22/20

**Analysis:** EPA 8081A

**Matrix:** Soil

**Received:** 09/25/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/01/20

**Diln Fac:** 5.000

**Analyzed:** 10/01/20

Analyte	Result	RL	Units
alpha-BHC	ND	8.3	ug/Kg
beta-BHC	ND	8.3	ug/Kg
gamma-BHC	ND	8.3	ug/Kg
delta-BHC	ND	8.3	ug/Kg
Heptachlor	ND	8.3	ug/Kg
Aldrin	ND	8.3	ug/Kg
Heptachlor epoxide	ND	8.3	ug/Kg
Endosulfan I	ND	8.3	ug/Kg
Dieldrin	ND	8.3	ug/Kg
4,4'-DDE	ND	8.3	ug/Kg
Endrin	ND	8.3	ug/Kg
Endosulfan II	ND	8.3	ug/Kg
Endosulfan sulfate	ND	8.3	ug/Kg
4,4'-DDD	ND	8.3	ug/Kg
Endrin aldehyde	ND	8.3	ug/Kg
Endrin ketone	ND	8.3	ug/Kg
4,4'-DDT	ND	8.3	ug/Kg
Methoxychlor	ND	17	ug/Kg
Toxaphene	ND	170	ug/Kg
Chlordane (Technical)	ND	83	ug/Kg

Surrogate	%REC	Limits
TCMX	41	23-120
Decachlorobiphenyl	39	24-120

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Organochlorine Pesticides

**Lab #:** 434076

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-06-1

**Batch#:** 253584

**Prep:** EPA 3546

**Lab ID:** 434076-003

**Sampled:** 09/23/20

**Analysis:** EPA 8081A

**Matrix:** Soil

**Received:** 09/25/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/01/20

**Diln Fac:** 5.000

**Analyzed:** 10/01/20

Analyte	Result	RL	Units
alpha-BHC	ND	8.3	ug/Kg
beta-BHC	ND	8.3	ug/Kg
gamma-BHC	ND	8.3	ug/Kg
delta-BHC	ND	8.3	ug/Kg
Heptachlor	ND	8.3	ug/Kg
Aldrin	ND	8.3	ug/Kg
Heptachlor epoxide	ND	8.3	ug/Kg
Endosulfan I	ND	8.3	ug/Kg
Dieldrin	ND	8.3	ug/Kg
4,4'-DDE	ND	8.3	ug/Kg
Endrin	ND	8.3	ug/Kg
Endosulfan II	ND	8.3	ug/Kg
Endosulfan sulfate	ND	8.3	ug/Kg
4,4'-DDD	ND	8.3	ug/Kg
Endrin aldehyde	ND	8.3	ug/Kg
Endrin ketone	ND	8.3	ug/Kg
4,4'-DDT	ND	8.3	ug/Kg
Methoxychlor	ND	17	ug/Kg
Toxaphene	ND	170	ug/Kg
Chlordane (Technical)	ND	83	ug/Kg

Surrogate	%REC	Limits
TCMX	130 *	23-120
Decachlorobiphenyl	86	24-120

Legend

\*: Value is outside QC limits

ND: Not Detected

RL: Reporting Limit

## Organochlorine Pesticides

**Lab #:** 434076

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-06-2

**Batch#:** 253584

**Prep:** EPA 3546

**Lab ID:** 434076-004

**Sampled:** 09/23/20

**Analysis:** EPA 8081A

**Matrix:** Soil

**Received:** 09/25/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/01/20

**Diln Fac:** 5.000

**Analyzed:** 10/01/20

Analyte	Result	RL	Units
alpha-BHC	ND	8.3	ug/Kg
beta-BHC	ND	8.3	ug/Kg
gamma-BHC	ND	8.3	ug/Kg
delta-BHC	ND	8.3	ug/Kg
Heptachlor	ND	8.3	ug/Kg
Aldrin	ND	8.3	ug/Kg
Heptachlor epoxide	ND	8.3	ug/Kg
Endosulfan I	ND	8.3	ug/Kg
Dieldrin	ND	8.3	ug/Kg
4,4'-DDE	ND	8.3	ug/Kg
Endrin	ND	8.3	ug/Kg
Endosulfan II	ND	8.3	ug/Kg
Endosulfan sulfate	ND	8.3	ug/Kg
4,4'-DDD	ND	8.3	ug/Kg
Endrin aldehyde	ND	8.3	ug/Kg
Endrin ketone	ND	8.3	ug/Kg
4,4'-DDT	ND	8.3	ug/Kg
Methoxychlor	ND	17	ug/Kg
Toxaphene	ND	170	ug/Kg
Chlordane (Technical)	ND	83	ug/Kg

Surrogate	%REC	Limits
TCMX	48	23-120
Decachlorobiphenyl	46	24-120

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Organochlorine Pesticides

**Lab #:** 434076

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-07-1

**Batch#:** 253584

**Prep:** EPA 3546

**Lab ID:** 434076-005

**Sampled:** 09/24/20

**Analysis:** EPA 8081A

**Matrix:** Soil

**Received:** 09/25/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/01/20

**Diln Fac:** 5.000

**Analyzed:** 10/01/20

Analyte	Result	RL	Units
alpha-BHC	ND	8.3	ug/Kg
beta-BHC	ND	8.3	ug/Kg
gamma-BHC	ND	8.3	ug/Kg
delta-BHC	ND	8.3	ug/Kg
Heptachlor	ND	8.3	ug/Kg
Aldrin	ND	8.3	ug/Kg
Heptachlor epoxide	ND	8.3	ug/Kg
Endosulfan I	ND	8.3	ug/Kg
Dieldrin	ND	8.3	ug/Kg
4,4'-DDE	ND	8.3	ug/Kg
Endrin	ND	8.3	ug/Kg
Endosulfan II	ND	8.3	ug/Kg
Endosulfan sulfate	ND	8.3	ug/Kg
4,4'-DDD	ND	8.3	ug/Kg
Endrin aldehyde	ND	8.3	ug/Kg
Endrin ketone	ND	8.3	ug/Kg
4,4'-DDT	ND	8.3	ug/Kg
Methoxychlor	ND	17	ug/Kg
Toxaphene	ND	170	ug/Kg
Chlordane (Technical)	ND	83	ug/Kg

Surrogate	%REC	Limits
TCMX	104	23-120
Decachlorobiphenyl	65	24-120

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Organochlorine Pesticides

**Lab #:** 434076

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-07-2

**Batch#:** 253584

**Prep:** EPA 3546

**Lab ID:** 434076-006

**Sampled:** 09/24/20

**Analysis:** EPA 8081A

**Matrix:** Soil

**Received:** 09/25/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/01/20

**Diln Fac:** 5.000

**Analyzed:** 10/01/20

Analyte	Result	RL	Units
alpha-BHC	ND	8.3	ug/Kg
beta-BHC	ND	8.3	ug/Kg
gamma-BHC	ND	8.3	ug/Kg
delta-BHC	ND	8.3	ug/Kg
Heptachlor	ND	8.3	ug/Kg
Aldrin	ND	8.3	ug/Kg
Heptachlor epoxide	ND	8.3	ug/Kg
Endosulfan I	ND	8.3	ug/Kg
Dieldrin	ND	8.3	ug/Kg
4,4'-DDE	ND	8.3	ug/Kg
Endrin	ND	8.3	ug/Kg
Endosulfan II	ND	8.3	ug/Kg
Endosulfan sulfate	ND	8.3	ug/Kg
4,4'-DDD	ND	8.3	ug/Kg
Endrin aldehyde	ND	8.3	ug/Kg
Endrin ketone	ND	8.3	ug/Kg
4,4'-DDT	ND	8.3	ug/Kg
Methoxychlor	ND	17	ug/Kg
Toxaphene	ND	170	ug/Kg
Chlordane (Technical)	ND	83	ug/Kg

Surrogate	%REC	Limits
TCMX	47	23-120
Decachlorobiphenyl	40	24-120

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Organochlorine Pesticides

**Lab #:** 434076

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-08-1

**Batch#:** 253584

**Prep:** EPA 3546

**Lab ID:** 434076-007

**Sampled:** 09/22/20

**Analysis:** EPA 8081A

**Matrix:** Soil

**Received:** 09/25/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/01/20

**Diln Fac:** 5.000

**Analyzed:** 10/01/20

Analyte	Result	RL	Units
alpha-BHC	ND	8.3	ug/Kg
beta-BHC	ND	8.3	ug/Kg
gamma-BHC	ND	8.3	ug/Kg
delta-BHC	ND	8.3	ug/Kg
Heptachlor	ND	8.3	ug/Kg
Aldrin	ND	8.3	ug/Kg
Heptachlor epoxide	ND	8.3	ug/Kg
Endosulfan I	ND	8.3	ug/Kg
Dieldrin	ND	8.3	ug/Kg
4,4'-DDE	ND	8.3	ug/Kg
Endrin	ND	8.3	ug/Kg
Endosulfan II	ND	8.3	ug/Kg
Endosulfan sulfate	ND	8.3	ug/Kg
4,4'-DDD	ND	8.3	ug/Kg
Endrin aldehyde	ND	8.3	ug/Kg
Endrin ketone	ND	8.3	ug/Kg
4,4'-DDT	ND	8.3	ug/Kg
Methoxychlor	ND	17	ug/Kg
Toxaphene	ND	170	ug/Kg
Chlordane (Technical)	ND	83	ug/Kg

Surrogate	%REC	Limits
TCMX	113	23-120
Decachlorobiphenyl	62	24-120

Legend

**ND:** Not Detected

**RL:** Reporting Limit



## Organochlorine Pesticides

<b>Lab #:</b> 434076	<b>Project#:</b> 2819_2	
<b>Client:</b> Myounghee Noh & Associates	<b>Location:</b> PH2 Oahu Community Correctional Ce...	
<b>Field ID:</b> 2819-08-2	<b>Batch#:</b> 253584	<b>Prep:</b> EPA 3546
<b>Lab ID:</b> 434076-008	<b>Sampled:</b> 09/22/20	<b>Analysis:</b> EPA 8081A
<b>Matrix:</b> Soil	<b>Received:</b> 09/25/20	<b>Analyst:</b> KTD
<b>Basis:</b> air dried	<b>Prepared:</b> 10/01/20	
<b>Diln Fac:</b> 5.000	<b>Analyzed:</b> 10/01/20	

Analyte	Result	RL	Units
alpha-BHC	ND	8.3	ug/Kg
beta-BHC	ND	8.3	ug/Kg
gamma-BHC	ND	8.3	ug/Kg
delta-BHC	ND	8.3	ug/Kg
Heptachlor	ND	8.3	ug/Kg
Aldrin	ND	8.3	ug/Kg
Heptachlor epoxide	ND	8.3	ug/Kg
Endosulfan I	ND	8.3	ug/Kg
Dieldrin	ND	8.3	ug/Kg
4,4'-DDE	ND	8.3	ug/Kg
Endrin	ND	8.3	ug/Kg
Endosulfan II	ND	8.3	ug/Kg
Endosulfan sulfate	ND	8.3	ug/Kg
4,4'-DDD	ND	8.3	ug/Kg
Endrin aldehyde	ND	8.3	ug/Kg
Endrin ketone	ND	8.3	ug/Kg
4,4'-DDT	ND	8.3	ug/Kg
Methoxychlor	ND	17	ug/Kg
Toxaphene	ND	170	ug/Kg
Chlordane (Technical)	ND	83	ug/Kg

Surrogate	%REC	Limits
TCMX	101	23-120
Decachlorobiphenyl	66	24-120

Legend

**ND:** Not Detected  
**RL:** Reporting Limit

## Organochlorine Pesticides: Batch QC

**Lab #:** 434076

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BLANK  
**Lab ID:** QC887927  
**Matrix:** Soil  
**Diln Fac:** 1.000

**Batch#:** 253584  
**Prepared:** 10/01/20  
**Analyzed:** 10/01/20  
**Prep:** EPA 3546

**Analysis:** EPA 8081A  
**Analyst:** KTD

Analyte	Result	RL	Units
alpha-BHC	ND	1.7	ug/Kg
beta-BHC	ND	1.7	ug/Kg
gamma-BHC	ND	1.7	ug/Kg
delta-BHC	ND	1.7	ug/Kg
Heptachlor	ND	1.7	ug/Kg
Aldrin	ND	1.7	ug/Kg
Heptachlor epoxide	ND	1.7	ug/Kg
Endosulfan I	ND	1.7	ug/Kg
Dieldrin	ND	1.7	ug/Kg
4,4'-DDE	ND	1.7	ug/Kg
Endrin	ND	1.7	ug/Kg
Endosulfan II	ND	1.7	ug/Kg
Endosulfan sulfate	ND	1.7	ug/Kg
4,4'-DDD	ND	1.7	ug/Kg
Endrin aldehyde	ND	1.7	ug/Kg
Endrin ketone	ND	1.7	ug/Kg
4,4'-DDT	ND	1.7	ug/Kg
Methoxychlor	ND	3.3	ug/Kg
Toxaphene	ND	33	ug/Kg
Chlordane (Technical)	ND	17	ug/Kg

Surrogate	%REC	Limits
TCMX	113	23-120
Decachlorobiphenyl	143 *	24-120

**Legend**

\*: Value is outside QC limits

**ND:** Not Detected

**RL:** Reporting Limit

## Organochlorine Pesticides: Batch QC

**Lab #:** 434076

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BS

**Batch#:** 253584

**Analysis:** EPA 8081A

**Lab ID:** QC887928

**Prepared:** 10/01/20

**Analyst:** KTD

**Matrix:** Soil

**Analyzed:** 10/06/20

**Diln Fac:** 1.000

**Prep:** EPA 3546

Analyte	Spiked	Result	%REC	Limits	Units
alpha-BHC	16.67	14.45	87	22-129	ug/Kg
beta-BHC	16.67	17.10	103	28-125	ug/Kg
gamma-BHC	16.67	14.21	85	22-128	ug/Kg
delta-BHC	16.67	14.93	90	24-131	ug/Kg
Heptachlor	16.67	11.64	70	18-124	ug/Kg
Aldrin	16.67	11.74	70	23-120	ug/Kg
Heptachlor epoxide	16.67	13.40	80	26-120	ug/Kg
Endosulfan I	16.67	14.05	84	25-126	ug/Kg
Dieldrin	16.67	14.50	87	23-124	ug/Kg
4,4'-DDE	16.67	13.58	81	28-121	ug/Kg
Endrin	16.67	15.13	91	25-127	ug/Kg
Endosulfan II	16.67	14.74	88	29-121	ug/Kg
Endosulfan sulfate	16.67	14.52	87	30-121	ug/Kg
4,4'-DDD	16.67	13.59	82	26-120	ug/Kg
Endrin aldehyde	16.67	7.072	42	10-120	ug/Kg
Endrin ketone	16.67	15.25	92	28-125	ug/Kg
4,4'-DDT	16.67	12.11	73	22-125	ug/Kg
Methoxychlor	16.67	13.69	82	28-130	ug/Kg
<b>Surrogate</b>			<b>%REC</b>	<b>Limits</b>	
TCMX			85	23-120	
Decachlorobiphenyl			100	24-120	

## Organochlorine Pesticides: Batch QC

**Lab #:** 434076

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BSD

**Batch#:** 253584

**Analysis:** EPA 8081A

**Lab ID:** QC887929

**Prepared:** 10/01/20

**Analyst:** KTD

**Matrix:** Soil

**Analyzed:** 10/06/20

**Diln Fac:** 1.000

**Prep:** EPA 3546

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
alpha-BHC	16.67	16.03	96	22-129	ug/Kg	10	20
beta-BHC	16.67	19.33	116	28-125	ug/Kg	12	20
gamma-BHC	16.67	15.84	95	22-128	ug/Kg	11	20
delta-BHC	16.67	16.54	99	24-131	ug/Kg	10	20
Heptachlor	16.67	12.91	77	18-124	ug/Kg	10	20
Aldrin	16.67	13.11	79	23-120	ug/Kg	11	20
Heptachlor epoxide	16.67	14.92	90	26-120	ug/Kg	11	20
Endosulfan I	16.67	15.67	94	25-126	ug/Kg	11	20
Dieldrin	16.67	16.11	97	23-124	ug/Kg	11	20
4,4'-DDE	16.67	15.15	91	28-121	ug/Kg	11	20
Endrin	16.67	16.85	101	25-127	ug/Kg	11	20
Endosulfan II	16.67	16.40	98	29-121	ug/Kg	11	20
Endosulfan sulfate	16.67	16.16	97	30-121	ug/Kg	11	20
4,4'-DDD	16.67	15.14	91	26-120	ug/Kg	11	20
Endrin aldehyde	16.67	7.048	42	10-120	ug/Kg	0	20
Endrin ketone	16.67	16.82	101	28-125	ug/Kg	10	20
4,4'-DDT	16.67	13.25	80	22-125	ug/Kg	9	20
Methoxychlor	16.67	15.02	90	28-130	ug/Kg	9	20

Surrogate	%REC	Limits
TCMX	93	23-120
Decachlorobiphenyl	109	24-120

Legend

**RPD:** Relative Percent Difference

## Metals Analytical Report

**Lab #:** 434076

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-05-1

**Batch#:** 254036

**Prep:** EPA 3050B

**Type:** SAMPLE

**Sampled:** 09/22/20

**Analysis:** EPA 6020

**Lab ID:** 434076-001

**Received:** 09/25/20

**Analyst:** SBW

**Matrix:** Soil

**Prepared:** 10/09/20

**Basis:** air dried

**Analyzed:** 10/11/20

Analyte	Result	RL	Units	Diln Fac
Arsenic	1.4	1.0	mg/Kg	2.000
Lead	18	0.10	mg/Kg	1.000

**Field ID:** 2819-05-2

**Batch#:** 254036

**Prep:** EPA 3050B

**Type:** SAMPLE

**Sampled:** 09/22/20

**Analysis:** EPA 6020

**Lab ID:** 434076-002

**Received:** 09/25/20

**Analyst:** SBW

**Matrix:** Soil

**Prepared:** 10/09/20

**Basis:** air dried

**Analyzed:** 10/11/20

Analyte	Result	RL	Units	Diln Fac
Arsenic	1.4	0.50	mg/Kg	1.000
Lead	13	0.10	mg/Kg	1.000

**Field ID:** 2819-06-1

**Batch#:** 254036

**Prep:** EPA 3050B

**Type:** SAMPLE

**Sampled:** 09/23/20

**Analysis:** EPA 6020

**Lab ID:** 434076-003

**Received:** 09/25/20

**Analyst:** SBW

**Matrix:** Soil

**Prepared:** 10/09/20

**Basis:** air dried

**Analyzed:** 10/11/20

Analyte	Result	RL	Units	Diln Fac
Arsenic	2.0	0.50	mg/Kg	1.000
Lead	12	0.10	mg/Kg	1.000

**Field ID:** 2819-06-2

**Batch#:** 254036

**Prep:** EPA 3050B

**Type:** SAMPLE

**Sampled:** 09/23/20

**Analysis:** EPA 6020

**Lab ID:** 434076-004

**Received:** 09/25/20

**Analyst:** SBW

**Matrix:** Soil

**Prepared:** 10/09/20

**Basis:** air dried

**Analyzed:** 10/11/20

Analyte	Result	RL	Units	Diln Fac
Arsenic	2.5	0.50	mg/Kg	1.000
Lead	7.9	0.10	mg/Kg	1.000

## Metals Analytical Report

**Lab #:** 434076

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-07-1

**Batch#:** 254036

**Prep:** EPA 3050B

**Type:** SAMPLE

**Sampled:** 09/24/20

**Analysis:** EPA 6020

**Lab ID:** 434076-005

**Received:** 09/25/20

**Analyst:** SBW

**Matrix:** Soil

**Prepared:** 10/09/20

**Basis:** air dried

**Analyzed:** 10/11/20

Analyte	Result	RL	Units	Diln Fac
Arsenic	1.3	0.50	mg/Kg	1.000
Lead	17	0.10	mg/Kg	1.000

**Field ID:** 2819-07-2

**Batch#:** 254036

**Prep:** EPA 3050B

**Type:** SAMPLE

**Sampled:** 09/24/20

**Analysis:** EPA 6020

**Lab ID:** 434076-006

**Received:** 09/25/20

**Analyst:** SBW

**Matrix:** Soil

**Prepared:** 10/09/20

**Basis:** air dried

**Analyzed:** 10/11/20

Analyte	Result	RL	Units	Diln Fac
Arsenic	2.3	0.50	mg/Kg	1.000
Lead	15	0.10	mg/Kg	1.000

**Field ID:** 2819-08-1

**Batch#:** 254036

**Prep:** EPA 3050B

**Type:** SAMPLE

**Sampled:** 09/22/20

**Analysis:** EPA 6020

**Lab ID:** 434076-007

**Received:** 09/25/20

**Analyst:** SBW

**Matrix:** Soil

**Prepared:** 10/09/20

**Basis:** air dried

**Analyzed:** 10/11/20

Analyte	Result	RL	Units	Diln Fac
Arsenic	3.4	1.0	mg/Kg	2.000
Lead	18	0.10	mg/Kg	1.000

**Field ID:** 2819-08-2

**Batch#:** 254036

**Prep:** EPA 3050B

**Type:** SAMPLE

**Sampled:** 09/22/20

**Analysis:** EPA 6020

**Lab ID:** 434076-008

**Received:** 09/25/20

**Analyst:** SBW

**Matrix:** Soil

**Prepared:** 10/09/20

**Basis:** air dried

**Analyzed:** 10/11/20

Analyte	Result	RL	Units	Diln Fac
Arsenic	2.7	0.50	mg/Kg	1.000
Lead	13	0.10	mg/Kg	1.000

## Metals Analytical Report

**Lab #:** 434076

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BLANK

**Batch#:** 254036

**Analysis:** EPA 6020

**Lab ID:** QC889115

**Prepared:** 10/09/20

**Analyst:** SBW

**Matrix:** Soil

**Analyzed:** 10/11/20

**Diln Fac:** 1.000

**Prep:** EPA 3050B

Analyte	Result	RL	Units
Arsenic	ND	0.50	mg/Kg
Lead	ND	0.10	mg/Kg

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Metals Analytical Report: Batch QC

**Lab #:** 434076

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BS  
**Lab ID:** QC889116  
**Matrix:** Soil  
**Diln Fac:** 1.000

**Batch#:** 254036  
**Prepared:** 10/09/20  
**Analyzed:** 10/11/20  
**Prep:** EPA 3050B

**Analysis:** EPA 6020  
**Analyst:** SBW

Analyte	Spiked	Result	%REC	Limits	Units
Arsenic	100.0	110.8	111	80-120	mg/Kg
Lead	100.0	101.8	102	80-120	mg/Kg

**Type:** BSD  
**Lab ID:** QC889117  
**Matrix:** Soil  
**Diln Fac:** 1.000

**Batch#:** 254036  
**Prepared:** 10/09/20  
**Analyzed:** 10/11/20  
**Prep:** EPA 3050B

**Analysis:** EPA 6020  
**Analyst:** SBW

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
Arsenic	100.0	106.9	107	80-120	mg/Kg	4	20
Lead	100.0	97.68	98	80-120	mg/Kg	4	20

Legend

**RPD:** Relative Percent Difference



Laboratory Job Number 434076

Subcontracted Products

Eurofins CalScience

## ANALYTICAL REPORT

Eurofins Calscience LLC  
7440 Lincoln Way  
Garden Grove, CA 92841  
Tel: (714)895-5494

Laboratory Job ID: 570-39774-1  
Client Project/Site: 434076

For:  
Enthalpy Analytical LLC  
931 W Barkley Ave  
Orange, California 92868

Attn: John Goyette



Authorized for release by:  
10/7/2020 5:57:24 PM

Xuan Dang, Project Manager I  
(714)895-5494  
[Xuan.Dang@eurofinset.com](mailto:Xuan.Dang@eurofinset.com)

### LINKS

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*Results relate only to the items tested and the sample(s) as received by the laboratory.*



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Definitions/Glossary . . . . .	3
Case Narrative . . . . .	4
Detection Summary . . . . .	5
Client Sample Results . . . . .	6
Surrogate Summary . . . . .	11
QC Sample Results . . . . .	12
QC Association Summary . . . . .	15
Lab Chronicle . . . . .	16
Certification Summary . . . . .	18
Method Summary . . . . .	19
Sample Summary . . . . .	20
Chain of Custody . . . . .	21
Receipt Checklists . . . . .	22

# Definitions/Glossary

Client: Enthalpy Analytical LLC  
Project/Site: 434076

Job ID: 570-39774-1

## Qualifiers

### GC Semi VOA

Qualifier	Qualifier Description
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Enthalpy Analytical LLC  
Project/Site: 434076

Job ID: 570-39774-1

**Job ID: 570-39774-1**

**Laboratory: Eurofins Calscience LLC**

## Narrative

### Job Narrative 570-39774-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 9/30/2020 10:15 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.9° C.

#### GC Semi VOA

Method 8141A: The continuing calibration verification (CCV) associated with 570-99510 recovered high and outside the control limits for Demeton-o/s and Naled on one column. Results are confirmed on both columns and reported from the passing column. The associated sample is: (CCVRT 570-99510/2).

Method 8141A: The continuing calibration verification (CCV) associated with batch 570-99510 recovered above the upper control limit for Demeton-o/s and Merphos. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 570-99510/13).

Method 8141A: The CCV for analytical batch 570-99510 recovered outside control limits for the following analyte(s): Naled. Naled has been identified as a poor performing analyte when analyzed using this method. Additionally, Naled is known to convert via debromination during analysis due to active sites on the chromatographic column into Dichlorvos; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8141A: The continuing calibration verification (CCV) associated with 570-99510 recovered high and outside the control limits for Dichlorvos and Fensulfothion on one column. Results are confirmed on both columns and reported from the passing column.

Method 8141A: The closing continuing calibration verification (CCVC) associated with batch 570-99510 recovered above the upper control limit for Demeton-o/s. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8141A: The closing continuing calibration verification (CCVC) associated with 570-99510 recovered high and outside the control limits for Fensulfothion and Merphos on one column. Results are confirmed on both columns and reported from the passing column.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Enthalpy Analytical LLC  
Project/Site: 434076

Job ID: 570-39774-1

<b>Client Sample ID: 2819-05-1</b>	<b>Lab Sample ID: 570-39774-1</b>
<input type="checkbox"/> No Detections.	
<b>Client Sample ID: 2819-05-2</b>	<b>Lab Sample ID: 570-39774-2</b>
<input type="checkbox"/> No Detections.	
<b>Client Sample ID: 2819-06-1</b>	<b>Lab Sample ID: 570-39774-3</b>
<input type="checkbox"/> No Detections.	
<b>Client Sample ID: 2819-06-2</b>	<b>Lab Sample ID: 570-39774-4</b>
<input type="checkbox"/> No Detections.	
<b>Client Sample ID: 2819-07-1</b>	<b>Lab Sample ID: 570-39774-5</b>
<input type="checkbox"/> No Detections.	
<b>Client Sample ID: 2819-07-2</b>	<b>Lab Sample ID: 570-39774-6</b>
<input type="checkbox"/> No Detections.	
<b>Client Sample ID: 2819-08-1</b>	<b>Lab Sample ID: 570-39774-7</b>
<input type="checkbox"/> No Detections.	
<b>Client Sample ID: 2819-08-2</b>	<b>Lab Sample ID: 570-39774-8</b>
<input type="checkbox"/> No Detections.	

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Client Sample Results

Client: Enthalpy Analytical LLC  
Project/Site: 434076

Job ID: 570-39774-1

## Method: 8141A - Organophosphorous Pesticides (GC)

**Client Sample ID: 2819-05-1**  
**Date Collected: 09/22/20 14:25**  
**Date Received: 09/30/20 10:15**

**Lab Sample ID: 570-39774-1**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 21:16	1
Bolstar	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 21:16	1
Chlorpyrifos	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 21:16	1
Coumaphos	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 21:16	1
Demeton-o/s	ND		1.0	mg/Kg		10/02/20 10:25	10/05/20 21:16	1
Diazinon	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 21:16	1
Dichlorvos	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 21:16	1
Disulfoton	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 21:16	1
Ethoprop	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 21:16	1
Fensulfothion	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 21:16	1
Fenthion	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 21:16	1
Merphos	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 21:16	1
Methyl parathion	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 21:16	1
Mevinphos	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 21:16	1
Naled	ND		4.0	mg/Kg		10/02/20 10:25	10/05/20 21:16	1
Phorate	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 21:16	1
Ronnel	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 21:16	1
Stirophos	ND		2.0	mg/Kg		10/02/20 10:25	10/05/20 21:16	1
Tokuthion	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 21:16	1
Trichloronate	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 21:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributylphosphate	43		20 - 158	10/02/20 10:25	10/05/20 21:16	1

**Client Sample ID: 2819-05-2**  
**Date Collected: 09/22/20 14:25**  
**Date Received: 09/30/20 10:15**

**Lab Sample ID: 570-39774-2**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 22:04	1
Bolstar	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 22:04	1
Chlorpyrifos	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 22:04	1
Coumaphos	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 22:04	1
Demeton-o/s	ND		0.99	mg/Kg		10/02/20 10:25	10/05/20 22:04	1
Diazinon	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 22:04	1
Dichlorvos	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 22:04	1
Disulfoton	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 22:04	1
Ethoprop	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 22:04	1
Fensulfothion	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 22:04	1
Fenthion	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 22:04	1
Merphos	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 22:04	1
Methyl parathion	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 22:04	1
Mevinphos	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 22:04	1
Naled	ND		4.0	mg/Kg		10/02/20 10:25	10/05/20 22:04	1
Phorate	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 22:04	1
Ronnel	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 22:04	1
Stirophos	ND		2.0	mg/Kg		10/02/20 10:25	10/05/20 22:04	1
Tokuthion	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 22:04	1
Trichloronate	ND		0.50	mg/Kg		10/02/20 10:25	10/05/20 22:04	1

Eurofins Calscience LLC

# Client Sample Results

Client: Enthalpy Analytical LLC  
Project/Site: 434076

Job ID: 570-39774-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributylphosphate	47		20 - 158	10/02/20 10:25	10/05/20 22:04	1

**Client Sample ID: 2819-06-1**  
**Date Collected: 09/23/20 11:45**  
**Date Received: 09/30/20 10:15**

**Lab Sample ID: 570-39774-3**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 22:51	1
Bolstar	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 22:51	1
Chlorpyrifos	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 22:51	1
Coumaphos	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 22:51	1
Demeton-o/s	ND		0.99	mg/Kg		10/02/20 10:25	10/05/20 22:51	1
Diazinon	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 22:51	1
Dichlorvos	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 22:51	1
Disulfoton	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 22:51	1
Ethoprop	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 22:51	1
Fensulfothion	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 22:51	1
Fenthion	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 22:51	1
Merphos	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 22:51	1
Methyl parathion	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 22:51	1
Mevinphos	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 22:51	1
Naled	ND		3.9	mg/Kg		10/02/20 10:25	10/05/20 22:51	1
Phorate	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 22:51	1
Ronnel	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 22:51	1
Stirophos	ND		2.0	mg/Kg		10/02/20 10:25	10/05/20 22:51	1
Tokuthion	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 22:51	1
Trichloronate	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 22:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributylphosphate	52		20 - 158	10/02/20 10:25	10/05/20 22:51	1

**Client Sample ID: 2819-06-2**  
**Date Collected: 09/23/20 11:45**  
**Date Received: 09/30/20 10:15**

**Lab Sample ID: 570-39774-4**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 23:38	1
Bolstar	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 23:38	1
Chlorpyrifos	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 23:38	1
Coumaphos	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 23:38	1
Demeton-o/s	ND		0.99	mg/Kg		10/02/20 10:25	10/05/20 23:38	1
Diazinon	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 23:38	1
Dichlorvos	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 23:38	1
Disulfoton	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 23:38	1
Ethoprop	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 23:38	1
Fensulfothion	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 23:38	1
Fenthion	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 23:38	1
Merphos	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 23:38	1
Methyl parathion	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 23:38	1
Mevinphos	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 23:38	1
Naled	ND		4.0	mg/Kg		10/02/20 10:25	10/05/20 23:38	1
Phorate	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 23:38	1
Ronnel	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 23:38	1
Stirophos	ND		2.0	mg/Kg		10/02/20 10:25	10/05/20 23:38	1
Tokuthion	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 23:38	1

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# Client Sample Results

Client: Enthalpy Analytical LLC  
Project/Site: 434076

Job ID: 570-39774-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

**Client Sample ID: 2819-06-2**  
**Date Collected: 09/23/20 11:45**  
**Date Received: 09/30/20 10:15**

**Lab Sample ID: 570-39774-4**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloronate	ND		0.49	mg/Kg		10/02/20 10:25	10/05/20 23:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Tributylphosphate	49		20 - 158			10/02/20 10:25	10/05/20 23:38	1

**Client Sample ID: 2819-07-1**  
**Date Collected: 09/24/20 10:55**  
**Date Received: 09/30/20 10:15**

**Lab Sample ID: 570-39774-5**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 01:13	1
Bolstar	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 01:13	1
Chlorpyrifos	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 01:13	1
Coumaphos	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 01:13	1
Demeton-o/s	ND		0.98	mg/Kg		10/02/20 10:25	10/06/20 01:13	1
Diazinon	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 01:13	1
Dichlorvos	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 01:13	1
Disulfoton	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 01:13	1
Ethoprop	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 01:13	1
Fensulfothion	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 01:13	1
Fenthion	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 01:13	1
Merphos	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 01:13	1
Methyl parathion	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 01:13	1
Mevinphos	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 01:13	1
Naled	ND		3.9	mg/Kg		10/02/20 10:25	10/06/20 01:13	1
Phorate	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 01:13	1
Ronnel	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 01:13	1
Stirophos	ND		2.0	mg/Kg		10/02/20 10:25	10/06/20 01:13	1
Tokuthion	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 01:13	1
Trichloronate	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 01:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Tributylphosphate	49		20 - 158			10/02/20 10:25	10/06/20 01:13	1

**Client Sample ID: 2819-07-2**  
**Date Collected: 09/24/20 10:55**  
**Date Received: 09/30/20 10:15**

**Lab Sample ID: 570-39774-6**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:01	1
Bolstar	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:01	1
Chlorpyrifos	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:01	1
Coumaphos	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:01	1
Demeton-o/s	ND		0.99	mg/Kg		10/02/20 10:25	10/06/20 02:01	1
Diazinon	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:01	1
Dichlorvos	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:01	1
Disulfoton	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:01	1
Ethoprop	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:01	1
Fensulfothion	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:01	1
Fenthion	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:01	1
Merphos	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:01	1
Methyl parathion	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:01	1

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# Client Sample Results

Client: Enthalpy Analytical LLC  
Project/Site: 434076

Job ID: 570-39774-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

**Client Sample ID: 2819-07-2**  
**Date Collected: 09/24/20 10:55**  
**Date Received: 09/30/20 10:15**

**Lab Sample ID: 570-39774-6**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mevinphos	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:01	1
Naled	ND		4.0	mg/Kg		10/02/20 10:25	10/06/20 02:01	1
Phorate	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:01	1
Ronnel	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:01	1
Stirophos	ND		2.0	mg/Kg		10/02/20 10:25	10/06/20 02:01	1
Tokuthion	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:01	1
Trichloronate	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributylphosphate	40		20 - 158	10/02/20 10:25	10/06/20 02:01	1

**Client Sample ID: 2819-08-1**  
**Date Collected: 09/22/20 09:50**  
**Date Received: 09/30/20 10:15**

**Lab Sample ID: 570-39774-7**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:48	1
Bolstar	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:48	1
Chlorpyrifos	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:48	1
Coumaphos	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:48	1
Demeton-o/s	ND		0.98	mg/Kg		10/02/20 10:25	10/06/20 02:48	1
Diazinon	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:48	1
Dichlorvos	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:48	1
Disulfoton	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:48	1
Ethoprop	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:48	1
Fensulfothion	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:48	1
Fenthion	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:48	1
Merphos	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:48	1
Methyl parathion	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:48	1
Mevinphos	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:48	1
Naled	ND		3.9	mg/Kg		10/02/20 10:25	10/06/20 02:48	1
Phorate	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:48	1
Ronnel	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:48	1
Stirophos	ND		2.0	mg/Kg		10/02/20 10:25	10/06/20 02:48	1
Tokuthion	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:48	1
Trichloronate	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 02:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributylphosphate	48		20 - 158	10/02/20 10:25	10/06/20 02:48	1

**Client Sample ID: 2819-08-2**  
**Date Collected: 09/22/20 09:50**  
**Date Received: 09/30/20 10:15**

**Lab Sample ID: 570-39774-8**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 03:36	1
Bolstar	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 03:36	1
Chlorpyrifos	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 03:36	1
Coumaphos	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 03:36	1
Demeton-o/s	ND		0.99	mg/Kg		10/02/20 10:25	10/06/20 03:36	1
Diazinon	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 03:36	1
Dichlorvos	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 03:36	1

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# Client Sample Results

Client: Enthalpy Analytical LLC  
 Project/Site: 434076

Job ID: 570-39774-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

**Client Sample ID: 2819-08-2**  
**Date Collected: 09/22/20 09:50**  
**Date Received: 09/30/20 10:15**

**Lab Sample ID: 570-39774-8**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 03:36	1
Ethoprop	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 03:36	1
Fensulfothion	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 03:36	1
Fenthion	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 03:36	1
Merphos	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 03:36	1
Methyl parathion	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 03:36	1
Mevinphos	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 03:36	1
Naled	ND		3.9	mg/Kg		10/02/20 10:25	10/06/20 03:36	1
Phorate	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 03:36	1
Ronnel	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 03:36	1
Stirophos	ND		2.0	mg/Kg		10/02/20 10:25	10/06/20 03:36	1
Tokuthion	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 03:36	1
Trichloronate	ND		0.49	mg/Kg		10/02/20 10:25	10/06/20 03:36	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Tributylphosphate	53		20 - 158			10/02/20 10:25	10/06/20 03:36	1

# Surrogate Summary

Client: Enthalpy Analytical LLC  
Project/Site: 434076

Job ID: 570-39774-1

## Method: 8141A - Organophosphorous Pesticides (GC)

Matrix: Solid

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TBPH1 (20-158)
570-39769-A-9-F MS	Matrix Spike	36 p
570-39769-A-9-G MSD	Matrix Spike Duplicate	75
570-39774-1	2819-05-1	43
570-39774-2	2819-05-2	47
570-39774-3	2819-06-1	52
570-39774-4	2819-06-2	49
570-39774-5	2819-07-1	49
570-39774-6	2819-07-2	40
570-39774-7	2819-08-1	48
570-39774-8	2819-08-2	53
LCS 570-98980/2-A	Lab Control Sample	71
LCSD 570-98980/3-A	Lab Control Sample Dup	74
MB 570-98980/1-A	Method Blank	56

#### Surrogate Legend

TBPH = Tributylphosphate

# QC Sample Results

Client: Enthalpy Analytical LLC  
Project/Site: 434076

Job ID: 570-39774-1

## Method: 8141A - Organophosphorous Pesticides (GC)

**Lab Sample ID: MB 570-98980/1-A**  
**Matrix: Solid**  
**Analysis Batch: 99510**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 98980**

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Azinphos-methyl	ND		0.50	mg/Kg		10/02/20 10:24	10/05/20 16:31	1
Bolstar	ND		0.50	mg/Kg		10/02/20 10:24	10/05/20 16:31	1
Chlorpyrifos	ND		0.50	mg/Kg		10/02/20 10:24	10/05/20 16:31	1
Coumaphos	ND		0.50	mg/Kg		10/02/20 10:24	10/05/20 16:31	1
Demeton-o/s	ND		1.0	mg/Kg		10/02/20 10:24	10/05/20 16:31	1
Diazinon	ND		0.50	mg/Kg		10/02/20 10:24	10/05/20 16:31	1
Dichlorvos	ND		0.50	mg/Kg		10/02/20 10:24	10/05/20 16:31	1
Disulfoton	ND		0.50	mg/Kg		10/02/20 10:24	10/05/20 16:31	1
Ethoprop	ND		0.50	mg/Kg		10/02/20 10:24	10/05/20 16:31	1
Fensulfothion	ND		0.50	mg/Kg		10/02/20 10:24	10/05/20 16:31	1
Fenthion	ND		0.50	mg/Kg		10/02/20 10:24	10/05/20 16:31	1
Merphos	ND		0.50	mg/Kg		10/02/20 10:24	10/05/20 16:31	1
Methyl parathion	ND		0.50	mg/Kg		10/02/20 10:24	10/05/20 16:31	1
Mevinphos	ND		0.50	mg/Kg		10/02/20 10:24	10/05/20 16:31	1
Naled	ND		4.0	mg/Kg		10/02/20 10:24	10/05/20 16:31	1
Phorate	ND		0.50	mg/Kg		10/02/20 10:24	10/05/20 16:31	1
Ronnel	ND		0.50	mg/Kg		10/02/20 10:24	10/05/20 16:31	1
Stirophos	ND		2.0	mg/Kg		10/02/20 10:24	10/05/20 16:31	1
Tokuthion	ND		0.50	mg/Kg		10/02/20 10:24	10/05/20 16:31	1
Trichloronate	ND		0.50	mg/Kg		10/02/20 10:24	10/05/20 16:31	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tributylphosphate	56		20 - 158	10/02/20 10:24	10/05/20 16:31	1

**Lab Sample ID: LCS 570-98980/2-A**  
**Matrix: Solid**  
**Analysis Batch: 99510**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 98980**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Azinphos-methyl	4.00	3.153		mg/Kg		79	59 - 156
Bolstar	4.00	3.106		mg/Kg		78	45 - 145
Chlorpyrifos	4.00	3.008		mg/Kg		75	42 - 139
Coumaphos	4.00	3.341		mg/Kg		84	64 - 149
Diazinon	4.00	3.019		mg/Kg		75	36 - 149
Disulfoton	4.00	2.442		mg/Kg		61	45 - 132
Ethoprop	4.00	3.035		mg/Kg		76	41 - 138
Fensulfothion	4.00	3.426		mg/Kg		86	53 - 151
Fenthion	4.00	2.698		mg/Kg		67	49 - 150
Merphos	4.00	5.330		mg/Kg		133	20 - 180
Methyl parathion	4.00	3.021		mg/Kg		76	48 - 149
Phorate	4.00	3.078		mg/Kg		77	42 - 137
Ronnel	4.00	2.797		mg/Kg		70	45 - 141
Stirophos	4.00	3.460		mg/Kg		87	43 - 166
Tokuthion	4.00	2.839		mg/Kg		71	50 - 131
Trichloronate	4.00	2.855		mg/Kg		71	45 - 138

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Tributylphosphate	71		20 - 158

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# QC Sample Results

Client: Enthalpy Analytical LLC  
Project/Site: 434076

Job ID: 570-39774-1

## Method: 8141A - Organophosphorous Pesticides (GC)

**Lab Sample ID: LCSD 570-98980/3-A**  
**Matrix: Solid**  
**Analysis Batch: 99510**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 98980**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD Limit	
							Lower	Upper	RPD	Limit
Azinphos-methyl	4.00	3.346		mg/Kg		84	59 - 156	6	27	
Bolstar	4.00	3.153		mg/Kg		79	45 - 145	1	24	
Chlorpyrifos	4.00	3.192		mg/Kg		80	42 - 139	6	28	
Coumaphos	4.00	3.480		mg/Kg		87	64 - 149	4	26	
Diazinon	4.00	2.942		mg/Kg		74	36 - 149	3	28	
Disulfoton	4.00	2.601		mg/Kg		65	45 - 132	6	27	
Ethoprop	4.00	3.105		mg/Kg		78	41 - 138	2	26	
Fensulfothion	4.00	3.561		mg/Kg		89	53 - 151	4	23	
Fenthion	4.00	2.923		mg/Kg		73	49 - 150	8	30	
Merphos	4.00	5.712		mg/Kg		143	20 - 180	7	30	
Methyl parathion	4.00	3.098		mg/Kg		77	48 - 149	2	30	
Phorate	4.00	3.235		mg/Kg		81	42 - 137	5	29	
Ronnel	4.00	2.941		mg/Kg		74	45 - 141	5	30	
Stirophos	4.00	3.715		mg/Kg		93	43 - 166	7	25	
Tokuthion	4.00	3.039		mg/Kg		76	50 - 131	7	20	
Trichloronate	4.00	3.284		mg/Kg		82	45 - 138	14	30	

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Tributylphosphate	74		20 - 158

**Lab Sample ID: 570-39769-A-9-F MS**  
**Matrix: Solid**  
**Analysis Batch: 99510**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 98980**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits	
				Result	Qualifier				Lower	Upper
Azinphos-methyl	ND		3.93	3.116		mg/Kg		79	20 - 180	
Bolstar	ND		3.93	2.862		mg/Kg		73	26 - 157	
Chlorpyrifos	ND		3.93	2.896		mg/Kg		74	21 - 153	
Coumaphos	ND		3.93	3.194		mg/Kg		81	33 - 179	
Diazinon	ND		3.93	2.597		mg/Kg		66	20 - 157	
Disulfoton	ND		3.93	2.884		mg/Kg		73	20 - 147	
Ethoprop	ND		3.93	2.965		mg/Kg		75	20 - 147	
Fensulfothion	ND		3.93	3.212		mg/Kg		82	22 - 169	
Fenthion	ND		3.93	2.588		mg/Kg		66	24 - 170	
Merphos	ND		3.93	5.226		mg/Kg		133	20 - 180	
Methyl parathion	ND		3.93	2.812		mg/Kg		72	21 - 174	
Phorate	ND		3.93	2.843		mg/Kg		72	20 - 146	
Ronnel	ND		3.93	2.675		mg/Kg		68	20 - 159	
Stirophos	ND		3.93	3.442		mg/Kg		88	20 - 180	
Tokuthion	ND		3.93	2.722		mg/Kg		69	26 - 149	
Trichloronate	ND		3.93	2.753		mg/Kg		70	24 - 153	

Surrogate	MS %Recovery	MS Qualifier	Limits
Tributylphosphate	36	p	20 - 158

# QC Sample Results

Client: Enthalpy Analytical LLC  
 Project/Site: 434076

Job ID: 570-39774-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

**Lab Sample ID: 570-39769-A-9-G MSD**  
**Matrix: Solid**  
**Analysis Batch: 99510**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 98980**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Azinphos-methyl	ND		3.96	3.211		mg/Kg		81	20 - 180	3	40
Bolstar	ND		3.96	3.100		mg/Kg		78	26 - 157	8	40
Chlorpyrifos	ND		3.96	3.007		mg/Kg		76	21 - 153	4	40
Coumaphos	ND		3.96	3.344		mg/Kg		84	33 - 179	5	40
Diazinon	ND		3.96	2.870		mg/Kg		72	20 - 157	10	40
Disulfoton	ND		3.96	3.072		mg/Kg		77	20 - 147	6	40
Ethoprop	ND		3.96	2.986		mg/Kg		75	20 - 147	1	40
Fensulfothion	ND		3.96	3.414		mg/Kg		86	22 - 169	6	40
Fenthion	ND		3.96	2.764		mg/Kg		70	24 - 170	7	40
Merphos	ND		3.96	5.547		mg/Kg		140	20 - 180	6	40
Methyl parathion	ND		3.96	3.013		mg/Kg		76	21 - 174	7	40
Phorate	ND		3.96	3.073		mg/Kg		78	20 - 146	8	40
Ronnel	ND		3.96	2.802		mg/Kg		71	20 - 159	5	40
Stirophos	ND		3.96	3.516		mg/Kg		89	20 - 180	2	40
Tokuthion	ND		3.96	2.873		mg/Kg		72	26 - 149	5	40
Trichloronate	ND		3.96	3.125		mg/Kg		79	24 - 153	13	40
		<b>MSD</b>	<b>MSD</b>								
<b>Surrogate</b>		<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>							
<i>Tributylphosphate</i>		75		20 - 158							

# QC Association Summary

Client: Enthalpy Analytical LLC  
Project/Site: 434076

Job ID: 570-39774-1

## GC Semi VOA

### Prep Batch: 98980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-39774-1	2819-05-1	Total/NA	Solid	3546	
570-39774-2	2819-05-2	Total/NA	Solid	3546	
570-39774-3	2819-06-1	Total/NA	Solid	3546	
570-39774-4	2819-06-2	Total/NA	Solid	3546	
570-39774-5	2819-07-1	Total/NA	Solid	3546	
570-39774-6	2819-07-2	Total/NA	Solid	3546	
570-39774-7	2819-08-1	Total/NA	Solid	3546	
570-39774-8	2819-08-2	Total/NA	Solid	3546	
MB 570-98980/1-A	Method Blank	Total/NA	Solid	3546	
LCS 570-98980/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 570-98980/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
570-39769-A-9-F MS	Matrix Spike	Total/NA	Solid	3546	
570-39769-A-9-G MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	

### Analysis Batch: 99510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-39774-1	2819-05-1	Total/NA	Solid	8141A	98980
570-39774-2	2819-05-2	Total/NA	Solid	8141A	98980
570-39774-3	2819-06-1	Total/NA	Solid	8141A	98980
570-39774-4	2819-06-2	Total/NA	Solid	8141A	98980
570-39774-5	2819-07-1	Total/NA	Solid	8141A	98980
570-39774-6	2819-07-2	Total/NA	Solid	8141A	98980
570-39774-7	2819-08-1	Total/NA	Solid	8141A	98980
570-39774-8	2819-08-2	Total/NA	Solid	8141A	98980
MB 570-98980/1-A	Method Blank	Total/NA	Solid	8141A	98980
LCS 570-98980/2-A	Lab Control Sample	Total/NA	Solid	8141A	98980
LCSD 570-98980/3-A	Lab Control Sample Dup	Total/NA	Solid	8141A	98980
570-39769-A-9-F MS	Matrix Spike	Total/NA	Solid	8141A	98980
570-39769-A-9-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8141A	98980



# Lab Chronicle

Client: Enthalpy Analytical LLC  
Project/Site: 434076

Job ID: 570-39774-1

**Client Sample ID: 2819-05-1**

**Lab Sample ID: 570-39774-1**

Date Collected: 09/22/20 14:25

Matrix: Solid

Date Received: 09/30/20 10:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			10.05 g	10 mL	98980	10/02/20 10:25	F7UI	ECL 1
Total/NA	Analysis	8141A		1			99510	10/05/20 21:16	UJ3K	ECL 1
Instrument ID: GC68										

**Client Sample ID: 2819-05-2**

**Lab Sample ID: 570-39774-2**

Date Collected: 09/22/20 14:25

Matrix: Solid

Date Received: 09/30/20 10:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			10.09 g	10 mL	98980	10/02/20 10:25	F7UI	ECL 1
Total/NA	Analysis	8141A		1			99510	10/05/20 22:04	UJ3K	ECL 1
Instrument ID: GC68										

**Client Sample ID: 2819-06-1**

**Lab Sample ID: 570-39774-3**

Date Collected: 09/23/20 11:45

Matrix: Solid

Date Received: 09/30/20 10:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			10.15 g	10 mL	98980	10/02/20 10:25	F7UI	ECL 1
Total/NA	Analysis	8141A		1			99510	10/05/20 22:51	UJ3K	ECL 1
Instrument ID: GC68										

**Client Sample ID: 2819-06-2**

**Lab Sample ID: 570-39774-4**

Date Collected: 09/23/20 11:45

Matrix: Solid

Date Received: 09/30/20 10:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			10.11 g	10 mL	98980	10/02/20 10:25	F7UI	ECL 1
Total/NA	Analysis	8141A		1			99510	10/05/20 23:38	UJ3K	ECL 1
Instrument ID: GC68										

**Client Sample ID: 2819-07-1**

**Lab Sample ID: 570-39774-5**

Date Collected: 09/24/20 10:55

Matrix: Solid

Date Received: 09/30/20 10:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			10.18 g	10 mL	98980	10/02/20 10:25	F7UI	ECL 1
Total/NA	Analysis	8141A		1			99510	10/06/20 01:13	UJ3K	ECL 1
Instrument ID: GC68										

# Lab Chronicle

Client: Enthalpy Analytical LLC  
Project/Site: 434076

Job ID: 570-39774-1

**Client Sample ID: 2819-07-2**

**Lab Sample ID: 570-39774-6**

**Date Collected: 09/24/20 10:55**

**Matrix: Solid**

**Date Received: 09/30/20 10:15**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			10.12 g	10 mL	98980	10/02/20 10:25	F7UI	ECL 1
Total/NA	Analysis	8141A		1			99510	10/06/20 02:01	UJ3K	ECL 1
Instrument ID: GC68										

**Client Sample ID: 2819-08-1**

**Lab Sample ID: 570-39774-7**

**Date Collected: 09/22/20 09:50**

**Matrix: Solid**

**Date Received: 09/30/20 10:15**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			10.16 g	10 mL	98980	10/02/20 10:25	F7UI	ECL 1
Total/NA	Analysis	8141A		1			99510	10/06/20 02:48	UJ3K	ECL 1
Instrument ID: GC68										

**Client Sample ID: 2819-08-2**

**Lab Sample ID: 570-39774-8**

**Date Collected: 09/22/20 09:50**

**Matrix: Solid**

**Date Received: 09/30/20 10:15**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			10.14 g	10 mL	98980	10/02/20 10:25	F7UI	ECL 1
Total/NA	Analysis	8141A		1			99510	10/06/20 03:36	UJ3K	ECL 1
Instrument ID: GC68										

## Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

# Accreditation/Certification Summary

Client: Enthalpy Analytical LLC  
Project/Site: 434076

Job ID: 570-39774-1

## Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-20
California	State	2944	09-30-21
Guam	State	20-003R	10-31-20
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-20

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# Method Summary

Client: Enthalpy Analytical LLC  
Project/Site: 434076

Job ID: 570-39774-1

Method	Method Description	Protocol	Laboratory
8141A	Organophosphorous Pesticides (GC)	SW846	ECL 1
3546	Microwave Extraction	SW846	ECL 1

**Protocol References:**

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

**Laboratory References:**

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494



# Sample Summary

Client: Enthalpy Analytical LLC  
Project/Site: 434076

Job ID: 570-39774-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-39774-1	2819-05-1	Solid	09/22/20 14:25	09/30/20 10:15	
570-39774-2	2819-05-2	Solid	09/22/20 14:25	09/30/20 10:15	
570-39774-3	2819-06-1	Solid	09/23/20 11:45	09/30/20 10:15	
570-39774-4	2819-06-2	Solid	09/23/20 11:45	09/30/20 10:15	
570-39774-5	2819-07-1	Solid	09/24/20 10:55	09/30/20 10:15	
570-39774-6	2819-07-2	Solid	09/24/20 10:55	09/30/20 10:15	
570-39774-7	2819-08-1	Solid	09/22/20 09:50	09/30/20 10:15	
570-39774-8	2819-08-2	Solid	09/22/20 09:50	09/30/20 10:15	

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# ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange  
Orange, CA 92868  
(714) 771-6900 / Fax: (510) 486-0532

39774

**Subcontract Laboratory:**

Eurofins CalScience  
7440 Lincoln Way  
Garden Grove, CA 92841-1432  
ATTN: Xuan Dang  
PO #: Required, to be sent via email

**Enthalpy Order: EO-434076**

PM: John Goyette  
Email: john.goyette@enthalpy.com  
CC: incomingreports@enthalpy.com  
Phone: (510) 204-2233 Ext 13112

Results Due: Standard TAT

Report Level: II

Report To: RL

EDDs:



570-39774 Chain of Custody

**Notes:**

Sample ID	Collected	Lab ID	# Cont.	Matrix	Analysis Requested	Comment
2819-05-1	22-SEP-2020 14:25	434076-001	1	Soil	Organophosphorus Pesticides	
2819-05-2	22-SEP-2020 14:25	434076-002	1	Soil	Organophosphorus Pesticides	
2819-06-1	23-SEP-2020 11:45	434076-003	1	Soil	Organophosphorus Pesticides	
2819-06-2	23-SEP-2020 11:45	434076-004	1	Soil	Organophosphorus Pesticides	
2819-07-1	24-SEP-2020 10:55	434076-005	1	Soil	Organophosphorus Pesticides	
2819-07-2	24-SEP-2020 10:55	434076-006	1	Soil	Organophosphorus Pesticides	
2819-08-1	22-SEP-2020 09:50	434076-007	1	Soil	Organophosphorus Pesticides	
2819-08-2	22-SEP-2020 09:50	434076-008	1	Soil	Organophosphorus Pesticides	

Notes:	Relinquished By:	Received By:
	Date:	Date:
	Date:	Date:
	Date:	Date: <i>Preau a</i> 9/30/2020 10:15

3.7/29 SA

# Login Sample Receipt Checklist

Client: Enthalpy Analytical LLC

Job Number: 570-39774-1

**Login Number: 39774**  
**List Number: 1**  
**Creator: Soriano, Precy**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	Refer to Job Narrative for details.
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Enthalpy Analytical  
931 West Barkley Ave  
Orange, CA 92868  
(714) 771-6900

enthalpy.com

Lab Job Number: 434180  
Report Level: II  
Report Date: 10/13/2020

**Analytical Report** *prepared for:*

Jennah Oshiro  
Myounghee Noh & Associates  
99-1046 Iwaena Street  
210A  
Aiea, HI 96701

Project: 2819\_2 - PH2 Oahu Community Correctional Center

*Authorized for release by:*

John Goyette, Director, Client Services  
(510) 204-2233 Ext 13112  
[john.goyette@enthalpy.com](mailto:john.goyette@enthalpy.com)

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, CDC ELITE  
Member



## Sample Summary

---

Jannah Oshiro	Lab Job #:	434180
Myounghee Noh & Associates	Project No:	2819_2
99-1046 Iwaena Street	Location:	PH2 Oahu Community Correctional Center
210A	Date Received:	09/29/20
Aiea, HI 96701		

---

Sample ID	Lab ID	Collected	Matrix
2819 - B6	434180-001	09/25/20 13:52	Soil
2819 - B7	434180-002	09/25/20 13:30	Soil
2819 - B8	434180-003	09/25/20 13:40	Soil
TB	434180-004	09/25/20 00:00	Soil

## Case Narrative

---

Myounghee Noh & Associates  
99-1046 Iwaena Street  
210A  
Aiea, HI 96701  
Jennah Oshiro

Lab Job Number: 434180  
Project No: 2819\_2  
Location: PH2 Oahu Community Correctional Center  
Date Received: 09/29/20

---

This data package contains sample and QC results for three soil samples, requested for the above referenced project on 09/29/20. The samples were received cold and intact.

**TPH-Purgeables and/or BTXE by GC (EPA 8015B):**

No analytical problems were encountered.

**Volatile Organics by GC/MS (EPA 8260B):**

Methylene chloride was detected above the RL in the method blank for batch 253648; this analyte was not detected in samples at or above the RL. No other analytical problems were encountered.

## Detection Summary for 434180

**Client:** Myounghee Noh & Associates

**Project:** 2819\_2

**Location:** PH2 Oahu Community Correctional Center

Sample ID: 2819 - B6	Lab ID: 434180-001
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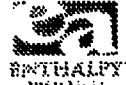
Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Acetone	250		120	ug/Kg	As Recd	1.220	EPA 8260B	EPA 5035

No detections for 2819 - B7, Lab ID 434180-002

No detections for 2819 - B8, Lab ID 434180-003



**SAMPLE RECEIPT CHECKLIST**



Section 1: Login # 434100  
Date Received: 9/29/20

Client: MNA  
Project: \_\_\_\_\_

**Section 2: Shipping info (if applicable)**

Are custody seals present?  No, or  Yes. If yes, where?  on cooler,  on samples,  on package

Date: 9/29/20 How many 2  Signature,  Initials,  None

Were custody seals intact upon arrival?  Yes  No  N/A

Samples received in a cooler?  Yes, how many? 1  No (skip Section 3 below)

If no cooler Sample Temp (°C): \_\_\_\_\_ using IR Gun #  B, or  C

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

If in cooler: Date Opened 9/29/20 By (print) MAG (sign) [Signature]

**Section 3:**

**Important: Notify PM if temperature exceeds 6°C or arrive frozen.**

Packing in cooler: (if other, describe) \_\_\_\_\_

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

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

Type of ice used:  Wet,  Blue/Gel,  None Temperature blank(s) included?  Yes,  No

Temperature measured using  Thermometer ID: \_\_\_\_\_, or IR Gun #  B  C

Cooler Temp (°C): #1: 30.8, #2: \_\_\_\_\_, #3: \_\_\_\_\_, #4: \_\_\_\_\_, #5: \_\_\_\_\_, #6: \_\_\_\_\_, #7: \_\_\_\_\_

**Section 4:**

	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable	<input checked="" type="checkbox"/>		
Were Method 5035 sampling containers present?		<input checked="" type="checkbox"/>	
If YES, what time were they transferred to freezer?			
Did all bottles arrive unbroken/unopened?	<input checked="" type="checkbox"/>		
Are there any missing / extra samples?	<input checked="" type="checkbox"/>		
Are samples in the appropriate containers for indicated tests?	<input checked="" type="checkbox"/>		
Are sample labels present, in good condition and complete?	<input checked="" type="checkbox"/>		
Does the container count match the CDC?		<input checked="" type="checkbox"/>	
Do the sample labels agree with custody papers?	<input checked="" type="checkbox"/>		
Was sufficient amount of sample sent for tests requested?	<input checked="" type="checkbox"/>		
Did you change the hold time in LIMS for unpreserved VOAs?			<input checked="" type="checkbox"/>
Did you change the hold time in LIMS for preserved terracores?			<input checked="" type="checkbox"/>
Are bubbles > 6mm present in VOA samples?			<input checked="" type="checkbox"/>
Was the client contacted concerning this sample delivery?		<input checked="" type="checkbox"/>	
If YES, who was called? _____ By _____ Date: _____			

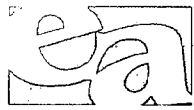
**Section 5:**

	YES	NO	N/A
Are the samples appropriately preserved? (if N/A, skip the rest of section 5)			
Did you check preservatives for all bottles for each sample?			
Did you document your preservative check?			
pH strip lot# _____, pH strip lot# _____, pH strip lot# _____			
Preservative added:			
<input type="checkbox"/> H2SO4 lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> HCl lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> HNO3 lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> NaOH lot# _____ added to samples _____ on/at _____			

**Section 6:**

Explanations/Comments: Trip Blanks were sent but not included in the CoC.

Date Logged in 9/29/20 By (print) MAG (sign) [Signature]  
Date Labeled 9/29/20 By (print) MAG (sign) [Signature]



# ENTHALPY ANALYTICAL

## SAMPLE ACCEPTANCE CHECKLIST

**Section 1**  
 Client: MYOUNGHEE NOLF & ASSO. Project: \_\_\_\_\_  
 Date Received: 9/30/20 Sampler's Name Present:  Yes  No

**Section 2**  
 Sample(s) received in a cooler?  Yes, How many? 1  No (skip section 2) Sample Temp (°C) (No Cooler) : \_\_\_\_\_  
 Sample Temp (°C), One from each cooler: #1: 5.4 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_  
*(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)*  
 Shipping Information: GC

**Section 3**  
 Was the cooler packed with:  Ice  Ice Packs  Bubble Wrap  Styrofoam  
 Paper  None  Other \_\_\_\_\_  
 Cooler Temp (°C): #1: 3.6 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_

Section 4	YES	NO	N/A
Was a COC received?	<input checked="" type="checkbox"/>		
Are sample IDs present?	<input checked="" type="checkbox"/>		
Are sampling dates & times present?	<input checked="" type="checkbox"/>		
Is a relinquished signature present?	<input checked="" type="checkbox"/>		
Are the tests required clearly indicated on the COC?	<input checked="" type="checkbox"/>		
Are custody seals present?		<input checked="" type="checkbox"/>	
If custody seals are present, were they intact?			<input checked="" type="checkbox"/>
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)			<input checked="" type="checkbox"/>
Did all samples arrive intact? If no, indicate in Section 4 below.	<input checked="" type="checkbox"/>		
Did all bottle labels agree with COC? (ID, dates and times)	<input checked="" type="checkbox"/>		
Were the samples collected in the correct containers for the required tests?	<input checked="" type="checkbox"/>		
Are the containers labeled with the correct preservatives?	<input checked="" type="checkbox"/>		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?	<input checked="" type="checkbox"/>		
Was a sufficient amount of sample submitted for the requested tests?	<input checked="" type="checkbox"/>		

**Section 5 Explanations/Comments**  
RECEIVED 3 VIALS FOR TB WITH HEADSPACE > 5-6 mm BUT NOT LISTED ON COC

**Section 6**  
 For discrepancies, how was the Project Manager notified?  Verbal PM Initials: \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Email (email sent to/on): \_\_\_\_\_ / \_\_\_\_\_  
 Project Manager's response:

Completed By: [Signature] Date: 9/30/20



800-322-5555  
www.gls-us.com

Ship From  
ENTHALPY ANALYTICAL  
JOHN GOYETTE  
323 5TH STREET  
BERKELEY, CA 94710

Tracking #: 550601037

CPS

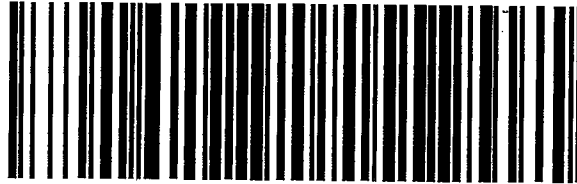


Ship To  
ENTHALPY ANALYTICAL (ORG)  
SAMPLE RECEIVING  
31 W BARKLEY AVE.  
ORANGE, CA 92868

ORANGE

S92868A

COD: \$0.00  
Weight: 0 lb(s)  
Reference:



*Handwritten:* Rec/5/24  
*Handwritten:* J.C.E.

Delivery Instructions:

Signature Type: STANDARD

27891074

ORC CA927-CI1

Print Date: 9/29/2020 10:41 AM

### Gasoline by GC/FID (5035 Prep)

**Lab #:** 434180

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819 - B6

**Basis:** as received

**Analyzed:** 10/07/20

**Type:** SAMPLE

**Batch#:** 253867

**Prep:** EPA 5030B

**Lab ID:** 434180-001

**Sampled:** 09/25/20

**Analysis:** EPA 8015B

**Matrix:** Soil

**Received:** 09/29/20

**Analyst:** EMW

**Field ID:** 2819 - B7

**Basis:** as received

**Analyzed:** 10/06/20

**Type:** SAMPLE

**Batch#:** 253608

**Prep:** EPA 5030B

**Lab ID:** 434180-002

**Sampled:** 09/25/20

**Analysis:** EPA 8015B

**Matrix:** Soil

**Received:** 09/29/20

**Analyst:** EMW

**Field ID:** 2819 - B8

**Basis:** as received

**Analyzed:** 10/06/20

**Type:** SAMPLE

**Batch#:** 253608

**Prep:** EPA 5030B

**Lab ID:** 434180-003

**Sampled:** 09/25/20

**Analysis:** EPA 8015B

**Matrix:** Soil

**Received:** 09/29/20

**Analyst:** EMW

**Type:** BLANK

**Diln Fac:** 1.000

**Prep:** EPA 5030B

**Lab ID:** QC888501

**Batch#:** 253608

**Analysis:** EPA 8015B

**Matrix:** Soil

**Analyzed:** 10/06/20

**Analyst:** EMW



### Gasoline by GC/FID (5035 Prep)

**Lab #:** 434180

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BLANK

**Diln Fac:** 1.000

**Prep:** EPA 5030B

**Lab ID:** QC888665

**Batch#:** 253867

**Analysis:** EPA 8015B

**Matrix:** Soil

**Analyzed:** 10/07/20

**Analyst:** EMW

Analyte	Result	RL	Units
TPH Gasoline	ND	3.0	mg/Kg

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	110	60-140

Legend

**ND:** Not Detected

**RL:** Reporting Limit

### Gasoline by GC/FID (5035 Prep): Batch QC

**Lab #:** 434180

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** LCS

**Diln Fac:** 1.000

**Prep:** EPA 5030B

**Lab ID:** QC888498

**Batch#:** 253608

**Analysis:** EPA 8015B

**Matrix:** Soil

**Analyzed:** 10/06/20

**Analyst:** EMW

Analyte	Spiked	Result	%REC	Limits	Units
TPH Gasoline	5.000	5.632	113	70-130	mg/Kg
Surrogate			%REC	Limits	
Bromofluorobenzene (FID)			125	60-140	

## Gasoline by GC/FID (5035 Prep): Batch QC

**Lab #:** 434180

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** ZZZZZZZZZZ

**Basis:** as received

**Analyzed:** 10/06/20

**Type:** MS

**Diln Fac:** 1.000

**Prep:** EPA 5030B

**MSS Lab ID:** 434100-002

**Batch#:** 253608

**Analysis:** EPA 8015B

**Lab ID:** QC888499

**Sampled:** 09/25/20

**Analyst:** EMW

**Matrix:** Soil

**Received:** 09/25/20

Analyte	MSS Result	Spiked	Result	%REC	Limits	Units
TPH Gasoline	<3.000	5.000	5.073	101	70-130	mg/Kg

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	125	60-140

**Field ID:** ZZZZZZZZZZ

**Basis:** as received

**Analyzed:** 10/06/20

**Type:** MSD

**Diln Fac:** 1.000

**Prep:** EPA 5030B

**MSS Lab ID:** 434100-002

**Batch#:** 253608

**Analysis:** EPA 8015B

**Lab ID:** QC888500

**Sampled:** 09/25/20

**Analyst:** EMW

**Matrix:** Soil

**Received:** 09/25/20

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
TPH Gasoline	5.000	4.956	99	70-130	mg/Kg	2	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	125	60-140

Legend

**RPD:** Relative Percent Difference

### Gasoline by GC/FID (5035 Prep): Batch QC

**Lab #:** 434180

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** LCS

**Diln Fac:** 1.000

**Prep:** EPA 5030B

**Lab ID:** QC888662

**Batch#:** 253867

**Analysis:** EPA 8015B

**Matrix:** Soil

**Analyzed:** 10/07/20

**Analyst:** EMW

Analyte	Spiked	Result	%REC	Limits	Units
TPH Gasoline	5.000	5.609	112	70-130	mg/Kg
Surrogate			%REC	Limits	
Bromofluorobenzene (FID)			125	60-140	

### Gasoline by GC/FID (5035 Prep): Batch QC

**Lab #:** 434180

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** ZZZZZZZZZZ

**Basis:** as received

**Analyzed:** 10/07/20

**Type:** MS

**Diln Fac:** 1.000

**Prep:** EPA 5030B

**MSS Lab ID:** 434423-001

**Batch#:** 253867

**Analysis:** EPA 8015B

**Lab ID:** QC888663

**Sampled:** 10/02/20

**Analyst:** EMW

**Matrix:** Soil

**Received:** 10/02/20

Analyte	MSS Result	Spiked	Result	%REC	Limits	Units
TPH Gasoline	<3.000	5.000	5.323	106	70-130	mg/Kg

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	125	60-140

**Field ID:** ZZZZZZZZZZ

**Basis:** as received

**Analyzed:** 10/07/20

**Type:** MSD

**Diln Fac:** 1.000

**Prep:** EPA 5030B

**MSS Lab ID:** 434423-001

**Batch#:** 253867

**Analysis:** EPA 8015B

**Lab ID:** QC888664

**Sampled:** 10/02/20

**Analyst:** EMW

**Matrix:** Soil

**Received:** 10/02/20

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
TPH Gasoline	5.000	5.232	105	70-130	mg/Kg	2	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	125	60-140

Legend

**RPD:** Relative Percent Difference

## Purgeable Organics by GC/MS

**Lab #:** 434180

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819 - B6

**Batch#:** 253648

**Prep:** EPA 5035

**Lab ID:** 434180-001

**Sampled:** 09/25/20

**Analysis:** EPA 8260B

**Matrix:** Soil

**Received:** 09/29/20

**Analyst:** JTB

**Diln Fac:** 1.220

**Analyzed:** 10/02/20

Analyte	Result	RL	Units	Basis
3-Chloropropene	ND	6.1	ug/Kg	as received
cis-1,4-Dichloro-2-butene	ND	6.1	ug/Kg	as received
trans-1,4-Dichloro-2-butene	ND	6.1	ug/Kg	as received
Freon 12	ND	6.1	ug/Kg	as received
Chloromethane	ND	6.1	ug/Kg	as received
Vinyl Chloride	ND	6.1	ug/Kg	as received
Bromomethane	ND	6.1	ug/Kg	as received
Chloroethane	ND	6.1	ug/Kg	as received
Trichlorofluoromethane	ND	6.1	ug/Kg	as received
<b>Acetone</b>	<b>250</b>	<b>120</b>	<b>ug/Kg</b>	<b>as received</b>
Freon 113	ND	6.1	ug/Kg	as received
1,1-Dichloroethene	ND	6.1	ug/Kg	as received
Methylene Chloride	ND	6.1	ug/Kg	as received
MTBE	ND	6.1	ug/Kg	as received
trans-1,2-Dichloroethene	ND	6.1	ug/Kg	as received
1,1-Dichloroethane	ND	6.1	ug/Kg	as received
2-Butanone	ND	120	ug/Kg	as received
cis-1,2-Dichloroethene	ND	6.1	ug/Kg	as received
2,2-Dichloropropane	ND	6.1	ug/Kg	as received
Chloroform	ND	6.1	ug/Kg	as received
Bromochloromethane	ND	6.1	ug/Kg	as received
1,1,1-Trichloroethane	ND	6.1	ug/Kg	as received
1,1-Dichloropropene	ND	6.1	ug/Kg	as received
Carbon Tetrachloride	ND	6.1	ug/Kg	as received
1,2-Dichloroethane	ND	6.1	ug/Kg	as received
Benzene	ND	6.1	ug/Kg	as received
Trichloroethene	ND	6.1	ug/Kg	as received
1,2-Dichloropropane	ND	6.1	ug/Kg	as received
Bromodichloromethane	ND	6.1	ug/Kg	as received
Dibromomethane	ND	6.1	ug/Kg	as received
4-Methyl-2-Pentanone	ND	6.1	ug/Kg	as received
cis-1,3-Dichloropropene	ND	6.1	ug/Kg	as received
Toluene	ND	6.1	ug/Kg	as received
trans-1,3-Dichloropropene	ND	6.1	ug/Kg	as received
1,1,2-Trichloroethane	ND	6.1	ug/Kg	as received
1,3-Dichloropropane	ND	6.1	ug/Kg	as received
Tetrachloroethene	ND	6.1	ug/Kg	as received
Dibromochloromethane	ND	6.1	ug/Kg	as received
1,2-Dibromoethane	ND	6.1	ug/Kg	as received
Chlorobenzene	ND	6.1	ug/Kg	as received
1,1,1,2-Tetrachloroethane	ND	6.1	ug/Kg	as received

## Purgeable Organics by GC/MS

**Lab #:** 434180

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

Analyte	Result	RL	Units	Basis
Ethylbenzene	ND	6.1	ug/Kg	as received
m,p-Xylenes	ND	12	ug/Kg	as received
o-Xylene	ND	6.1	ug/Kg	as received
Styrene	ND	6.1	ug/Kg	as received
Bromoform	ND	6.1	ug/Kg	as received
Isopropylbenzene	ND	6.1	ug/Kg	as received
1,1,2,2-Tetrachloroethane	ND	6.1	ug/Kg	as received
1,2,3-Trichloropropane	ND	6.1	ug/Kg	as received
Propylbenzene	ND	6.1	ug/Kg	as received
Bromobenzene	ND	6.1	ug/Kg	as received
1,3,5-Trimethylbenzene	ND	6.1	ug/Kg	as received
2-Chlorotoluene	ND	6.1	ug/Kg	as received
4-Chlorotoluene	ND	6.1	ug/Kg	as received
tert-Butylbenzene	ND	6.1	ug/Kg	as received
1,2,4-Trimethylbenzene	ND	6.1	ug/Kg	as received
sec-Butylbenzene	ND	6.1	ug/Kg	as received
para-Isopropyl Toluene	ND	6.1	ug/Kg	as received
1,3-Dichlorobenzene	ND	6.1	ug/Kg	as received
1,4-Dichlorobenzene	ND	6.1	ug/Kg	as received
n-Butylbenzene	ND	6.1	ug/Kg	as received
1,2-Dichlorobenzene	ND	6.1	ug/Kg	as received
1,2-Dibromo-3-Chloropropane	ND	6.1	ug/Kg	as received
1,2,4-Trichlorobenzene	ND	6.1	ug/Kg	as received
Hexachlorobutadiene	ND	6.1	ug/Kg	as received
Naphthalene	ND	6.1	ug/Kg	as received
1,2,3-Trichlorobenzene	ND	6.1	ug/Kg	as received
Xylene (total)	ND	6.1	ug/Kg	

Surrogate	%REC	Limits	Basis
Dibromofluoromethane	94	70-145	as received
1,2-Dichloroethane-d4	100	70-145	as received
Toluene-d8	102	70-145	as received
Bromofluorobenzene	98	70-145	as received

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Purgeable Organics by GC/MS

**Lab #:** 434180

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819 - B7

**Batch#:** 253648

**Prep:** EPA 5035

**Lab ID:** 434180-002

**Sampled:** 09/25/20

**Analysis:** EPA 8260B

**Matrix:** Soil

**Received:** 09/29/20

**Analyst:** JTB

**Diln Fac:** 1.163

**Analyzed:** 10/02/20

Analyte	Result	RL	Units	Basis
3-Chloropropene	ND	5.8	ug/Kg	as received
cis-1,4-Dichloro-2-butene	ND	5.8	ug/Kg	as received
trans-1,4-Dichloro-2-butene	ND	5.8	ug/Kg	as received
Freon 12	ND	5.8	ug/Kg	as received
Chloromethane	ND	5.8	ug/Kg	as received
Vinyl Chloride	ND	5.8	ug/Kg	as received
Bromomethane	ND	5.8	ug/Kg	as received
Chloroethane	ND	5.8	ug/Kg	as received
Trichlorofluoromethane	ND	5.8	ug/Kg	as received
Acetone	ND	120	ug/Kg	as received
Freon 113	ND	5.8	ug/Kg	as received
1,1-Dichloroethene	ND	5.8	ug/Kg	as received
Methylene Chloride	ND	5.8	ug/Kg	as received
MTBE	ND	5.8	ug/Kg	as received
trans-1,2-Dichloroethene	ND	5.8	ug/Kg	as received
1,1-Dichloroethane	ND	5.8	ug/Kg	as received
2-Butanone	ND	120	ug/Kg	as received
cis-1,2-Dichloroethene	ND	5.8	ug/Kg	as received
2,2-Dichloropropane	ND	5.8	ug/Kg	as received
Chloroform	ND	5.8	ug/Kg	as received
Bromochloromethane	ND	5.8	ug/Kg	as received
1,1,1-Trichloroethane	ND	5.8	ug/Kg	as received
1,1-Dichloropropene	ND	5.8	ug/Kg	as received
Carbon Tetrachloride	ND	5.8	ug/Kg	as received
1,2-Dichloroethane	ND	5.8	ug/Kg	as received
Benzene	ND	5.8	ug/Kg	as received
Trichloroethene	ND	5.8	ug/Kg	as received
1,2-Dichloropropane	ND	5.8	ug/Kg	as received
Bromodichloromethane	ND	5.8	ug/Kg	as received
Dibromomethane	ND	5.8	ug/Kg	as received
4-Methyl-2-Pentanone	ND	5.8	ug/Kg	as received
cis-1,3-Dichloropropene	ND	5.8	ug/Kg	as received
Toluene	ND	5.8	ug/Kg	as received
trans-1,3-Dichloropropene	ND	5.8	ug/Kg	as received
1,1,2-Trichloroethane	ND	5.8	ug/Kg	as received
1,3-Dichloropropane	ND	5.8	ug/Kg	as received
Tetrachloroethene	ND	5.8	ug/Kg	as received
Dibromochloromethane	ND	5.8	ug/Kg	as received
1,2-Dibromoethane	ND	5.8	ug/Kg	as received
Chlorobenzene	ND	5.8	ug/Kg	as received
1,1,1,2-Tetrachloroethane	ND	5.8	ug/Kg	as received



## Purgeable Organics by GC/MS

**Lab #:** 434180

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

Analyte	Result	RL	Units	Basis
Ethylbenzene	ND	5.8	ug/Kg	as received
m,p-Xylenes	ND	12	ug/Kg	as received
o-Xylene	ND	5.8	ug/Kg	as received
Styrene	ND	5.8	ug/Kg	as received
Bromoform	ND	5.8	ug/Kg	as received
Isopropylbenzene	ND	5.8	ug/Kg	as received
1,1,2,2-Tetrachloroethane	ND	5.8	ug/Kg	as received
1,2,3-Trichloropropane	ND	5.8	ug/Kg	as received
Propylbenzene	ND	5.8	ug/Kg	as received
Bromobenzene	ND	5.8	ug/Kg	as received
1,3,5-Trimethylbenzene	ND	5.8	ug/Kg	as received
2-Chlorotoluene	ND	5.8	ug/Kg	as received
4-Chlorotoluene	ND	5.8	ug/Kg	as received
tert-Butylbenzene	ND	5.8	ug/Kg	as received
1,2,4-Trimethylbenzene	ND	5.8	ug/Kg	as received
sec-Butylbenzene	ND	5.8	ug/Kg	as received
para-Isopropyl Toluene	ND	5.8	ug/Kg	as received
1,3-Dichlorobenzene	ND	5.8	ug/Kg	as received
1,4-Dichlorobenzene	ND	5.8	ug/Kg	as received
n-Butylbenzene	ND	5.8	ug/Kg	as received
1,2-Dichlorobenzene	ND	5.8	ug/Kg	as received
1,2-Dibromo-3-Chloropropane	ND	5.8	ug/Kg	as received
1,2,4-Trichlorobenzene	ND	5.8	ug/Kg	as received
Hexachlorobutadiene	ND	5.8	ug/Kg	as received
Naphthalene	ND	5.8	ug/Kg	as received
1,2,3-Trichlorobenzene	ND	5.8	ug/Kg	as received
Xylene (total)	ND	5.8	ug/Kg	

Surrogate	%REC	Limits	Basis
Dibromofluoromethane	93	70-145	as received
1,2-Dichloroethane-d4	104	70-145	as received
Toluene-d8	101	70-145	as received
Bromofluorobenzene	96	70-145	as received

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Purgeable Organics by GC/MS

**Lab #:** 434180

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819 - B8

**Batch#:** 253648

**Prep:** EPA 5035

**Lab ID:** 434180-003

**Sampled:** 09/25/20

**Analysis:** EPA 8260B

**Matrix:** Soil

**Received:** 09/29/20

**Analyst:** JTB

**Diln Fac:** 1.613

**Analyzed:** 10/02/20

Analyte	Result	RL	Units	Basis
3-Chloropropene	ND	8.1	ug/Kg	as received
cis-1,4-Dichloro-2-butene	ND	8.1	ug/Kg	as received
trans-1,4-Dichloro-2-butene	ND	8.1	ug/Kg	as received
Freon 12	ND	8.1	ug/Kg	as received
Chloromethane	ND	8.1	ug/Kg	as received
Vinyl Chloride	ND	8.1	ug/Kg	as received
Bromomethane	ND	8.1	ug/Kg	as received
Chloroethane	ND	8.1	ug/Kg	as received
Trichlorofluoromethane	ND	8.1	ug/Kg	as received
Acetone	ND	160	ug/Kg	as received
Freon 113	ND	8.1	ug/Kg	as received
1,1-Dichloroethene	ND	8.1	ug/Kg	as received
Methylene Chloride	ND	8.1	ug/Kg	as received
MTBE	ND	8.1	ug/Kg	as received
trans-1,2-Dichloroethene	ND	8.1	ug/Kg	as received
1,1-Dichloroethane	ND	8.1	ug/Kg	as received
2-Butanone	ND	160	ug/Kg	as received
cis-1,2-Dichloroethene	ND	8.1	ug/Kg	as received
2,2-Dichloropropane	ND	8.1	ug/Kg	as received
Chloroform	ND	8.1	ug/Kg	as received
Bromochloromethane	ND	8.1	ug/Kg	as received
1,1,1-Trichloroethane	ND	8.1	ug/Kg	as received
1,1-Dichloropropene	ND	8.1	ug/Kg	as received
Carbon Tetrachloride	ND	8.1	ug/Kg	as received
1,2-Dichloroethane	ND	8.1	ug/Kg	as received
Benzene	ND	8.1	ug/Kg	as received
Trichloroethene	ND	8.1	ug/Kg	as received
1,2-Dichloropropane	ND	8.1	ug/Kg	as received
Bromodichloromethane	ND	8.1	ug/Kg	as received
Dibromomethane	ND	8.1	ug/Kg	as received
4-Methyl-2-Pentanone	ND	8.1	ug/Kg	as received
cis-1,3-Dichloropropene	ND	8.1	ug/Kg	as received
Toluene	ND	8.1	ug/Kg	as received
trans-1,3-Dichloropropene	ND	8.1	ug/Kg	as received
1,1,2-Trichloroethane	ND	8.1	ug/Kg	as received
1,3-Dichloropropane	ND	8.1	ug/Kg	as received
Tetrachloroethene	ND	8.1	ug/Kg	as received
Dibromochloromethane	ND	8.1	ug/Kg	as received
1,2-Dibromoethane	ND	8.1	ug/Kg	as received
Chlorobenzene	ND	8.1	ug/Kg	as received
1,1,1,2-Tetrachloroethane	ND	8.1	ug/Kg	as received

## Purgeable Organics by GC/MS

**Lab #:** 434180

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

Analyte	Result	RL	Units	Basis
Ethylbenzene	ND	8.1	ug/Kg	as received
m,p-Xylenes	ND	16	ug/Kg	as received
o-Xylene	ND	8.1	ug/Kg	as received
Styrene	ND	8.1	ug/Kg	as received
Bromoform	ND	8.1	ug/Kg	as received
Isopropylbenzene	ND	8.1	ug/Kg	as received
1,1,2,2-Tetrachloroethane	ND	8.1	ug/Kg	as received
1,2,3-Trichloropropane	ND	8.1	ug/Kg	as received
Propylbenzene	ND	8.1	ug/Kg	as received
Bromobenzene	ND	8.1	ug/Kg	as received
1,3,5-Trimethylbenzene	ND	8.1	ug/Kg	as received
2-Chlorotoluene	ND	8.1	ug/Kg	as received
4-Chlorotoluene	ND	8.1	ug/Kg	as received
tert-Butylbenzene	ND	8.1	ug/Kg	as received
1,2,4-Trimethylbenzene	ND	8.1	ug/Kg	as received
sec-Butylbenzene	ND	8.1	ug/Kg	as received
para-Isopropyl Toluene	ND	8.1	ug/Kg	as received
1,3-Dichlorobenzene	ND	8.1	ug/Kg	as received
1,4-Dichlorobenzene	ND	8.1	ug/Kg	as received
n-Butylbenzene	ND	8.1	ug/Kg	as received
1,2-Dichlorobenzene	ND	8.1	ug/Kg	as received
1,2-Dibromo-3-Chloropropane	ND	8.1	ug/Kg	as received
1,2,4-Trichlorobenzene	ND	8.1	ug/Kg	as received
Hexachlorobutadiene	ND	8.1	ug/Kg	as received
Naphthalene	ND	8.1	ug/Kg	as received
1,2,3-Trichlorobenzene	ND	8.1	ug/Kg	as received
Xylene (total)	ND	8.1	ug/Kg	

Surrogate	%REC	Limits	Basis
Dibromofluoromethane	100	70-145	as received
1,2-Dichloroethane-d4	107	70-145	as received
Toluene-d8	101	70-145	as received
Bromofluorobenzene	100	70-145	as received

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Purgeable Organics by GC/MS: Batch QC

**Lab #:** 434180

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BLANK

**Diln Fac:** 1.000

**Prep:** EPA 5035

**Lab ID:** QC888103

**Batch#:** 253648

**Analysis:** EPA 8260B

**Matrix:** Soil

**Analyzed:** 10/02/20

**Analyst:** LXR

Analyte	Result	RL	Units
3-Chloropropene	ND	5.0	ug/Kg
cis-1,4-Dichloro-2-butene	ND	5.0	ug/Kg
trans-1,4-Dichloro-2-butene	ND	5.0	ug/Kg
Freon 12	ND	5.0	ug/Kg
Chloromethane	ND	5.0	ug/Kg
Vinyl Chloride	ND	5.0	ug/Kg
Bromomethane	ND	5.0	ug/Kg
Chloroethane	ND	5.0	ug/Kg
Trichlorofluoromethane	ND	5.0	ug/Kg
Acetone	ND	100	ug/Kg
Freon 113	ND	5.0	ug/Kg
1,1-Dichloroethene	ND	5.0	ug/Kg
<b>Methylene Chloride</b>	<b>5.1</b>	5.0	ug/Kg
MTBE	ND	5.0	ug/Kg
trans-1,2-Dichloroethene	ND	5.0	ug/Kg
1,1-Dichloroethane	ND	5.0	ug/Kg
2-Butanone	ND	100	ug/Kg
cis-1,2-Dichloroethene	ND	5.0	ug/Kg
2,2-Dichloropropane	ND	5.0	ug/Kg
Chloroform	ND	5.0	ug/Kg
Bromochloromethane	ND	5.0	ug/Kg
1,1,1-Trichloroethane	ND	5.0	ug/Kg
1,1-Dichloropropene	ND	5.0	ug/Kg
Carbon Tetrachloride	ND	5.0	ug/Kg
1,2-Dichloroethane	ND	5.0	ug/Kg
Benzene	ND	5.0	ug/Kg
Trichloroethene	ND	5.0	ug/Kg
1,2-Dichloropropane	ND	5.0	ug/Kg
Bromodichloromethane	ND	5.0	ug/Kg
Dibromomethane	ND	5.0	ug/Kg
4-Methyl-2-Pentanone	ND	5.0	ug/Kg
cis-1,3-Dichloropropene	ND	5.0	ug/Kg
Toluene	ND	5.0	ug/Kg
trans-1,3-Dichloropropene	ND	5.0	ug/Kg
1,1,2-Trichloroethane	ND	5.0	ug/Kg
1,3-Dichloropropane	ND	5.0	ug/Kg
Tetrachloroethene	ND	5.0	ug/Kg
Dibromochloromethane	ND	5.0	ug/Kg
1,2-Dibromoethane	ND	5.0	ug/Kg
Chlorobenzene	ND	5.0	ug/Kg
1,1,1,2-Tetrachloroethane	ND	5.0	ug/Kg
Ethylbenzene	ND	5.0	ug/Kg

## Purgeable Organics by GC/MS: Batch QC

**Lab #:** 434180

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

Analyte	Result	RL	Units
m,p-Xylenes	ND	10	ug/Kg
o-Xylene	ND	5.0	ug/Kg
Styrene	ND	5.0	ug/Kg
Bromoform	ND	5.0	ug/Kg
Isopropylbenzene	ND	5.0	ug/Kg
1,1,2,2-Tetrachloroethane	ND	5.0	ug/Kg
1,2,3-Trichloropropane	ND	5.0	ug/Kg
Propylbenzene	ND	5.0	ug/Kg
Bromobenzene	ND	5.0	ug/Kg
1,3,5-Trimethylbenzene	ND	5.0	ug/Kg
2-Chlorotoluene	ND	5.0	ug/Kg
4-Chlorotoluene	ND	5.0	ug/Kg
tert-Butylbenzene	ND	5.0	ug/Kg
1,2,4-Trimethylbenzene	ND	5.0	ug/Kg
sec-Butylbenzene	ND	5.0	ug/Kg
para-Isopropyl Toluene	ND	5.0	ug/Kg
1,3-Dichlorobenzene	ND	5.0	ug/Kg
1,4-Dichlorobenzene	ND	5.0	ug/Kg
n-Butylbenzene	ND	5.0	ug/Kg
1,2-Dichlorobenzene	ND	5.0	ug/Kg
1,2-Dibromo-3-Chloropropane	ND	5.0	ug/Kg
1,2,4-Trichlorobenzene	ND	5.0	ug/Kg
Hexachlorobutadiene	ND	5.0	ug/Kg
Naphthalene	ND	5.0	ug/Kg
1,2,3-Trichlorobenzene	ND	5.0	ug/Kg
Xylene (total)	ND	5.0	ug/Kg

Surrogate	%REC	Limits
Dibromofluoromethane	102	70-130
1,2-Dichloroethane-d4	98	70-145
Toluene-d8	99	70-145
Bromofluorobenzene	97	70-145

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Purgeable Organics by GC/MS: Batch QC

**Lab #:** 434180

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BS

**Diln Fac:** 1.000

**Prep:** EPA 5035

**Lab ID:** QC888104

**Batch#:** 253648

**Analysis:** EPA 8260B

**Matrix:** Soil

**Analyzed:** 10/02/20

**Analyst:** LXR

Analyte	Spiked	Result	%REC	Limits	Units
1,1-Dichloroethene	50.00	47.24	94	70-131	ug/Kg
MTBE	50.00	46.14	92	69-130	ug/Kg
Benzene	50.00	47.01	94	70-130	ug/Kg
Trichloroethene	50.00	50.92	102	70-130	ug/Kg
Toluene	50.00	48.30	97	70-130	ug/Kg
Chlorobenzene	50.00	49.22	98	70-130	ug/Kg

Surrogate	%REC	Limits
Dibromofluoromethane	100	70-130
1,2-Dichloroethane-d4	94	70-145
Toluene-d8	103	70-145
Bromofluorobenzene	105	70-145

**Type:** BSD

**Diln Fac:** 1.000

**Prep:** EPA 5035

**Lab ID:** QC888105

**Batch#:** 253648

**Analysis:** EPA 8260B

**Matrix:** Soil

**Analyzed:** 10/02/20

**Analyst:** LXR

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
1,1-Dichloroethene	50.00	45.39	91	70-131	ug/Kg	4	33
MTBE	50.00	45.62	91	69-130	ug/Kg	1	30
Benzene	50.00	45.61	91	70-130	ug/Kg	3	30
Trichloroethene	50.00	48.20	96	70-130	ug/Kg	5	30
Toluene	50.00	46.29	93	70-130	ug/Kg	4	30
Chlorobenzene	50.00	47.43	95	70-130	ug/Kg	4	30

Surrogate	%REC	Limits
Dibromofluoromethane	102	70-130
1,2-Dichloroethane-d4	96	70-145
Toluene-d8	102	70-145
Bromofluorobenzene	106	70-145

Legend

RPD: Relative Percent Difference



Enthalpy Analytical  
931 West Barkley Ave  
Orange, CA 92868  
(714) 771-6900

enthalpy.com

Lab Job Number: 434397  
Report Level: II  
Report Date: 10/24/2020

**Analytical Report** *prepared for:*

Jennah Oshiro  
Myounghee Noh & Associates  
99-1046 Iwaena Street  
210A  
Aiea, HI 96701

Project: 2819\_2 - PH2 Oahu Community Correctional Center

*Authorized for release by:*

John Goyette, Service Center Manager  
(510) 204-2233 Ext 13112  
[john.goyette@enthalpy.com](mailto:john.goyette@enthalpy.com)

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, CDC ELITE Member

## Sample Summary

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Jennah Oshiro	Lab Job #:	434397
Myounghee Noh & Associates	Project No:	2819_2
99-1046 Iwaena Street	Location:	PH2 Oahu Community Correctional Center
210A	Date Received:	10/02/20
Aiea, HI 96701		

---

Sample ID	Lab ID	Collected	Matrix
2819-01-1A	434397-001	09/29/20 13:50	Soil
2819-01-1B	434397-002	09/30/20 11:15	Soil
2819-01-1C	434397-003	09/30/20 11:15	Soil
2819-01-2	434397-004	09/29/20 13:50	Soil
2819-04-1	434397-005	09/29/20 09:30	Soil
2819-04-2	434397-006	09/29/20 09:30	Soil
2819-12-1A	434397-007	09/25/20 13:45	Soil
2819-12-1B	434397-008	09/28/20 10:10	Soil
2819-12-1C	434397-009	09/28/20 11:05	Soil
2819-12-2	434397-010	09/25/20 13:45	Soil



## Case Narrative

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Myounghee Noh & Associates  
99-1046 Iwaena Street  
210A  
Aiea, HI 96701  
Jennah Oshiro

Lab Job Number: 434397  
Project No: 2819\_2  
Location: PH2 Oahu Community Correctional Center  
Date Received: 10/02/20

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This data package contains sample and QC results for ten soil samples, requested for the above referenced project on 10/02/20. The samples were received cold and intact.

### **Pesticides (EPA 8081A):**

High recoveries were observed for endosulfan II and endrin ketone in the BSD for batch 254032; the associated RPDs were within limits, and these analytes were not detected at or above the RL in the associated samples. High surrogate recoveries were observed for TCMX in 2819-12-1B (lab # 434397-008), 2819-12-1C (lab # 434397-009), and 2819-12-2 (lab # 434397-010); no target analytes were detected in these samples. High surrogate recoveries were observed for decachlorobiphenyl in a number of samples. Many samples were diluted due to the dark color of the sample extracts. No other analytical problems were encountered.

### **PCBs (EPA 8082):**

High surrogate recoveries were observed for decachlorobiphenyl (PCB) in a number of samples; no associated target analytes were detected in the sample. No other analytical problems were encountered.

### **Metals (EPA 6020 and EPA 7471A):**

No analytical problems were encountered.

### **Moisture (ASTM D2216):**

No analytical problems were encountered.

### **Organophosphorus Pesticides (EPA 8141A):**

Eurofins CalScience in Garden Grove, CA performed the analysis (NELAP certified). Please see the Eurofins CalScience case narrative.

## Detection Summary for 434397

**Client:** Myounghee Noh & Associates

**Project:** 2819\_2

**Location:** PH2 Oahu Community Correctional Center

Sample ID: 2819-01-1A Lab ID: 434397-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	8.6		0.25	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B

Sample ID: 2819-01-1B Lab ID: 434397-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	8.4		0.25	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B

Sample ID: 2819-01-1C Lab ID: 434397-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	9.8		0.25	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B

Sample ID: 2819-01-2 Lab ID: 434397-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	1.5		0.50	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Lead	7.0		0.25	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B

Sample ID: 2819-04-1 Lab ID: 434397-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Dieldrin	23		8.3	ug/Kg	As Recd	5.000	EPA 8081A	EPA 3546
Lead	16		0.25	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B

Sample ID: 2819-04-2 Lab ID: 434397-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	2.1		0.50	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Lead	8.5		0.25	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B

## Detection Summary for 434397

Sample ID: 2819-12-1A Lab ID: 434397-007

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	3.2		0.50	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Barium	43		0.50	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Cadmium	0.75		0.25	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Chromium	120		5.0	mg/Kg	As Recd	10.00	EPA 6020	EPA 3050B
Lead	19		0.25	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Moisture, Percent	5		1	%	As Recd	1.000	ASTM D2216	METHOD

Sample ID: 2819-12-1B Lab ID: 434397-008

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	2.7		0.50	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Barium	29		0.50	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Cadmium	0.55		0.25	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Chromium	78		5.0	mg/Kg	As Recd	10.00	EPA 6020	EPA 3050B
Lead	12		0.25	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Moisture, Percent	4		1	%	As Recd	1.000	ASTM D2216	METHOD

Sample ID: 2819-12-1C Lab ID: 434397-009

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	3.0		0.50	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Barium	34		0.50	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Cadmium	0.58		0.25	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Chromium	95		5.0	mg/Kg	As Recd	10.00	EPA 6020	EPA 3050B
Lead	14		0.25	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Moisture, Percent	4		1	%	As Recd	1.000	ASTM D2216	METHOD

Sample ID: 2819-12-2 Lab ID: 434397-010

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	2.5		0.50	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Barium	26		0.50	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Cadmium	0.43		0.25	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Chromium	63		5.0	mg/Kg	As Recd	10.00	EPA 6020	EPA 3050B
Lead	9.6		0.25	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B
Moisture, Percent	4		1	%	As Recd	1.000	ASTM D2216	METHOD

**Enthalpy Analytical LLC**

2323 Fifth Street  
 Berkeley, CA 94710  
 (510) 486-0900 Phone  
 (510) 486-0532 Fax

**CHAIN OF CUSTODY**

Chain of Custody # : \_\_\_\_\_

C&T LOGIN # 434 397

Project No: 2819\_2

Project Name: PH2 Oahu Community Correctional Center

EDD Format: \_\_\_\_\_ Rpt Level:  II  III  IV

Turnaround Time:  RUSH  Standard

Sampler: Bryan Chinaka and Celeste Lim

Report To: Jennah Oshiro

Company : Myounghee Noh & Associates

Telephone: 808-853-3139

Email: jennah@noh-associates.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative				
		Date	Time	Water	Soil		# of Containers	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	None
1	2819-01-1A	09/29/20	13:50	X			1					X
2	2819-01-1B	09/30/20	11:15	X			1					X
3	2819-01-1C	09/30/20	11:15	X			1					X
4	2819-01-2	09/29/20	13:50	X			1					X
5	2819-04-1	09/29/20	9:30	X			1					X
6	2819-04-2	09/29/20	9:30	X			1					X
7	2819-12-1A	09/25/20	13:45	X			1					X
8	2819-12-1B	09/28/20	10:10	X			1					X
9	2819-12-1C	09/28/20	11:05	X			1					X
10	2819-12-2	09/25/20	13:45	X			1					X

Analytical Request											
TPH-DRO/RRO (8015B)	PAH (8270-SIM)	RCRA 8 Metals (6020/7471A)	PCB (8082)	Chlorinated Pesticides (8081A)	Organophosphate Pesticides (614)	Lead and Arsenic (6020)	MIS Prep				
				X	X	X	X				
				X	X	X	X				
				X	X	X	X				
				X	X	X	X				
				X	X	X	X				
				X	X	X	X				
		X	X	X	X		X				
		X	X	X	X		X				
		X	X	X	X		X				

Notes:	SAMPLE RECEIPT <input type="checkbox"/> Intact <input type="checkbox"/> Cold <input type="checkbox"/> On Ice <input type="checkbox"/> Ambient	RELINQUISHED BY:	RECEIVED BY:
		[Signature] 10/01/2020 14:50 DATE/TIME	[Signature] 10/2/20 10:00 DATE/TIME
		[Signature] 10-6-20 1730 DATE/TIME	[Signature] 10/7/2020 12:00 DATE/TIME
		[Signature] a DATE/TIME	[Signature] 10/07/20 1620 DATE/TIME

3-9/3-1526

**SAMPLE RECEIPT CHECKLIST**



Section 1: Login # 434397  
 Date Received: 10-2-20

Client: Myounghee Moh  
 Project: \_\_\_\_\_

Section 2: Shipping info (if applicable) F/E 7216 8981 9359

Are custody seals present?  No, or  Yes. If yes, where?  on cooler,  on samples,  on package  
 Date: \_\_\_\_\_ How many \_\_\_\_\_  Signature,  Initials,  None  
 Were custody seals intact upon arrival?  Yes  No  N/A

Samples received in a cooler?  Yes, how many? 1  No (skip Section 3 below)  
 If no cooler Sample Temp (°C): \_\_\_\_\_ using IR Gun #  B, or  C

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

If in cooler: Date Opened 10-2-20 By (print) JH (sign) [Signature]

**Section 3: Important : Notify PM if temperature exceeds 6°C or arrive frozen.**

Packing in cooler: (if other, describe) \_\_\_\_\_  
 Bubble Wrap,  Foam blocks,  Bags,  None,  Cloth material,  Cardboard,  Styrofoam,  Paper towels  
 Samples received on ice directly from the field. Cooling process had begun  
 Type of ice used :  Wet,  Blue/Gel,  None Temperature blank(s) included?  Yes,  No  
 Temperature measured using  Thermometer ID: \_\_\_\_\_, or IR Gun #  B  C  
 Cooler Temp (°C): #1: 5.4, #2: \_\_\_\_\_, #3: \_\_\_\_\_, #4: \_\_\_\_\_, #5: \_\_\_\_\_, #6: \_\_\_\_\_, #7: \_\_\_\_\_

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable			
Were Method 5035 sampling containers present?			
If YES, what time were they transferred to freezer?			
Did all bottles arrive unbroken/unopened?			
Are there any missing / extra samples?			
Are samples in the appropriate containers for indicated tests?			
Are sample labels present, in good condition and complete?			
Does the container count match the COC?			
Do the sample labels agree with custody papers?			
Was sufficient amount of sample sent for tests requested?			
Did you change the hold time in LIMS for unpreserved VOAs?			
Did you change the hold time in LIMS for preserved terracores?			
Are bubbles > 6mm present in VOA samples?			
Was the client contacted concerning this sample delivery?			
If YES, who was called? _____ By _____ Date: _____			

Section 5:	YES	NO	N/A
Are the samples appropriately preserved? (if N/A, skip the rest of section 5)			
Did you check preservatives for all bottles for each sample?			
Did you document your preservative check? pH strip lot# _____, pH strip lot# _____, pH strip lot# _____			
Preservative added:			
<input type="checkbox"/> H2SO4 lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> HCL lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> HNO3 lot# _____ added to samples _____ on/at _____			
<input type="checkbox"/> NaOH lot# _____ added to samples _____ on/at _____			

Section 6:  
 Explanations/Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Date Logged In \_\_\_\_\_ By (print) \_\_\_\_\_ (sign) \_\_\_\_\_  
 Date Labeled \_\_\_\_\_ By (print) \_\_\_\_\_ (sign) \_\_\_\_\_



### SAMPLE ACCEPTANCE CHECKLIST


**Section 1**  
 Client: MNA Project: PH2 Oahu Community Correctional Center  
 Date Received: 10/07/20 Sampler's Name Present:  Yes  No

**Section 2**  
 Sample(s) received in a cooler?  Yes, How many? 1  No (skip section 2) Sample Temp (°C) (No Cooler) : \_\_\_\_\_  
 Sample Temp (°C), One from each cooler: #1: 5.1 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_  
*(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)*  
 Shipping Information: \_\_\_\_\_

**Section 3**  
 Was the cooler packed with:  Ice  Ice Packs  Bubble Wrap  Styrofoam  
 Paper  None  Other \_\_\_\_\_  
 Cooler Temp (°C): #1: 0.7 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓		
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	✓		
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?			✓
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✓
Was a sufficient amount of sample submitted for the requested tests?	✓		

**Section 5 Explanations/Comments**  
 \_\_\_\_\_  
 \_\_\_\_\_

**Section 6**  
 For discrepancies, how was the Project Manager notified?  Verbal PM Initials: \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Email (email sent to/on): \_\_\_\_\_ / \_\_\_\_\_  
 Project Manager's response:  


Completed By: \_\_\_\_\_ Date: 10/07/20

## Organochlorine Pesticides

<b>Lab #:</b> 434397	<b>Project#:</b> 2819_2
<b>Client:</b> Myounghee Noh & Associates	<b>Location:</b> PH2 Oahu Community Correctional Ce...
<b>Field ID:</b> 2819-01-1A	<b>Batch#:</b> 254032
<b>Lab ID:</b> 434397-001	<b>Sampled:</b> 09/29/20
<b>Matrix:</b> Soil	<b>Received:</b> 10/02/20
<b>Basis:</b> air dried	<b>Prepared:</b> 10/08/20
<b>Diln Fac:</b> 5.000	<b>Analyzed:</b> 10/09/20
	<b>Prep:</b> EPA 3546
	<b>Analysis:</b> EPA 8081A
	<b>Analyst:</b> KTD

Analyte	Result	RL	Units
alpha-BHC	ND	8.3	ug/Kg
beta-BHC	ND	8.3	ug/Kg
gamma-BHC	ND	8.3	ug/Kg
delta-BHC	ND	8.3	ug/Kg
Heptachlor	ND	8.3	ug/Kg
Aldrin	ND	8.3	ug/Kg
Heptachlor epoxide	ND	8.3	ug/Kg
Endosulfan I	ND	8.3	ug/Kg
Dieldrin	ND	8.3	ug/Kg
4,4'-DDE	ND	8.3	ug/Kg
Endrin	ND	8.3	ug/Kg
Endosulfan II	ND	8.3	ug/Kg
Endosulfan sulfate	ND	8.3	ug/Kg
4,4'-DDD	ND	8.3	ug/Kg
Endrin aldehyde	ND	8.3	ug/Kg
Endrin ketone	ND	8.3	ug/Kg
4,4'-DDT	ND	8.3	ug/Kg
Methoxychlor	ND	17	ug/Kg
Toxaphene	ND	170	ug/Kg
Chlordane (Technical)	ND	83	ug/Kg

Surrogate	%REC	Limits
TCMX	54	23-120
Decachlorobiphenyl	83	24-120

Legend

**ND:** Not Detected  
**RL:** Reporting Limit

## Organochlorine Pesticides

**Lab #:** 434397

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-01-1B

**Batch#:** 254032

**Prep:** EPA 3546

**Lab ID:** 434397-002

**Sampled:** 09/30/20

**Analysis:** EPA 8081A

**Matrix:** Soil

**Received:** 10/02/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/08/20

**Diln Fac:** 5.000

**Analyzed:** 10/09/20

Analyte	Result	RL	Units
alpha-BHC	ND	8.3	ug/Kg
beta-BHC	ND	8.3	ug/Kg
gamma-BHC	ND	8.3	ug/Kg
delta-BHC	ND	8.3	ug/Kg
Heptachlor	ND	8.3	ug/Kg
Aldrin	ND	8.3	ug/Kg
Heptachlor epoxide	ND	8.3	ug/Kg
Endosulfan I	ND	8.3	ug/Kg
Dieldrin	ND	8.3	ug/Kg
4,4'-DDE	ND	8.3	ug/Kg
Endrin	ND	8.3	ug/Kg
Endosulfan II	ND	8.3	ug/Kg
Endosulfan sulfate	ND	8.3	ug/Kg
4,4'-DDD	ND	8.3	ug/Kg
Endrin aldehyde	ND	8.3	ug/Kg
Endrin ketone	ND	8.3	ug/Kg
4,4'-DDT	ND	8.3	ug/Kg
Methoxychlor	ND	17	ug/Kg
Toxaphene	ND	170	ug/Kg
Chlordane (Technical)	ND	83	ug/Kg

Surrogate	%REC	Limits
TCMX	41	23-120
Decachlorobiphenyl	64	24-120

Legend

**ND:** Not Detected

**RL:** Reporting Limit



## Organochlorine Pesticides

<b>Lab #:</b> 434397	<b>Project#:</b> 2819_2	
<b>Client:</b> Myounghee Noh & Associates	<b>Location:</b> PH2 Oahu Community Correctional Ce...	
<b>Field ID:</b> 2819-01-1C	<b>Batch#:</b> 254032	<b>Prep:</b> EPA 3546
<b>Lab ID:</b> 434397-003	<b>Sampled:</b> 09/30/20	<b>Analysis:</b> EPA 8081A
<b>Matrix:</b> Soil	<b>Received:</b> 10/02/20	<b>Analyst:</b> KTD
<b>Basis:</b> air dried	<b>Prepared:</b> 10/08/20	
<b>Diln Fac:</b> 5.000	<b>Analyzed:</b> 10/09/20	

Analyte	Result	RL	Units
alpha-BHC	ND	8.3	ug/Kg
beta-BHC	ND	8.3	ug/Kg
gamma-BHC	ND	8.3	ug/Kg
delta-BHC	ND	8.3	ug/Kg
Heptachlor	ND	8.3	ug/Kg
Aldrin	ND	8.3	ug/Kg
Heptachlor epoxide	ND	8.3	ug/Kg
Endosulfan I	ND	8.3	ug/Kg
Dieldrin	ND	8.3	ug/Kg
4,4'-DDE	ND	8.3	ug/Kg
Endrin	ND	8.3	ug/Kg
Endosulfan II	ND	8.3	ug/Kg
Endosulfan sulfate	ND	8.3	ug/Kg
4,4'-DDD	ND	8.3	ug/Kg
Endrin aldehyde	ND	8.3	ug/Kg
Endrin ketone	ND	8.3	ug/Kg
4,4'-DDT	ND	8.3	ug/Kg
Methoxychlor	ND	17	ug/Kg
Toxaphene	ND	170	ug/Kg
Chlordane (Technical)	ND	83	ug/Kg

Surrogate	%REC	Limits
TCMX	35	23-120
Decachlorobiphenyl	44	24-120

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Organochlorine Pesticides

**Lab #:** 434397

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-01-2

**Batch#:** 254032

**Prep:** EPA 3546

**Lab ID:** 434397-004

**Sampled:** 09/29/20

**Analysis:** EPA 8081A

**Matrix:** Soil

**Received:** 10/02/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/08/20

**Diln Fac:** 5.000

**Analyzed:** 10/09/20

Analyte	Result	RL	Units
alpha-BHC	ND	8.3	ug/Kg
beta-BHC	ND	8.3	ug/Kg
gamma-BHC	ND	8.3	ug/Kg
delta-BHC	ND	8.3	ug/Kg
Heptachlor	ND	8.3	ug/Kg
Aldrin	ND	8.3	ug/Kg
Heptachlor epoxide	ND	8.3	ug/Kg
Endosulfan I	ND	8.3	ug/Kg
Dieldrin	ND	8.3	ug/Kg
4,4'-DDE	ND	8.3	ug/Kg
Endrin	ND	8.3	ug/Kg
Endosulfan II	ND	8.3	ug/Kg
Endosulfan sulfate	ND	8.3	ug/Kg
4,4'-DDD	ND	8.3	ug/Kg
Endrin aldehyde	ND	8.3	ug/Kg
Endrin ketone	ND	8.3	ug/Kg
4,4'-DDT	ND	8.3	ug/Kg
Methoxychlor	ND	17	ug/Kg
Toxaphene	ND	170	ug/Kg
Chlordane (Technical)	ND	83	ug/Kg

Surrogate	%REC	Limits
TCMX	34	23-120
Decachlorobiphenyl	52	24-120

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Organochlorine Pesticides

**Lab #:** 434397

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-04-1

**Batch#:** 254032

**Prep:** EPA 3546

**Lab ID:** 434397-005

**Sampled:** 09/29/20

**Analysis:** EPA 8081A

**Matrix:** Soil

**Received:** 10/02/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/08/20

**Diln Fac:** 5.000

**Analyzed:** 10/09/20

Analyte	Result	RL	Units
alpha-BHC	ND	8.3	ug/Kg
beta-BHC	ND	8.3	ug/Kg
gamma-BHC	ND	8.3	ug/Kg
delta-BHC	ND	8.3	ug/Kg
Heptachlor	ND	8.3	ug/Kg
Aldrin	ND	8.3	ug/Kg
Heptachlor epoxide	ND	8.3	ug/Kg
Endosulfan I	ND	8.3	ug/Kg
<b>Dieldrin</b>	<b>23</b>	8.3	ug/Kg
4,4'-DDE	ND	8.3	ug/Kg
Endrin	ND	8.3	ug/Kg
Endosulfan II	ND	8.3	ug/Kg
Endosulfan sulfate	ND	8.3	ug/Kg
4,4'-DDD	ND	8.3	ug/Kg
Endrin aldehyde	ND	8.3	ug/Kg
Endrin ketone	ND	8.3	ug/Kg
4,4'-DDT	ND	8.3	ug/Kg
Methoxychlor	ND	17	ug/Kg
Toxaphene	ND	170	ug/Kg
Chlordane (Technical)	ND	83	ug/Kg

Surrogate	%REC	Limits
TCMX	50	23-120
Decachlorobiphenyl	62	24-120

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Organochlorine Pesticides

**Lab #:** 434397

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-04-2

**Batch#:** 254032

**Prep:** EPA 3546

**Lab ID:** 434397-006

**Sampled:** 09/29/20

**Analysis:** EPA 8081A

**Matrix:** Soil

**Received:** 10/02/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/08/20

**Diln Fac:** 5.000

**Analyzed:** 10/09/20

Analyte	Result	RL	Units
alpha-BHC	ND	8.3	ug/Kg
beta-BHC	ND	8.3	ug/Kg
gamma-BHC	ND	8.3	ug/Kg
delta-BHC	ND	8.3	ug/Kg
Heptachlor	ND	8.3	ug/Kg
Aldrin	ND	8.3	ug/Kg
Heptachlor epoxide	ND	8.3	ug/Kg
Endosulfan I	ND	8.3	ug/Kg
Dieldrin	ND	8.3	ug/Kg
4,4'-DDE	ND	8.3	ug/Kg
Endrin	ND	8.3	ug/Kg
Endosulfan II	ND	8.3	ug/Kg
Endosulfan sulfate	ND	8.3	ug/Kg
4,4'-DDD	ND	8.3	ug/Kg
Endrin aldehyde	ND	8.3	ug/Kg
Endrin ketone	ND	8.3	ug/Kg
4,4'-DDT	ND	8.3	ug/Kg
Methoxychlor	ND	17	ug/Kg
Toxaphene	ND	170	ug/Kg
Chlordane (Technical)	ND	83	ug/Kg

Surrogate	%REC	Limits
TCMX	35	23-120
Decachlorobiphenyl	48	24-120

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Organochlorine Pesticides

**Lab #:** 434397

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-12-1A

**Batch#:** 254032

**Prep:** EPA 3546

**Lab ID:** 434397-007

**Sampled:** 09/25/20

**Analysis:** EPA 8081A

**Matrix:** Soil

**Received:** 10/02/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/08/20

**Diln Fac:** 1.000

**Analyzed:** 10/09/20

Analyte	Result	RL	Units
alpha-BHC	ND	1.7	ug/Kg
beta-BHC	ND	1.7	ug/Kg
gamma-BHC	ND	1.7	ug/Kg
delta-BHC	ND	1.7	ug/Kg
Heptachlor	ND	1.7	ug/Kg
Aldrin	ND	1.7	ug/Kg
Heptachlor epoxide	ND	1.7	ug/Kg
Endosulfan I	ND	1.7	ug/Kg
Dieldrin	ND	1.7	ug/Kg
4,4'-DDE	ND	1.7	ug/Kg
Endrin	ND	1.7	ug/Kg
Endosulfan II	ND	1.7	ug/Kg
Endosulfan sulfate	ND	1.7	ug/Kg
4,4'-DDD	ND	1.7	ug/Kg
Endrin aldehyde	ND	1.7	ug/Kg
Endrin ketone	ND	1.7	ug/Kg
4,4'-DDT	ND	1.7	ug/Kg
Methoxychlor	ND	3.3	ug/Kg
Toxaphene	ND	33	ug/Kg
Chlordane (Technical)	ND	17	ug/Kg

Surrogate	%REC	Limits
TCMX	59	23-120
Decachlorobiphenyl	80	24-120

**Legend**
**ND:** Not Detected

**RL:** Reporting Limit

## Organochlorine Pesticides

**Lab #:** 434397

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-12-1B

**Batch#:** 254032

**Prep:** EPA 3546

**Lab ID:** 434397-008

**Sampled:** 09/28/20

**Analysis:** EPA 8081A

**Matrix:** Soil

**Received:** 10/02/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/08/20

**Diln Fac:** 1.000

**Analyzed:** 10/09/20

Analyte	Result	RL	Units
alpha-BHC	ND	1.7	ug/Kg
beta-BHC	ND	1.7	ug/Kg
gamma-BHC	ND	1.7	ug/Kg
delta-BHC	ND	1.7	ug/Kg
Heptachlor	ND	1.7	ug/Kg
Aldrin	ND	1.7	ug/Kg
Heptachlor epoxide	ND	1.7	ug/Kg
Endosulfan I	ND	1.7	ug/Kg
Dieldrin	ND	1.7	ug/Kg
4,4'-DDE	ND	1.7	ug/Kg
Endrin	ND	1.7	ug/Kg
Endosulfan II	ND	1.7	ug/Kg
Endosulfan sulfate	ND	1.7	ug/Kg
4,4'-DDD	ND	1.7	ug/Kg
Endrin aldehyde	ND	1.7	ug/Kg
Endrin ketone	ND	1.7	ug/Kg
4,4'-DDT	ND	1.7	ug/Kg
Methoxychlor	ND	3.3	ug/Kg
Toxaphene	ND	33	ug/Kg
Chlordane (Technical)	ND	17	ug/Kg

Surrogate	%REC	Limits
TCMX	125 *	23-120
Decachlorobiphenyl	159 *	24-120

Legend

\*: Value is outside QC limits

ND: Not Detected

RL: Reporting Limit



## Organochlorine Pesticides

**Lab #:** 434397

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-12-2

**Batch#:** 254032

**Prep:** EPA 3546

**Lab ID:** 434397-010

**Sampled:** 09/25/20

**Analysis:** EPA 8081A

**Matrix:** Soil

**Received:** 10/02/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/08/20

**Diln Fac:** 1.000

**Analyzed:** 10/09/20

Analyte	Result	RL	Units
alpha-BHC	ND	1.7	ug/Kg
beta-BHC	ND	1.7	ug/Kg
gamma-BHC	ND	1.7	ug/Kg
delta-BHC	ND	1.7	ug/Kg
Heptachlor	ND	1.7	ug/Kg
Aldrin	ND	1.7	ug/Kg
Heptachlor epoxide	ND	1.7	ug/Kg
Endosulfan I	ND	1.7	ug/Kg
Dieldrin	ND	1.7	ug/Kg
4,4'-DDE	ND	1.7	ug/Kg
Endrin	ND	1.7	ug/Kg
Endosulfan II	ND	1.7	ug/Kg
Endosulfan sulfate	ND	1.7	ug/Kg
4,4'-DDD	ND	1.7	ug/Kg
Endrin aldehyde	ND	1.7	ug/Kg
Endrin ketone	ND	1.7	ug/Kg
4,4'-DDT	ND	1.7	ug/Kg
Methoxychlor	ND	3.3	ug/Kg
Toxaphene	ND	33	ug/Kg
Chlordane (Technical)	ND	17	ug/Kg

Surrogate	%REC	Limits
TCMX	145 *	23-120
Decachlorobiphenyl	164 *	24-120

**Legend**

\*: Value is outside QC limits

**ND:** Not Detected

**RL:** Reporting Limit



## Organochlorine Pesticides: Batch QC

**Lab #:** 434397

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BLANK  
**Lab ID:** QC889104  
**Matrix:** Soil  
**Diln Fac:** 1.000

**Batch#:** 254032  
**Prepared:** 10/08/20  
**Analyzed:** 10/09/20  
**Prep:** EPA 3546

**Analysis:** EPA 8081A  
**Analyst:** KTD

Analyte	Result	RL	Units
alpha-BHC	ND	1.7	ug/Kg
beta-BHC	ND	1.7	ug/Kg
gamma-BHC	ND	1.7	ug/Kg
delta-BHC	ND	1.7	ug/Kg
Heptachlor	ND	1.7	ug/Kg
Aldrin	ND	1.7	ug/Kg
Heptachlor epoxide	ND	1.7	ug/Kg
Endosulfan I	ND	1.7	ug/Kg
Dieldrin	ND	1.7	ug/Kg
4,4'-DDE	ND	1.7	ug/Kg
Endrin	ND	1.7	ug/Kg
Endosulfan II	ND	1.7	ug/Kg
Endosulfan sulfate	ND	1.7	ug/Kg
4,4'-DDD	ND	1.7	ug/Kg
Endrin aldehyde	ND	1.7	ug/Kg
Endrin ketone	ND	1.7	ug/Kg
4,4'-DDT	ND	1.7	ug/Kg
Methoxychlor	ND	3.3	ug/Kg
Toxaphene	ND	33	ug/Kg
Chlordane (Technical)	ND	17	ug/Kg

Surrogate	%REC	Limits
TCMX	60	23-120
Decachlorobiphenyl	82	24-120

**Legend**
**ND:** Not Detected  
**RL:** Reporting Limit

## Organochlorine Pesticides: Batch QC

**Lab #:** 434397

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BS  
**Lab ID:** QC889105  
**Matrix:** Soil  
**Diln Fac:** 1.000

**Batch#:** 254032  
**Prepared:** 10/08/20  
**Analyzed:** 10/09/20  
**Prep:** EPA 3546

**Analysis:** EPA 8081A  
**Analyst:** KTD

Analyte	Spiked	Result	%REC	Limits	Units	Qual
alpha-BHC	16.61	15.90	96	22-129	ug/Kg	
beta-BHC	16.61	17.36	104	28-125	ug/Kg	
gamma-BHC	16.61	16.67	100	22-128	ug/Kg	
delta-BHC	16.61	16.35	98	24-131	ug/Kg	
Heptachlor	16.61	14.48	87	18-124	ug/Kg	
Aldrin	16.61	13.27	80	23-120	ug/Kg	
Heptachlor epoxide	16.61	15.43	93	26-120	ug/Kg	
Endosulfan I	16.61	17.06	103	25-126	ug/Kg	
Dieldrin	16.61	17.15	103	23-124	ug/Kg	
4,4'-DDE	16.61	16.96	102	28-121	ug/Kg	
Endrin	16.61	16.94	102	25-127	ug/Kg	
Endosulfan II	16.61	18.51	111	29-121	ug/Kg	
Endosulfan sulfate	16.61	18.25	110	30-121	ug/Kg	#
4,4'-DDD	16.61	16.58	100	26-120	ug/Kg	
Endrin aldehyde	16.61	8.845	53	10-120	ug/Kg	
Endrin ketone	16.61	19.46	117	28-125	ug/Kg	#
4,4'-DDT	16.61	16.92	102	22-125	ug/Kg	
Methoxychlor	16.61	17.78	107	28-130	ug/Kg	
<b>Surrogate</b>			<b>%REC</b>	<b>Limits</b>		
TCMX			91	23-120		
Decachlorobiphenyl			129 *	24-120		

## Organochlorine Pesticides: Batch QC

**Lab #:** 434397

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BSD

**Batch#:** 254032

**Analysis:** EPA 8081A

**Lab ID:** QC889106

**Prepared:** 10/08/20

**Analyst:** KTD

**Matrix:** Soil

**Analyzed:** 10/09/20

**Diln Fac:** 1.000

**Prep:** EPA 3546

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim	Qual
alpha-BHC	16.56	17.15	104	22-129	ug/Kg	8	20	
beta-BHC	16.56	18.73	113	28-125	ug/Kg	8	20	
gamma-BHC	16.56	17.92	108	22-128	ug/Kg	8	20	
delta-BHC	16.56	17.70	107	24-131	ug/Kg	8	20	
Heptachlor	16.56	15.62	94	18-124	ug/Kg	8	20	
Aldrin	16.56	14.79	89	23-120	ug/Kg	11	20	
Heptachlor epoxide	16.56	16.72	101	26-120	ug/Kg	8	20	
Endosulfan I	16.56	18.37	111	25-126	ug/Kg	8	20	
Dieldrin	16.56	18.48	112	23-124	ug/Kg	8	20	
4,4'-DDE	16.56	18.47	112	28-121	ug/Kg	9	20	
Endrin	16.56	18.46	112	25-127	ug/Kg	9	20	
Endosulfan II	16.56	20.17	122 *	29-121	ug/Kg	9	20	
Endosulfan sulfate	16.56	19.61	118	30-121	ug/Kg	8	20	#
4,4'-DDD	16.56	18.38	111	26-120	ug/Kg	11	20	
Endrin aldehyde	16.56	10.15	61	10-120	ug/Kg	14	20	
Endrin ketone	16.56	20.97	127 *	28-125	ug/Kg	8	20	#
4,4'-DDT	16.56	18.31	111	22-125	ug/Kg	8	20	
Methoxychlor	16.56	19.32	117	28-130	ug/Kg	9	20	
<b>Surrogate</b>					<b>%REC</b>		<b>Limits</b>	
TCMX					99		23-120	
Decachlorobiphenyl					139 *		24-120	

Legend

#: CCV drift outside limits; average CCV drift within limits per method requirements

\*: Value is outside QC limits

RPD: Relative Percent Difference

## Polychlorinated Biphenyls (PCBs)

**Lab #:** 434397

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-12-1A

**DiIn Fac:** 1.000

**Analyzed:** 10/09/20

**Type:** SAMPLE

**Batch#:** 254032

**Prep:** EPA 3546

**Lab ID:** 434397-007

**Sampled:** 09/25/20

**Analysis:** EPA 8082

**Matrix:** Soil

**Received:** 10/02/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/08/20

Analyte	Result	RL	Units
Aroclor-1016	ND	17	ug/Kg
Aroclor-1221	ND	17	ug/Kg
Aroclor-1232	ND	17	ug/Kg
Aroclor-1242	ND	17	ug/Kg
Aroclor-1248	ND	17	ug/Kg
Aroclor-1254	ND	17	ug/Kg
Aroclor-1260	ND	17	ug/Kg
Aroclor-1262	ND	17	ug/Kg
Aroclor-1268	ND	17	ug/Kg
Surrogate		%REC	Limits
Decachlorobiphenyl (PCB)		79	19-121

**Field ID:** 2819-12-1B

**DiIn Fac:** 1.000

**Analyzed:** 10/09/20

**Type:** SAMPLE

**Batch#:** 254032

**Prep:** EPA 3546

**Lab ID:** 434397-008

**Sampled:** 09/28/20

**Analysis:** EPA 8082

**Matrix:** Soil

**Received:** 10/02/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/08/20

Analyte	Result	RL	Units
Aroclor-1016	ND	17	ug/Kg
Aroclor-1221	ND	17	ug/Kg
Aroclor-1232	ND	17	ug/Kg
Aroclor-1242	ND	17	ug/Kg
Aroclor-1248	ND	17	ug/Kg
Aroclor-1254	ND	17	ug/Kg
Aroclor-1260	ND	17	ug/Kg
Aroclor-1262	ND	17	ug/Kg
Aroclor-1268	ND	17	ug/Kg
Surrogate		%REC	Limits
Decachlorobiphenyl (PCB)		155 *	19-121

## Polychlorinated Biphenyls (PCBs)

**Lab #:** 434397

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-12-1C

**DiIn Fac:** 1.000

**Analyzed:** 10/09/20

**Type:** SAMPLE

**Batch#:** 254032

**Prep:** EPA 3546

**Lab ID:** 434397-009

**Sampled:** 09/28/20

**Analysis:** EPA 8082

**Matrix:** Soil

**Received:** 10/02/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/08/20

Analyte	Result	RL	Units
Aroclor-1016	ND	17	ug/Kg
Aroclor-1221	ND	17	ug/Kg
Aroclor-1232	ND	17	ug/Kg
Aroclor-1242	ND	17	ug/Kg
Aroclor-1248	ND	17	ug/Kg
Aroclor-1254	ND	17	ug/Kg
Aroclor-1260	ND	17	ug/Kg
Aroclor-1262	ND	17	ug/Kg
Aroclor-1268	ND	17	ug/Kg

Surrogate	%REC	Limits
Decachlorobiphenyl (PCB)	152 *	19-121

**Field ID:** 2819-12-2

**DiIn Fac:** 1.000

**Analyzed:** 10/09/20

**Type:** SAMPLE

**Batch#:** 254032

**Prep:** EPA 3546

**Lab ID:** 434397-010

**Sampled:** 09/25/20

**Analysis:** EPA 8082

**Matrix:** Soil

**Received:** 10/02/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/08/20

Analyte	Result	RL	Units
Aroclor-1016	ND	17	ug/Kg
Aroclor-1221	ND	17	ug/Kg
Aroclor-1232	ND	17	ug/Kg
Aroclor-1242	ND	17	ug/Kg
Aroclor-1248	ND	17	ug/Kg
Aroclor-1254	ND	17	ug/Kg
Aroclor-1260	ND	17	ug/Kg
Aroclor-1262	ND	17	ug/Kg
Aroclor-1268	ND	17	ug/Kg

Surrogate	%REC	Limits
Decachlorobiphenyl (PCB)	151 *	19-121

## Polychlorinated Biphenyls (PCBs)

<b>Lab #:</b> 434397	<b>Project#:</b> 2819_2
<b>Client:</b> Myounghee Noh & Associates	<b>Location:</b> PH2 Oahu Community Correctional Ce...
<b>Type:</b> BLANK	<b>Batch#:</b> 254032
<b>Lab ID:</b> QC889104	<b>Prepared:</b> 10/08/20
<b>Matrix:</b> Soil	<b>Analyzed:</b> 10/09/20
<b>Diln Fac:</b> 1.000	<b>Prep:</b> EPA 3546
	<b>Analysis:</b> EPA 8082
	<b>Analyst:</b> KTD

Analyte	Result	RL	Units
Aroclor-1016	ND	17	ug/Kg
Aroclor-1221	ND	17	ug/Kg
Aroclor-1232	ND	17	ug/Kg
Aroclor-1242	ND	17	ug/Kg
Aroclor-1248	ND	17	ug/Kg
Aroclor-1254	ND	17	ug/Kg
Aroclor-1260	ND	17	ug/Kg
Aroclor-1262	ND	17	ug/Kg
Aroclor-1268	ND	17	ug/Kg

Surrogate	%REC	Limits
Decachlorobiphenyl (PCB)	80	19-121

Legend

\*: Value is outside QC limits

ND: Not Detected

RL: Reporting Limit

## Polychlorinated Biphenyls (PCBs): Batch QC

**Lab #:** 434397

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BS

**Batch#:** 254032

**Analysis:** EPA 8082

**Lab ID:** QC889107

**Prepared:** 10/08/20

**Analyst:** KTD

**Matrix:** Soil

**Analyzed:** 10/09/20

**DiIn Fac:** 1.000

**Prep:** EPA 3546

Analyte	Spiked	Result	%REC	Limits	Units
Aroclor-1016	166.1	205.6	124	14-150	ug/Kg
Aroclor-1260	166.1	228.5	138	10-150	ug/Kg

Surrogate	%REC	Limits
Decachlorobiphenyl (PCB)	149 *	19-121

**Type:** BSD

**Batch#:** 254032

**Analysis:** EPA 8082

**Lab ID:** QC889108

**Prepared:** 10/08/20

**Analyst:** KTD

**Matrix:** Soil

**Analyzed:** 10/09/20

**DiIn Fac:** 1.000

**Prep:** EPA 3546

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
Aroclor-1016	166.1	211.8	128	14-150	ug/Kg	3	20
Aroclor-1260	166.1	243.4	147	10-150	ug/Kg	6	20

Surrogate	%REC	Limits
Decachlorobiphenyl (PCB)	159 *	19-121

Legend

\*: Value is outside QC limits

RPD: Relative Percent Difference

## Metals Analytical Report

**Lab #:** 434397

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-01-1A

**Matrix:** Soil

**Prepared:** 10/14/20

**Type:** SAMPLE

**Sampled:** 09/29/20

**Lab ID:** 434397-001

**Received:** 10/02/20

Analyte	Result	RL	Units	Basis	Diln Fac	Batch#	Analyzed	Prep	Analysis	Analyst
Arsenic	ND	5.0	mg/Kg	air dried	10.00	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Lead</b>	<b>8.6</b>	0.25	mg/Kg	air dried	1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP

**Field ID:** 2819-01-1B

**Matrix:** Soil

**Prepared:** 10/14/20

**Type:** SAMPLE

**Sampled:** 09/30/20

**Lab ID:** 434397-002

**Received:** 10/02/20

Analyte	Result	RL	Units	Basis	Diln Fac	Batch#	Analyzed	Prep	Analysis	Analyst
Arsenic	ND	5.0	mg/Kg	air dried	10.00	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Lead</b>	<b>8.4</b>	0.25	mg/Kg	air dried	1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP

**Field ID:** 2819-01-1C

**Matrix:** Soil

**Prepared:** 10/14/20

**Type:** SAMPLE

**Sampled:** 09/30/20

**Lab ID:** 434397-003

**Received:** 10/02/20

Analyte	Result	RL	Units	Basis	Diln Fac	Batch#	Analyzed	Prep	Analysis	Analyst
Arsenic	ND	5.0	mg/Kg	air dried	10.00	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Lead</b>	<b>9.8</b>	0.25	mg/Kg	air dried	1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP

**Field ID:** 2819-01-2

**Matrix:** Soil

**Prepared:** 10/14/20

**Type:** SAMPLE

**Sampled:** 09/29/20

**Lab ID:** 434397-004

**Received:** 10/02/20

Analyte	Result	RL	Units	Basis	Diln Fac	Batch#	Analyzed	Prep	Analysis	Analyst
<b>Arsenic</b>	<b>1.5</b>	0.50	mg/Kg	air dried	1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Lead</b>	<b>7.0</b>	0.25	mg/Kg	air dried	1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP

**Field ID:** 2819-04-1

**Matrix:** Soil

**Prepared:** 10/14/20

**Type:** SAMPLE

**Sampled:** 09/29/20

**Lab ID:** 434397-005

**Received:** 10/02/20

Analyte	Result	RL	Units	Basis	Diln Fac	Batch#	Analyzed	Prep	Analysis	Analyst
Arsenic	ND	5.0	mg/Kg	air dried	10.00	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Lead</b>	<b>16</b>	0.25	mg/Kg	air dried	1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP

**Field ID:** 2819-04-2

**Matrix:** Soil

**Prepared:** 10/14/20

**Type:** SAMPLE

**Sampled:** 09/29/20

**Lab ID:** 434397-006

**Received:** 10/02/20

Analyte	Result	RL	Units	Basis	Diln Fac	Batch#	Analyzed	Prep	Analysis	Analyst
<b>Arsenic</b>	<b>2.1</b>	0.50	mg/Kg	air dried	1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Lead</b>	<b>8.5</b>	0.25	mg/Kg	air dried	1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP



## Metals Analytical Report

**Lab #:** 434397

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-12-1A

**Matrix:** Soil

**Prepared:** 10/14/20

**Type:** SAMPLE

**Sampled:** 09/25/20

**Lab ID:** 434397-007

**Received:** 10/02/20

Analyte	Result	RL	Units	Basis	Moisture	Diln Fac	Batch#	Analyzed	Prep	Analysis	Analyst
<b>Arsenic</b>	<b>3.2</b>	0.50	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Barium</b>	<b>43</b>	0.50	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Cadmium</b>	<b>0.75</b>	0.25	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Chromium</b>	<b>120</b>	5.0	mg/Kg	air dried		10.00	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Lead</b>	<b>19</b>	0.25	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
Mercury	ND	0.15	mg/Kg	dry	5%	1.000	254305	10/14/20	METHOD	EPA 7471A	JDB
Selenium	ND	1.0	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
Silver	ND	0.25	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP

**Field ID:** 2819-12-1B

**Matrix:** Soil

**Prepared:** 10/14/20

**Type:** SAMPLE

**Sampled:** 09/28/20

**Lab ID:** 434397-008

**Received:** 10/02/20

Analyte	Result	RL	Units	Basis	Moisture	Diln Fac	Batch#	Analyzed	Prep	Analysis	Analyst
<b>Arsenic</b>	<b>2.7</b>	0.50	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Barium</b>	<b>29</b>	0.50	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Cadmium</b>	<b>0.55</b>	0.25	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Chromium</b>	<b>78</b>	5.0	mg/Kg	air dried		10.00	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Lead</b>	<b>12</b>	0.25	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
Mercury	ND	0.14	mg/Kg	dry	4%	1.000	254305	10/14/20	METHOD	EPA 7471A	JDB
Selenium	ND	1.0	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
Silver	ND	0.25	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP

**Field ID:** 2819-12-1C

**Matrix:** Soil

**Prepared:** 10/14/20

**Type:** SAMPLE

**Sampled:** 09/28/20

**Lab ID:** 434397-009

**Received:** 10/02/20

Analyte	Result	RL	Units	Basis	Moisture	Diln Fac	Batch#	Analyzed	Prep	Analysis	Analyst
<b>Arsenic</b>	<b>3.0</b>	0.50	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Barium</b>	<b>34</b>	0.50	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Cadmium</b>	<b>0.58</b>	0.25	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Chromium</b>	<b>95</b>	5.0	mg/Kg	air dried		10.00	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Lead</b>	<b>14</b>	0.25	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
Mercury	ND	0.14	mg/Kg	dry	4%	1.000	254305	10/14/20	METHOD	EPA 7471A	JDB
Selenium	ND	1.0	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
Silver	ND	0.25	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP

## Metals Analytical Report

**Lab #:** 434397

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-12-2

**Matrix:** Soil

**Prepared:** 10/14/20

**Type:** SAMPLE

**Sampled:** 09/25/20

**Lab ID:** 434397-010

**Received:** 10/02/20

Analyte	Result	RL	Units	Basis	Moisture	Diln Fac	Batch#	Analyzed	Prep	Analysis	Analyst
<b>Arsenic</b>	<b>2.5</b>	0.50	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Barium</b>	<b>26</b>	0.50	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Cadmium</b>	<b>0.43</b>	0.25	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Chromium</b>	<b>63</b>	5.0	mg/Kg	air dried		10.00	254282	10/15/20	EPA 3050B	EPA 6020	JCP
<b>Lead</b>	<b>9.6</b>	0.25	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
Mercury	ND	0.14	mg/Kg	dry	4%	1.000	254305	10/14/20	METHOD	EPA 7471A	JDB
Selenium	ND	1.0	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP
Silver	ND	0.25	mg/Kg	air dried		1.000	254282	10/15/20	EPA 3050B	EPA 6020	JCP

**Type:** BLANK

**Batch#:** 254282

**Analysis:** EPA 6020

**Lab ID:** QC889821

**Prepared:** 10/14/20

**Analyst:** JCP

**Matrix:** Soil

**Analyzed:** 10/14/20

**Diln Fac:** 1.000

**Prep:** EPA 3050B

Analyte	Result	RL	Units
Arsenic	ND	0.50	mg/Kg
Barium	ND	0.50	mg/Kg
Cadmium	ND	0.25	mg/Kg
Chromium	ND	0.50	mg/Kg
Lead	ND	0.25	mg/Kg
Selenium	ND	1.0	mg/Kg
Silver	ND	0.25	mg/Kg

**Type:** BLANK

**Batch#:** 254305

**Analysis:** EPA 7471A

**Lab ID:** QC889896

**Prepared:** 10/14/20

**Analyst:** JDB

**Matrix:** Soil

**Analyzed:** 10/14/20

**Diln Fac:** 1.000

**Prep:** METHOD

Analyte	Result	RL	Units
Mercury	ND	0.14	mg/Kg

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Metals Analytical Report: Batch QC

**Lab #:** 434397

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BS  
**Lab ID:** QC889822  
**Matrix:** Soil  
**Diln Fac:** 1.000

**Batch#:** 254282  
**Prepared:** 10/14/20  
**Analyzed:** 10/14/20  
**Prep:** EPA 3050B

**Analysis:** EPA 6020  
**Analyst:** JCP

Analyte	Spiked	Result	%REC	Limits	Units
Arsenic	100.0	87.15	87	80-120	mg/Kg
Barium	100.0	94.28	94	80-120	mg/Kg
Cadmium	100.0	90.56	91	80-120	mg/Kg
Chromium	100.0	84.81	85	80-120	mg/Kg
Lead	100.0	88.30	88	80-120	mg/Kg
Selenium	100.0	82.78	83	80-120	mg/Kg
Silver	100.0	87.99	88	80-120	mg/Kg

**Type:** BSD  
**Lab ID:** QC889823  
**Matrix:** Soil  
**Diln Fac:** 1.000

**Batch#:** 254282  
**Prepared:** 10/14/20  
**Analyzed:** 10/14/20  
**Prep:** EPA 3050B

**Analysis:** EPA 6020  
**Analyst:** JCP

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
Arsenic	100.0	86.55	87	80-120	mg/Kg	1	20
Barium	100.0	93.87	94	80-120	mg/Kg	0	20
Cadmium	100.0	90.61	91	80-120	mg/Kg	0	20
Chromium	100.0	83.06	83	80-120	mg/Kg	2	20
Lead	100.0	88.14	88	80-120	mg/Kg	0	20
Selenium	100.0	81.71	82	80-120	mg/Kg	1	20
Silver	100.0	87.13	87	80-120	mg/Kg	1	20

Legend

**RPD:** Relative Percent Difference

### Metals Analytical Report: Batch QC

**Lab #:** 434397

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** LCS

**Batch#:** 254305

**Analysis:** EPA 7471A

**Lab ID:** QC889897

**Prepared:** 10/14/20

**Analyst:** JDB

**Matrix:** Soil

**Analyzed:** 10/14/20

**Diln Fac:** 1.000

**Prep:** METHOD

Analyte	Spiked	Result	%REC	Limits	Units
Mercury	0.8333	0.8104	97	80-120	mg/Kg

## Metals Analytical Report: Batch QC

**Lab #:** 434397

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** ZZZZZZZZZZ

**Basis:** as received

**Prepared:** 10/14/20

**Type:** MS

**Diln Fac:** 1.000

**Analyzed:** 10/14/20

**MSS Lab ID:** 434632-004

**Batch#:** 254305

**Prep:** METHOD

**Lab ID:** QC889898

**Sampled:** 10/06/20

**Analysis:** EPA 7471A

**Matrix:** Soil

**Received:** 10/07/20

**Analyst:** JDB

Analyte	MSS Result	Spiked	Result	%REC	Limits	Units
Mercury	<0.03899	0.8333	0.8211	99	75-125	mg/Kg

**Field ID:** ZZZZZZZZZZ

**Basis:** as received

**Prepared:** 10/14/20

**Type:** MSD

**Diln Fac:** 1.000

**Analyzed:** 10/14/20

**MSS Lab ID:** 434632-004

**Batch#:** 254305

**Prep:** METHOD

**Lab ID:** QC889899

**Sampled:** 10/06/20

**Analysis:** EPA 7471A

**Matrix:** Soil

**Received:** 10/07/20

**Analyst:** JDB

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
Mercury	0.8197	0.8276	101	75-125	mg/Kg	2	20

Legend

**RPD:** Relative Percent Difference

## Moisture

**Lab #:** 434397

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-12-1A

**Batch#:** 253990

**Prep:** METHOD

**Lab ID:** 434397-007

**Sampled:** 09/25/20

**Analysis:** ASTM D2216

**Matrix:** Soil

**Received:** 10/02/20

**Analyst:** WWC

**DiIn Fac:** 1.000

**Analyzed:** 10/08/20

Analyte	Result	RL	Units
Moisture, Percent	5	1	%

**Field ID:** 2819-12-1B

**Batch#:** 253990

**Prep:** METHOD

**Lab ID:** 434397-008

**Sampled:** 09/28/20

**Analysis:** ASTM D2216

**Matrix:** Soil

**Received:** 10/02/20

**Analyst:** WWC

**DiIn Fac:** 1.000

**Analyzed:** 10/08/20

Analyte	Result	RL	Units
Moisture, Percent	4	1	%

**Field ID:** 2819-12-1C

**Batch#:** 253990

**Prep:** METHOD

**Lab ID:** 434397-009

**Sampled:** 09/28/20

**Analysis:** ASTM D2216

**Matrix:** Soil

**Received:** 10/02/20

**Analyst:** WWC

**DiIn Fac:** 1.000

**Analyzed:** 10/08/20

Analyte	Result	RL	Units
Moisture, Percent	4	1	%

**Field ID:** 2819-12-2

**Batch#:** 253990

**Prep:** METHOD

**Lab ID:** 434397-010

**Sampled:** 09/25/20

**Analysis:** ASTM D2216

**Matrix:** Soil

**Received:** 10/02/20

**Analyst:** WWC

**DiIn Fac:** 1.000

**Analyzed:** 10/08/20

Analyte	Result	RL	Units
Moisture, Percent	4	1	%

Legend

RL: Reporting Limit

### Moisture: Batch QC

<b>Lab #:</b> 434397	<b>Project#:</b> 2819_2	
<b>Client:</b> Myounghee Noh & Associates	<b>Location:</b> PH2 Oahu Community Correctional Ce...	
<b>Field ID:</b> ZZZZZZZZZZ	<b>DiIn Fac:</b> 1.000	<b>Prep:</b> METHOD
<b>Type:</b> SDUP	<b>Batch#:</b> 253990	<b>Analysis:</b> ASTM D2216
<b>MSS Lab ID:</b> 434548-015	<b>Sampled:</b> 10/06/20	<b>Analyst:</b> WWC
<b>Lab ID:</b> QC889002	<b>Received:</b> 10/06/20	
<b>Matrix:</b> Soil	<b>Analyzed:</b> 10/08/20	

Analyte	MSS Result	Result	RL	Units	RPD	Lim
Moisture, Percent	16.85	19.86	1.000	%	16	26

Legend

RL: Reporting Limit

RPD: Relative Percent Difference

Laboratory Job Number 434397

Subcontracted Products

Eurofins CalScience



## ANALYTICAL REPORT

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Tel: (714)895-5494

Laboratory Job ID: 570-40321-1  
Client Project/Site: 434397

**For:**

Enthalpy Analytical LLC  
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Orange, California 92868

Attn: John Goyette



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

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Definitions/Glossary . . . . .	3
Case Narrative . . . . .	4
Detection Summary . . . . .	5
Client Sample Results . . . . .	6
Surrogate Summary . . . . .	12
QC Sample Results . . . . .	13
QC Association Summary . . . . .	15
Lab Chronicle . . . . .	16
Certification Summary . . . . .	18
Method Summary . . . . .	19
Sample Summary . . . . .	20
Chain of Custody . . . . .	21
Receipt Checklists . . . . .	22

# Definitions/Glossary

Client: Enthalpy Analytical LLC  
Project/Site: 434397

Job ID: 570-40321-1

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
⊠	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Enthalpy Analytical LLC  
Project/Site: 434397

Job ID: 570-40321-1

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## Job ID: 570-40321-1

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### Laboratory: Eurofins Calscience LLC

#### Narrative

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#### Job Narrative 570-40321-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 10/7/2020 10:25 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.9° C.

#### GC Semi VOA

Method 8141A: The continuing calibration verification (CCV) associated with batch 570-100729 recovered above the upper control limit for Demeton-o/s. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8141A: The closing continuing calibration verification (CCVC) associated with batch 570-100729 recovered above the upper control limit for Demeton-o/s. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8141A: The continuing calibration verification (CCV) associated with 570-100729 recovered high and outside the control limits for Dichlorvos on one column. Results are confirmed on both columns and reported from the passing column.

Method 8141A: The CCV for analytical batch 570-100729 recovered outside control limits for the following analyte(s): Naled. Naled has been identified as a poor performing analyte when analyzed using this method. Additionally, Naled is known to convert via debromination during analysis due to active sites on the chromatographic column into Dichlorvos; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

Method 3545: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-100157. LCS/LCSD were performed to meet QC requirements.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Enthalpy Analytical LLC  
Project/Site: 434397

Job ID: 570-40321-1

**Client Sample ID: 2819-01-1A**

**Lab Sample ID: 570-40321-1**

No Detections.

**Client Sample ID: 2819-01-1B**

**Lab Sample ID: 570-40321-2**

No Detections.

**Client Sample ID: 2819-01-1C**

**Lab Sample ID: 570-40321-3**

No Detections.

**Client Sample ID: 2819-01-2**

**Lab Sample ID: 570-40321-4**

No Detections.

**Client Sample ID: 2819-04-1**

**Lab Sample ID: 570-40321-5**

No Detections.

**Client Sample ID: 2819-04-2**

**Lab Sample ID: 570-40321-6**

No Detections.

**Client Sample ID: 2819-12-1A**

**Lab Sample ID: 570-40321-7**

No Detections.

**Client Sample ID: 2819-12-1B**

**Lab Sample ID: 570-40321-8**

No Detections.

**Client Sample ID: 2819-12-1C**

**Lab Sample ID: 570-40321-9**

No Detections.

**Client Sample ID: 2819-12-2**

**Lab Sample ID: 570-40321-10**

No Detections.

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

Client: Enthalpy Analytical LLC  
Project/Site: 434397

Job ID: 570-40321-1

## Method: 8141A - Organophosphorous Pesticides (GC)

**Client Sample ID: 2819-01-1A**  
**Date Collected: 09/29/20 13:50**  
**Date Received: 10/07/20 10:25**

**Lab Sample ID: 570-40321-1**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 00:59	1
Diazinon	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 00:59	1
Dichlorvos	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 00:59	1
Disulfoton	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 00:59	1
Ethoprop	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 00:59	1
Fensulfothion	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 00:59	1
Fenthion	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 00:59	1
Merphos	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 00:59	1
Methyl parathion	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 00:59	1
Mevinphos	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 00:59	1
Naled	ND		4.0	mg/Kg		10/07/20 15:36	10/10/20 00:59	1
Phorate	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 00:59	1
Azinphos-methyl	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 00:59	1
Bolstar	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 00:59	1
Chlorpyrifos	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 00:59	1
Ronnel	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 00:59	1
Stirophos	ND		2.0	mg/Kg		10/07/20 15:36	10/10/20 00:59	1
Tokuthion	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 00:59	1
Trichloronate	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 00:59	1
Demeton-o/s	ND		0.99	mg/Kg		10/07/20 15:36	10/10/20 00:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	36		20 - 158	10/07/20 15:36	10/10/20 00:59	1

**Client Sample ID: 2819-01-1B**  
**Date Collected: 09/30/20 11:15**  
**Date Received: 10/07/20 10:25**

**Lab Sample ID: 570-40321-2**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 01:47	1
Diazinon	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 01:47	1
Dichlorvos	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 01:47	1
Disulfoton	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 01:47	1
Ethoprop	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 01:47	1
Fensulfothion	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 01:47	1
Fenthion	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 01:47	1
Merphos	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 01:47	1
Methyl parathion	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 01:47	1
Mevinphos	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 01:47	1
Naled	ND		3.9	mg/Kg		10/07/20 15:36	10/10/20 01:47	1
Phorate	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 01:47	1
Azinphos-methyl	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 01:47	1
Bolstar	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 01:47	1
Chlorpyrifos	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 01:47	1
Ronnel	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 01:47	1
Stirophos	ND		2.0	mg/Kg		10/07/20 15:36	10/10/20 01:47	1
Tokuthion	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 01:47	1
Trichloronate	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 01:47	1
Demeton-o/s	ND		0.99	mg/Kg		10/07/20 15:36	10/10/20 01:47	1

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# Client Sample Results

Client: Enthalpy Analytical LLC  
Project/Site: 434397

Job ID: 570-40321-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	39		20 - 158	10/07/20 15:36	10/10/20 01:47	1

**Client Sample ID: 2819-01-1C**  
**Date Collected: 09/30/20 11:15**  
**Date Received: 10/07/20 10:25**

**Lab Sample ID: 570-40321-3**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 02:34	1
Diazinon	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 02:34	1
Dichlorvos	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 02:34	1
Disulfoton	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 02:34	1
Ethoprop	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 02:34	1
Fensulfothion	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 02:34	1
Fenthion	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 02:34	1
Merphos	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 02:34	1
Methyl parathion	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 02:34	1
Mevinphos	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 02:34	1
Naled	ND		3.9	mg/Kg	-	10/07/20 15:36	10/10/20 02:34	1
Phorate	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 02:34	1
Azinphos-methyl	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 02:34	1
Bolstar	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 02:34	1
Chlorpyrifos	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 02:34	1
Ronnel	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 02:34	1
Stirophos	ND		2.0	mg/Kg	-	10/07/20 15:36	10/10/20 02:34	1
Tokuthion	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 02:34	1
Trichloronate	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 02:34	1
Demeton-o/s	ND		0.98	mg/Kg	-	10/07/20 15:36	10/10/20 02:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	40		20 - 158	10/07/20 15:36	10/10/20 02:34	1

**Client Sample ID: 2819-01-2**  
**Date Collected: 09/29/20 13:50**  
**Date Received: 10/07/20 10:25**

**Lab Sample ID: 570-40321-4**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 03:22	1
Diazinon	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 03:22	1
Dichlorvos	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 03:22	1
Disulfoton	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 03:22	1
Ethoprop	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 03:22	1
Fensulfothion	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 03:22	1
Fenthion	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 03:22	1
Merphos	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 03:22	1
Methyl parathion	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 03:22	1
Mevinphos	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 03:22	1
Naled	ND		4.0	mg/Kg	-	10/07/20 15:36	10/10/20 03:22	1
Phorate	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 03:22	1
Azinphos-methyl	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 03:22	1
Bolstar	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 03:22	1
Chlorpyrifos	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 03:22	1
Ronnel	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 03:22	1
Stirophos	ND		2.0	mg/Kg	-	10/07/20 15:36	10/10/20 03:22	1
Tokuthion	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 03:22	1
Trichloronate	ND		0.49	mg/Kg	-	10/07/20 15:36	10/10/20 03:22	1

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# Client Sample Results

Client: Enthalpy Analytical LLC  
Project/Site: 434397

Job ID: 570-40321-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

**Client Sample ID: 2819-01-2**  
**Date Collected: 09/29/20 13:50**  
**Date Received: 10/07/20 10:25**

**Lab Sample ID: 570-40321-4**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Demeton-o/s	ND		0.99	mg/Kg		10/07/20 15:36	10/10/20 03:22	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Tributyl phosphate	36		20 - 158			10/07/20 15:36	10/10/20 03:22	1

**Client Sample ID: 2819-04-1**  
**Date Collected: 09/29/20 09:30**  
**Date Received: 10/07/20 10:25**

**Lab Sample ID: 570-40321-5**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 04:09	1
Diazinon	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 04:09	1
Dichlorvos	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 04:09	1
Disulfoton	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 04:09	1
Ethoprop	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 04:09	1
Fensulfothion	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 04:09	1
Fenthion	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 04:09	1
Merphos	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 04:09	1
Methyl parathion	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 04:09	1
Mevinphos	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 04:09	1
Naled	ND		4.0	mg/Kg		10/07/20 15:36	10/10/20 04:09	1
Phorate	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 04:09	1
Azinphos-methyl	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 04:09	1
Bolstar	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 04:09	1
Chlorpyrifos	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 04:09	1
Ronnel	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 04:09	1
Stirophos	ND		2.0	mg/Kg		10/07/20 15:36	10/10/20 04:09	1
Tokuthion	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 04:09	1
Trichloronate	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 04:09	1
Demeton-o/s	ND		0.99	mg/Kg		10/07/20 15:36	10/10/20 04:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Tributyl phosphate	37		20 - 158			10/07/20 15:36	10/10/20 04:09	1

**Client Sample ID: 2819-04-2**  
**Date Collected: 09/29/20 09:30**  
**Date Received: 10/07/20 10:25**

**Lab Sample ID: 570-40321-6**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 04:57	1
Diazinon	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 04:57	1
Dichlorvos	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 04:57	1
Disulfoton	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 04:57	1
Ethoprop	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 04:57	1
Fensulfothion	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 04:57	1
Fenthion	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 04:57	1
Merphos	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 04:57	1
Methyl parathion	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 04:57	1
Mevinphos	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 04:57	1
Naled	ND		3.9	mg/Kg		10/07/20 15:36	10/10/20 04:57	1
Phorate	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 04:57	1
Azinphos-methyl	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 04:57	1

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# Client Sample Results

Client: Enthalpy Analytical LLC  
Project/Site: 434397

Job ID: 570-40321-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

**Client Sample ID: 2819-04-2**  
**Date Collected: 09/29/20 09:30**  
**Date Received: 10/07/20 10:25**

**Lab Sample ID: 570-40321-6**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bolstar	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 04:57	1
Chlorpyrifos	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 04:57	1
Ronnel	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 04:57	1
Stirophos	ND		2.0	mg/Kg		10/07/20 15:36	10/10/20 04:57	1
Tokuthion	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 04:57	1
Trichloronate	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 04:57	1
Demeton-o/s	ND		0.98	mg/Kg		10/07/20 15:36	10/10/20 04:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	49		20 - 158	10/07/20 15:36	10/10/20 04:57	1

**Client Sample ID: 2819-12-1A**  
**Date Collected: 09/25/20 13:45**  
**Date Received: 10/07/20 10:25**

**Lab Sample ID: 570-40321-7**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 05:44	1
Diazinon	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 05:44	1
Dichlorvos	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 05:44	1
Disulfoton	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 05:44	1
Ethoprop	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 05:44	1
Fensulfothion	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 05:44	1
Fenthion	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 05:44	1
Merphos	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 05:44	1
Methyl parathion	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 05:44	1
Mevinphos	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 05:44	1
Naled	ND		3.9	mg/Kg		10/07/20 15:36	10/10/20 05:44	1
Phorate	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 05:44	1
Azinphos-methyl	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 05:44	1
Bolstar	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 05:44	1
Chlorpyrifos	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 05:44	1
Ronnel	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 05:44	1
Stirophos	ND		2.0	mg/Kg		10/07/20 15:36	10/10/20 05:44	1
Tokuthion	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 05:44	1
Trichloronate	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 05:44	1
Demeton-o/s	ND		0.99	mg/Kg		10/07/20 15:36	10/10/20 05:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	43		20 - 158	10/07/20 15:36	10/10/20 05:44	1

**Client Sample ID: 2819-12-1B**  
**Date Collected: 09/28/20 10:10**  
**Date Received: 10/07/20 10:25**

**Lab Sample ID: 570-40321-8**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 06:31	1
Diazinon	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 06:31	1
Dichlorvos	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 06:31	1
Disulfoton	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 06:31	1
Ethoprop	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 06:31	1
Fensulfothion	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 06:31	1
Fenthion	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 06:31	1

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# Client Sample Results

Client: Enthalpy Analytical LLC  
Project/Site: 434397

Job ID: 570-40321-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

**Client Sample ID: 2819-12-1B**  
**Date Collected: 09/28/20 10:10**  
**Date Received: 10/07/20 10:25**

**Lab Sample ID: 570-40321-8**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Merphos	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 06:31	1
Methyl parathion	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 06:31	1
Mevinphos	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 06:31	1
Naled	ND		4.0	mg/Kg		10/07/20 15:36	10/10/20 06:31	1
Phorate	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 06:31	1
Azinphos-methyl	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 06:31	1
Bolstar	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 06:31	1
Chlorpyrifos	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 06:31	1
Ronnel	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 06:31	1
Stirophos	ND		2.0	mg/Kg		10/07/20 15:36	10/10/20 06:31	1
Tokuthion	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 06:31	1
Trichloronate	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 06:31	1
Demeton-o/s	ND		0.99	mg/Kg		10/07/20 15:36	10/10/20 06:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	48		20 - 158	10/07/20 15:36	10/10/20 06:31	1

**Client Sample ID: 2819-12-1C**  
**Date Collected: 09/28/20 11:05**  
**Date Received: 10/07/20 10:25**

**Lab Sample ID: 570-40321-9**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 07:19	1
Diazinon	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 07:19	1
Dichlorvos	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 07:19	1
Disulfoton	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 07:19	1
Ethoprop	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 07:19	1
Fensulfothion	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 07:19	1
Fenthion	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 07:19	1
Merphos	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 07:19	1
Methyl parathion	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 07:19	1
Mevinphos	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 07:19	1
Naled	ND		4.0	mg/Kg		10/07/20 15:36	10/10/20 07:19	1
Phorate	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 07:19	1
Azinphos-methyl	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 07:19	1
Bolstar	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 07:19	1
Chlorpyrifos	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 07:19	1
Ronnel	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 07:19	1
Stirophos	ND		2.0	mg/Kg		10/07/20 15:36	10/10/20 07:19	1
Tokuthion	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 07:19	1
Trichloronate	ND		0.50	mg/Kg		10/07/20 15:36	10/10/20 07:19	1
Demeton-o/s	ND		1.0	mg/Kg		10/07/20 15:36	10/10/20 07:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	47		20 - 158	10/07/20 15:36	10/10/20 07:19	1

**Client Sample ID: 2819-12-2**  
**Date Collected: 09/25/20 13:45**  
**Date Received: 10/07/20 10:25**

**Lab Sample ID: 570-40321-10**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Coumaphos	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 08:06	1

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# Client Sample Results

Client: Enthalpy Analytical LLC  
 Project/Site: 434397

Job ID: 570-40321-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

**Client Sample ID: 2819-12-2**  
**Date Collected: 09/25/20 13:45**  
**Date Received: 10/07/20 10:25**

**Lab Sample ID: 570-40321-10**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diazinon	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 08:06	1
Dichlorvos	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 08:06	1
Disulfoton	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 08:06	1
Ethoprop	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 08:06	1
Fensulfothion	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 08:06	1
Fenthion	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 08:06	1
Merphos	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 08:06	1
Methyl parathion	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 08:06	1
Mevinphos	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 08:06	1
Naled	ND		4.0	mg/Kg		10/07/20 15:36	10/10/20 08:06	1
Phorate	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 08:06	1
Azinphos-methyl	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 08:06	1
Bolstar	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 08:06	1
Chlorpyrifos	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 08:06	1
Ronnel	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 08:06	1
Stirophos	ND		2.0	mg/Kg		10/07/20 15:36	10/10/20 08:06	1
Tokuthion	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 08:06	1
Trichloronate	ND		0.49	mg/Kg		10/07/20 15:36	10/10/20 08:06	1
Demeton-o/s	ND		0.99	mg/Kg		10/07/20 15:36	10/10/20 08:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributyl phosphate	60		20 - 158	10/07/20 15:36	10/10/20 08:06	1

# Surrogate Summary

Client: Enthalpy Analytical LLC  
Project/Site: 434397

Job ID: 570-40321-1

**Method: 8141A - Organophosphorous Pesticides (GC)**

**Matrix: Solid**

**Prep Type: Total/NA**

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TBPH1 (20-158)
570-40321-1	2819-01-1A	36
570-40321-2	2819-01-1B	39
570-40321-3	2819-01-1C	40
570-40321-4	2819-01-2	36
570-40321-5	2819-04-1	37
570-40321-6	2819-04-2	49
570-40321-7	2819-12-1A	43
570-40321-8	2819-12-1B	48
570-40321-9	2819-12-1C	47
570-40321-10	2819-12-2	60
LCS 570-100157/2-A	Lab Control Sample	80
LCSD 570-100157/3-A	Lab Control Sample Dup	85
MB 570-100157/1-A	Method Blank	68

### Surrogate Legend

TBPH = Tributyl phosphate

# QC Sample Results

Client: Enthalpy Analytical LLC  
Project/Site: 434397

Job ID: 570-40321-1

## Method: 8141A - Organophosphorous Pesticides (GC)

**Lab Sample ID: MB 570-100157/1-A**  
**Matrix: Solid**  
**Analysis Batch: 100729**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 100157**

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Coumaphos	ND		0.50	mg/Kg		10/07/20 15:35	10/09/20 22:37	1
Diazinon	ND		0.50	mg/Kg		10/07/20 15:35	10/09/20 22:37	1
Dichlorvos	ND		0.50	mg/Kg		10/07/20 15:35	10/09/20 22:37	1
Disulfoton	ND		0.50	mg/Kg		10/07/20 15:35	10/09/20 22:37	1
Ethoprop	ND		0.50	mg/Kg		10/07/20 15:35	10/09/20 22:37	1
Fensulfothion	ND		0.50	mg/Kg		10/07/20 15:35	10/09/20 22:37	1
Fenthion	ND		0.50	mg/Kg		10/07/20 15:35	10/09/20 22:37	1
Merphos	ND		0.50	mg/Kg		10/07/20 15:35	10/09/20 22:37	1
Methyl parathion	ND		0.50	mg/Kg		10/07/20 15:35	10/09/20 22:37	1
Mevinphos	ND		0.50	mg/Kg		10/07/20 15:35	10/09/20 22:37	1
Naled	ND		4.0	mg/Kg		10/07/20 15:35	10/09/20 22:37	1
Phorate	ND		0.50	mg/Kg		10/07/20 15:35	10/09/20 22:37	1
Azinphos-methyl	ND		0.50	mg/Kg		10/07/20 15:35	10/09/20 22:37	1
Bolstar	ND		0.50	mg/Kg		10/07/20 15:35	10/09/20 22:37	1
Chlorpyrifos	ND		0.50	mg/Kg		10/07/20 15:35	10/09/20 22:37	1
Ronnel	ND		0.50	mg/Kg		10/07/20 15:35	10/09/20 22:37	1
Stirophos	ND		2.0	mg/Kg		10/07/20 15:35	10/09/20 22:37	1
Tokuthion	ND		0.50	mg/Kg		10/07/20 15:35	10/09/20 22:37	1
Trichloronate	ND		0.50	mg/Kg		10/07/20 15:35	10/09/20 22:37	1
Demeton-o/s	ND		1.0	mg/Kg		10/07/20 15:35	10/09/20 22:37	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tributyl phosphate	68		20 - 158	10/07/20 15:35	10/09/20 22:37	1

**Lab Sample ID: LCS 570-100157/2-A**  
**Matrix: Solid**  
**Analysis Batch: 100729**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 100157**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
Coumaphos	4.00	3.554		mg/Kg		89	64 - 149
Diazinon	4.00	3.072		mg/Kg		77	36 - 149
Disulfoton	4.00	3.276		mg/Kg		82	45 - 132
Ethoprop	4.00	3.239		mg/Kg		81	41 - 138
Fensulfothion	4.00	4.116		mg/Kg		103	53 - 151
Fenthion	4.00	3.269		mg/Kg		82	49 - 150
Merphos	4.00	5.856		mg/Kg		146	20 - 180
Methyl parathion	4.00	2.899		mg/Kg		72	48 - 149
Phorate	4.00	3.276		mg/Kg		82	42 - 137
Azinphos-methyl	4.00	3.119		mg/Kg		78	59 - 156
Bolstar	4.00	3.572		mg/Kg		89	45 - 145
Chlorpyrifos	4.00	3.120		mg/Kg		78	42 - 139
Ronnel	4.00	2.815		mg/Kg		70	45 - 141
Stirophos	4.00	3.592		mg/Kg		90	43 - 166
Tokuthion	4.00	2.890		mg/Kg		72	50 - 131
Trichloronate	4.00	3.031		mg/Kg		76	45 - 138

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Tributyl phosphate	80		20 - 158

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# QC Sample Results

Client: Enthalpy Analytical LLC  
 Project/Site: 434397

Job ID: 570-40321-1

## Method: 8141A - Organophosphorous Pesticides (GC)

**Lab Sample ID: LCSD 570-100157/3-A**  
**Matrix: Solid**  
**Analysis Batch: 100729**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 100157**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Coumaphos	4.00	3.011		mg/Kg		75	64 - 149	17	26
Diazinon	4.00	2.844		mg/Kg		71	36 - 149	8	28
Disulfoton	4.00	3.063		mg/Kg		77	45 - 132	7	27
Ethoprop	4.00	3.145		mg/Kg		79	41 - 138	3	26
Fensulfothion	4.00	3.517		mg/Kg		88	53 - 151	16	23
Fenthion	4.00	2.792		mg/Kg		70	49 - 150	16	30
Merphos	4.00	5.310		mg/Kg		133	20 - 180	10	30
Methyl parathion	4.00	2.649		mg/Kg		66	48 - 149	9	30
Phorate	4.00	3.115		mg/Kg		78	42 - 137	5	29
Azinphos-methyl	4.00	2.603		mg/Kg		65	59 - 156	18	27
Bolstar	4.00	2.966		mg/Kg		74	45 - 145	19	24
Chlorpyrifos	4.00	2.846		mg/Kg		71	42 - 139	9	28
Ronnel	4.00	2.524		mg/Kg		63	45 - 141	11	30
Stirophos	4.00	3.104		mg/Kg		78	43 - 166	15	25
Tokuthion	4.00	2.603		mg/Kg		65	50 - 131	10	20
Trichloronate	4.00	2.706		mg/Kg		68	45 - 138	11	30
<b>Surrogate</b>		<b>LCSD %Recovery</b>	<b>LCSD Qualifier</b>						<b>Limits</b>
<i>Tributyl phosphate</i>		85							20 - 158

# QC Association Summary

Client: Enthalpy Analytical LLC  
Project/Site: 434397

Job ID: 570-40321-1

## GC Semi VOA

### Prep Batch: 100157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40321-1	2819-01-1A	Total/NA	Solid	3545	
570-40321-2	2819-01-1B	Total/NA	Solid	3545	
570-40321-3	2819-01-1C	Total/NA	Solid	3545	
570-40321-4	2819-01-2	Total/NA	Solid	3545	
570-40321-5	2819-04-1	Total/NA	Solid	3545	
570-40321-6	2819-04-2	Total/NA	Solid	3545	
570-40321-7	2819-12-1A	Total/NA	Solid	3545	
570-40321-8	2819-12-1B	Total/NA	Solid	3545	
570-40321-9	2819-12-1C	Total/NA	Solid	3545	
570-40321-10	2819-12-2	Total/NA	Solid	3545	
MB 570-100157/1-A	Method Blank	Total/NA	Solid	3545	
LCS 570-100157/2-A	Lab Control Sample	Total/NA	Solid	3545	
LCSD 570-100157/3-A	Lab Control Sample Dup	Total/NA	Solid	3545	

### Analysis Batch: 100729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40321-1	2819-01-1A	Total/NA	Solid	8141A	100157
570-40321-2	2819-01-1B	Total/NA	Solid	8141A	100157
570-40321-3	2819-01-1C	Total/NA	Solid	8141A	100157
570-40321-4	2819-01-2	Total/NA	Solid	8141A	100157
570-40321-5	2819-04-1	Total/NA	Solid	8141A	100157
570-40321-6	2819-04-2	Total/NA	Solid	8141A	100157
570-40321-7	2819-12-1A	Total/NA	Solid	8141A	100157
570-40321-8	2819-12-1B	Total/NA	Solid	8141A	100157
570-40321-9	2819-12-1C	Total/NA	Solid	8141A	100157
570-40321-10	2819-12-2	Total/NA	Solid	8141A	100157
MB 570-100157/1-A	Method Blank	Total/NA	Solid	8141A	100157
LCS 570-100157/2-A	Lab Control Sample	Total/NA	Solid	8141A	100157
LCSD 570-100157/3-A	Lab Control Sample Dup	Total/NA	Solid	8141A	100157

# Lab Chronicle

Client: Enthalpy Analytical LLC  
Project/Site: 434397

Job ID: 570-40321-1

## Client Sample ID: 2819-01-1A

Date Collected: 09/29/20 13:50

Date Received: 10/07/20 10:25

## Lab Sample ID: 570-40321-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			10.06 g	10 mL	100157	10/07/20 15:36	USUL	ECL 1
Total/NA	Analysis	8141A		1			100729	10/10/20 00:59	UJ3K	ECL 1

Instrument ID: GC68

## Client Sample ID: 2819-01-1B

Date Collected: 09/30/20 11:15

Date Received: 10/07/20 10:25

## Lab Sample ID: 570-40321-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			10.15 g	10 mL	100157	10/07/20 15:36	USUL	ECL 1
Total/NA	Analysis	8141A		1			100729	10/10/20 01:47	UJ3K	ECL 1

Instrument ID: GC68

## Client Sample ID: 2819-01-1C

Date Collected: 09/30/20 11:15

Date Received: 10/07/20 10:25

## Lab Sample ID: 570-40321-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			10.17 g	10 mL	100157	10/07/20 15:36	USUL	ECL 1
Total/NA	Analysis	8141A		1			100729	10/10/20 02:34	UJ3K	ECL 1

Instrument ID: GC68

## Client Sample ID: 2819-01-2

Date Collected: 09/29/20 13:50

Date Received: 10/07/20 10:25

## Lab Sample ID: 570-40321-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			10.11 g	10 mL	100157	10/07/20 15:36	USUL	ECL 1
Total/NA	Analysis	8141A		1			100729	10/10/20 03:22	UJ3K	ECL 1

Instrument ID: GC68

## Client Sample ID: 2819-04-1

Date Collected: 09/29/20 09:30

Date Received: 10/07/20 10:25

## Lab Sample ID: 570-40321-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			10.08 g	10 mL	100157	10/07/20 15:36	USUL	ECL 1
Total/NA	Analysis	8141A		1			100729	10/10/20 04:09	UJ3K	ECL 1

Instrument ID: GC68



# Lab Chronicle

Client: Enthalpy Analytical LLC  
Project/Site: 434397

Job ID: 570-40321-1

**Client Sample ID: 2819-04-2**

**Lab Sample ID: 570-40321-6**

**Date Collected: 09/29/20 09:30**

**Matrix: Solid**

**Date Received: 10/07/20 10:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			10.16 g	10 mL	100157	10/07/20 15:36	USUL	ECL 1
Total/NA	Analysis	8141A		1			100729	10/10/20 04:57	UJ3K	ECL 1
Instrument ID: GC68										

**Client Sample ID: 2819-12-1A**

**Lab Sample ID: 570-40321-7**

**Date Collected: 09/25/20 13:45**

**Matrix: Solid**

**Date Received: 10/07/20 10:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			10.13 g	10 mL	100157	10/07/20 15:36	USUL	ECL 1
Total/NA	Analysis	8141A		1			100729	10/10/20 05:44	UJ3K	ECL 1
Instrument ID: GC68										

**Client Sample ID: 2819-12-1B**

**Lab Sample ID: 570-40321-8**

**Date Collected: 09/28/20 10:10**

**Matrix: Solid**

**Date Received: 10/07/20 10:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			10.06 g	10 mL	100157	10/07/20 15:36	USUL	ECL 1
Total/NA	Analysis	8141A		1			100729	10/10/20 06:31	UJ3K	ECL 1
Instrument ID: GC68										

**Client Sample ID: 2819-12-1C**

**Lab Sample ID: 570-40321-9**

**Date Collected: 09/28/20 11:05**

**Matrix: Solid**

**Date Received: 10/07/20 10:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			10.03 g	10 mL	100157	10/07/20 15:36	USUL	ECL 1
Total/NA	Analysis	8141A		1			100729	10/10/20 07:19	UJ3K	ECL 1
Instrument ID: GC68										

**Client Sample ID: 2819-12-2**

**Lab Sample ID: 570-40321-10**

**Date Collected: 09/25/20 13:45**

**Matrix: Solid**

**Date Received: 10/07/20 10:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3545			10.12 g	10 mL	100157	10/07/20 15:36	USUL	ECL 1
Total/NA	Analysis	8141A		1			100729	10/10/20 08:06	UJ3K	ECL 1
Instrument ID: GC68										

## Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Eurofins Calscience LLC

# Accreditation/Certification Summary

Client: Enthalpy Analytical LLC  
Project/Site: 434397

Job ID: 570-40321-1

## Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-20
California	State	2944	09-30-21
Guam	State	20-003R	10-31-20
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-20

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# Method Summary

Client: Enthalpy Analytical LLC  
Project/Site: 434397

Job ID: 570-40321-1

Method	Method Description	Protocol	Laboratory
8141A	Organophosphorous Pesticides (GC)	SW846	ECL 1
3545	Pressurized Fluid Extraction	SW846	ECL 1

**Protocol References:**

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

**Laboratory References:**

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494



# Sample Summary

Client: Enthalpy Analytical LLC  
Project/Site: 434397

Job ID: 570-40321-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-40321-1	2819-01-1A	Solid	09/29/20 13:50	10/07/20 10:25	
570-40321-2	2819-01-1B	Solid	09/30/20 11:15	10/07/20 10:25	
570-40321-3	2819-01-1C	Solid	09/30/20 11:15	10/07/20 10:25	
570-40321-4	2819-01-2	Solid	09/29/20 13:50	10/07/20 10:25	
570-40321-5	2819-04-1	Solid	09/29/20 09:30	10/07/20 10:25	
570-40321-6	2819-04-2	Solid	09/29/20 09:30	10/07/20 10:25	
570-40321-7	2819-12-1A	Solid	09/25/20 13:45	10/07/20 10:25	
570-40321-8	2819-12-1B	Solid	09/28/20 10:10	10/07/20 10:25	
570-40321-9	2819-12-1C	Solid	09/28/20 11:05	10/07/20 10:25	
570-40321-10	2819-12-2	Solid	09/25/20 13:45	10/07/20 10:25	

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# ENTHALPY ANALYTICAL

Enthalpy Analytical - Orange  
Orange, CA 92868  
(714) 771-6900 / Fax: (510) 486-0532

40321

Subcontract Laboratory:

Eurofins CalScience  
7440 Lincoln Way  
Garden Grove, CA 92841-1432  
ATTN: Xuan Dang  
PO #: Required, to be sent via email

Enthalpy Order: EO-434397

PM: John Goyette  
Email: john.goyette@enthalpy.com  
CC: incomingreports@enthalpy.com  
Phone: (510) 204-2233 Ext 13112

Results Due: Standard TAT

Report Level: II

Report To: RL

EDDs:



570-40321 Chain of Custody

Notes:

Sample ID	Collected	Lab ID	# Cont.	Matrix	Analysis Requested	Comment
2819-01-1A	29-SEP-2020 13:50	434397-001	1	Soil	Organophosphorus Pesticides	
2819-01-1B	30-SEP-2020 11:15	434397-002	1	Soil	Organophosphorus Pesticides	
2819-01-1C	30-SEP-2020 11:15	434397-003	1	Soil	Organophosphorus Pesticides	
2819-01-2	29-SEP-2020 13:50	434397-004	1	Soil	Organophosphorus Pesticides	
2819-04-1	29-SEP-2020 09:30	434397-005	1	Soil	Organophosphorus Pesticides	
2819-04-2	29-SEP-2020 09:30	434397-006	1	Soil	Organophosphorus Pesticides	
2819-12-1A	25-SEP-2020 13:45	434397-007	1	Soil	Organophosphorus Pesticides	
2819-12-1B	28-SEP-2020 10:10	434397-008	1	Soil	Organophosphorus Pesticides	
2819-12-1C	28-SEP-2020 11:05	434397-009	1	Soil	Organophosphorus Pesticides	
2819-12-2	25-SEP-2020 13:45	434397-010	1	Soil	Organophosphorus Pesticides	

<b>Notes:</b>	<b>Relinquished By:</b>	<b>Received By:</b>
	Date: 10/6/20 1719	Date: 10/7/20 1025
	Date:	Date:
	Date:	Date:

3-7/2.9 506

# Login Sample Receipt Checklist

Client: Enthalpy Analytical LLC

Job Number: 570-40321-1

**Login Number: 40321**  
**List Number: 1**  
**Creator: Soriano, Precy**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





Enthalpy Analytical  
931 West Barkley Ave  
Orange, CA 92868  
(714) 771-6900

enthalpy.com

Lab Job Number: 434503  
Report Level: II  
Report Date: 10/28/2020

**Analytical Report** *prepared for:*

Jennah Oshiro  
Myounghee Noh & Associates  
99-1046 Iwaena Street  
210A  
Aiea, HI 96701

Project: 2819\_2 - PH2 Oahu Community Correctional Center

*Authorized for release by:*

John Goyette, Service Center Manager  
(510) 204-2233 Ext 13112  
[john.goyette@enthalpy.com](mailto:john.goyette@enthalpy.com)

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, CDC ELITE Member

## Sample Summary

---

Jannah Oshiro	Lab Job #:	434503
Myounghee Noh & Associates	Project No:	2819_2
99-1046 Iwaena Street 210A Aiea, HI 96701	Location:	PH2 Oahu Community Correctional Center
	Date Received:	10/06/20

---

<b>Sample ID</b>	<b>Lab ID</b>	<b>Collected</b>	<b>Matrix</b>
2819-02-1	434503-001	10/02/20 11:20	Soil
2819-02-2	434503-002	10/02/20 11:20	Soil
2819-03-1	434503-003	10/02/20 13:55	Soil
2819-03-2	434503-004	10/02/20 13:55	Soil



## Case Narrative

---

Myounghee Noh & Associates  
99-1046 Iwaena Street  
210A  
Aiea, HI 96701  
Jennah Oshiro

Lab Job Number: 434503  
Project No: 2819\_2  
Location: PH2 Oahu Community Correctional Center  
Date Received: 10/06/20

---

This data package contains sample and QC results for four soil samples, requested for the above referenced project on 10/06/20. The samples were received cold and intact.

**Pesticides (EPA 8081A):**

All samples underwent florisil cleanup using EPA Method 3620C. No analytical problems were encountered.

**Metals (EPA 6020):**

No analytical problems were encountered.

**Organophosphorus Pesticides (EPA 8141A):**

Eurofins CalScience in Garden Grove, CA performed the analysis (NELAP certified). Please see the Eurofins CalScience case narrative.

## Detection Summary for 434503

**Client:** Myounghee Noh & Associates

**Project:** 2819\_2

**Location:** PH2 Oahu Community Correctional Center

Sample ID: 2819-02-1 Lab ID: 434503-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	23		0.25	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B

Sample ID: 2819-02-2 Lab ID: 434503-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	28		0.25	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B

Sample ID: 2819-03-1 Lab ID: 434503-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	25		0.25	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B

Sample ID: 2819-03-2 Lab ID: 434503-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Lead	25		0.25	mg/Kg	As Recd	1.000	EPA 6020	EPA 3050B

**Enthalpy Analytical LLC**

2323 Fifth Street  
 Berkeley, CA 94710  
 (510) 486-0900 Phone  
 (510) 486-0532 Fax

**CHAIN OF CUSTODY**

Page \_\_\_\_ of \_\_\_\_  
 Chain of Custody #: \_\_\_\_\_

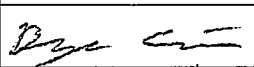
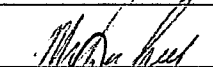
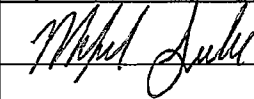
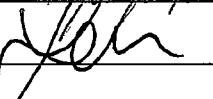
C&T LOGIN # 434503

Project No: 2819\_2  
 Project Name: PH2 Oahu Community Correctional Center  
 EDD Format: \_\_\_\_\_ Rpt Level:  II  III  IV  
 Turnaround Time:  RUSH  Standard

Sampler: Bryan Chinaka and Celeste Lim  
 Report To: Jannah Oshiro  
 Company: Myounghee Noh & Associates  
 Telephone: 808-853-3139  
 Email: jannah@noh-associates.com

Analytical Request											
TPH-DRO/RRO (8015B)	PAH (8270-SIM)	RCRA 8 Metals (6020/471A)	PCB (8082)	Chlorinated Pesticides (8081A)	Organophosphate Pesticides (614)	Lead and Arsenic (6020)	MIS Prep				
				X	X	X	X				
				X	X	X	X				
				X	X	X	X				
				X	X	X	X				

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative				
		Date	Time	Water	Soil		# of Containers	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	None
1	2819-02-1	10/02/20	11:20	X			1					X
2	2819-02-2	10/02/20	11:20	X			1					X
3	2819-03-1	10/02/20	13:55	X			1					X
4	2819-03-2	10/02/20	13:55	X			1					X

Notes:	SAMPLE RECEIPT		RELINQUISHED BY:				RECEIVED BY:			
	<input type="checkbox"/> Intact <input type="checkbox"/> Cold <input type="checkbox"/> On Ice <input type="checkbox"/> Ambient		 DATE/TIME		10/5/20 11:00 DATE/TIME		 DATE/TIME		10/6/20 10:30 DATE/TIME	
			 DATE/TIME		10/9/20 1310 DATE/TIME		 DATE/TIME		10/10/20 1100 DATE/TIME	

**SAMPLE RECEIPT CHECKLIST**



Section 1: Login # 434503 Client: MVA  
 Date Received: 10/6/20 Project: \_\_\_\_\_

Section 2: Shipping info (if applicable) FEDEX 7717 1XSS 0874  
 Are custody seals present?  No, or  Yes. If yes, where?  on cooler,  on samples,  on package  
 Date: \_\_\_\_\_ How many \_\_\_\_\_  Signature,  Initials,  None  
 Were custody seals intact upon arrival?  Yes  No  N/A  
 Samples received in a cooler?  Yes, how many? 1  No (skip Section 3 below)  
 If no cooler Sample Temp (°C): \_\_\_\_\_ using IR Gun #  B, or  C  
 Samples received on ice directly from the field. Cooling process had begun  
 If in cooler: Date Opened 10/6/20 By (print) MAG (sign) [Signature]

Section 3: **Important: Notify PM if temperature exceeds 6°C or arrive frozen.**  
 Packing in cooler: (if other, describe) \_\_\_\_\_  
 Bubble Wrap,  Foam blocks,  Bags,  None,  Cloth material,  Cardboard,  Styrofoam,  Paper towels  
 Samples received on ice directly from the field. Cooling process had begun  
 Type of ice used:  Wet,  Blue/Gel,  None Temperature blank(s) included?  Yes,  No  
 Temperature measured using  Thermometer ID: \_\_\_\_\_, or IR Gun #  B  C  
 Cooler Temp (°C): #1: 20, #2: \_\_\_\_\_, #3: \_\_\_\_\_, #4: \_\_\_\_\_, #5: \_\_\_\_\_, #6: \_\_\_\_\_, #7: \_\_\_\_\_

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable	<input checked="" type="checkbox"/>		
Were Method 5035 sampling containers present?		<input checked="" type="checkbox"/>	
If YES, what time were they transferred to freezer?			
Did all bottles arrive unbroken/unopened?	<input checked="" type="checkbox"/>		
Are there any missing / extra samples?		<input checked="" type="checkbox"/>	
Are samples in the appropriate containers for indicated tests?	<input checked="" type="checkbox"/>		
Are sample labels present, in good condition and complete?	<input checked="" type="checkbox"/>		
Does the container count match the CDC?	<input checked="" type="checkbox"/>		
Do the sample labels agree with custody papers?	<input checked="" type="checkbox"/>		
Was sufficient amount of sample sent for tests requested?	<input checked="" type="checkbox"/>		
Did you change the hold time in LIMS for unpreserved VOAs?			<input checked="" type="checkbox"/>
Did you change the hold time in LIMS for preserved terracores?			<input checked="" type="checkbox"/>
Are bubbles > 6mm present in VOA samples?			<input checked="" type="checkbox"/>
Was the client contacted concerning this sample delivery?		<input checked="" type="checkbox"/>	
If YES, who was called? _____ By _____ Date: _____			

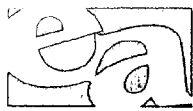
Section 5:

	YES	NO	N/A
Are the samples appropriately preserved? (if N/A, skip the rest of section 5)			
Did you check preservatives for all bottles for each sample?			
Did you document your preservative check? pH strip lot# _____, pH strip lot# _____, pH strip lot# _____			

Preservative added:  
 H2SO4 lot# \_\_\_\_\_ added to samples \_\_\_\_\_ on/at \_\_\_\_\_  
 HCL lot# \_\_\_\_\_ added to samples \_\_\_\_\_ on/at \_\_\_\_\_  
 HNO3 lot# \_\_\_\_\_ added to samples \_\_\_\_\_ on/at \_\_\_\_\_  
 NaOH lot# \_\_\_\_\_ added to samples \_\_\_\_\_ on/at \_\_\_\_\_

Section 6:  
 Explanations/Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Date Logged In 10/6/20 By (print) ZLA (sign) \_\_\_\_\_  
 Date Labeled 10/9/20 By (print) MAG (sign) [Signature]



# ENTHALPY ANALYTICAL

## SAMPLE ACCEPTANCE CHECKLIST

**Section 1**  
 Client: Myounghee Noh & Associates \_\_\_\_\_ Project: \_\_\_\_\_  
 Date Received: 10/10/2020 \_\_\_\_\_ Sampler's Name Present:  Yes  No

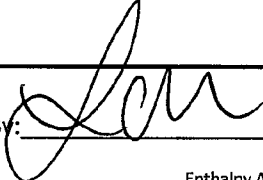
**Section 2**  
 Sample(s) received in a cooler?  Yes, How many? 1 \_\_\_\_\_  No (skip section 2) Sample Temp (°C) (No Cooler) : \_\_\_\_\_  
 Sample Temp (°C), One from each cooler: #1: 5.3 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_  
*(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)*  
 Shipping Information: \_\_\_\_\_

**Section 3**  
 Was the cooler packed with:  Ice  Ice Packs  Bubble Wrap  Styrofoam  
 Paper  None  Other \_\_\_\_\_  
 Cooler Temp (°C): #1: 1.0 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓		
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)			✓
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?		✓	
Is there headspace in the VOA vials greater than 5-6 mm in diameter?		✓	
Was a sufficient amount of sample submitted for the requested tests?	✓		

**Section 5 Explanations/Comments**  
 \_\_\_\_\_  
 \_\_\_\_\_

**Section 6**  
 For discrepancies, how was the Project Manager notified?  Verbal PM Initials: \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Email (email sent to/on): \_\_\_\_\_ / \_\_\_\_\_  
 Project Manager's response:  
 \_\_\_\_\_

Completed By:  \_\_\_\_\_ Date: 10/10/20

## Organochlorine Pesticides

**Lab #:** 434503

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-02-1

**Batch#:** 254564

**Prep:** EPA 3546

**Lab ID:** 434503-001

**Sampled:** 10/02/20

**Analysis:** EPA 8081A

**Matrix:** Soil

**Received:** 10/06/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/16/20

**Diln Fac:** 5.000

**Analyzed:** 10/18/20

Analyte	Result	RL	Units
alpha-BHC	ND	8.3	ug/Kg
beta-BHC	ND	8.3	ug/Kg
gamma-BHC	ND	8.3	ug/Kg
delta-BHC	ND	8.3	ug/Kg
Heptachlor	ND	8.3	ug/Kg
Aldrin	ND	8.3	ug/Kg
Heptachlor epoxide	ND	8.3	ug/Kg
Endosulfan I	ND	8.3	ug/Kg
Dieldrin	ND	8.3	ug/Kg
4,4'-DDE	ND	8.3	ug/Kg
Endrin	ND	8.3	ug/Kg
Endosulfan II	ND	8.3	ug/Kg
Endosulfan sulfate	ND	8.3	ug/Kg
4,4'-DDD	ND	8.3	ug/Kg
Endrin aldehyde	ND	8.3	ug/Kg
Endrin ketone	ND	8.3	ug/Kg
4,4'-DDT	ND	8.3	ug/Kg
Methoxychlor	ND	17	ug/Kg
Toxaphene	ND	170	ug/Kg
Chlordane (Technical)	ND	83	ug/Kg

Surrogate	%REC	Limits
TCMX	37	23-120
Decachlorobiphenyl	59	24-120

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Organochlorine Pesticides

**Lab #:** 434503

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-02-2

**Batch#:** 254564

**Prep:** EPA 3546

**Lab ID:** 434503-002

**Sampled:** 10/02/20

**Analysis:** EPA 8081A

**Matrix:** Soil

**Received:** 10/06/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/16/20

**Diln Fac:** 5.000

**Analyzed:** 10/18/20

Analyte	Result	RL	Units
alpha-BHC	ND	8.3	ug/Kg
beta-BHC	ND	8.3	ug/Kg
gamma-BHC	ND	8.3	ug/Kg
delta-BHC	ND	8.3	ug/Kg
Heptachlor	ND	8.3	ug/Kg
Aldrin	ND	8.3	ug/Kg
Heptachlor epoxide	ND	8.3	ug/Kg
Endosulfan I	ND	8.3	ug/Kg
Dieldrin	ND	8.3	ug/Kg
4,4'-DDE	ND	8.3	ug/Kg
Endrin	ND	8.3	ug/Kg
Endosulfan II	ND	8.3	ug/Kg
Endosulfan sulfate	ND	8.3	ug/Kg
4,4'-DDD	ND	8.3	ug/Kg
Endrin aldehyde	ND	8.3	ug/Kg
Endrin ketone	ND	8.3	ug/Kg
4,4'-DDT	ND	8.3	ug/Kg
Methoxychlor	ND	17	ug/Kg
Toxaphene	ND	170	ug/Kg
Chlordane (Technical)	ND	83	ug/Kg

Surrogate	%REC	Limits
TCMX	26	23-120
Decachlorobiphenyl	33	24-120

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Organochlorine Pesticides

**Lab #:** 434503

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-03-1

**Batch#:** 254564

**Prep:** EPA 3546

**Lab ID:** 434503-003

**Sampled:** 10/02/20

**Analysis:** EPA 8081A

**Matrix:** Soil

**Received:** 10/06/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/16/20

**Diln Fac:** 5.000

**Analyzed:** 10/18/20

Analyte	Result	RL	Units
alpha-BHC	ND	8.3	ug/Kg
beta-BHC	ND	8.3	ug/Kg
gamma-BHC	ND	8.3	ug/Kg
delta-BHC	ND	8.3	ug/Kg
Heptachlor	ND	8.3	ug/Kg
Aldrin	ND	8.3	ug/Kg
Heptachlor epoxide	ND	8.3	ug/Kg
Endosulfan I	ND	8.3	ug/Kg
Dieldrin	ND	8.3	ug/Kg
4,4'-DDE	ND	8.3	ug/Kg
Endrin	ND	8.3	ug/Kg
Endosulfan II	ND	8.3	ug/Kg
Endosulfan sulfate	ND	8.3	ug/Kg
4,4'-DDD	ND	8.3	ug/Kg
Endrin aldehyde	ND	8.3	ug/Kg
Endrin ketone	ND	8.3	ug/Kg
4,4'-DDT	ND	8.3	ug/Kg
Methoxychlor	ND	17	ug/Kg
Toxaphene	ND	170	ug/Kg
Chlordane (Technical)	ND	83	ug/Kg

Surrogate	%REC	Limits
TCMX	23	23-120
Decachlorobiphenyl	34	24-120

Legend

**ND:** Not Detected

**RL:** Reporting Limit



## Organochlorine Pesticides

**Lab #:** 434503

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-03-2

**Batch#:** 254564

**Prep:** EPA 3546

**Lab ID:** 434503-004

**Sampled:** 10/02/20

**Analysis:** EPA 8081A

**Matrix:** Soil

**Received:** 10/06/20

**Analyst:** KTD

**Basis:** air dried

**Prepared:** 10/16/20

**Diln Fac:** 5.000

**Analyzed:** 10/18/20

Analyte	Result	RL	Units
alpha-BHC	ND	8.3	ug/Kg
beta-BHC	ND	8.3	ug/Kg
gamma-BHC	ND	8.3	ug/Kg
delta-BHC	ND	8.3	ug/Kg
Heptachlor	ND	8.3	ug/Kg
Aldrin	ND	8.3	ug/Kg
Heptachlor epoxide	ND	8.3	ug/Kg
Endosulfan I	ND	8.3	ug/Kg
Dieldrin	ND	8.3	ug/Kg
4,4'-DDE	ND	8.3	ug/Kg
Endrin	ND	8.3	ug/Kg
Endosulfan II	ND	8.3	ug/Kg
Endosulfan sulfate	ND	8.3	ug/Kg
4,4'-DDD	ND	8.3	ug/Kg
Endrin aldehyde	ND	8.3	ug/Kg
Endrin ketone	ND	8.3	ug/Kg
4,4'-DDT	ND	8.3	ug/Kg
Methoxychlor	ND	17	ug/Kg
Toxaphene	ND	170	ug/Kg
Chlordane (Technical)	ND	83	ug/Kg

Surrogate	%REC	Limits
TCMX	36	23-120
Decachlorobiphenyl	35	24-120

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Organochlorine Pesticides: Batch QC

**Lab #:** 434503

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BLANK  
**Lab ID:** QC890579  
**Matrix:** Soil  
**Diln Fac:** 1.000

**Batch#:** 254564  
**Prepared:** 10/16/20  
**Analyzed:** 10/18/20  
**Prep:** EPA 3546

**Analysis:** EPA 8081A  
**Analyst:** KTD

Analyte	Result	RL	Units
alpha-BHC	ND	1.7	ug/Kg
beta-BHC	ND	1.7	ug/Kg
gamma-BHC	ND	1.7	ug/Kg
delta-BHC	ND	1.7	ug/Kg
Heptachlor	ND	1.7	ug/Kg
Aldrin	ND	1.7	ug/Kg
Heptachlor epoxide	ND	1.7	ug/Kg
Endosulfan I	ND	1.7	ug/Kg
Dieldrin	ND	1.7	ug/Kg
4,4'-DDE	ND	1.7	ug/Kg
Endrin	ND	1.7	ug/Kg
Endosulfan II	ND	1.7	ug/Kg
Endosulfan sulfate	ND	1.7	ug/Kg
4,4'-DDD	ND	1.7	ug/Kg
Endrin aldehyde	ND	1.7	ug/Kg
Endrin ketone	ND	1.7	ug/Kg
4,4'-DDT	ND	1.7	ug/Kg
Methoxychlor	ND	3.3	ug/Kg
Toxaphene	ND	33	ug/Kg
Chlordane (Technical)	ND	17	ug/Kg

Surrogate	%REC	Limits
TCMX	72	23-120
Decachlorobiphenyl	110	24-120

**Legend**

**ND:** Not Detected  
**RL:** Reporting Limit

## Organochlorine Pesticides: Batch QC

**Lab #:** 434503

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BS  
**Lab ID:** QC890580  
**Matrix:** Soil  
**Diln Fac:** 1.000

**Batch#:** 254564  
**Prepared:** 10/16/20  
**Analyzed:** 10/18/20  
**Prep:** EPA 3546

**Analysis:** EPA 8081A  
**Analyst:** KTD

Analyte	Spiked	Result	%REC	Limits	Units
alpha-BHC	16.67	13.00	78	22-129	ug/Kg
beta-BHC	16.67	12.11	73	28-125	ug/Kg
gamma-BHC	16.67	13.14	79	22-128	ug/Kg
delta-BHC	16.67	12.35	74	24-131	ug/Kg
Heptachlor	16.67	12.45	75	18-124	ug/Kg
Aldrin	16.67	11.32	68	23-120	ug/Kg
Heptachlor epoxide	16.67	12.64	76	26-120	ug/Kg
Endosulfan I	16.67	13.96	84	25-126	ug/Kg
Dieldrin	16.67	13.89	83	23-124	ug/Kg
4,4'-DDE	16.67	13.97	84	28-121	ug/Kg
Endrin	16.67	13.14	79	25-127	ug/Kg
Endosulfan II	16.67	14.22	85	29-121	ug/Kg
Endosulfan sulfate	16.67	13.75	83	30-121	ug/Kg
4,4'-DDD	16.67	12.82	77	26-120	ug/Kg
Endrin aldehyde	16.67	5.363	32	10-120	ug/Kg
Endrin ketone	16.67	14.89	89	28-125	ug/Kg
4,4'-DDT	16.67	10.99	66	22-125	ug/Kg
Methoxychlor	16.67	11.81	71	28-130	ug/Kg
<b>Surrogate</b>			<b>%REC</b>	<b>Limits</b>	
TCMX			81	23-120	
Decachlorobiphenyl			105	24-120	

## Organochlorine Pesticides: Batch QC

**Lab #:** 434503

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BSD

**Batch#:** 254564

**Analysis:** EPA 8081A

**Lab ID:** QC890581

**Prepared:** 10/16/20

**Analyst:** KTD

**Matrix:** Soil

**Analyzed:** 10/18/20

**Diln Fac:** 1.000

**Prep:** EPA 3546

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
alpha-BHC	16.67	14.79	89	22-129	ug/Kg	13	20
beta-BHC	16.67	13.63	82	28-125	ug/Kg	12	20
gamma-BHC	16.67	14.91	89	22-128	ug/Kg	13	20
delta-BHC	16.67	14.20	85	24-131	ug/Kg	14	20
Heptachlor	16.67	14.02	84	18-124	ug/Kg	12	20
Aldrin	16.67	12.37	74	23-120	ug/Kg	9	20
Heptachlor epoxide	16.67	14.15	85	26-120	ug/Kg	11	20
Endosulfan I	16.67	15.79	95	25-126	ug/Kg	12	20
Dieldrin	16.67	15.99	96	23-124	ug/Kg	14	20
4,4'-DDE	16.67	16.04	96	28-121	ug/Kg	14	20
Endrin	16.67	15.45	93	25-127	ug/Kg	16	20
Endosulfan II	16.67	16.42	99	29-121	ug/Kg	14	20
Endosulfan sulfate	16.67	15.77	95	30-121	ug/Kg	14	20
4,4'-DDD	16.67	14.87	89	26-120	ug/Kg	15	20
Endrin aldehyde	16.67	4.761	29	10-120	ug/Kg	12	20
Endrin ketone	16.67	16.74	100	28-125	ug/Kg	12	20
4,4'-DDT	16.67	12.49	75	22-125	ug/Kg	13	20
Methoxychlor	16.67	13.03	78	28-130	ug/Kg	10	20

Surrogate	%REC	Limits
TCMX	88	23-120
Decachlorobiphenyl	116	24-120

Legend

**RPD:** Relative Percent Difference

## Metals Analytical Report

**Lab #:** 434503

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Field ID:** 2819-02-1

**Batch#:** 254282

**Prep:** EPA 3050B

**Type:** SAMPLE

**Sampled:** 10/02/20

**Analysis:** EPA 6020

**Lab ID:** 434503-001

**Received:** 10/06/20

**Analyst:** JCP

**Matrix:** Soil

**Prepared:** 10/14/20

**Basis:** air dried

**Analyzed:** 10/15/20

Analyte	Result	RL	Units	Diln Fac
Arsenic	ND	5.0	mg/Kg	10.00
<b>Lead</b>	<b>23</b>	<b>0.25</b>	<b>mg/Kg</b>	<b>1.000</b>

**Field ID:** 2819-02-2

**Batch#:** 254282

**Prep:** EPA 3050B

**Type:** SAMPLE

**Sampled:** 10/02/20

**Analysis:** EPA 6020

**Lab ID:** 434503-002

**Received:** 10/06/20

**Analyst:** JCP

**Matrix:** Soil

**Prepared:** 10/14/20

**Basis:** air dried

**Analyzed:** 10/15/20

Analyte	Result	RL	Units	Diln Fac
Arsenic	ND	5.0	mg/Kg	10.00
<b>Lead</b>	<b>28</b>	<b>0.25</b>	<b>mg/Kg</b>	<b>1.000</b>

**Field ID:** 2819-03-1

**Batch#:** 254282

**Prep:** EPA 3050B

**Type:** SAMPLE

**Sampled:** 10/02/20

**Analysis:** EPA 6020

**Lab ID:** 434503-003

**Received:** 10/06/20

**Analyst:** JCP

**Matrix:** Soil

**Prepared:** 10/14/20

**Basis:** air dried

**Analyzed:** 10/15/20

Analyte	Result	RL	Units	Diln Fac
Arsenic	ND	5.0	mg/Kg	10.00
<b>Lead</b>	<b>25</b>	<b>0.25</b>	<b>mg/Kg</b>	<b>1.000</b>

**Field ID:** 2819-03-2

**Batch#:** 254282

**Prep:** EPA 3050B

**Type:** SAMPLE

**Sampled:** 10/02/20

**Analysis:** EPA 6020

**Lab ID:** 434503-004

**Received:** 10/06/20

**Analyst:** JCP

**Matrix:** Soil

**Prepared:** 10/14/20

**Basis:** air dried

**Analyzed:** 10/15/20

Analyte	Result	RL	Units	Diln Fac
Arsenic	ND	5.0	mg/Kg	10.00
<b>Lead</b>	<b>25</b>	<b>0.25</b>	<b>mg/Kg</b>	<b>1.000</b>

## Metals Analytical Report

**Lab #:** 434503

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BLANK

**Batch#:** 254282

**Analysis:** EPA 6020

**Lab ID:** QC889821

**Prepared:** 10/14/20

**Analyst:** JCP

**Matrix:** Soil

**Analyzed:** 10/14/20

**Diln Fac:** 1.000

**Prep:** EPA 3050B

Analyte	Result	RL	Units
Arsenic	ND	0.50	mg/Kg
Lead	ND	0.25	mg/Kg

Legend

**ND:** Not Detected

**RL:** Reporting Limit

## Metals Analytical Report: Batch QC

**Lab #:** 434503

**Project#:** 2819\_2

**Client:** Myounghee Noh & Associates

**Location:** PH2 Oahu Community Correctional Ce...

**Type:** BS  
**Lab ID:** QC889822  
**Matrix:** Soil  
**Diln Fac:** 1.000

**Batch#:** 254282  
**Prepared:** 10/14/20  
**Analyzed:** 10/14/20  
**Prep:** EPA 3050B

**Analysis:** EPA 6020  
**Analyst:** JCP

Analyte	Spiked	Result	%REC	Limits	Units
Arsenic	100.0	87.15	87	80-120	mg/Kg
Lead	100.0	88.30	88	80-120	mg/Kg

**Type:** BSD  
**Lab ID:** QC889823  
**Matrix:** Soil  
**Diln Fac:** 1.000

**Batch#:** 254282  
**Prepared:** 10/14/20  
**Analyzed:** 10/14/20  
**Prep:** EPA 3050B

**Analysis:** EPA 6020  
**Analyst:** JCP

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
Arsenic	100.0	86.55	87	80-120	mg/Kg	1	20
Lead	100.0	88.14	88	80-120	mg/Kg	0	20

Legend

**RPD:** Relative Percent Difference

Laboratory Job Number 434503

Subcontracted Products

Eurofins CalScience



## ANALYTICAL REPORT

Eurofins Calscience LLC  
7440 Lincoln Way  
Garden Grove, CA 92841  
Tel: (714)895-5494

Laboratory Job ID: 570-40693-1  
Client Project/Site: 434503

**For:**

Enthalpy Analytical LLC  
931 W Barkley Ave  
Orange, California 92868

Attn: John Goyette



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

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Definitions/Glossary . . . . .	3
Case Narrative . . . . .	4
Detection Summary . . . . .	5
Client Sample Results . . . . .	6
Surrogate Summary . . . . .	9
QC Sample Results . . . . .	10
QC Association Summary . . . . .	13
Lab Chronicle . . . . .	14
Certification Summary . . . . .	15
Method Summary . . . . .	16
Sample Summary . . . . .	17
Chain of Custody . . . . .	18
Receipt Checklists . . . . .	19

# Definitions/Glossary

Client: Enthalpy Analytical LLC  
Project/Site: 434503

Job ID: 570-40693-1

## Qualifiers

### GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Enthalpy Analytical LLC  
Project/Site: 434503

Job ID: 570-40693-1

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## Job ID: 570-40693-1

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### Laboratory: Eurofins Calscience LLC

#### Narrative

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#### Job Narrative 570-40693-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 10/10/2020 11:00 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4° C.

#### GC Semi VOA

Method 8141A: The continuing calibration verification (CCV) associated with batch 570-101434 recovered above the upper control limit for Demeton-o/s. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8141A: The closing continuing calibration verification (CCVC) associated with batch 570-101434 recovered above the upper control limit for Coumaphos, Demeton-o/s, Dichlorvos, Fensulfothion, Merphos, Mevinphos and Stirophos. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8141A: The CCV for analytical batch 570-101434 recovered outside control limits for the following analyte(s): Naled. Naled has been identified as a poor performing analyte when analyzed using this method. Additionally, Naled is known to convert via debromination during analysis due to active sites on the chromatographic column into Dichlorvos; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Enthalpy Analytical LLC  
Project/Site: 434503

Job ID: 570-40693-1

**Client Sample ID: 2819-02-1**

**Lab Sample ID: 570-40693-1**

No Detections.

**Client Sample ID: 2819-02-2**

**Lab Sample ID: 570-40693-2**

No Detections.

**Client Sample ID: 2819-03-1**

**Lab Sample ID: 570-40693-3**

No Detections.

**Client Sample ID: 2819-03-2**

**Lab Sample ID: 570-40693-4**

No Detections.

1

2

3

4

5

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7

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9

10

11

12

13

14

15

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Client Sample Results

Client: Enthalpy Analytical LLC  
Project/Site: 434503

Job ID: 570-40693-1

## Method: 8141A - Organophosphorous Pesticides (GC)

**Client Sample ID: 2819-02-1**  
**Date Collected: 10/02/20 11:20**  
**Date Received: 10/10/20 11:00**

**Lab Sample ID: 570-40693-1**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 18:16	1
Bolstar	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 18:16	1
Chlorpyrifos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 18:16	1
Coumaphos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 18:16	1
Demeton-o/s	ND		1.0	mg/Kg		10/12/20 08:20	10/13/20 18:16	1
Diazinon	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 18:16	1
Dichlorvos	ND	F1	0.50	mg/Kg		10/12/20 08:20	10/13/20 18:16	1
Disulfoton	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 18:16	1
Ethoprop	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 18:16	1
Fensulfothion	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 18:16	1
Fenthion	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 18:16	1
Merphos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 18:16	1
Methyl parathion	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 18:16	1
Mevinphos	ND	F1	0.50	mg/Kg		10/12/20 08:20	10/13/20 18:16	1
Naled	ND		4.0	mg/Kg		10/12/20 08:20	10/13/20 18:16	1
Phorate	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 18:16	1
Ronnel	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 18:16	1
Stirophos	ND		2.0	mg/Kg		10/12/20 08:20	10/13/20 18:16	1
Tokuthion	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 18:16	1
Trichloronate	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 18:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributylphosphate	30		20 - 158	10/12/20 08:20	10/13/20 18:16	1

**Client Sample ID: 2819-02-2**  
**Date Collected: 10/02/20 11:20**  
**Date Received: 10/10/20 11:00**

**Lab Sample ID: 570-40693-2**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:04	1
Bolstar	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:04	1
Chlorpyrifos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:04	1
Coumaphos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:04	1
Demeton-o/s	ND		1.0	mg/Kg		10/12/20 08:20	10/13/20 19:04	1
Diazinon	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:04	1
Dichlorvos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:04	1
Disulfoton	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:04	1
Ethoprop	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:04	1
Fensulfothion	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:04	1
Fenthion	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:04	1
Merphos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:04	1
Methyl parathion	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:04	1
Mevinphos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:04	1
Naled	ND		4.0	mg/Kg		10/12/20 08:20	10/13/20 19:04	1
Phorate	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:04	1
Ronnel	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:04	1
Stirophos	ND		2.0	mg/Kg		10/12/20 08:20	10/13/20 19:04	1
Tokuthion	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:04	1
Trichloronate	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:04	1

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# Client Sample Results

Client: Enthalpy Analytical LLC  
Project/Site: 434503

Job ID: 570-40693-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributylphosphate	24		20 - 158	10/12/20 08:20	10/13/20 19:04	1

**Client Sample ID: 2819-03-1**  
**Date Collected: 10/02/20 13:55**  
**Date Received: 10/10/20 11:00**

**Lab Sample ID: 570-40693-3**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:51	1
Bolstar	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:51	1
Chlorpyrifos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:51	1
Coumaphos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:51	1
Demeton-o/s	ND		1.0	mg/Kg		10/12/20 08:20	10/13/20 19:51	1
Diazinon	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:51	1
Dichlorvos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:51	1
Disulfoton	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:51	1
Ethoprop	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:51	1
Fensulfothion	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:51	1
Fenthion	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:51	1
Merphos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:51	1
Methyl parathion	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:51	1
Mevinphos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:51	1
Naled	ND		4.0	mg/Kg		10/12/20 08:20	10/13/20 19:51	1
Phorate	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:51	1
Ronnel	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:51	1
Stirophos	ND		2.0	mg/Kg		10/12/20 08:20	10/13/20 19:51	1
Tokuthion	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:51	1
Trichloronate	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 19:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tributylphosphate	32		20 - 158	10/12/20 08:20	10/13/20 19:51	1

**Client Sample ID: 2819-03-2**  
**Date Collected: 10/02/20 13:55**  
**Date Received: 10/10/20 11:00**

**Lab Sample ID: 570-40693-4**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 20:39	1
Bolstar	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 20:39	1
Chlorpyrifos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 20:39	1
Coumaphos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 20:39	1
Demeton-o/s	ND		1.0	mg/Kg		10/12/20 08:20	10/13/20 20:39	1
Diazinon	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 20:39	1
Dichlorvos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 20:39	1
Disulfoton	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 20:39	1
Ethoprop	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 20:39	1
Fensulfothion	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 20:39	1
Fenthion	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 20:39	1
Merphos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 20:39	1
Methyl parathion	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 20:39	1
Mevinphos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 20:39	1
Naled	ND		4.0	mg/Kg		10/12/20 08:20	10/13/20 20:39	1
Phorate	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 20:39	1
Ronnel	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 20:39	1
Stirophos	ND		2.0	mg/Kg		10/12/20 08:20	10/13/20 20:39	1
Tokuthion	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 20:39	1

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# Client Sample Results

Client: Enthalpy Analytical LLC  
 Project/Site: 434503

Job ID: 570-40693-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

**Client Sample ID: 2819-03-2**  
**Date Collected: 10/02/20 13:55**  
**Date Received: 10/10/20 11:00**

**Lab Sample ID: 570-40693-4**  
**Matrix: Solid**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloronate	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 20:39	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Tributylphosphate	31		20 - 158			10/12/20 08:20	10/13/20 20:39	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15



# Surrogate Summary

Client: Enthalpy Analytical LLC  
Project/Site: 434503

Job ID: 570-40693-1

## Method: 8141A - Organophosphorous Pesticides (GC)

Matrix: Solid

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TBPH1 (20-158)
570-40693-1	2819-02-1	30
570-40693-1 MS	2819-02-1	35
570-40693-1 MSD	2819-02-1	30
570-40693-2	2819-02-2	24
570-40693-3	2819-03-1	32
570-40693-4	2819-03-2	31
LCS 570-101011/2-A	Lab Control Sample	78
LCSD 570-101011/3-A	Lab Control Sample Dup	75
MB 570-101011/1-A	Method Blank	71

#### Surrogate Legend

TBPH = Tributylphosphate

# QC Sample Results

Client: Enthalpy Analytical LLC  
Project/Site: 434503

Job ID: 570-40693-1

## Method: 8141A - Organophosphorous Pesticides (GC)

**Lab Sample ID: MB 570-101011/1-A**  
**Matrix: Solid**  
**Analysis Batch: 101434**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 101011**

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Azinphos-methyl	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 14:19	1
Bolstar	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 14:19	1
Chlorpyrifos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 14:19	1
Coumaphos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 14:19	1
Demeton-o/s	ND		1.0	mg/Kg		10/12/20 08:20	10/13/20 14:19	1
Diazinon	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 14:19	1
Dichlorvos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 14:19	1
Disulfoton	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 14:19	1
Ethoprop	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 14:19	1
Fensulfothion	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 14:19	1
Fenthion	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 14:19	1
Merphos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 14:19	1
Methyl parathion	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 14:19	1
Mevinphos	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 14:19	1
Naled	ND		4.0	mg/Kg		10/12/20 08:20	10/13/20 14:19	1
Phorate	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 14:19	1
Ronnel	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 14:19	1
Stirophos	ND		2.0	mg/Kg		10/12/20 08:20	10/13/20 14:19	1
Tokuthion	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 14:19	1
Trichloronate	ND		0.50	mg/Kg		10/12/20 08:20	10/13/20 14:19	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tributylphosphate	71		20 - 158	10/12/20 08:20	10/13/20 14:19	1

**Lab Sample ID: LCS 570-101011/2-A**  
**Matrix: Solid**  
**Analysis Batch: 101434**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 101011**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
Azinphos-methyl	4.00	2.962		mg/Kg		74	59 - 156
Bolstar	4.00	3.262		mg/Kg		82	45 - 145
Chlorpyrifos	4.00	2.994		mg/Kg		75	42 - 139
Coumaphos	4.00	3.315		mg/Kg		83	64 - 149
Diazinon	4.00	2.823		mg/Kg		71	36 - 149
Disulfoton	4.00	3.013		mg/Kg		75	45 - 132
Ethoprop	4.00	3.087		mg/Kg		77	41 - 138
Fensulfothion	4.00	3.632		mg/Kg		91	53 - 151
Fenthion	4.00	2.671		mg/Kg		67	49 - 150
Merphos	4.00	5.395		mg/Kg		135	20 - 180
Methyl parathion	4.00	2.866		mg/Kg		72	48 - 149
Phorate	4.00	3.093		mg/Kg		77	42 - 137
Ronnel	4.00	2.687		mg/Kg		67	45 - 141
Stirophos	4.00	3.500		mg/Kg		87	43 - 166
Tokuthion	4.00	2.797		mg/Kg		70	50 - 131
Trichloronate	4.00	3.012		mg/Kg		75	45 - 138

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Tributylphosphate	78		20 - 158

Eurofins Calscience LLC

# QC Sample Results

Client: Enthalpy Analytical LLC  
Project/Site: 434503

Job ID: 570-40693-1

## Method: 8141A - Organophosphorous Pesticides (GC)

**Lab Sample ID: LCSD 570-101011/3-A**  
**Matrix: Solid**  
**Analysis Batch: 101434**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 101011**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD
									Limit
Azinphos-methyl	4.00	2.910		mg/Kg		73	59 - 156	2	27
Bolstar	4.00	3.015		mg/Kg		75	45 - 145	8	24
Chlorpyrifos	4.00	2.920		mg/Kg		73	42 - 139	2	28
Coumaphos	4.00	3.255		mg/Kg		81	64 - 149	2	26
Diazinon	4.00	3.001		mg/Kg		75	36 - 149	6	28
Disulfoton	4.00	2.921		mg/Kg		73	45 - 132	3	27
Ethoprop	4.00	2.972		mg/Kg		74	41 - 138	4	26
Fensulfothion	4.00	3.484		mg/Kg		87	53 - 151	4	23
Fenthion	4.00	2.682		mg/Kg		67	49 - 150	0	30
Merphos	4.00	5.327		mg/Kg		133	20 - 180	1	30
Methyl parathion	4.00	2.937		mg/Kg		73	48 - 149	2	30
Phorate	4.00	2.943		mg/Kg		74	42 - 137	5	29
Ronnel	4.00	2.694		mg/Kg		67	45 - 141	0	30
Stirophos	4.00	3.459		mg/Kg		86	43 - 166	1	25
Tokuthion	4.00	2.760		mg/Kg		69	50 - 131	1	20
Trichloronate	4.00	3.022		mg/Kg		76	45 - 138	0	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Tributylphosphate	75		20 - 158

**Lab Sample ID: 570-40693-1 MS**  
**Matrix: Solid**  
**Analysis Batch: 101434**

**Client Sample ID: 2819-02-1**  
**Prep Type: Total/NA**  
**Prep Batch: 101011**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Azinphos-methyl	ND		4.03	2.031		mg/Kg		50	20 - 180
Bolstar	ND		4.03	2.635		mg/Kg		65	26 - 157
Chlorpyrifos	ND		4.03	2.577		mg/Kg		64	21 - 153
Coumaphos	ND		4.03	2.440		mg/Kg		61	33 - 179
Diazinon	ND		4.03	2.428		mg/Kg		60	20 - 157
Disulfoton	ND		4.03	1.873		mg/Kg		46	20 - 147
Ethoprop	ND		4.03	1.729		mg/Kg		43	20 - 147
Fensulfothion	ND		4.03	1.459		mg/Kg		36	22 - 169
Fenthion	ND		4.03	2.319		mg/Kg		58	24 - 170
Merphos	ND		4.03	4.226		mg/Kg		105	20 - 180
Methyl parathion	ND		4.03	2.327		mg/Kg		58	21 - 174
Phorate	ND		4.03	2.571		mg/Kg		64	20 - 146
Ronnel	ND		4.03	2.376		mg/Kg		59	20 - 159
Stirophos	ND		4.03	2.076		mg/Kg		51	20 - 180
Tokuthion	ND		4.03	2.501		mg/Kg		62	26 - 149
Trichloronate	ND		4.03	2.475		mg/Kg		61	24 - 153

Surrogate	MS %Recovery	MS Qualifier	Limits
Tributylphosphate	35		20 - 158

# QC Sample Results

Client: Enthalpy Analytical LLC  
 Project/Site: 434503

Job ID: 570-40693-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

**Lab Sample ID: 570-40693-1 MSD**  
**Matrix: Solid**  
**Analysis Batch: 101434**

**Client Sample ID: 2819-02-1**  
**Prep Type: Total/NA**  
**Prep Batch: 101011**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Azinphos-methyl	ND		4.00	1.754		mg/Kg		44	20 - 180	15	40
Bolstar	ND		4.00	2.455		mg/Kg		61	26 - 157	7	40
Chlorpyrifos	ND		4.00	2.381		mg/Kg		60	21 - 153	8	40
Coumaphos	ND		4.00	2.413		mg/Kg		60	33 - 179	1	40
Diazinon	ND		4.00	2.219		mg/Kg		55	20 - 157	9	40
Disulfoton	ND		4.00	1.757		mg/Kg		44	20 - 147	6	40
Ethoprop	ND		4.00	1.550		mg/Kg		39	20 - 147	11	40
Fensulfothion	ND		4.00	1.160		mg/Kg		29	22 - 169	23	40
Fenthion	ND		4.00	2.175		mg/Kg		54	24 - 170	6	40
Merphos	ND		4.00	4.071		mg/Kg		102	20 - 180	4	40
Methyl parathion	ND		4.00	2.211		mg/Kg		55	21 - 174	5	40
Phorate	ND		4.00	2.320		mg/Kg		58	20 - 146	10	40
Ronnel	ND		4.00	2.217		mg/Kg		55	20 - 159	7	40
Stirophos	ND		4.00	ND		mg/Kg		47	20 - 180	10	40
Tokuthion	ND		4.00	2.358		mg/Kg		59	26 - 149	6	40
Trichloronate	ND		4.00	2.297		mg/Kg		57	24 - 153	7	40
		<b>MSD</b>	<b>MSD</b>								
<b>Surrogate</b>		<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>							
<i>Tributylphosphate</i>		30		20 - 158							

# QC Association Summary

Client: Enthalpy Analytical LLC  
Project/Site: 434503

Job ID: 570-40693-1

## GC Semi VOA

### Prep Batch: 101011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40693-1	2819-02-1	Total/NA	Solid	3546	
570-40693-2	2819-02-2	Total/NA	Solid	3546	
570-40693-3	2819-03-1	Total/NA	Solid	3546	
570-40693-4	2819-03-2	Total/NA	Solid	3546	
MB 570-101011/1-A	Method Blank	Total/NA	Solid	3546	
LCS 570-101011/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 570-101011/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
570-40693-1 MS	2819-02-1	Total/NA	Solid	3546	
570-40693-1 MSD	2819-02-1	Total/NA	Solid	3546	

### Analysis Batch: 101434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40693-1	2819-02-1	Total/NA	Solid	8141A	101011
570-40693-2	2819-02-2	Total/NA	Solid	8141A	101011
570-40693-3	2819-03-1	Total/NA	Solid	8141A	101011
570-40693-4	2819-03-2	Total/NA	Solid	8141A	101011
MB 570-101011/1-A	Method Blank	Total/NA	Solid	8141A	101011
LCS 570-101011/2-A	Lab Control Sample	Total/NA	Solid	8141A	101011
LCSD 570-101011/3-A	Lab Control Sample Dup	Total/NA	Solid	8141A	101011
570-40693-1 MS	2819-02-1	Total/NA	Solid	8141A	101011
570-40693-1 MSD	2819-02-1	Total/NA	Solid	8141A	101011

# Lab Chronicle

Client: Enthalpy Analytical LLC  
Project/Site: 434503

Job ID: 570-40693-1

## Client Sample ID: 2819-02-1

Date Collected: 10/02/20 11:20

Date Received: 10/10/20 11:00

## Lab Sample ID: 570-40693-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			10.01 g	10 mL	101011	10/12/20 08:20	F7UI	ECL 1
Total/NA	Analysis	8141A		1			101434	10/13/20 18:16	UJ3K	ECL 1
Instrument ID: GC68										

## Client Sample ID: 2819-02-2

Date Collected: 10/02/20 11:20

Date Received: 10/10/20 11:00

## Lab Sample ID: 570-40693-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			9.98 g	10 mL	101011	10/12/20 08:20	F7UI	ECL 1
Total/NA	Analysis	8141A		1			101434	10/13/20 19:04	UJ3K	ECL 1
Instrument ID: GC68										

## Client Sample ID: 2819-03-1

Date Collected: 10/02/20 13:55

Date Received: 10/10/20 11:00

## Lab Sample ID: 570-40693-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			9.95 g	10 mL	101011	10/12/20 08:20	F7UI	ECL 1
Total/NA	Analysis	8141A		1			101434	10/13/20 19:51	UJ3K	ECL 1
Instrument ID: GC68										

## Client Sample ID: 2819-03-2

Date Collected: 10/02/20 13:55

Date Received: 10/10/20 11:00

## Lab Sample ID: 570-40693-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			10.05 g	10 mL	101011	10/12/20 08:20	F7UI	ECL 1
Total/NA	Analysis	8141A		1			101434	10/13/20 20:39	UJ3K	ECL 1
Instrument ID: GC68										

### Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

# Accreditation/Certification Summary

Client: Enthalpy Analytical LLC  
Project/Site: 434503

Job ID: 570-40693-1

## Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-20
California	State	2944	09-30-21
Guam	State	20-003R	10-31-20
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-21

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# Method Summary

Client: Enthalpy Analytical LLC  
Project/Site: 434503

Job ID: 570-40693-1

Method	Method Description	Protocol	Laboratory
8141A	Organophosphorous Pesticides (GC)	SW846	ECL 1
3546	Microwave Extraction	SW846	ECL 1

**Protocol References:**

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

**Laboratory References:**

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494





# Sample Summary

Client: Enthalpy Analytical LLC  
Project/Site: 434503

Job ID: 570-40693-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-40693-1	2819-02-1	Solid	10/02/20 11:20	10/10/20 11:00	
570-40693-2	2819-02-2	Solid	10/02/20 11:20	10/10/20 11:00	
570-40693-3	2819-03-1	Solid	10/02/20 13:55	10/10/20 11:00	
570-40693-4	2819-03-2	Solid	10/02/20 13:55	10/10/20 11:00	

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Subcontract Laboratory:

Eurofins CalScience  
7440 Lincoln Way  
Garden Grove, CA 92841-1432  
ATTN: Xuan Dang  
PO #: Required, to be sent via email

Enthalpy Order: EO-434503

PM: John Goyette  
Email: john.goyette@enthalpy.com  
CC: incomingreports@enthalpy.com  
Phone: (510) 204-2233 Ext 13112

Results Due: Standard TAT

Report Level: II

Report To: RL

EDDs:



570-40693 Chain of Custody

Notes:

Sample ID	Collected	Lab ID	# Cont.	Matrix	Analysis Requested	Comment
2819-02-1	02-OCT-2020 11:20	434503-001	1	Soil	Organophosphorus Pesticides	
2819-02-2	02-OCT-2020 11:20	434503-002	1	Soil	Organophosphorus Pesticides	
2819-03-1	02-OCT-2020 13:55	434503-003	1	Soil	Organophosphorus Pesticides	
2819-03-2	02-OCT-2020 13:55	434503-004	1	Soil	Organophosphorus Pesticides	

Notes:	Relinquished By:	Received By:
	<i>Michael Guler</i>	
	Date: 10/9/20 1313	Date:
		<i>Michael Ei</i>
	Date:	Date: 10/10/2020 11:00
	Date:	Date:

3.2/2.4 scg.

# Login Sample Receipt Checklist

Client: Enthalpy Analytical LLC

Job Number: 570-40693-1

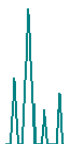
**Login Number: 40693**

**List Source: Eurofins Calscience**

**List Number: 1**

**Creator: Ramos, Maribel**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

**AAL Project #V780****Myounghee Noh & Associates, L.L.C.**

Client Project #: 2819\_2 Method 8015M  
Client Project Name: PH2 Oahu Community Correctional CenMatrix: Soil

CLIENT SAMPLE ID	TPH-GASOLINE [mg/kg]	SURROGATE RECOVERY	FLAGS	DATE ANALYZED
Blank	nd	104%		9/21/2020
2819-11-4	nd	99%		9/21/2020
<b>PQL</b>	10.0	Acceptable Range		
<b>MDL</b>	0.10	70%-130%		

**QA/QC DATA**

QC BATCH #	TPH-GASOLINE [mg/kg]	Acceptable Range
#092120		
Lab Control Spike (LCS)	10.2	7.0-13.0
Matrix Spike (MS)	10.4	7.0-13.0
Matrix Spike Dup (MSD)	10.8	7.0-13.0
Recovery LCS	102%	70%-130%
Recovery MS	104%	70%-130%
Recovery MSD	108%	70%-130%
RPD of MS/MSD	3.4%	20%

Analyst: E. Young

Data review: U. Baumgartner, Ph.D.



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### Analytical Report

<b>Client</b>	<b>Advanced Analytical Laboratory</b> 544 Ohohia Street #10 Honolulu, HI, 96819	<b>Acculab WO#</b>	<b>20-AL0919-4</b>
<b>Project Manager</b>	Uwe Baumgartner/ Elisa Young	Date Sampled	9/16-17/2020
<b>Project Name</b>	<b>PH2 Oahu Community Correctional Center</b>	Date Received	9/19/2020
<b>Client Project#</b>	<b>2819_2</b>	Date Reported	9/23/2020
<b>Project#</b>	<b>V780</b>		

### Volatiles in Soil by EPA 8260D/5030B

Accu Lab Batch# AL092220-1

Client sample ID			2819-11-4	2819-B1	2819-B2	2819-B3		
Lab ID	MRL	Unit	MTH BLK	LCS	20-AL0919-4-1	20-AL0919-4-2	20-AL0919-4-3	20-AL0919-4-4
Matrix			Soil	Soil	Soil	Soil	Soil	Soil
Date Extracted			9/22/2020	9/22/2020	9/16-17/2020	9/16-17/2020	9/16-17/2020	9/16-17/2020
Date Analyzed			9/22/2020	9/22/2020	9/22/2020	9/22/2020	9/22/2020	9/22/2020
Chloromethane	50	ug/kg	nd		nd	nd	nd	nd
Vinyl chloride	20	ug/kg	nd	101%	nd	nd	nd	nd
Bromomethane	50	ug/kg	nd		nd	nd	nd	nd
Chloroethane	50	ug/kg	nd		nd	nd	nd	nd
Trichlorofluoromethane	50	ug/kg	nd		nd	nd	nd	nd
1,1-Dichloroethene	50	ug/kg	nd		nd	nd	nd	nd
Methylene Chloride	20	ug/kg	nd		nd	nd	nd	nd
Methyl T-Butyl Ether (MTBE)	20	ug/kg	nd	107%	nd	nd	nd	nd
trans-1,2-Dichloroethene	20	ug/kg	nd		nd	nd	nd	nd
1,1-Dichloroethane	20	ug/kg	nd	89%	nd	nd	nd	nd
2,2-Dichloropropane	20	ug/kg	nd		nd	nd	nd	nd
cis-1,2-Dichloroethene	20	ug/kg	nd		nd	nd	nd	nd
Chloroform	100	ug/kg	nd		nd	nd	nd	nd
1,1,1-Trichloroethane	20	ug/kg	nd		nd	nd	nd	nd
Carbon tetrachloride	20	ug/kg	nd		nd	nd	nd	nd
1,1-Dichloropropene	20	ug/kg	nd		nd	nd	nd	nd
Benzene	20	ug/kg	nd	98%	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	20	ug/kg	nd		nd	nd	nd	nd
Trichloroethene	20	ug/kg	nd	115%	nd	nd	nd	nd
1,2-Dichloropropane	20	ug/kg	nd		nd	nd	nd	nd
Dibromomethane	20	ug/kg	nd		nd	nd	nd	nd
Bromodichloromethane	20	ug/kg	nd		nd	nd	nd	nd
Toluene	40	ug/kg	nd	100%	nd	nd	nd	nd
1,1,2-Trichloroethane	20	ug/kg	nd		nd	nd	nd	nd
Tetrachloroethene	20	ug/kg	nd	105%	nd	nd	nd	nd
1,3-Dichloropropane	20	ug/kg	nd		nd	nd	nd	nd
Dibromochloromethane	20	ug/kg	nd		nd	nd	nd	nd
1,2-Dibromoethane (EDB)	20	ug/kg	nd		nd	nd	nd	nd

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### Analytical Report

<b>Client</b>	<b>Advanced Analytical Laboratory</b> 544 Ohohia Street #10 Honolulu, HI, 96819	<b>Acculab WO#</b>	<b>20-AL0919-4</b>
<b>Project Manager</b>	Uwe Baumgartner/ Elisa Young	<b>Date Sampled</b>	9/16-17/2020
<b>Project Name</b>	<b>PH2 Oahu Community Correctional Center</b>	<b>Date Received</b>	9/19/2020
<b>Client Project#</b>	<b>2819_2</b>	<b>Date Reported</b>	9/23/2020
<b>Project#</b>	<b>V780</b>		

### Volatiles in Soil by EPA 8260D/5030B

Accu Lab Batch# AL092220-1

Client sample ID					2819-11-4	2819-B1	2819-B2	2819-B3
Lab ID	MRL	Unit	MTH BLK	LCS	20-AL0919-4-1	20-AL0919-4-2	20-AL0919-4-3	20-AL0919-4-4
Matrix			Soil	Soil	Soil	Soil	Soil	Soil
Date Extracted			9/22/2020	9/22/2020	9/16-17/2020	9/16-17/2020	9/16-17/2020	9/16-17/2020
Date Analyzed			9/22/2020	9/22/2020	9/22/2020	9/22/2020	9/22/2020	9/22/2020
Chlorobenzene	20	ug/kg	nd	103%	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	20	ug/kg	nd		nd	nd	nd	nd
Ethyl benzene	40	ug/kg	nd	97%	nd	nd	nd	nd
m,p-Xylenes	100	ug/kg	nd	92%	nd	nd	nd	nd
o-Xylene	40	ug/kg	nd	92%	nd	nd	nd	nd
Styrene	20	ug/kg	nd		nd	nd	nd	nd
Bromoform	100	ug/kg	nd		nd	nd	nd	nd
Isopropyl benzene	20	ug/kg	nd		nd	nd	nd	nd
1,2,3-Trichloropropane	20	ug/kg	nd		nd	nd	nd	nd
Bromobenzene	20	ug/kg	nd		nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	40	ug/kg	nd		nd	nd	nd	nd
n-Propylbenzene	20	ug/kg	nd		nd	nd	nd	nd
2-Chlorotoluene	20	ug/kg	nd		nd	nd	nd	nd
4-Chlorotoluene	20	ug/kg	nd		nd	nd	nd	nd
1,3,5-TrimEthylbenzene	50	ug/kg	nd		nd	nd	nd	nd
tert-Butylbenzene	20	ug/kg	nd		nd	nd	nd	nd
1,2,4-TrimEthylbenzene	50	ug/kg	nd		nd	nd	nd	nd
sec-Butylbenzene	20	ug/kg	nd		nd	nd	nd	nd
1,3-Dichlorobenzene	20	ug/kg	nd		nd	nd	nd	nd
p-Isopropyltoluene	20	ug/kg	nd		nd	nd	nd	nd
1,4-Dichlorobenzene	20	ug/kg	nd		nd	nd	nd	nd
1,2-Dichlorobenzene	20	ug/kg	nd		nd	nd	nd	nd
n-Butylbenzene	40	ug/kg	nd		nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	100	ug/kg	nd		nd	nd	nd	nd
1,2,4-Trichlorobenzene	50	ug/kg	nd		nd	nd	nd	nd
Hexachlorobutadiene	100	ug/kg	nd		nd	nd	nd	nd
Naphthalene	100	ug/kg	nd	94%	nd	nd	nd	nd
1,2,3-Trichlorobenzene	100	ug/kg	nd		nd	nd	nd	nd

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### Analytical Report

<b>Client</b>	<b>Advanced Analytical Laboratory</b> 544 Ohohia Street #10 Honolulu, HI, 96819	<b>Acculab WO#</b>	<b>20-AL0919-4</b>
<b>Project Manager</b>	Uwe Baumgartner/ Elisa Young	<b>Date Sampled</b>	9/16-17/2020
<b>Project Name</b>	<b>PH2 Oahu Community Correctional Center</b>	<b>Date Received</b>	9/19/2020
<b>Client Project#</b>	<b>2819_2</b>	<b>Date Reported</b>	9/23/2020
<b>Project#</b>	<b>V780</b>		

### Volatiles in Soil by EPA 8260D/5030B

Accu Lab Batch# AL092220-1

Client sample ID	2819-11-4		2819-B1		2819-B2		2819-B3		
Lab ID	MRL	Unit	MTH	BLK	LCS	20-AL0919-4-1	20-AL0919-4-2	20-AL0919-4-3	20-AL0919-4-4
Matrix			Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date Extracted			9/22/2020	9/22/2020	9/16-17/2020	9/16-17/2020	9/16-17/2020	9/16-17/2020	9/16-17/2020
Date Analyzed			9/22/2020	9/22/2020	9/22/2020	9/22/2020	9/22/2020	9/22/2020	9/22/2020

### Surrogate Recoveries

Dibromofluoromethane	90%	84%	77%	78%	80%	83%
1,2-Dichloroethane-d4	91%	84%	87%	88%	87%	88%
Toluene-d8	98%	95%	94%	98%	99%	107%
4-Bromofluorobenzene	106%	102%	101%	103%	100%	102%

### Acceptable Recovery Limits:

Surrogates/LCS	70-130%
MS/MSD	65-135%
Acceptable RPD limit:	30%



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### Analytical Report

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<b>Project Manager</b>	Uwe Baumgartner/ Elisa Young	<b>Date Sampled</b>	9/16-17/2020
<b>Project Name</b>	<b>PH2 Oahu Community Correctional Center</b>	<b>Date Received</b>	9/19/2020
<b>Client Project#</b>	<b>2819_2</b>	<b>Date Reported</b>	9/23/2020
<b>Project#</b>	<b>V780</b>		

### Volatiles in Soil by EPA 8260D/5030B

Accu Lab Batch# AL092220-1

Client sample ID			2819-B4	2819-B5	MS	MSD	RPD
Lab ID	<b>MRL</b>	<b>Unit</b>	20-AL0919-4-5	20-AL0919-4-6	20-AL0919-4-6	20-AL0919-4-6	20-AL0919-4-6
Matrix			Soil	Soil	Soil	Soil	Soil
Date Extracted			9/16-17/2020	9/16-17/2020	9/16-17/2020	9/16-17/2020	9/16-17/2020
Date Analyzed			9/22/2020	9/22/2020	9/22/2020	9/22/2020	9/22/2020
Chloromethane	50	ug/kg	nd	nd			
Vinyl chloride	20	ug/kg	nd	nd	111%	106%	4%
Bromomethane	50	ug/kg	nd	nd			
Chloroethane	50	ug/kg	nd	nd			
Trichlorofluoromethane	50	ug/kg	nd	nd			
1,1-Dichloroethene	50	ug/kg	nd	nd			
Methylene Chloride	20	ug/kg	nd	nd			
Methyl T-Butyl Ether (MTBE)	20	ug/kg	nd	nd	93%	97%	4%
trans-1,2-Dichloroethene	20	ug/kg	nd	nd			
1,1-Dichloroethane	20	ug/kg	nd	nd	90%	88%	2%
2,2-Dichloropropane	20	ug/kg	nd	nd			
cis-1,2-Dichloroethene	20	ug/kg	nd	nd			
Chloroform	100	ug/kg	nd	nd			
1,1,1-Trichloroethane	20	ug/kg	nd	nd			
Carbon tetrachloride	20	ug/kg	nd	nd			
1,1-Dichloropropene	20	ug/kg	nd	nd			
Benzene	20	ug/kg	nd	nd	104%	103%	1%
1,2-Dichloroethane (EDC)	20	ug/kg	nd	nd			
Trichloroethene	20	ug/kg	nd	nd	102%	98%	4%
1,2-Dichloropropane	20	ug/kg	nd	nd			
Dibromomethane	20	ug/kg	nd	nd			
Bromodichloromethane	20	ug/kg	nd	nd			
Toluene	40	ug/kg	nd	nd	97%	91%	7%
1,1,2-Trichloroethane	20	ug/kg	nd	nd			
Tetrachloroethene	20	ug/kg	nd	nd	114%	107%	6%
1,3-Dichloropropane	20	ug/kg	nd	nd			
Dibromochloromethane	20	ug/kg	nd	nd			
1,2-Dibromoethane (EDB)	20	ug/kg	nd	nd			

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### Analytical Report

<b>Client</b>	<b>Advanced Analytical Laboratory</b> 544 Ohohia Street #10 Honolulu, HI, 96819	<b>Acculab WO#</b>	<b>20-AL0919-4</b>
<b>Project Manager</b>	Uwe Baumgartner/ Elisa Young	<b>Date Sampled</b>	9/16-17/2020
<b>Project Name</b>	<b>PH2 Oahu Community Correctional Center</b>	<b>Date Received</b>	9/19/2020
<b>Client Project#</b>	<b>2819_2</b>	<b>Date Reported</b>	9/23/2020
<b>Project#</b>	<b>V780</b>		

### Volatiles in Soil by EPA 8260D/5030B

Accu Lab Batch# AL092220-1

Client sample ID			2819-B4	2819-B5	MS	MSD	RPD
Lab ID	<b>MRL</b>	<b>Unit</b>	20-AL0919-4-5	20-AL0919-4-6	20-AL0919-4-6	20-AL0919-4-6	20-AL0919-4-6
Matrix			Soil	Soil	Soil	Soil	Soil
Date Extracted			9/16-17/2020	9/16-17/2020	9/16-17/2020	9/16-17/2020	9/16-17/2020
Date Analyzed			9/22/2020	9/22/2020	9/22/2020	9/22/2020	9/22/2020
Chlorobenzene	20	ug/kg	nd	nd	98%	96%	2%
1,1,1,2-Tetrachloroethane	20	ug/kg	nd	nd			
Ethyl benzene	40	ug/kg	nd	nd	96%	88%	9%
m,p-Xylenes	100	ug/kg	nd	nd	92%	84%	9%
o-Xylene	40	ug/kg	nd	nd	88%	80%	10%
Styrene	20	ug/kg	nd	nd			
Bromoform	100	ug/kg	nd	nd			
Isopropyl benzene	20	ug/kg	nd	nd			
1,2,3-Trichloropropane	20	ug/kg	nd	nd			
Bromobenzene	20	ug/kg	nd	nd			
1,1,2,2-Tetrachloroethane	40	ug/kg	nd	nd			
n-Propylbenzene	20	ug/kg	nd	nd			
2-Chlorotoluene	20	ug/kg	nd	nd			
4-Chlorotoluene	20	ug/kg	nd	nd			
1,3,5-TrimEthylbenzene	50	ug/kg	nd	nd			
tert-Butylbenzene	20	ug/kg	nd	nd			
1,2,4-TrimEthylbenzene	50	ug/kg	nd	nd			
sec-Butylbenzene	20	ug/kg	nd	nd			
1,3-Dichlorobenzene	20	ug/kg	nd	nd			
p-Isopropyltoluene	20	ug/kg	nd	nd			
1,4-Dichlorobenzene	20	ug/kg	nd	nd			
1,2-Dichlorobenzene	20	ug/kg	nd	nd			
n-Butylbenzene	40	ug/kg	nd	nd			
1,2-Dibromo-3-Chloropropane	100	ug/kg	nd	nd			
1,2,4-Trichlorobenzene	50	ug/kg	nd	nd			
Hexachlorobutadiene	100	ug/kg	nd	nd			
Naphthalene	100	ug/kg	nd	nd	73%	76%	4%
1,2,3-Trichlorobenzene	100	ug/kg	nd	nd			

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### Analytical Report

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<b>Project Manager</b>	Uwe Baumgartner/ Elisa Young	<b>Date Sampled</b>	9/16-17/2020
<b>Project Name</b>	<b>PH2 Oahu Community Correctional Center</b>	<b>Date Received</b>	9/19/2020
<b>Client Project#</b>	<b>2819_2</b>	<b>Date Reported</b>	9/23/2020
<b>Project#</b>	<b>V780</b>		

### Volatiles in Soil by EPA 8260D/5030B

Accu Lab Batch# AL092220-1

Client sample ID		2819-B4	2819-B5	MS	MSD	RPD
Lab ID	<b>MRL Unit</b>	20-AL0919-4-5	20-AL0919-4-6	20-AL0919-4-6	20-AL0919-4-6	20-AL0919-4-6
Matrix		Soil	Soil	Soil	Soil	Soil
Date Extracted		9/16-17/2020	9/16-17/2020	9/16-17/2020	9/16-17/2020	9/16-17/2020
Date Analyzed		9/22/2020	9/22/2020	9/22/2020	9/22/2020	9/22/2020

### Surrogate Recoveries

Dibromofluoromethane	92%	95%	93%	91%
1,2-Dichloroethane-d4	95%	96%	95%	98%
Toluene-d8	103%	102%	94%	95%
4-Bromofluorobenzene	105%	100%	101%	103%

### Acceptable Recovery Limits:

Surrogates/LCS	70-130%
MS/MSD	65-135%
Acceptable RPD limit:	30%



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### Analytical Report

<b>Client</b>	Advanced Analytical Laboratory 544 Ohohia Street #10 Honolulu, HI, 96819	<b>Acculab WO#</b>	<b>20-AL0919-4</b>
<b>Project Manager</b>	Uwe Baumgartner/ Elisa Young	Date Sampled	9/16-17/2020
<b>Project Name</b>	<b>PH2 Oahu Community Correctional Center</b>	Date Received	9/19/2020
<b>Client Project#</b>	<b>2819_2</b>	Date Reported	9/23/2020
<b>Project#</b>	<b>V780</b>		

**Data Qualifiers and Comments:**

- MRL-** Method Reporting Limit
- nd-** Indicates the analyte is not detected at the listing reporting limit.
- C-** Coelution with other compounds.
- M-** % Recovery of surrogate, MS/MSD is out of the acceptable limit due to matrix effect.
- B-** Indicates the analyte is detected in the method blank associated with the sample.
- J-** The analyte is detected at below the reporting limit.
- E-** The result reported exceeds the calibration range, and is an estimate.
- D-** Sample required dilution due to matrix. Method Reporting Limits were elevated due to dilutions.
- H-** Sample was received or analyzed past holding time
- Q-** Sample was received with head space, improper preserved or above recommended temperature.
- I-** Due to insufficient sample, LCS/LCS DUP were analyzed in place of MS/MSD.
- R-** The recovery of this analyte in QC sample failed high, but the analyte was not detected in all related samples. No action was taken.
- R-1-** The RPD value for the MS/MSD was outside of QC acceptance limits however both recoveries were acceptable. All related samples were "nd". No action was taken.
- R-2-** The recovery of the surrogate in sample failed high, but all related analytes were not detected in the sample. No action was taken.