Revised Supplemental Investigation Report

Hillcrest Development Site

3283 Hillcrest Road, Medford, Oregon 97504

2-Acre Portion of Map 371W21D and TL 300

ECSI Site ID # 6554

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ALPINE ENVIRONMENTAL CONSULTANTS, LLC

EXECUTIVE SUMMARY

Alpine Environmental Consultants, LLC (AEC) conducted a Supplemental Investigation on an approximately 2-Acre portion of the property addressed as 3283 Hillcrest Road in Medford, Oregon and identified as Map 371W21D and tax lot (TL) 300 (the 2-Acre Parcel). This Supplemental Investigation work involved site-specific soil testing and was conducted in January 2024. The Supplemental Investigation was conducted for Hillcrest Corp as Managing Partner for Cogswell Limited Partnership (Cogswell LP) and for the Oregon Department of Environmental Quality (DEQ).

In April 2022, AEC initiated a Phase I Environmental Site Assessment (ESA) investigation at an approximately 269-acre property identified as the Hillcrest Development Site. The Hillcrest Development Site includes five TLs identified as Map 371W21D and TLs 101 and 300, Map 371W22 and TLs 500 and 501, and Map 371W21A and TL 1400. The 2-Acre Parcel occupies approximately 2 acres and is located in the northwest corner of TL 300, along the western boundary of the Hillcrest Development Site. The 2-Acre Parcel is also identified as Lot 1 and Lot 2 of a pending partition plan for TL 300. Based on a review of the available historical aerial photographs, a potential recognized environmental condition (REC) was initially identified associated with the Hillcrest Development Site. Specifically, the historical use of the Hillcrest Development Site (and of the western and southwestern adjacent properties) for agricultural purposes, specifically as orchards and vineyards, constituted a potential REC. Therefore, AEC recommended a Phase II ESA be conducted to determine if the soil was adversely impacted by pesticide use and constituted a REC or if this issue could be eliminated from further consideration. The Phase II ESA was conducted in July 2022 and included the excavation of 12 test pits (TP1 through TP12) and the investigation of subsurface soil throughout the Hillcrest Development Site. Composite soil samples were collected and analyzed for relevant laboratory analyses to determine if historical agricultural operations had adversely impacted soil at the Hillcrest Development Site at constituent concentrations exceeding potentially applicable generic cleanup levels developed and established by DEQ (risk-based concentrations [RBCs], Clean Fill Values, and naturally occurring background concentrations).

The results of the 2022 Phase II ESA reported the presence of residual pesticides in shallow soil at concentrations exceeding generic RBCs for residential and occupational receptors and construction workers, and at concentrations exceeding Clean Fill Values. The Phase II ESA concluded that additional characterization and potentially remediation of shallow soil at the Hillcrest Development Site might be necessary to ensure future occupational receptors, occupational receptors, and construction workers would not exposed to unacceptable levels of site-related residual pesticides.

The 2-Acre Parcel is planned to be developed for commercial use. Prior to its development, AEC recommended supplemental subsurface work be conducted at the 2-Acre Parcel in order to identify the lateral and vertical extent of residual orchard-related pesticides contamination in

shallow soil and to develop a cost-effective soil removal action plan, if warranted. The Supplemental Investigation field work was conducted in January 2024 and included the excavation of eight test pits (TP13 through TP20). The 2-Acre Parcel was divided into two sections, identified in this report as Decision Units (DUs), specifically DU4 and DU5. DU4 covered the northern portion of the 2-Acre Parcel and included test pits TP13 through TP16. DU5 covered the southern portion of the 2-Acre Parcel and included test pits TP17 through TP20. Five composite soil samples were prepared by the analytical laboratory using Incremental Sampling Methodology (ISM) for each DU area using soil from the four test pits. The composite soil samples were developed from depths of 0.0 to 0.5 feet below ground surface (bgs), 0.5 to 1.0 feet bgs, 1.0 to 1.5 feet bgs, 1.5 to 2.0 feet bgs, and 2.0 to 3.0 feet bgs. These composite samples were labeled as DU4-0-6 and DU5-0-6, DU4-6-12 and DU5-6-12, DU4-12-18 and DU5-12-18, DU4-18-24 and DU5-18-24, and DU4-24-36 and DU5-24-36.

The 10 composite soil samples were submitted for relevant laboratory analyses to determine if historical orchard operations at the 2-Acre Parcel had adversely impacted soil at the 2-Acre Parcel with constituent concentrations exceeding potentially applicable screening levels developed and established by DEQ (RBCs, Clean Fill Values, and naturally occurring background concentrations) and by the Unites States Environmental Protection Agency (USEPA) (relevant Regional Screening Levels [RSLs]).

The generic RBCs applicable to the 2-Acre Parcel are consistent with the planned commercial land use and assume occupational receptors, and construction and excavation workers, will be present at the 2-Acre Parcel. The laboratory analyses of the composite soil samples included 17 metals, organochlorine pesticides, organophosphorus pesticides, and chlorinated herbicides. This analytical suite was based on the review of the detailed historical spray records for the Hillcrest Development Site, which includes the 2-Acre Parcel, and the analytes described in DEQ's *Guidance for Evaluating Residual Pesticides on Lands Used for Agricultural Production* developed in 2006 and updated in 2019.

The Supplemental Investigation analytical data reported several constituents at concentrations above the laboratory reporting limits (MRLs). Overall, the analytical results reported in general a higher concentration of metals and pesticides constituents in the upper 1 foot of soil than in the underlying layer from 1.0 to 3.0 feet bgs. These data demonstrate concentrations of pesticides constituents attenuate fairly rapidly with depth.

Based on an evaluation of the analytical results for the 10 composite soil samples collected at the 2-Acre Parcel, several exceedances were reported. These include the following:

- Arsenic and dieldrin were reported at concentrations above their respective generic RBCs for the *ingestion, dermal contact, and inhalation exposure pathway* for occupational receptors. Arsenic was reported in all composite samples collected from the upper 3.0 feet of soil and dieldrin was reported in composite soil sample collected from the DU4 area from the upper 0.5 feet of soil;
- One constituent, specifically arsenic, was reported at concentrations above its respective generic RBC for the *ingestion, dermal contact, and inhalation exposure pathway* for construction workers. Arsenic was reported in the composite soil samples

collected from the DU4 area from the upper 1.5 feet of soil and from the DU5 area from the upper 2.0 feet of soil.

- Lead and dieldrin were reported at concentrations above the generic RBC for the *leaching to groundwater exposure pathway* for occupational receptors. Lead was reported in the composite soil samples collected from the DU4 area from the upper 1.5 feet of soil and from the DU5 area from the upper 2.0 feet of soil. Dieldrin was reported in composite soil samples collected from the DU4 area and the DU5 area from the upper 1.0 feet of soil.
- Several constituents were reported at concentrations above Clean Fill Values throughout the 2-Acre Parcel. These included arsenic, lead, 4,4'-dichlorodiphenyldichloroethane (4,4'-DDD), 4,4'-dichlorodiphenyldichloroethene (4,4'-DDE), 4,4'-dichlorodiphenyltrichloroethane (4,4'-DDT), and dieldrin at depths ranging from 0.0 to 3.0 feet bgs.
- Several constituents were reported at concentrations above the USEPA's RSLs, specifically above the RSLs for industrial and worker receptors for ingestion exposure pathway (arsenic), for dermal exposure pathway (arsenic), and for carcinogenic exposure pathway (arsenic and dieldrin).

While generic RBCs for occupational receptors and construction workers were exceeded for the aforementioned constituents and exposure pathways, potential risks to human health associated with these constituents and exposure pathways can be managed, mitigated, and/or eliminated from further concern, as follows:

- The generic occupational RBC under the *soil ingestion, dermal contact, and inhalation exposure pathway* assumes occupational receptors are likely to come into contact with contaminated soils found in the upper 3 feet of soil. The concentrations of arsenic in the upper 3 feet of soil in the DU4 and DU5 areas and dieldrin in the upper 0.5 feet of soil in the DU4 area exceeded this RBC. The reported concentrations of arsenic in soil collected from the upper 1.5 feet and 0.5 feet, respectively, also exceeded the naturally occurring background concentrations. AEC recommends institutional and/or engineering controls be implemented to address this impacted soil. Institutional and/or engineering control options to protect occupational receptors include but are not limited to the following: paving; removal of shallow soil and/or covering the property with a 3-foot layer of clean compacted fill material; developing an asphalt cap maintenance plan; developing a Contaminated Media Management Plan (CMMP) approved by DEQ; and/or applying a deed notice (e.g. to ensure the asphalt cap is maintained).
- The generic construction workers RBC for total arsenic under the *soil ingestion, dermal contact, and inhalation exposure pathway* assumes construction workers could be exposed over 1 year to arsenic during construction activities involving the disturbance of impacted-soils. However, it is unlikely construction workers would be working at the 2-Acre Parcel continuously for 1 year. Furthermore, this risk could be easily mitigated with proper communication to future construction workers requiring dust suppression and/or that they wear appropriate personal protective equipment (PPE) and follow proper decontamination procedures subsequent to working in order to avoid exposure

and health risks. The procedures documenting proper communication, appropriate PPE, and proper decontamination could be documented in a CMMP approved by DEQ.

- The generic occupational RBC for total lead and dieldrin under the *leaching to groundwater exposure pathway* conservatively assumes that a water supply well is being used at the 2-Acre Parcel or proximal to it, and that these constituents could be leached from the shallow soil, impact groundwater, and that occupational receptors could subsequently be exposed to these constituents in drinking water. According to the Hillcrest Development Site's owner, the Hillcrest Development Site is planned to be serviced with municipal water by the Medford Water Commission. Based on the findings of a Groundwater Beneficial Use Survey, the available data suggest there are no water supply wells within the 2-Acre Parcel and within ¼-mile of the 2-Acre Parcel. It is also reasonable and likely to assume current and future occupational receptors and residential receptors in this area will continue to be provided with municipal water in the future. Based on professional judgment, groundwater flow direction at the 2-Acre Parcel is assumed to be to the west-northwest towards Lone Pine Creek and/or to the south-southwest towards Lazy Creek. Therefore, given the municipal water use, the absence of documented water supply wells at the 2-Acre Parcel and within ¼-mile of the 2-Acre Parcel for domestic or occupational uses, and the assumed groundwater flow direction, it is highly unlikely potentially leached lead and dieldrin from the shallow soil into groundwater at the 2-Acre Parcel will pose an unacceptable risk to occupational receptors at the 2-Acre Parcel. To completely eliminate the potential risk that leaching of lead and dieldrin to groundwater might pose to occupational receptors at the 2-Acre Parcel, a deed notice could be developed and applied that prohibits the installation of wells to supply water to occupational receptors at the 2-Acre Parcel.
- The Clean Fill Values were exceeded by several constituents (arsenic, lead, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, and dieldrin) in the investigated upper 3 feet of soil throughout the 2-Acre Parcel. If soil at this depth throughout the 2-Acre Parcel is excavated, it can be reused at the Hillcrest Development Site. For example, it could be placed in the Buffer Garden area as part of a Soil Removal Action Plan. However, if this soil is exported off of the Hillcrest Development Site, it should be managed appropriately to ensure it does not adversely impact ecological receptors. For example, this soil could be properly disposed of at a quarry under a DEQ-approved Solid Waste Letter of Authorization (SWLA).

The available data indicate historical orchard practices at the 2-Acre Parcel involving pesticides have adversely impacted soil. The available data reflect the adverse impacts are in the soil within the investigated interval of 0.0 to 3.0 feet bgs. Based on these findings and accounting for the inherent uncertainties associated with any subsurface investigation, AEC recommends the following:

- Consider developing and applying a deed notice that prohibits the installation of wells to supply water to occupational receptors at the 2-Acre Parcel unless groundwater investigations are conducted prior to well installation.
- Consider developing a Health and Safety Plan (HASP). The HASP should inform the future construction workers of the contaminants present in shallow soil at the 2-Acre Parcel, and should require the construction workers to wear appropriate PPE and to

follow proper decontamination procedures subsequent to working in order to avoid exposure and health risks. The procedures documenting proper communication, appropriate PPE, and proper decontamination could be also documented in a CMMP approved by DEQ.

- During development activities, appropriately manage potential risks associated with residual pesticides concentrations in shallow soil that are above generic RBCs (e.g. arsenic and dieldrin) and/or Clean Fill values (e.g. arsenic, lead, 4,4'-DDE, 4,4'-DDD, 4,4'-DDT, and dieldrin) in the upper 3.0 feet throughout the 2-Acre Parcel. If the upper 3 feet of soil at the 2-Acre Parcel is to be excavated during development and moved off of the Hillcrest Development Site, the soil should be disposed of consistent with DEQ regulations, examples being disposal under a DEQ-approved SWLA or disposal at an approved landfill (e.g. Dry Creek Landfill). If soil below 3 feet bgs is planned to be excavated, it should be assumed Clean Fill Values have been exceeded for organochlorine pesticides have been exceeded unless additional organochlorine pesticides characterization has been completed.
- It should be noted that per the *Clean Fill Determinations* Internal Management Directive (DEQ, 2019), any soil with petroleum-like staining or a petroleum-like odor does not qualify as Clean Fill and should not be exported from the Hillcrest Development Site unless it is properly managed.
- The most cost-effective solution for addressing impacted soils at the 2-Acre Parcel will likely involve soil removal and placement on the Buffer Garden area south of the 2-Acre Parcel on the Hillcrest Development Site. This work could be completed under a Soil Removal Action Plan and a Soil Repository Management Plan approved by DEQ, which would also be supportive of obtaining a No Further Action (NFA) Letter from DEQ.

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AEC	Alpine Environmental Consultants, LLC
ALS	ALS Group USA, Corp. dba ALS Environmental
bgs	below ground surface
CMMP	Contaminated Media Management Plan
4,4'-DDD	4,4'-Dichlorodiphenyldichloroethane
4,4'-DDE	4,4'-Dichlorodiphenyldichloroethene
4,4'-DDT	4,4'-Dichlorodiphenyltrichloroethane
DEQ	Department of Environmental Quality
DU	Decision Unit
ECSI	Environmental Cleanup Site Information
EFU	Exclusive Farm Use
ESA	Environmental Site Assessment
HASP	Health and Safety Plan
ICPMS	Inductively Coupled Plasma Mass Spectrometry
ISM	Incremental Sampling Methodology
ITRC	Interstate Technology and Regulatory Council
MCPA	2-methyl-4-chlorophenoxyacetic acid
NFA	No Further Action
PPE	personal protective equipment
mg/kg	milligrams per kilogram
MRL	method reporting limit
PPE	personal protective equipment
RBCs	risk-based concentrations
RBDM	Risk-Based Decision Making
REC	recognized environmental condition
RSLs	regional screening levels
SWLA	Solid Waste Letter of Authorization
TL	tax lot
VCP	Voluntary Cleanup Pathway
USEPA	United States Environmental Protection Agency
WRD	Water Resources Department

1 INTRODUCTION

Alpine Environmental Consultants, LLC (AEC) has prepared this report to present the findings of the Supplemental Investigation conducted at the property identified as the 2-Acre portion of Map 371W21D and Taxlot (TL) 300, addressed as 3285 Hillcrest Road in Medford, Oregon (hereinafter referred to as the 2-Acre Parcel). The Supplemental Investigation was conducted for Hillcrest Corp as Managing Partner for Cogswell Limited Partnership (Cogswell LP), the current owner of the 2-Acre Parcel, and the Oregon Department of Environmental Quality (DEQ).

The initial Supplemental Investigation Report was submitted to DEQ on April 9, 2024. Ms. Sarah Eagle of DEQ provided comments on the initial report in an email dated June 14, 2024, and this Revised Supplemental Investigation Report incorporates responses to these comments.

1.1 2-Acre Parcel Description

The 2-Acre Parcel occupies approximately 2 acres of undeveloped land and is located in the northwest corner of TL 300 of Map 371W21D. The 2-Acre Parcel is also identified as Lot 1 and Lot 2 of TL 300. The Hillcrest Development Site includes five TLs identified as Map 371W21D and TLs 101 and 300, Map 371W22 and TLs 500 and 501, and Map 371W21A and TL 1400. The 2-Acre Parcel occupies approximately 2 acres and is located in the northwest corner of TL 300, along the western boundary of the Hillcrest Development Site. The 2-Acre Parcel is also identified as Lot 1 and Lot 2 of a pending partition plan for TL 300. The location of the Hillcrest Development Site is shown on **Figure 1** and **Figure 2**. The location of the 2-Acre Parcel is shown on **Figure 2**, **Figure 3**, and **Figure 4**. The entire Hillcrest Development Site, including the 2-Acre Parcel, is currently owned by Cogswell LP.

The topography at the 2-Acre Parcel slopes to the north-northwest. The headwaters of Lone Pine Creek are located approximately 0.3 miles to the northwest of the 2-Acre Parcel and Lone Pine Creek flows to the northwest towards Bear Creek. The groundwater flow direction at the 2-Acre Parcel is assumed to be to the north-northwest towards Lone Pine Creek and ultimately Bear Creek.

According to the City of Medford Zoning Map and Jackson County Zoning Map, the 2-Acre Parcel is located within the City of Medford's Urban Growth Boundary (UGB) and has been rezoned from Exclusive Farm Use to a Neighborhood and Community Commercial Use.

1.2 Hillcrest Development Site Background

The approximately 269-acre Hillcrest Development Site, which includes the 2-Acre Parcel, has been used for agricultural purposes since approximately 1900. Reportedly, tree fruit production started in 1897. Limited vineyard and other crops have also been cultivated. A major shift occurred in the early 2000s, from orchard cultivation to viticulture. Hillcrest Orchards operated

on the approximately 269-acre Hillcrest Development Site from approximately 1908 through today.

Prior to redevelopment, Cogswell LP retained AEC to investigate the potential for environmental impacts at this property. AEC prepared a Phase I Environmental Site Assessment (ESA) report in June 2023 and a Phase II ESA report in July 2023. Both of these reports have been shared with DEQ. The Phase II ESA investigation was completed to characterize potential impacts to shallow soil associated with the historical use of the Hillcrest Development Site as an orchard. The results of the Phase II ESA reported residual pesticides are present in shallow soil at concentrations exceeding generic risk-based concentrations (RBCs) for residential, occupational, and construction worker receptors and at concentrations exceeding DEQ's Clean Fill Values described in DEQ's *Clean Fill Determinations* Internal Management Directive (DEQ, February 2019).

Recognizing additional characterization and potentially remediation of shallow soil at the Hillcrest Development Site will be necessary, Cogswell LP personnel applied to DEQ's Voluntary Cleanup Pathway (VCP). The approximately 269-acre Hillcrest Development Site was entered into the VCP program and Environmental Cleanup Site Information (ECSI) database as File #6554.

Prior to future commercial construction at the 2-Acre Parcel, AEC anticipated remedial action through the removal of shallow soil with concentrations of pesticides concentrations exceeding generic RBCs for *the ingestion, dermal contact, and inhalation exposure pathway* for occupational receptors, and/or construction workers would be required. As described in an email from Mr. Jonathan Williams of AEC to DEQ dated November 16, 2023, Cogswell LP has been in negotiations to sell the 2-Acre Parcel to a company that plans to construct a hardware store, parking areas, and landscaping. The Conceptual Hillcrest District Plan is illustrated on **Figure 3** and shows the 2-Acre Parcel which is now zoned Community Commercial.

In order to identify the lateral and vertical extent of residual orchard-related pesticides contamination in shallow soil and to develop a cost-effective soil removal action plan, if warranted, AEC recommended a Supplemental Investigation be conducted at the 2-Acre Parcel prior to its development. AEC and Cogswell LP submitted a Supplemental Investigation Work Plan for the 2-Acre Parcel on December 7, 2023. In an email from Ms. Sarah Eagle of DEQ to Mr. Jonathan Williams of AEC dated January 12, 2024, DEQ approved the Supplemental Investigation Work Plan.

1.3 Supplemental Investigation Objectives

The objectives of this Supplemental Investigation were the following:

- Collect site-specific soil quality data to identify the lateral and vertical extent of residual pesticides contamination associated with historical orchard use that is present in shallow soil at concentrations exceeding generic RBCs for *the ingestion, dermal contact, and inhalation exposure pathway* for occupational receptors and construction workers on the 2-Acre Parcel.

- Collect a technically defensible dataset needed to develop a cost-effective soil Removal Action Plan, if warranted, such that post-excavation soil concentrations will not pose unacceptable risks to future occupational receptors and construction workers.

The Supplemental Investigation process is presented in **Section 2**, data evaluation is presented in **Section 3**, and conclusions and recommendations are presented in **Section 4**.

2 SUPPLEMENTAL INVESTIGATION

The Supplemental Investigation included soil sampling. The Supplemental Investigation field work was conducted on January 22, 2024, and a summary of the field methods and observations is presented in **Section 2.1**. The analytical results of the soil samples and their interpretation are included in **Section 3**. Conclusions and recommendations are presented in **Section 4**. The photographic documentation is included in **Appendix 1**. The complete laboratory results are included in **Appendix 2**. The Groundwater Beneficial Use Survey technical memorandum is included in **Appendix 3**. The location of the Hillcrest Development Site is shown on **Figure 1** and **Figure 2**. The location of the 2-Acre Parcel is shown on **Figure 2**, **Figure 3**, and **Figure 4** and test pit sampling locations from January 2024 are shown on **Figure 4**. The analytical results of the discrete and composite soil samples are summarized in **Table 1** through **Table 4**.

2.1 Pre-Excavation

Prior to any subsurface disturbances, the underground infrastructure of pipes, mains, and utility lines were located at the 2-Acre Parcel. AEC contacted the Utility Notification Center in order to locate and trace any potential public underground utilities. Test pit locations were also cleared by Mr. Terry Light of Cogswell LP to ensure no private underground utilities would be impacted.

2.2 Test Pit Soil Sampling

On January 22, 2024 AEC supervised the excavation of 8 test pits on the 2-Acre Parcel Property identified as TP13 through TP20. The test pits were excavated using a small excavator by personnel from Applegate Excavation of Jacksonville, Oregon. Soil samples, lithologic characterization, and field screening were logged by Mr. Toby Shallcross (Project Geologist) and checked by Mr. Jonathan Williams (Oregon Registered Geologist) of AEC.

Based on the 2-Acre Parcel's layout, AEC divided the 2-Acre Parcel into two investigation areas, referred to in this report as decision units (DUs). The northern portion of the 2-Acre Parcel was identified as DU4 and included test pits TP13 through TP16. The southern portion of the 2-Acre Parcel was identified as DU5 and included test pits TP17 through TP20. The 2-Acre Parcel's DUs are shown on **Figure 4**.

The sampling objective at each test pit was to collect five soil subsamples representing the uppermost 0.0 to 3.0 feet of native soil. No non-native fill was observed in any of the test pits. Therefore, the eight test pits were excavated to a depth of approximately 3.0 feet below ground surface (bgs) and AEC personnel collected five depth discrete soil subsamples over this depth interval from each test pit. Soil subsamples representative of the native soil from five depth intervals were collected at each test pit by scraping an equal and representative volume of soil off of the test pit walls over the desired depth intervals using gloved hands and/or a decontaminated stainless-streel trowel and placed in ziploc bags. The soil in the ziploc bags was

then thoroughly homogenized using gloved hands. Larger sized material (i.e., gravel greater than approximately ¼ to ½ inch in diameter) was removed by hand.

The five soil subsamples collected from each of the eight tests pit were collected from the following depths: 0.0 to 0.5 feet bgs, 0.5 to 1.0 feet bgs, 1.0 to 1.5 feet bgs, 1.5 to 2.0 feet bgs, and 2.0 to 3.0 feet bgs. Accordingly, a total of 40 subsamples were collected. Before and between the excavation of each test pit, the small excavator bucket was swept clean with a broom. The stainless-steel trowels were cleansed prior to each use by scrubbing with a brush and an Alconox solution and rinsed with de-ionized water.

The rationale for collecting five soil subsamples at each test pit location was that depth discrete analytical results should help characterize the vertical extent and attenuation with depth of potential impacts by pesticide constituents. The concept of depth discrete subsamples is also documented in the DEQ's *Evaluating Residual Pesticides on Lands Formerly Used for Agricultural Production* Guidance of 2006 that was updated in June 2019 (DEQ, June 2019). The sample depth density under the Supplemental Investigation is more rigorous than DEQ's guidance.

Once all the depth discrete soil subsamples were collected, 10 composite soils samples were created by the Apex Laboratories, LLC (Apex) of Tigard, Oregon. The 10 composite soil samples were homogenized by Apex using equal volumes of soil using the Incremental Sampling Methodology (ISM) developed by the Interstate Technology and Regulatory Council (ITRC). Apex created the following 10 composite soil samples:

- Depth discrete soil subsamples collected from the 0.0 to 0.5 feet bgs interval: composite soil sample DU4-0-6 (soil subsamples from test pits TP13 through TP16) and DU5-0-6 (TP17 through TP20);
- Depth discrete soil subsamples collected from the 0.5 to 1.0 feet bgs interval: composite soil sample DU4-6-12 (soil subsamples from test pits TP1 through TP4) and DU5-6-12 (TP17 through TP20);
- Depth discrete soil subsamples collected from the 1.0 to 1.5 feet bgs interval: composite soil sample DU4-12-18 (soil subsamples from test pits TP13 through TP16) and DU5-12-18 (TP17 through TP20);
- Depth discrete soil subsamples collected from the 1.5 to 2.0 feet bgs interval: composite soil sample DU4-18-24 (soil subsamples from test pits TP13 through TP16) and DU5-18-24 (TP17 through TP20; and
- Depth discrete soil subsamples collected from the 2.0 to 3.0 feet bgs interval: composite soil sample DU4-24-36 (soil subsamples from test pits TP13 through TP16) and DU5-24-36 (TP17 through TP20).

After soil sample collection was completed, the test pits were backfilled and compacted using the small excavator as described above.

2.3 Soil Laboratory Analyses

All soil samples were placed in iced coolers and submitted to Apex under standard chain-of-custody protocol. The 10 composite soil samples developed by Apex were submitted for the following analyses:

- 17 metals (i.e. antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, mercury, molybdenum, selenium, silver, thallium, vanadium, and zinc) by USEPA Methods 6020B by inductively coupled plasma and a mass spectrometer (ICPMS);
- Organochlorine pesticides by USEPA Method 8081B;
- Organophosphorus pesticides by USEPA Method 8270E; and
- Chlorinated herbicides by USEPA Method 8151A (note that APEX subcontracted the chlorinated herbicides analysis to Eurofins Environmental Testing of Tustin, California).

Copies of the final analytical laboratory reports for the 2-Acre Parcel analytical soil results are included in **Appendix 2**. The analytical results for soil samples are summarized in **Table 1** through **Table 4.** The metals results are presented in **Table 1**, the organochlorine pesticides in **Table 2**, the organophosphorus pesticides in **Table 3**, and the chlorinated herbicides in **Table 4**. In addition to presenting the analytical results, **Table 1** through **Table 4** also identify relevant DEQ generic RBCs and Clean Fill Values for soil. The generic RBCs identified in these tables are consistent with the anticipated future land use and zoning and assume occupational receptors and construction and excavation workers will be present on the 2-Acre Parcel.

3 DATA EVALUATION

The soil samples analytical results are included in **Appendix 2** and summarized in **Table 1** through **Table 4.** The analytical results reported several constituents at concentrations that exceed the laboratory method reporting limits (MRLs) in several soil samples. These constituents were further compared to the following screening levels:

- DEQ's relevant generic RBCs, including the following receptors and exposure pathways: the occupational receptors, construction workers, and excavation workers *ingestion, dermal contact, and inhalation exposure pathway*; the occupational receptors *volatilization to outdoor air exposure pathway*; and the occupational receptors *leaching to groundwater exposure pathway*. Risk-based concentrations are referenced from the June 2023 updated generic tables of the DEQ's *Risk-Based Decision Making (RBDM) for the Remediation of Contaminated Sites* guidance document (DEQ, 2017).
- USEPA's regional screening levels (RSLs) for industrial and worker receptors presented with target cancer risk of 1E-6 and non-cancer hazard index of 1. The RSLs are referenced from the May 2022 update to the USEPA Generic Tables.
- Clean Fill Values listed in the DEQ's *Clean Fill Determinations* Internal Management Directive dated February 21, 2019 (DEQ, February 2019). Note that the Clean Fill Values for metals equal the naturally occurring background concentrations.
- The naturally occurring background concentrations of metals in soil developed for the Cascade Range region, which includes the Medford area and the 2-Acre Parcel. The background concentrations are derived from DEQ's Technical Report entitled *Development of Oregon Background Metals Concentrations in Soil* (DEQ, 2013). The background concentrations are a type of average defined as the 95 percent upper predictive limits.

The reported data are summarized in the following paragraphs.

3.1 Total Metals

Based on AEC's experience working on properties in the Rogue Valley used as orchards, arsenic and lead associated with the historical application of pesticide formulations containing lead arsenate is prevalent in shallow soils. The composite soil samples were analyzed for 17 metals, including arsenic and lead. Arsenic, barium, beryllium, chromium, cobalt, copper, lead, nickel, vanadium, and zinc were reported at concentrations that exceeded the laboratory MRLs in all composite soil samples. Arsenic and lead were the only metals reported at concentrations above the generic applicable RBCs.

Arsenic

Arsenic was reported in all composite soil samples at concentrations ranging from 9.59 to 88.3 milligrams per kilogram (mg/kg). The reported concentration of arsenic exceeded several cleanup levels, as follows:

- All reported concentrations exceeded the generic RBC for the *ingestion, dermal contact, and inhalation exposure pathway* for occupational receptors of 1.9 mg/kg.
- The reported concentrations of arsenic in the composite soil samples collected from the DU4 area (from a depth interval of 0.0 to 1.5 feet bgs) and from the DU5 area (from a depth interval of 0.0 to 2.0 feet bgs) exceeded the generic RBCs for the *ingestion, dermal contact, and inhalation exposure pathway* for construction workers of 15 mg/kg.
- Most of the reported concentrations of arsenic were below the naturally occurring background concentration and Clean Fill Value of 19 mg/kg. Nevertheless, several reported concentrations of arsenic exceeded the naturally occurring background concentration and Clean Fill Value. These included the concentrations reported in the composite soil samples collected from the DU4 and DU5 areas from a depth interval of 0.0 to 1.5 feet bgs.
- The reported concentrations of arsenic also exceeded the USEPA's RSLs for industrial and worker receptors for ingestion exposure pathway (3.60 mg/kg) (in all eight composite samples), dermal exposure pathway (17 mg/kg) (in the composite samples from the DU4 and DU5 areas from a depth interval of 0.0 to 1.5 feet bgs), and carcinogenic exposure pathway (3.0 mg/kg) (in all eight composite samples).

While arsenic concentrations exceed the abovementioned RBCs and RSLs, potential risks to human health associated with this constituent and exposure pathways can be managed, mitigated, and/or eliminated from further concern, as follows:

- The generic occupational RBC for total arsenic under the *soil ingestion, dermal contact, and inhalation exposure pathway* assumes occupational receptors are likely to come into contact with contaminated soils found in the upper 3 feet of soil. The reported concentrations of arsenic exceeded the generic RBC for this exposure pathway in several analyzed composite soil samples, though it exceeded the naturally occurring background concentration in the upper 1.5 feet of soil. AEC recommends institutional and/or engineering controls be implemented to address the impacted area. Institutional and/or engineering control options to protect occupational receptors include but are not limited to the following: paving; removal of shallow soil and/or covering the property with a 3-foot layer of clean compacted fill material; developing an asphalt cap maintenance plan; developing a Contaminated Media Management Plan (CMMP) approved by DEQ; and/or applying a deed notice (e.g. to ensure the asphalt cap is maintained).
- The generic construction workers RBC for total arsenic under the *soil ingestion, dermal contact, and inhalation exposure pathway* assumes construction workers could be exposed over 1 year to arsenic during construction activities involving the disturbance of impacted-soils. However, it is unlikely construction workers would be working at the 2-Acre Parcel continuously for 1 year. Furthermore, this risk could be easily mitigated

with proper communication to future construction workers requiring dust suppression and/or that they wear appropriate personal protective equipment (PPE) and follow proper decontamination procedures subsequent to working in order to avoid exposure and health risks. The procedures documenting proper communication, appropriate PPE, and proper decontamination could be documented in a CMMP approved by DEQ.

- The arsenic in the upper 1.5 feet of soil exceeded the Clean Fill Values throughout the 2-Acre Parcel. See Section 3.3 for Clean Fill data evaluation.

Lead

Lead was reported in all discrete and composite soil samples at concentrations above the laboratory MRL, specifically ranging from 15.9 to 307 mg/kg. The reported concentrations of lead in the composite soil samples collected from the DU4 area from a depth interval of 0.0 to 1.5 feet bgs and from the DU5 area from a depth interval of 0.0 to 2.0 feet bgs exceeded the generic RBC for the *leaching to groundwater exposure pathway* for occupational receptors of 30 mg/kg. These concentrations in these composite soil samples also exceeded the naturally occurring background concentration and Clean Fill Value of 34 mg/kg (see Section 3.3 for Clean Fill data evaluation).

While the concentrations of lead exceeded the generic RBCs for occupational receptors, potential risks to human health can be managed, mitigated, and/or eliminated from further concern. The generic occupational RBC for total lead under the *leaching to groundwater exposure pathway* conservatively assumes that a water supply well is being used at the 2-Acre Parcel or proximal to the 2-Acre Parcel, and that lead could be leached from the shallow soil, impact groundwater, and that occupational receptors could subsequently be exposed to lead in drinking water. According to the Hillcrest Development Site's owner, the 2-Acre Parcel will be serviced with municipal water by the Medford Water Commission. Based on the findings of a Groundwater Beneficial Use Survey described in **Appendix 3**, the available data suggest there are no water supply wells within the 2-Acre Parcel and within ¼-mile of the 2-Acre Parcel. It is also reasonable and likely to assume current and future occupational receptors and residential receptors in this area will continue to be provided with municipal water in the future. Based on professional judgment, groundwater flow direction at the 2-Acre Parcel is assumed to be to the west-northwest towards Lone Pine Creek and/or to the south-southwest towards Lazy Creek. Therefore, given the municipal water use, the absence of documented water supply wells at the 2-Acre Parcel and within ¼-mile of the 2-Acre Parcel for domestic or occupational uses, and the assumed groundwater flow direction, it is highly unlikely potentially leached lead from the shallow soil into groundwater at the 2-Acre Parcel will pose an unacceptable risk to occupational receptors at the 2-Acre Parcel. Furthermore, lead concentrations attenuate to below their respective generic RBCs for the *leaching to ground water exposure pathway* within the upper 2 feet of soil, indicating limited leaching is occurring. To completely eliminate the potential risk that leaching lead to groundwater might pose to occupational receptors at the 2-Acre Parcel, a deed notice could be developed and applied that prohibits the installation of wells to supply water to occupational receptors at the 2-Acre Parcel.

Total metals results are summarized in **Table 1**.

3.2 Organochlorine Pesticides

Several organochlorine pesticides were reported at concentrations above the laboratory MRLs in the analyzed composite soil samples. The organochlorine pesticides MRLs were below the generic applicable RBCs. The organochlorine pesticides results are summarized in **Table 2**.

One of the organochlorine pesticides reported at concentrations above the laboratory MRLs was dieldrin. Dieldrin was reported at concentrations ranging from 0.00189 mg/kg to 0.159 mg/kg, and some of these concentrations exceeded several screening levels, as follows:

- The concentration of dieldrin reported in the composite sample collected from the DU4 area from a depth of 0.0 to 0.5 feet bgs exceeded the generic RBC for occupational receptors for the *ingestion, dermal contact, and inhalation exposure pathway* for occupational receptors of 0.14 mg/kg.
- The concentrations of dieldrin reported in the composite samples collected from the DU4 and DU5 areas from a depth of 0.0 to 1.0 feet bgs exceeded the generic RBC for occupational receptors for the *leaching to groundwater exposure pathway* for occupational receptors of 0.030 mg/kg.
- The concentration of dieldrin reported in the composite sample collected from the DU4 area from a depth of 0.0 to 0.5 feet bgs also exceeded the USEPA's RSLs for industrial and worker receptors for carcinogenic exposure pathway (0.14 mg/kg).
- The concentrations of dieldrin reported in the composite samples collected from the DU4 area from a depth of 0.0 to 1.5 feet bgs and from DU5 from a depth of 0.0 to 2.0 feet bgs exceeded the Clean Fill Value of 0.0045 mg/kg (see Section 3.3 for Clean Fill data evaluation).

In addition, 4,4'-dichlorodiphenyldichloroethane (4,4'-DDD), 4,4'-dichlorodiphenyldichloroethene (4,4'-DDE), and 4,4'-dichlorodiphenyltrichloroethane (4,4'-DDT) were also reported in the composite samples at concentrations that exceeded their respective Clean Fill Values (see **Section 3.3** for Clean Fill data evaluation).

While dieldrin concentrations exceed the abovementioned RBCs and RSLs, potential risks to human health associated with this constituent and exposure pathways can be managed, mitigated, and/or eliminated from further concern, as follows:

- The generic occupational RBC for dieldrin under the *soil ingestion, dermal contact, and inhalation exposure pathway* assumes occupational receptors are likely to come into contact with contaminated soils found in the upper 3 feet of soil. The reported concentrations of dieldrin exceeded the RBC for this exposure pathway in the composite soil sample collected from the DU4 area from a depth of 0.0 to 0.5 feet bgs. AEC recommends institutional and/or engineering controls be implemented to address the impacted area. Institutional and/or engineering control options to protect occupational receptors include but are not limited to the following: paving; removal of shallow soil and/or covering the property with a 3-foot layer of clean compacted fill material; developing an asphalt cap maintenance plan; developing a CMMP approved by DEQ; and/or applying a deed notice (e.g. to ensure the asphalt cap is maintained).

The generic occupational RBC for dieldrin under the *leaching to groundwater exposure pathway* conservatively assumes that a water supply well is being used at the 2-Acre Parcel or proximal to the 2-Acre Parcel, and that dieldrin could be leached from the shallow soil, impact groundwater, and that occupational receptors could subsequently be exposed to dieldrin in drinking water. According to the Hillcrest Development Site's owner, the 2-Acre Parcel will be serviced with municipal water by the Medford Water Commission. Based on the findings of a Groundwater Beneficial Use Survey described in **Appendix 3**, the available data suggest there are no water supply wells within the 2-Acre Parcel and within ¼-mile of the 2-Acre Parcel. It is also reasonable and likely to assume current and future occupational receptors and residential receptors in this area will continue to be provided with municipal water in the future. Based on professional judgment, groundwater flow direction at the 2-Acre Parcel is assumed to be to the west-northwest towards Lone Pine Creek and/or to the south-southwest towards Lazy Creek. Therefore, given the municipal water use, the absence of documented water supply wells at the 2-Acre Parcel and within ¼-mile of the 2-Acre Parcel for domestic or occupational uses, and the assumed groundwater flow direction, it is highly unlikely potentially leached dieldrin from the shallow soil into groundwater at the 2-Acre Parcel will pose an unacceptable risk to occupational receptors at the 2-Acre Parcel. To completely eliminate the potential risk that leaching dieldrin to groundwater might pose to occupational receptors at the 2-Acre Parcel, a deed notice could be developed and applied that prohibits the installation of wells to supply water to occupational receptors at the 2-Acre Parcel.

3.3 Organophosphorus Pesticides

The analytical results reported no organophosphorus pesticides at concentrations above the laboratory MRLs in the analyzed composite soil samples. There are no established RBCs for organophosphorus pesticides. The organophosphorus pesticides MRLs were below their respective Clean Fill Values with the exception of the MRLs for dichlorvos. The organophosphorus pesticides results are summarized in **Table 3**.

3.4 Chlorinated Herbicides

The analytical results reported no chlorinated herbicides at concentrations above the laboratory MRLs in the analyzed composite soil samples. The chlorinated herbicides MRLs were below the generic applicable RBCs with the exception of the MRLs for 2-Methyl-4-chlorophenoxyacetic (MCPA), which exceeded the RBC for the l*eaching to groundwater exposure pathway* for occupational receptors. The chlorinated herbicides results are summarized in **Table 4**.

The MRLs for MCPA in soil typically exceed the generic RBC for the l*eaching to groundwater exposure pathway* for occupational receptors due to a combination of the relatively low generic RBC concentration and limitations of current analytical equipment. The leachability of MCPA from soil is reportedly high, so there are concerns that even though there were no reported concentrations of MCPA in the soil samples, there could still be a potential risk to human receptors utilizing groundwater proximal to the 2-Acre Parcel.

According to the Hillcrest Development Site's owner, the 2-Acre Parcel will be serviced with municipal water by the Medford Water Commission. Based on the findings of a Groundwater

Beneficial Use Survey described in **Appendix 3**, the available data suggest there are no water supply wells within the 2-Acre Parcel and within ¼-mile of the 2-Acre Parcel. It is also reasonable and likely to assume current and future occupational receptors and residential receptors in this area will continue to be provided with municipal water in the future. Based on professional judgment, groundwater flow direction at the 2-Acre Parcel is assumed to be to the west-northwest towards Lone Pine Creek and/or to the south-southwest towards Lazy Creek. Therefore, given the municipal water use, the absence of documented water supply wells at the 2-Acre Parcel and within ¼-mile of the 2-Acre Parcel for domestic or occupational uses, and the assumed groundwater flow direction, it is highly unlikely potentially leached MCPA from the shallow soil into groundwater at the 2-Acre Parcel will pose an unacceptable risk to occupational receptors at the 2-Acre Parcel. To completely eliminate the potential risk that leaching dieldrin to groundwater might pose to occupational receptors at the 2-Acre Parcel, a deed notice could be developed and applied that prohibits the installation of wells to supply water to occupational receptors at the 2-Acre Parcel.

3.5 Clean Fill Determination

Based on the analytical results of the composite soil samples collected throughout the 2-Acre Parcel, which are presented in **Table 1** through **Table 4**, the soil at the 2-Acre Parcel within at least the upper 3 feet does not qualify as Clean Fill. The constituents reported at concentrations above the Clean Fill Values (which for metals are equivalent with the naturally occurring background concentrations of metals) within the 0.0 to 3.0 feet bgs depth interval include the following: arsenic (in the upper 1.5 feet bgs), lead (in the upper 2.0 feet), 4,4'-DDD (in the upper 1.0 feet), 4,4'-DDE (in the upper 3.0 feet), 4,4'-DDT (in the upper 3.0 feet), and dieldrin (in the upper 2.0 feet).

It is concluded that soil within at least the upper 3 feet at the 2-Acre Parcel should not be exported off of the Hillcrest Development Site unless it is managed appropriately to ensure it does not adversely impact ecological receptors. For example, this soil could be properly disposed of at a quarry under a DEQ-approved Solid Waste Letter of Authorization (SWLA).

Nevertheless, the soil can be reused at the 2-Acre Parcel or elsewhere on the Hillcrest Development Site. For example, this soil could be reused in the Buffer Garden Area (see **Figure 3**) under a DEQ-approved Soil Removal Action and Soil Repository Management Plan. It should be noted that per the *Clean Fill Determinations* Internal Management Directive (DEQ, 2019), any soil with petroleum-like staining or a petroleum-like odor does not qualify as Clean Fill and should not be exported from the Hillcrest Development Site unless it is properly managed. If soil at depths below 3 feet bgs is disturbed, it should be assessed for organochlorine pesticides prior to being moved off of the Hillcrest Development Site.

3.6 Groundwater Beneficial Use Survey

A Groundwater Beneficial Use Survey was completed to evaluate potential risks residual concentrations of pesticides in shallow soil at the 2-Acre Parcel might pose to human receptors using private water supply wells within a ¼-mile radius of the 2-Acre Parcel. AEC completed the

Groundwater Beneficial Use Survey by reviewing the Oregon Water Resources Department (WRD) on-line database in order to acquire information regarding water supply wells within the vicinity of the 2-Acre Parcel. No mapped water supply wells were identified within the 2-Acre Parcel and the entire area within the ¼-mile radius of the 2-Acre Parcel.

Given the availability of municipal water and the lack of mapped water supply wells within the 2-Acre Parcel and within a ¼-mile radius of the 2-Acre Parcel, the available data suggest residual concentrations of pesticides in shallow soil at the 2-Acre Parcel do not pose unacceptable risks to human receptors using water supply wells within ¼-mile of the 2-Acre Parcel. The details of the Groundwater Beneficial Use Survey can be found in **Appendix 3**.

4 CONCLUSIONS AND RECOMMENDATIONS

The Supplemental Investigation conducted at the 2-Acre Parcel included the following:

- The partition of the 2-Acre Parcel into two sampling areas identified as DU4 (the northern half of the 2-Acre Parcel) and DU5 (the southern half of the 2-Acre Parcel);
- The excavation of eight test pits, identified as TP13 through TP16 (located on DU4) and TP17 through TP20 (located on DU5);
- The collection of five subsamples from each test pit from depths of 0.0 to 0.5 feet bgs, 0.5 to 1.0 feet bgs, 1.0 to 1.5 feet bgs, 1.5 to 2.0 feet bgs, and 2.0 to 3.0 feet bgs.
- The preparation of five composite soil samples using ISM from the DU4 area identified as DU4-0-6 (from a depth of 0.0 to 0.5 feet bgs), DU4-6-12 (0.5 to 1.0 feet bgs), DU4-12-18 (1.0 to 1.5 feet bgs), DU4-18-24 (1.5 to 2.0 feet bgs), and DU4-24-36 (2.0 to 3.0 feet bgs);
- The preparation of five composite soil samples using ISM from the DU5 area identified as DU5-0-6 (from a depth of 0.0 to 0.5 feet bgs), DU5-6-12 (0.5 to 1.0 feet bgs), DU5-12-18 (1.0 to 1.5 feet bgs), DU5-18-24 (1.5 to 2.0 feet bgs), and DU5-24-36 (2.0 to 3.0 feet bgs); and
- The laboratory analyses of all 10 composite soil samples for 17 metals by USEPA Method 6020B, organochlorine pesticides by USEPA Method 8081B, organophosphorus pesticides by USEPA Method 8270E, and chlorinated herbicides by USEPA Method 8151A.

The analytical results reported in general a higher concentration of metals and pesticides constituents in the upper 1 foot of soil than in the underlying layer from 1.0 to 3.0 feet bgs. These data demonstrate concentrations of pesticides constituents attenuate fairly rapidly with depth.

Based on an evaluation of the analytical results for the discrete and composite soil samples collected at the 2-Acre Parcel, several exceedances were reported. These include the following:

- Two constituents were reported at concentrations above their respective generic RBCs for the *ingestion, dermal contact, and inhalation exposure pathway* for occupational receptors. These included the following:
    - Arsenic - in all composite samples collected from 0.0 to 3.0 feet bgs;
    - Dieldrin - in composite soil sample collected from the DU4 area from 0.0 to 0.5 feet bgs;
- One constituent, arsenic, was reported at a concentration above its respective generic RBC for the *ingestion, dermal contact, and inhalation exposure pathway* for construction workers. This included in the composite soil samples collected from the DU4 area from a depth of 0.0 to 1.5 feet bgs and from the DU5 area from a depth of 0.0 to 2.0 feet bgs.

- Two constituents were reported at concentrations above the generic RBC for the *leaching to groundwater exposure pathway* for occupational receptors. These included the following:
    - → Lead - in the composite soil samples collected from the DU4 area from a depth of 0.0 to 1.5 feet bgs and from the DU5 area from a depth of 0.0 to 2.0 feet bgs;
    - → Dieldrin - in composite soil samples from the DU4 area and the DU5 area from 0.0 to 1.0 feet bgs.
- Several constituents were reported at concentrations above the Clean Fill Values throughout the 2-Acre Parcel. These included arsenic, lead, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, and dieldrin at depths ranging from 0.0 to 3.0 feet bgs.

While generic RBCs for occupational receptors and construction workers were exceeded for the aforementioned constituents and exposure pathways, potential risks to human health associated with these constituents and exposure pathways can be managed, mitigated, and/or eliminated from further concern, as follows:

- The generic occupational RBC under the *soil ingestion, dermal contact, and inhalation exposure pathway* assumes occupational receptors are likely to come into contact with contaminated soils found in the upper 3 feet of soil. The concentrations of arsenic in the upper 3 feet of soil in the DU4 and DU5 areas and dieldrin in the upper 0.5 feet of soil in the DU4 area exceeded this RBC. The reported concentrations of arsenic in soil collected from the upper 1.5 feet also exceeded the naturally occurring background concentration. AEC recommends institutional and/or engineering controls be implemented to address this impacted area. Institutional and/or engineering control options to protect occupational receptors include but are not limited to the following: paving; removal of shallow soil and/or covering the property with a 3-foot layer of clean compacted fill material; developing an asphalt cap maintenance plan; developing a CMMP approved by DEQ; and/or applying a deed notice (e.g. to ensure the asphalt cap is maintained).
- The generic construction workers RBC for total arsenic under the *soil ingestion, dermal contact, and inhalation exposure pathway* assumes construction workers could be exposed over 1 year to arsenic during construction activities involving the disturbance of impacted-soils. However, it is unlikely construction workers would be working on the 2-Acre Parcel continuously for 1 year. Furthermore, this risk could be easily mitigated with proper communication to future construction workers requiring dust suppression and/or that they wear appropriate PPE and follow proper decontamination procedures subsequent to working in order to avoid exposure and health risks. The procedures documenting proper communication, appropriate PPE, and proper decontamination could be documented in a CMMP approved by DEQ.
- The generic occupational RBC for total lead and dieldrin under the *leaching to groundwater exposure pathway* conservatively assumes that a water supply well is being used on the 2-Acre Parcel and that these constituents could be leached from the shallow soil, impact groundwater, and that occupational receptors could subsequently be exposed to these constituents in drinking water. According to the Hillcrest

Development Site's owner, the 2-Acre Parcel will be serviced with municipal water by the Medford Water Commission. Based on the findings of a Groundwater Beneficial Use Survey described in **Appendix 3**, the available data suggest there are no water supply wells within the 2-Acre Parcel and within ¼-mile of the 2-Acre Parcel. It is also reasonable and likely to assume current and future occupational receptors and residential receptors in this area will continue to be provided with municipal water in the future. Based on professional judgment, groundwater flow direction at the 2-Acre Parcel is assumed to be to the west-northwest towards Lone Pine Creek and/or to the south-southwest towards Lazy Creek. Therefore, given the municipal water use, the absence of documented water supply wells at the 2-Acre Parcel and within ¼-mile of the 2-Acre Parcel for domestic or occupational uses, and the assumed groundwater flow direction, it is highly unlikely potentially leached lead and dieldrin from the shallow soil into groundwater at the 2-Acre Parcel will pose an unacceptable risk to occupational receptors at the 2-Acre Parcel. To completely eliminate the potential risk that leaching of lead and dieldrin to groundwater might pose to occupational receptors at the 2-Acre Parcel, a deed notice could be developed and applied that prohibits the installation of wells to supply water to occupational receptors at the 2-Acre Parcel.

- The Clean Fill Values were exceeded by several constituents (arsenic, lead, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, and dieldrin) in the investigated upper 3 feet of soil throughout the 2-Acre Parcel. If soil at this depth throughout the 2-Acre Parcel is excavated, it can be reused at the 2-Acre Parcel or elsewhere on the Hillcrest Development Site. However, if this soil is exported off of the Hillcrest Development Site, it should be managed appropriately to ensure it does not adversely impact ecological receptors. For example, this soil could be properly disposed of at a quarry under a DEQ-approved SWLA.

The available data indicate historical orchard practices at the 2-Acre Parcel involving pesticides have adversely impacted soil. The available data reflect the adverse impacts are in the soil within the investigated interval of 0.0 to 3.0 feet bgs. Based on these findings and accounting for the inherent uncertainties associated with any subsurface investigation, AEC recommends the following:

- Consider developing and applying a deed notice that prohibits the installation of wells to supply water to occupational receptors at the 2-Acre Parcel unless groundwater investigations are conducted prior to well installation.
- Consider developing a Health and Safety Plan (HASP). The HASP should inform the future construction workers of the contaminants present in shallow soil at the 2-Acre Parcel, and should require the construction workers to wear appropriate PPE and to follow proper decontamination procedures subsequent to working in order to avoid exposure and health risks. The procedures documenting proper communication, appropriate PPE, and proper decontamination could be also documented in a CMMP approved by DEQ.
- During development activities, appropriately manage potential risks associated with residual pesticides concentrations in shallow soil that are above generic RBCs (e.g. arsenic and dieldrin) and/or Clean Fill values (e.g. arsenic, lead, 4,4'-DDE, 4,4'-DDD, 4,4'-

DDT, and dieldrin) in the upper 3.0 feet throughout the 2-Acre Parcel. If the upper 3 feet of soil at the 2-Acre Parcel is to be excavated during development and moved off of the Hillcrest Development Site, the soil should be disposed of consistent with DEQ regulations, examples being disposal under a DEQ-approved SWLA or disposal at an approved landfill (e.g. Dry Creek Landfill). If soil below 3 feet bgs is planned to be excavated, it should be assumed Clean Fill Values have been exceeded for organochlorine pesticides have been exceeded unless additional organochlorine pesticides characterization has been completed.

- It should be noted that per the *Clean Fill Determinations* Internal Management Directive (DEQ, 2019), any soil with petroleum-like staining or a petroleum-like odor does not qualify as Clean Fill and should not be exported from the Hillcrest Development Site unless it is properly managed.

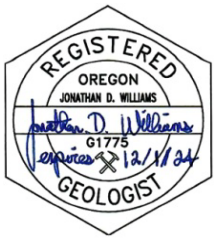
- The most cost-effective solution for addressing impacted soils at the 2-Acre Parcel will likely involve soil removal and placement on the Buffer Garden area south of the 2-Acre Parcel on the Hillcrest Development Site. This work could be completed under a Soil Removal Action Plan and a Soil Repository Management Plan approved by DEQ, which would also be supportive of obtaining a No Further Action (NFA) Letter from DEQ.

Please feel free to contact Jonathan Williams at 541-944-4685 or jwilliams@alpine-env-llc.com if you have any questions about this Supplemental Investigation report.

Sincerely,

Alpine Environmental Consultants, LLC

Jonathan D. Williams, R.G.
Senior Hydrogeologist



Antonela Vadan, R.G.
Project Geologist

5 REFERENCES

Oregon Department of Environmental Quality (DEQ). March 2013. *Development of Oregon Background Metals Concentrations in Soil*, Technical report. Land Quality Division, Cleanup Program. (DEQ, 2013).

Oregon DEQ. October 2017. *Risk-Based Decision Making for the Remediation of Contaminated Sites*. Updated on October 2, 2017 (DEQ, 2017).

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Oregon DEQ. June 2019. *Guidance for Evaluating Residual Pesticides on Lands Formerly Used for Agricultural Production*. Land Quality Division, Cleanup Program. Developed in January 2006 and Updated in June 2019 (DEQ, June 2019).

6 LIMITATIONS

The purpose of an environmental assessment is to reasonably evaluate the potential for or actual impact of past practices on a given Subject Property area. In performing an environmental assessment, it is understood that a balance must be struck between a reasonable inquiry into the environmental issues and an exhaustive analysis of each conceivable issue of potential concern. This environmental assessment contains professional opinions as to the environmental issues of concern and/or additional actions, which may be addressed to the property. In rendering its professional opinion, we warrant that services provided hereunder were performed, within the limits described, consistent with current generally accepted environmental consulting principles and practices. No other warranty, express or implied, is made. The following paragraphs discuss the assumptions and parameters under which such an opinion is rendered.

No investigation is thorough enough to exclude the presence of hazardous materials at a given Subject Property. If hazardous conditions have not been identified during the assessment, such a finding should not therefore be construed as a guarantee of the absence of such materials on the Subject Property, but rather as the result of the services performed within the scope, limitations, and cost of the work performed.

Any opinions or recommendations presented apply to Subject Property conditions existing when services were performed. We are unable to report on or accurately predict events that may change the Subject Property conditions after the described services are performed, whether occurring naturally or caused by external forces. We assume no responsibility for conditions we were not authorized to investigate, or conditions not generally recognized as environmentally unacceptable when services were performed.

Environmental conditions may exist at the Subject Property that cannot be identified by visual observation. Where the scope of services was limited to observations made during Subject Property reconnaissance, interviews, review of readily available reports and literature or any combination, any conclusions or recommendations or both are necessarily based in part on information supplied by others, the accuracy or sufficiency of which we may not have independently reviewed.

Where subsurface work was performed, our professional opinions are based in part on interpretation of data from discrete sampling locations that may not represent actual conditions at unsampled locations.

Except where there is express concern of our client, or where specific environmental contaminants have been previously reported by others, naturally occurring toxic substances, potential environmental contaminants inside buildings, or contaminant concentrations that are not of current environmental concern may not be reflected in this document.

We are not responsible for any potential impact of changes in applicable environmental standards, practices, or regulations following performance of services, on the conclusions or recommendations, or both, of the study.

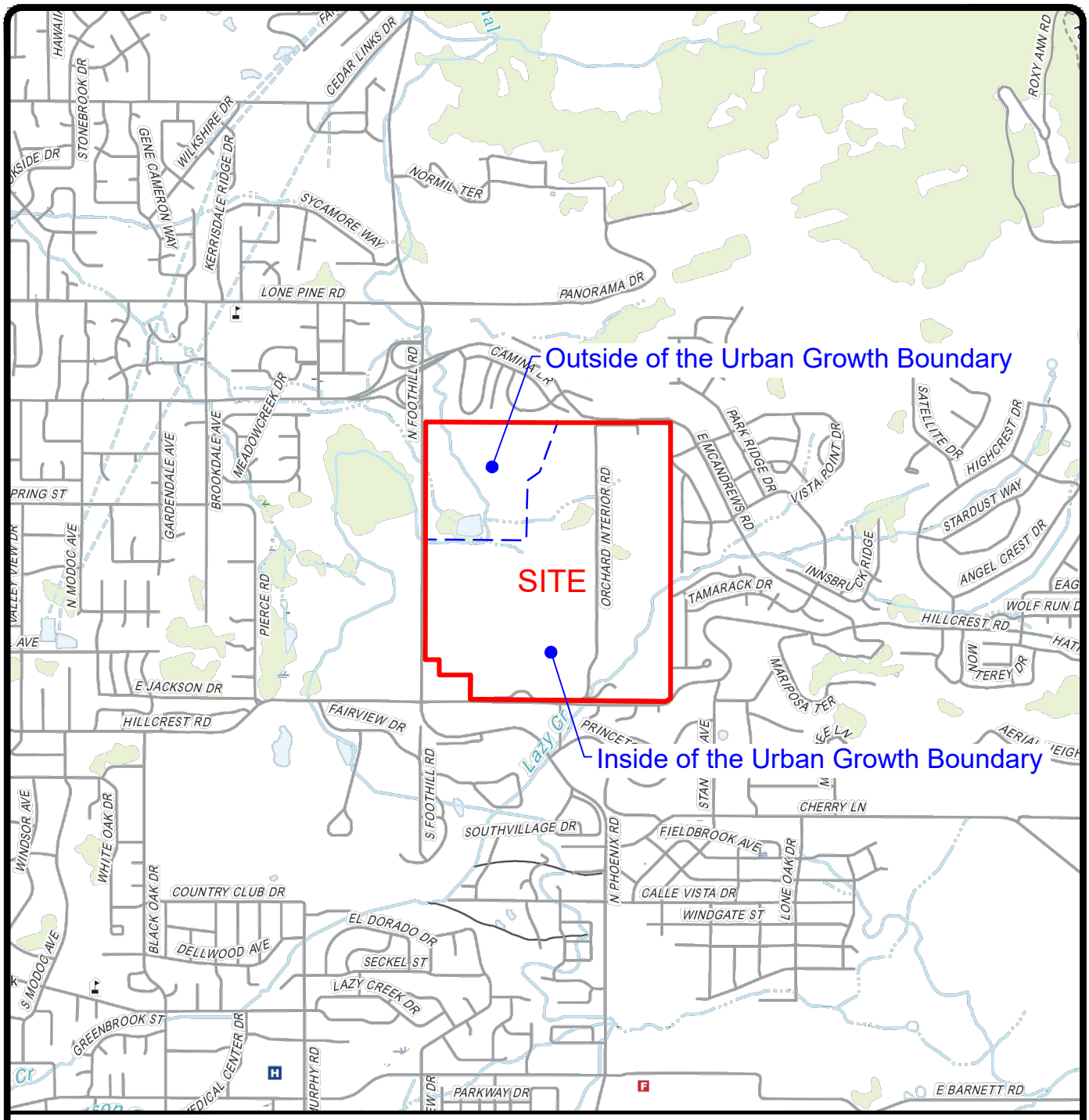
Services hereunder were performed consistent with our agreement and understanding with, and solely for the use of, our client. Opinions and recommendations are intended for the client, purpose, Subject Property, location, time frame, and project parameters indicated. We are not responsible for subsequent separation, detachment, or partial use of this document. Any reliance on this report by a third party shall be at such party's sole risk.

7 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

Mr. Jonathan Williams received a Bachelor of Science degree in Geology, with honors, from Duke University in 1987. He has over 30 years experience working with geologic and environmental reports, including Phase I ESAs. Mr. Williams has been a Registered Geologist in the State of Oregon since 1996, and has 40-hour HAZWOPER training.

Ms. Antonela Vadan holds a Bachelor of Arts and Science in Earth and Environmental Sciences from the University of Illinois at Chicago. She has over 21 years of experience in both the private and public sector. Ms. Vadan has conducted multiple Phase I ESAs. Additional project activities have included risk assessments, remedial investigations/feasibility studies, soil and groundwater investigations, and indoor air quality investigations. Ms. Vadan is a Registered Geologist in the States of Oregon and Washington and has 40-hour HAZWOPER training.

FIGURES



SOURCE: U.S.G.S. 7.5 MINUTE TOPOGRAPHIC QUADRANGLE MEDFORD EAST, OR (2020)

LEGEND

- Approximate Site Boundary
- Approximate Urban Growth Boundary at the Site

SCALE FEET

0 2,000 4,000

ALPINE ENVIRONMENTAL CONSULTANTS, LLC

DATE: 4/4/24 DRAWN BY: SM

Figure 1
General Location Map
Supplemental Investigation Report for 2-Acres
3285 Hillcrest Road
Medford, Oregon

f1_GeneralLocMap_r4

SOURCE: Google Earth (2022)

LEGEND

- Approximate Site Boundary
- Urban Growth Boundary at the Site
- TP1 — 2022 Test Pit Location
- DU1 — Approximate Decision Unit Area
- Approximate 2-Acre Parcel Boundary
- AST — Above Ground Storage Tank
- UST — Underground Storage Tank

N W E S

SCALE FEET

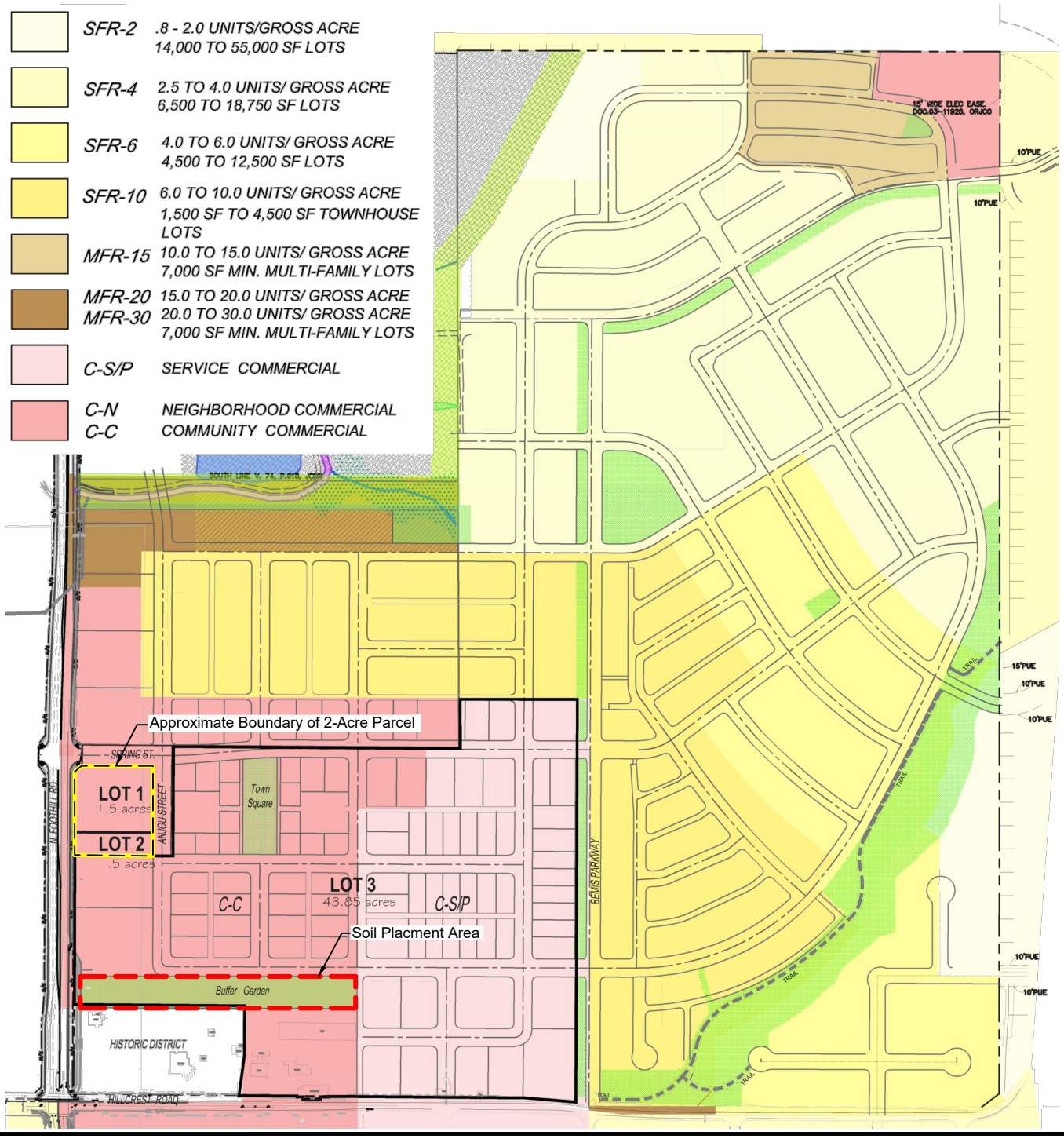
0 600 1,200

ALPINE ENVIRONMENTAL CONSULTANTS, LLC

DATE: 4/4/24 DRAWN BY: SM

Figure 2
Phase II ESA 2022 Test Pit Location Map
Supplemental Investigation Report for 2-Acres
3285 Hillcrest Road
Medford, Oregon

f2_TestPitLocMap_r3



SOURCE: CSA Planning, Ltd., Conceptual District Plan, August 8, 2023

LEGEND

- Approximate 2-Acre Parcel Boundary
- Soil Placement Area

N W E S

SCALE FEET
0 550 1,100

ALPINE ENVIRONMENTAL CONSULTANTS, LLC

DATE: 4/4/24 DRAWN BY: SM

Figure 3
Conceptual Hillcrest District Plan
Supplemental Investigation Report for 2-Acres
3285 Hillcrest Road
Medford, Oregon

f3_ConceptualDistrictPlan_r1

SOURCE: Google Earth (2022)

LEGEND

- TP13 ■ Test Pit Location
- Approximate 2-Acre Parcel Boundary
- Approximate Site Boundary
- DU5 Approximate Decision Unit (DU) Boundary

N
W E
S

SCALE FEET
0 80 160

ALPINE ENVIRONMENTAL CONSULTANTS, LLC

DATE: 4/4/24 DRAWN BY: SM

Figure 4
Test Pit Location Map
Supplemental Investigation Report for 2-Acres
3285 Hillcrest Road
Medford, Oregon

f4_TestPitLocMap_r4

TABLES

Table 1. Soil Samples Analytical Results - Total Metals
Supplemental Investigation: Hillcrest Development Site - 3283 Hillcrest Road, Medford, Oregon; Lot 1 and Lot 2 of Map 371W21D and Taxlot 300

SAMPLING DATA					PARAMETERS: Total Metals (mg/kg) USEPA 6020B (ICPMS)									
Sample Type	Sample ID	Sampling Location	Depth (ft bgs)	Date	Antimony (h)	Arsenic	Barium	Beryllium	Cadmium	Chromium (III)	Cobalt	Copper	Lead	Mercury
Composite TP	DU4-0-6	DU4	0.0-0.5	01/22/24	1.08U, PRO	**73.2 PRO**	**189 PRO**	**0.714 PRO**	0.216U, PRO	**28.5 PRO**	**17.8 PRO**	**67.5 PRO**	**241 PRO**	0.0866U, PRO
	DU4-6-12		0.5-1.0	01/22/24	1.09U, PRO	**88.3 PRO**	**203 PRO**	**0.752 PRO**	0.219U, PRO	**26.6 PRO**	**17.9 PRO**	**53.9 PRO**	**289 PRO**	0.0875U, PRO
	DU4-12-18		1.0-1.5	01/22/24	1.06U, PRO	**37.2 PRO**	**214 PRO**	**0.801 PRO**	0.212U, PRO	**29.1 PRO**	**17.7 PRO**	**44.0 PRO**	**93.3 PRO**	0.0848U, PRO
	DU4-18-24		1.5-2.0	01/22/24	1.02U, PRO	**12.2 PRO**	**205 PRO**	**0.759 PRO**	0.204U, PRO	**26.8 PRO**	**18.0 PRO**	**40.0 PRO**	**27.3 PRO**	0.0816U, PRO
	DU4-24-36		2.0-3.0	01/22/24	1.03U, PRO	**9.59 PRO**	**212 PRO**	**0.857 PRO**	0.207U, PRO	**31.6 PRO**	**18.1 PRO**	**42.7 PRO**	**15.9 PRO**	0.0828U, PRO
Composite TP	DU5-0-6	DU5	0.0-0.5	01/22/24	1.03U, PRO	**77.4 PRO**	**220 PRO**	**0.897 PRO**	0.206U, PRO	**24.9 PRO**	**17.4 PRO**	**46.7 PRO**	**307 PRO**	0.0824U, PRO
	DU5-6-12		0.5-1.0	01/22/24	1.07U, PRO	**49.7 PRO**	**234 PRO**	**0.827 PRO**	0.213U, PRO	**27.9 PRO**	**19.3 PRO**	**44.3 PRO**	**171 PRO**	0.0854U, PRO
	DU5-12-18		1.0-1.5	01/22/24	1.08U, PRO	**36.7 PRO**	**248 PRO**	**0.802 PRO**	0.216U, PRO	**29.0 PRO**	**19.7 PRO**	**42.6 PRO**	**102 PRO**	0.0864U, PRO
	DU5-18-24		1.5-2.0	01/22/24	1.07U, PRO	**15.1 PRO**	**235 PRO**	**0.792 PRO**	0.213U, PRO	**30.9 PRO**	**19.7 PRO**	**40.5 PRO**	**40.7 PRO**	0.0853U, PRO
	DU5-24-36		2.0-3.0	01/22/24	1.03U, PRO	**9.86 PRO**	**236 PRO**	**0.774 PRO**	0.206U, PRO	**35.2 PRO**	**19.9 PRO**	**43.6 PRO**	**22.1 PRO**	0.0825U, PRO
DEQ RBCs (a)	Ingestion, Dermal Contact and Inhalation (b)			OCC.	NE	1.9	220,000	2,300	1,100	>Max	NE	47,000	800	350
				C. W.	NE	15	69,000	700	350	530,000	NE	14,000	800	110
				E. W.	NE	420	>Max	19,000	9,700	>Max	NE	390,000	800	2,900
	Volatilization to Outdoor Air (c)			OCC.	NE	NV	NV	NV	NV	NV	NE	NV	NV	NV
	Leaching to Groundwater (d)			OCC.	NE	*	*	*	*	*	NE	*	30	*
DEQ's clean fill values and background metals in Soil for Cascade Range province (e), (f)					0.67	19	630	2.1	0.54	200	NE	73	34	0.24
USEPA RSLs (g)	Carcinogenic TR = 1E-06	Ingestion		I. & W.	NE	3.60	NE	NE	NE	NE	NE	NE	NE	NE
		Dermal		I. & W.	NE	17	NE	NE	NE	NE	NE	NE	NE	NE
		Inhalation		I. & W.	NE	3,900	NE	6,900	9,300	NE	1,900	NE	NE	NE
		Carcinogenic		I. & W.	NE	3.0	NE	6,900	9,300	NE	1,900	NE	NE	NE
	Noncancer HI = 1	Ingestion		I. & W.	470	580	230,000	2,300	120	1,800,000	350	47,000	NE	NE
		Dermal		I. & W.	NE	2,800	NE	NE	690	NE	NE	NE	NE	NE
		Inhalation		I. & W.	1,200,000	89,000	3,000,000	120,000	60,000	NE	36,000	NE	NE	46
		Carcinogenic		I. & W.	470	480	220,000	2,300	100	1,800,000	350	47,000	800	46

Table 1. Soil Samples Analytical Results - Total Metals
Supplemental Investigation: Hillcrest Development Site - 3283 Hillcrest Road, Medford, Oregon; Lot 1 and Lot 2 of Map 371W21D and Taxlot 300

SAMPLING DATA					PARAMETERS: Total Metals (mg/kg) USEPA 6020B (ICPMS)						
Sample Type	Sample ID	Sampling Location	Depth (ft bgs)	Date	Molybdenum	Nickel (i)	Selenium	Silver	Thallium(j)	Vanadium	Zinc
Composite TP	DU4-0-6	DU4	0.0-0.5	01/22/24	1.08U, PRO	**31.7 PRO**	1.08U, PRO	0.216U, PRO	0.216U, PRO	**78.3 PRO**	**87.2 PRO**
	DU4-6-12		0.5-1.0	01/22/24	1.09U, PRO	**32.6 PRO**	1.09U, PRO	0.219U, PRO	0.219U, PRO	**71.3 PRO**	**80.4 PRO**
	DU4-12-18		1.0-1.5	01/22/24	1.06U, PRO	**37.3 PRO**	1.06U, PRO	0.212U, PRO	0.213, PRO	**74.3 PRO**	**71.8 PRO**
	DU4-18-24		1.5-2.0	01/22/24	1.02U, PRO	**36.6 PRO**	1.02U, PRO	0.204U, PRO	0.220, PRO	**73.9 PRO**	**68.8 PRO**
	DU4-24-36		2.0-3.0	01/22/24	1.03U, PRO	**38.9 PRO**	1.03U, PRO	0.207U, PRO	0.220, PRO	**79.1 PRO**	**77.0 PRO**
Composite TP	DU5-0-6	DU5	0.0-0.5	01/22/24	1.03U, PRO	**32.5 PRO**	1.03U, PRO	0.206U, PRO	0.206U, PRO	**69.7 PRO**	**70.4 PRO**
	DU5-6-12		0.5-1.0	01/22/24	1.07U, PRO	**34.9 PRO**	1.07U, PRO	0.213U, PRO	0.213U, PRO	**81.6 PRO**	**66.9 PRO**
	DU5-12-18		1.0-1.5	01/22/24	1.08U, PRO	**38.8 PRO**	1.08U, PRO	0.216U, PRO	0.216U, PRO	**81.0 PRO**	**66.5 PRO**
	DU5-18-24		1.5-2.0	01/22/24	1.07U, PRO	**37.5 PRO**	1.07U, PRO	0.213U, PRO	0.213U, PRO	**84.0 PRO**	**66.3 PRO**
	DU5-24-36		2.0-3.0	01/22/24	1.03U, PRO	**40.0 PRO**	1.03U, PRO	0.206U, PRO	0.206U, PRO	**88.5 PRO**	**71.9 PRO**
DEQ RBCs (a)	Ingestion, Dermal Contact and Inhalation (b)			OCC.	NE	22,000	NE	5,800	NE	NE	NE
				C. W.	NE	7,000	NE	1,800	NE	NE	NE
				E. W.	NE	190,000	NE	49,000	NE	NE	NE
	Volatilization to Outdoor Air (c)			OCC.	NE	NV	NE	NV	NE	NE	NE
	Leaching to Groundwater (d)			OCC.	NE	*	NE	*	NE	NE	NE
DEQ's clean fill values and background metals in Soil for Cascade Range province (e), (f)					NE	110	0.52	0.17	2.8	280	170
USEPA RSLs (g)	Carcinogenic TR = 1E-06	Ingestion		I. & W.	NE	NE	NE	NE	NE	NE	NE
		Dermal		I. & W.	NE	NE	NE	NE	NE	NE	NE
		Inhalation		I. & W.	NE	64,000	NE	NE	NE	NE	NE
		Carcinogenic		I. & W.	NE	64,000	NE	NE	NE	NE	NE
	Noncancer HI = 1	Ingestion		I. & W.	5,800	13,000	5,800	5,800.00	12.00	5,900	350,000
		Dermal		I. & W.	NE	30,000	NE	NE	55.00	NE	NE
		Inhalation		I. & W.	12,000,000	83,000	120,000,000	NE	NE	600,000	NE
		Carcinogenic		I. & W.	5,800	8,100	5,800	5,800.00	12.00	5,800	350,000

Table 1. Soil Samples Analytical Results - Total Metals
Supplemental Investigation: Hillcrest Development Site - 3283 Hillcrest Road, Medford, Oregon; Lot 1 and Lot 2 of Map 371W21D and Taxlot 300

Notes:

Analytical data in bold font indicates that the value exceeds the laboratory MRL.

Analytical data highlighted in yellow indicates the value exceeded one or more generic RBCs.

Analytical data highlighted in orange indicates the value exceeded one or more generic RBCs and RSLs.

Analytical data highlighted in both yellow and blue indicates the value exceeded one or more generic RBCs and the clean fill screening level.

Analytical data highlighted in both orange and blue indicates the value exceeded one or more generic RBCsand RSLs and the clean fill screening level.

* - Leaching to groundwater RBCs are not provided for inorganic chemicals. If this pathway is of concern, then site-specific leaching tests must be performed.

Data Qualifiers:

PRO - Sample has undergone sample processing prior to extraction and analysis.

U - The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.

Footnotes:

(a) Risk-Based Concentrations are referenced from the June 2023 update to the DEQ's Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites guidance document dated September 2003.

(b) This pathway is applicable anytime someone is likely to come into contact with contaminated soil. For the occupational scenario, exposure to contaminated soils should be considered for all contaminants found in the top three feet of soil.

(c) This pathway is applicable whenever vadose zone soils are contaminated with volatile compounds.

(d) This pathway is applicable whenever vadose zone contamination is found overlying an aquifer that is currently used or is reasonably likely to be used in the future for drinking water.

(e) DEQ's Background Concentrations in Soil are referenced from the DEQ's Development of Oregon Background Metals Concentrations in Soil technical report dated March 2013. The background concentrations included in this table are 95% Upper Prediction Limit (UPL) for the Cascade Range region, which includes the East Medford 2-Acre Parcel.

(f) Clean Fill Values are referenced from the DEQ's Clean Fill Determinations guidance document dated February 2019.

(g) The RSLs are referenced from the May 2022 update to the USEPA Generic Tables.

(h) The RSLs for antimony are the lowest RSLs listed in the USEPA Generic Tables for the following compounds: metalic antimony, antimony pentoxide, antimony tertroxide, and antimony trioxide.

(i) The RSLs for nickel are the lowest RSLs listed in the USEPA Generic Tables for the following compounds: nickel acetate, nickel carbonate, nickel carbonyl, nickel hydroxide, nickel oxide, nickel refinery dust, nickel soluble salts, and nickel subsulfide.

(j) The RSLs for thallium are the lowest RSLs listed in the USEPA Generic Tables for the following compounds: thallium nitrate, thallium soluble salts, thallium acetate, thallium carbonate, thallium chloride, thallium selenite, and thallium sulfate.

Symbols/Acronyms:

bgs - below ground surface

C. W. - construction worker receptors

DEQ - Department of Environmental Quality

DU - decision unit

E. W. - excavation worker receptors

ft - feet

HI - Hazard Index

ICPMS - inductively coupled plasma mass spectrometry

I & W. - industrial and worker receptors

MDL - Method Detection Limit

mg/kg - milligrams per kilogram

MRL - Method Reporting Limit

NE - No RBCs or RSLs are established for this constituent.

NV - The chemical is considered "nonvolatile" for the purposes of the exposure calculations.

OCC. - occupational receptors

RBC - risk-based concentration

RSLs - Regional Screening Levels

TP - test pit

TR - Target Risk

USEPA - United States Environmental Protection Agency

Table 2. Soil Samples Analytical Results - Organochlorine Pesticides
Supplemental Investigation: Hillcrest Development Site - 3283 Hillcrest Road, Medford, Oregon; Lot 1 and Lot 2 of Map 371W21D and Taxlot 300

SAMPLING DATA					PARAMETERS: Organochlorine Pesticides (mg/kg) USEPA 8081B						
Sample Type	Sample ID	Sampling Location	Depth (ft bgs)	Date	Aldrin	alpha-Hexachlorocyclohexane (alpha-BHC)	beta-BHC	delta-BHC	gamma-BHC (Lindane)	cis-Chlordane (Chlordane RBCs)	trans-Chlordane (Chlordane RBCs)
Discrete TP	DU4-0-6	DU4	0.0-0.5	01/22/24	0.00184U, C-05, PRO	0.00184U, C-05, PRO	0.00184U, C-05, PRO	0.00184U, C-05, PRO	0.00184U, C-05, PRO	0.00184U, C-05, PRO	0.00184U, C-05, PRO
	DU4-6-12		0.5-1.0	01/22/24	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO
	DU4-12-18		1.0-1.5	01/22/24	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO
	DU4-18-24		1.5-2.0	01/22/24	0.00169U, C-05, PRO	0.00169U, C-05, PRO	0.00169U, C-05, PRO	0.00169U, C-05, PRO	0.00169U, C-05, PRO	0.00169U, C-05, PRO	0.00169U, C-05, PRO
	DU4-24-36		2.0-3.0	01/22/24	0.00180U, C-05, PRO	0.00180U, C-05, PRO	0.00180U, C-05, PRO	0.00180U, C-05, PRO	0.00180U, C-05, PRO	0.00180U, C-05, PRO	0.00180U, C-05, PRO
Discrete TP	DU5-0-6	DU5	0.0-0.5	01/22/24	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO
	DU5-6-12		0.5-1.0	01/22/24	0.00184U, C-05, PRO	0.00184U, C-05, PRO	0.00184U, C-05, PRO	0.00184U, C-05, PRO	0.00184U, C-05, PRO	0.00184U, C-05, PRO	0.00184U, C-05, PRO
	DU5-12-18		1.0-1.5	01/22/24	0.00183U, C-05, PRO	0.00183U, C-05, PRO	0.00183U, C-05, PRO	0.00183U, C-05, PRO	0.00183U, C-05, PRO	0.00183U, C-05, PRO	0.00183U, C-05, PRO
	DU5-18-24		1.5-2.0	01/22/24	0.00173U, C-05, PRO	0.00173U, C-05, PRO	0.00173U, C-05, PRO	0.00173U, C-05, PRO	0.00173U, C-05, PRO	0.00173U, C-05, PRO	0.00173U, C-05, PRO
	DU5-24-36		2.0-3.0	01/22/24	0.00175U, C-05, PRO	0.00175U, C-05, PRO	0.00175U, C-05, PRO	0.00175U, C-05, PRO	0.00175U, C-05, PRO	0.00175U, C-05, PRO	0.00175U, C-05, PRO
DEQ RBCs (a)	Ingestion, Dermal Contact and Inhalation (b)			OCC.	0.13	0.36	NE	NE	2.1	7.4	7.4
				C. W.	1.1	3	NE	NE	17	61	61
				E. W.	30	83	NE	NE	470	1700	1700
	Volatilization to Outdoor Air (c)			OCC.	>Csat	NV	NE	NE	NV	>Csat	>Csat
	Leaching to Groundwater (d)			OCC.	0.1	0.023	NE	NE	0.13	2.1	2.1
DEQ's clean fill values (e)					0.023	0.0063	0.009	NE	0.0095	0.91	0.91
USEPA RSLs (f)	Carcinogenic TR = 1E-06	Ingestion		I. & W.	0.19	8.1	0.52	1.8	3.0	NE	NE
		Dermal		I. & W.	NE	19	1.2	4.3	18	NE	NE
		Inhalation		I. & W.	4.3	NE	9,300	31,000	54,000	NE	NE
		Carcinogenic		I. & W.	0.18	5.7	0.36	1.3	2.5	NE	NE
	Noncancer HI = 1	Ingestion		I. & W.	35	NE	9,300	NE	12	580	580
		Dermal		I. & W.	NE	NE	22,000	NE	69	3,400	3,400
		Inhalation		I. & W.	NE	NE	NE	NE	NE	NE	NE
		Carcinogenic		I. & W.	35	NE	6,600	NE	10	500	500

Table 2. Soil Samples Analytical Results - Organochlorine Pesticides
Supplemental Investigation: Hillcrest Development Site - 3283 Hillcrest Road, Medford, Oregon; Lot 1 and Lot 2 of Map 371W21D and Taxlot 300

SAMPLING DATA					PARAMETERS: Organochlorine Pesticides (mg/kg) USEPA 8081B						
Sample Type	Sample ID	Sampling Location	Depth (ft bgs)	Date	4,4'-Dichlorodiphenyl dichloroethane (4,4'-DDD)	4,4'-Dichlorodiphenyl dichloroethene (4,4'-DDE)	4,4'-Dichlorodiphenyl trichloroethane (4,4'-DDT)	Dieldrin	Endosulfan I (Endosulfan alpha-beta RBC)	Endosulfan II (Endosulfan alpha-beta RBC)	Endosulfan Sulfate (Endosulfan alpha-beta RBC)
Discrete TP	DU4-0-6	DU4	0.0-0.5	01/22/24	**0.0696 C-05, PRO**	**1.36 C-05, PRO**	**0.728 C-05. PRO**	**0.159 C-05, PRO**	0.00184U, C-05, PRO	0.00525U, C-05, PRO, R-02	0.00184U, C-05, PRO
	DU4-6-12		0.5-1.0	01/22/24	**0.0520 C-05, PRO**	**1.09 C-05, PRO**	**0.484 C-05, PRO**	**0.118 C-05, PRO**	0.00179U, C-05, PRO	0.0013U, C-05, PRO, R-02	0.00179U, C-05, PRO
	DU4-12-18		1.0-1.5	01/22/24	0.00179U, C-05, PRO	**0.0950 C-05, PRO**	**0.0260 C-05, PRO**	**0.00459 C-05, PRO**	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO
	DU4-18-24		1.5-2.0	01/22/24	0.00169U, C-05, PRO	**0.00948 C-05, PRO**	**0.00209 C-05, PRO**	0.00169U, C-05, PRO	0.00169U, C-05, PRO	0.00169U, C-05, PRO	0.00169U, C-05, PRO
	DU4-24-36		2.0-3.0	01/22/24	0.00180U, C-05, PRO	**0.00568 C-05, PRO**	**0.00305 C-05, PRO**	0.00180U, C-05, PRO	0.00180U, C-05, PRO	0.00180U, C-05, PRO	0.00180U, C-05, PRO
Discrete TP	DU5-0-6	DU5	0.0-0.5	01/22/24	**0.0160 C-05, PRO**	**1.10 C-05, PRO**	**0.335 C-05, PRO**	**0.0768 C-05, PRO**	0.00179U, C-05, PRO	0.00242U, C-05, PRO, R-02	0.00358U, C-05, PRO, R-02
	DU5-6-12		0.5-1.0	01/22/24	**0.00626 C-05, PRO**	**0.644 C-05, PRO**	**0.193 C-05, PRO**	**0.0431 C-05, PRO**	0.00184U, C-05, PRO	0.00184U, C-05, PRO	0.00184U, C-05, PRO
	DU5-12-18		1.0-1.5	01/22/24	0.00183U, C-05, PRO	**0.207 C-05, PRO**	**0.0522 C-05, PRO**	**0.0114 C-05, PRO**	0.00183U, C-05, PRO	0.00183U, C-05, PRO	0.00183U, C-05, PRO
	DU5-18-24		1.5-2.0	01/22/24	0.00173U, C-05, PRO	**0.0682 C-05, PRO**	**0.0195 C-05, PRO**	**0.00189 C-05, PRO**	0.00173U, C-05, PRO	0.00173U, C-05, PRO	0.00173U, C-05, PRO
	DU5-24-36		2.0-3.0	01/22/24	0.00175U, C-05, PRO	**0.0267 C-05, PRO**	**0.00661 C-05, PRO**	0.00175U, C-05, PRO	0.00175U, C-05, PRO	0.00175U, C-05, PRO	0.00175U, C-05, PRO
DEQ RBCs (a)	Ingestion, Dermal Contact and Inhalation (b)			OCC.	12	8.2	8.5	0.14	4900	4900	4900
				C. W.	94	66	66	1.2	1600	1600	1600
				E. W.	2,600	1,800	1,800	33	45,000	45,000	45,000
	Volatilization to Outdoor Air (c)			OCC.	NV	>Csat	NV	NV	>Max	>Max	>Max
	Leaching to Groundwater (d)			OCC.	2.6	7.5	70	0.030	>Csat	>Csat	>Csat
DEQ's clean fill values (e)					0.0063	0.01	0.01	0.0045	0.64	0.64	0.64
USEPA RSLs (f)	Carcinogenic TR = 1E-06	Ingestion		I. & W.	14	9.6	9.6	0.2	NE	NE	NE
		Dermal		I. & W.	32	NE	76	0.48	NE	NE	NE
		Inhalation		I. & W.	240,000	270	170,000	3,600	NE	NE	NE
		Carcinogenic		I. & W.	9.6	9.3	8.5	0.14	NE	NE	NE
	Noncancer HI = 1	Ingestion		I. & W.	580	580	580	58	7,000	NE	7,000
		Dermal		I. & W.	1,400	NE	4,600	140	NE	NE	17,000
		Inhalation		I. & W.	NE	NE	NE	NE	NE	NE	NE
		Carcinogenic		I. & W.	410	580	520	41	7,000	NE	4,900

Table 2. Soil Samples Analytical Results - Organochlorine Pesticides
Supplemental Investigation: Hillcrest Development Site - 3283 Hillcrest Road, Medford, Oregon; Lot 1 and Lot 2 of Map 371W21D and Taxlot 300

SAMPLING DATA					PARAMETERS: Organochlorine Pesticides (mg/kg) USEPA 8081B							
Sample Type	Sample ID	Sampling Location	Depth (ft bgs)	Date	Endrin	Endrin Aldehyde (Endrin RBC)	Endrin Ketone (Endrin RBC)	Heptachlor	Heptachlor epoxide	Methoxychlor	Chlordane (Technical)	Toxaphene (Total)
Discrete TP	DU4-0-6	DU4	0.0-0.5	01/22/24	0.00184U, C-05, PRO	0.00258U, C-05, PRO, R-02	0.00184U, C-05, PRO	0.00184U, C-05, PRO	0.00184U, C-05, PRO	0.0167U, C-05, PRO, R-02	0.0553U, C-05, PRO	0.0553U, C-05, PRO
	DU4-6-12		0.5-1.0	01/22/24	0.00179U, C-05, PRO	0.00188U, C-05, PRO, R-02	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.0119U, C-05, PRO, R-02	0.0536U, C-05, PRO	0.0536U, C-05, PRO
	DU4-12-18		1.0-1.5	01/22/24	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00536U, C-05, PRO	0.0536U, C-05, PRO	0.0536U, C-05, PRO
	DU4-18-24		1.5-2.0	01/22/24	0.00169U, C-05, PRO	0.00169U, C-05, PRO	0.00169U, C-05, PRO	0.00169U, C-05, PRO	0.00169U, C-05, PRO	0.00506U, C-05, PRO	0.0506U, C-05, PRO	0.0506U, C-05, PRO
	DU4-24-36		2.0-3.0	01/22/24	0.00180U, C-05, PRO	0.00180U, C-05, PRO	0.00180U, C-05, PRO	0.00180U, C-05, PRO	0.00180U, C-05, PRO	0.00541U C-05, PRO	0.0541U C-05, PRO	0.0541U C-05, PRO
Discrete TP	DU5-0-6	DU5	0.0-0.5	01/22/24	0.00179U, C-05, PRO	0.00233U, C-05, PRO, R-02	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.00179U, C-05, PRO	0.0139U, C-05, PRO, R-02	0.0537U, C-05, PRO	0.0537U, C-05, PRO
	DU5-6-12		0.5-1.0	01/22/24	0.00184U, C-05, PRO	0.00184U, C-05, PRO	0.00184U, C-05, PRO	0.00184U, C-05, PRO	0.00184U, C-05, PRO	0.00552U, C-05, PRO	0.0552U, C-05, PRO	0.0552U, C-05, PRO
	DU5-12-18		1.0-1.5	01/22/24	0.00183U, C-05, PRO	0.00183U, C-05, PRO	0.00183U, C-05, PRO	0.00183U, C-05, PRO	0.00183U, C-05, PRO	0.00549U, C-05, PRO	0.0549U, C-05, PRO	0.0549U, C-05, PRO
	DU5-18-24		1.5-2.0	01/22/24	0.00173U, C-05, PRO	0.00173U, C-05, PRO	0.00173U, C-05, PRO	0.00173U, C-05, PRO	0.00173U, C-05, PRO	0.00518U, C-05, PRO	0.0518U, C-05, PRO	0.00173U, C-05, PRO
	DU5-24-36		2.0-3.0	01/22/24	0.00175U, C-05, PRO	0.00175U, C-05, PRO	0.00175U, C-05, PRO	0.00175U, C-05, PRO	0.00175U, C-05, PRO	0.00524U, C-05, PRO	0.0524U, C-05, PRO	0.00175U, C-05, PRO
DEQ RBCs (a)	Ingestion, Dermal Contact and Inhalation (b)			OCC.	250	250	250	0.45	0.24	NE	7.4	2.1
				C. W.	80	80	80	4	2	NE	61	17
				E. W.	2200	2200	2200	110	56	NE	1700	470
	Volatilization to Outdoor Air (c)			OCC.	NV	NV	NV	230	>Csat	NE	>Csat	NV
	Leaching to Groundwater (d)			OCC.	>Csat	>Csat	>Csat	0.048	0.016	NE	2.1	0.093
DEQ's clean fill values (e)					0.0014	0.0014	0.0014	0.017	0.0042	5.1	0.91	0.36
USEPA RSLs (f)	Carcinogenic TR = 1E-06	Ingestion		I. & W.	NE	NE	NE	0.73	0.36	NE	9.3	3.0
		Dermal		I. & W.	NE	NE	NE	NE	NE	NE	55	7.0
		Inhalation		I. & W.	NE	NE	NE	4.5	4.0	NE	190	52,000
		Carcinogenic		I. & W.	NE	NE	NE	0.63	0.33	NE	7.7	2.1
	Noncancer HI = 1	Ingestion		I. & W.	350	NE	NE	120	15	5,800	580	110
		Dermal		I. & W.	830	NE	NE	NE	NE	14,000	3,400	250
		Inhalation		I. & W.	NE	NE	NE	NE	NE	NE	4,700	
		Carcinogenic		I. & W.	250	NE	NE	120	15	4,100	450	74

Table 2. Soil Samples Analytical Results - Organochlorine Pesticides
Supplemental Investigation: Hillcrest Development Site - 3283 Hillcrest Road, Medford, Oregon; Lot 1 and Lot 2 of Map 371W21D and Taxlot 300

Notes:

Analytical data in bold font indicates that the value exceeds the laboratory MRL.

Analytical data highlighted in blue indicates the value exceeded the clean fill screening level.

Analytical data highlighted in both yellow and blue indicates the value exceeded one or more generic RBCs and the clean fill screening level.

Data Qualifiers:

C-05 - Extract has undergone a GPC (Gel-Permeation Chromatography) cleanup per EPA 3640A. Reporting levels may be raised due to dilution necessary for cleanup. Sample Final Volume includes the GPC dilution factor, see the Prep page for details.

PRO - Sample has undergone sample processing prior to extraction and analysis.

R-02 - The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.

U - The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.

Footnotes:

(a) Risk-Based Concentrations are referenced from the June 2023 update to the DEQ's Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites guidance document dated September 2003.

(b) This pathway is applicable anytime someone is likely to come into contact with contaminated soil. For the occupational scenario, exposure to contaminated soils should be considered for all contaminants found in the top three feet of soil.

(c) This pathway is applicable whenever vadose zone soils are contaminated with volatile compounds.

(d) This pathway is applicable whenever vadose zone contamination is found overlying an aquifer that is currently used or is reasonably likely to be used in the future for drinking water.

(d) Clean Fill Values are referenced from the DEQ's Clean Fill Determinations guidance document dated February 2019.

(f) Regional Screening Levels (RSLs) are referenced from the May 2022 update to the USEPA Generic Tables.

Symbols/Acronyms:

bgs - below ground surface

C. W. - construction worker receptors

>Csat - The soil RBC exceeds the limit of three-phase equilibrium partitioning.
Soil concentrations in excess of this value indicate free product might be present.

DEQ - Department of Environmental Quality

DU - decision unit

E. W. - excavation worker receptors

ft - feet

HI - Hazard Index

I & W. - industrial and worker receptors

>Max - The constituent RBC for this pathway is greater than 1,000,000 mg/Kg or 1,000,000 mg/L.
Therefore, these substances are not expected to pose risks in the scenario shown.

MDL - Method Detection Limit

mg/kg - milligrams per kilogram

MRL - Method Reporting Limit

NE - No RBCs or RSLs are established for this constituent.

NV - The chemical is considered "nonvolatile" for the purposes of the exposure calculations.

RBC - risk-based concentration

RSLs - Regional Screening Levels

TP - test pit

TR - Target Risk

USEPA - United States Environmental Protection Agency

Table 3. Soil Samples Analytical Results - Organophosphorus Herbicides
Supplemental Investigation: Hillcrest Development Site - 3283 Hillcrest Road, Medford, Oregon; Lot 1 and Lot 2 of Map 371W21D and Taxlot 300

SAMPLING DATA					PARAMETERS: Organophosphorus Pesticides (mg/kg) USEPA 8270E (GC/MS)									
Sample Type	Sample ID	Sampling Location	Depth (ft bgs)	Date	Azinphos methyl (Guthion)	Chlorpyrifos	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethyl-p-nitrophenyl Phosphonate (EPN)
Discrete TP	DU4-0-6	DU4	0.0-0.5	01/22/24	0.0433U, PRO	0.0433U, PRO	0.0433U, PRO	0.0433U, PRO	0.0433U, PRO	0.0433U, PRO	**0.0433U, PRO**	0.0433U, PRO	0.0433U, PRO	0.0433U, PRO
	DU4-6-12		0.5-1.0	01/22/24	0.0434U, PRO	0.0434U, PRO	0.0434U, PRO	0.0434U, PRO	0.0434U, PRO	0.0434U, PRO	**0.0434U, PRO**	0.0434U, PRO	0.0434U, PRO	0.0434U, PRO
	DU4-12-18		1.0-1.5	01/22/24	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO	**0.0451U, PRO**	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO
	DU4-18-24		1.5-2.0	01/22/24	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO	**0.0446U, PRO**	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO
	DU4-24-36		2.0-3.0	01/22/24	0.0437U, PRO	0.0437U, PRO	0.0437U, PRO	0.0437U, PRO	0.0437U, PRO	0.0437U, PRO	**0.0437U, PRO**	0.0437U, PRO	0.0437U, PRO	0.0437U, PRO
Discrete TP	DU5-0-6	DU5	0.0-0.5	01/22/24	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO	**0.0451U, PRO**	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO
	DU5-6-12		0.5-1.0	01/22/24	0.0431U, PRO	0.0431U, PRO	0.0431U, PRO	0.0431U, PRO	0.0431U, PRO	0.0431U, PRO	**0.0431U, PRO**	0.0431U, PRO	0.0431U, PRO	0.0431U, PRO
	DU5-12-18		1.0-1.5	01/22/24	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO	**0.0446U, PRO**	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO
	DU5-18-24		1.5-2.0	01/22/24	0.0453U, PRO	0.0453U, PRO	0.0453U, PRO	0.0453U, PRO	0.0453U, PRO	0.0453U, PRO	**0.0453U, PRO**	0.0453U, PRO	0.0453U, PRO	0.0453U, PRO
	DU5-24-36		2.0-3.0	01/22/24	0.0448U, PRO	0.0448U, PRO, Q-42	0.0448U, PRO	0.0448U, PRO, Q-42	0.0448U, PRO, Q-42	0.0448U, PRO, Q-42	**0.0448U, PRO, Q-42**	0.0448U, PRO, Q-42	0.0448U, PRO	0.0448U, PRO
DEQ RBCs (a)	Ingestion, Dermal Contact and Inhalation (b)			OCC.	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
				C. W.	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
				E. W.	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
	Volatilization to Outdoor Air (c)			OCC.	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
	Leaching to Groundwater (d)			OCC.	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
DEQ's clean fill values (e)					1.0	7.2	NE	2.5	2.5	3.9	0.0049	0.59	0.056	0.17
USEPA RSLs (f)	Carcinogenic TR = 1E-06	Ingestion		I. & W.	NE	NE	NE	NE	NE	NE	11	NE	NE	NE
		Dermal		I. & W.	NE	NE	NE	NE	NE	NE	27	NE	NE	NE
		Inhalation		I. & W.	NE	NE	NE	NE	NE	NE	200,000	NE	NE	NE
		Carcinogenic		I. & W.	NE	NE	NE	NE	NE	NE	7.9	NE	NE	NE
	Noncancer HI = 1	Ingestion		I. & W.	3,500	1,200	NE	47	47	820	580	2,600	47	12
		Dermal		I. & W.	8,300	2,800	NE	110	110	1,900	1,400	6,100	110	28
		Inhalation		I. & W.	60,000,000	NE	NE	NE	NE	NE	3,000,000	NE	NE	NE
		Carcinogenic		I. & W.	2,500	820	NE	33	33	570	410	1,800	33	8.2

Table 3. Soil Samples Analytical Results - Organophosphorus Herbicides
Supplemental Investigation: Hillcrest Development Site - 3283 Hillcrest Road, Medford, Oregon; Lot 1 and Lot 2 of Map 371W21D and Taxlot 300

SAMPLING DATA					PARAMETERS: Organophosphorus Pesticides (mg/kg) USEPA 8270E (GC/MS)								
Sample Type	Sample ID	Sampling Location	Depth (ft bgs)	Date	Ethoprop	Fensulfothion	Fenthion	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)
Discrete TP	DU4-0-6	DU4	0.0-0.5	01/22/24	0.0433U, PRO	0.0433U, PRO	0.0433U, PRO	0.0433U, PRO	0.107U, PRO, R-02	0.0433U, PRO	0.0433U, PRO	0.0433U, PRO	0.0433U, PRO
	DU4-6-12		0.5-1.0	01/22/24	0.0434U, PRO	0.0434U, PRO	0.0434U, PRO	0.0434U, PRO	0.345U, PRO, R-02	0.0434U, PRO	0.0434U, PRO	0.0434U, PRO	0.0434U, PRO
	DU4-12-18		1.0-1.5	01/22/24	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO	0.133U, PRO, R-02	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO
	DU4-18-24		1.5-2.0	01/22/24	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO	0.0704U, PRO, R-02	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO
	DU4-24-36		2.0-3.0	01/22/24	0.0437U, PRO	0.0437U, PRO	0.0437U, PRO	0.0437U, PRO	0.0542U, PRO, R-02	0.0437U, PRO	0.0437U, PRO	0.0437U, PRO	0.0437U, PRO
Discrete TP	DU5-0-6	DU5	0.0-0.5	01/22/24	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO	0.161U, PRO, R-02	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO
	DU5-6-12		0.5-1.0	01/22/24	0.0431U, PRO	0.0431U, PRO	0.0431U, PRO	0.0431U, PRO	0.165U, PRO, R-02	0.0431U, PRO	0.0431U, PRO	0.0431U, PRO	0.0431U, PRO
	DU5-12-18		1.0-1.5	01/22/24	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO	0.143U, PRO, R-02	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO
	DU5-18-24		1.5-2.0	01/22/24	0.0453U, PRO	0.0453U, PRO	0.0453U, PRO	0.0453U, PRO	0.0933U, PRO, R-02	0.0453U, PRO	0.0453U, PRO	0.0453U, PRO	0.0453U, PRO
	DU5-24-36		2.0-3.0	01/22/24	0.0488U, PRO, Q-42	0.0488U, PRO, Q-42	0.0488U, PRO, Q-42	0.0488U, PRO, Q-42	0.0510U, PRO, R-02	0.0448U, PRO	0.0488U, PRO, Q-42	0.0488U, PRO, Q-42	0.0488U, PRO, Q-42
DEQ RBCs (a)	Ingestion, Dermal Contact and Inhalation (b)			OCC.	NE	NE	NE	NE	NE	NE	NE	NE	NE
				C. W.	NE	NE	NE	NE	NE	NE	NE	NE	NE
				E. W.	NE	NE	NE	NE	NE	NE	NE	NE	NE
	Volatilization to Outdoor Air (c)			OCC.	NE	NE	NE	NE	NE	NE	NE	NE	NE
	Leaching to Groundwater (d)			OCC.	NE	NE	NE	NE	NE	NE	NE	NE	NE
DEQ's clean fill values (e)					NE	NE	NE	6	2.3	0.44	NE	NE	1.1
USEPA RSLs (f)	Carcinogenic TR = 1E-06	Ingestion		I. & W.	NE	NE	NE	NE	NE	NE	NE	NE	NE
		Dermal		I. & W.	NE	NE	NE	NE	NE	NE	NE	NE	NE
		Inhalation		I. & W.	NE	NE	NE	NE	NE	NE	NE	NE	NE
		Carcinogenic		I. & W.	NE	NE	NE	NE	NE	NE	NE	NE	NE
	Noncancer HI = 1	Ingestion		I. & W.	NE	NE	NE	23,000	35	290	NE	NE	2,300
		Dermal		I. & W.	NE	NE	NE	55,000	NE	690	NE	NE	NE
		Inhalation		I. & W.	NE	NE	NE	NE	NE	NE	NE	NE	NE
		Carcinogenic		I. & W.	NE	NE	NE	16,000	35	210	NE	NE	2,300

Table 3. Soil Samples Analytical Results - Organophosphorus Herbicides
Supplemental Investigation: Hillcrest Development Site - 3283 Hillcrest Road, Medford, Oregon; Lot 1 and Lot 2 of Map 371W21D and Taxlot 300

SAMPLING DATA					PARAMETERS: Organophosphorus Pesticides (mg/kg) USEPA 8270E (GC/MS)								
Sample Type	Sample ID	Sampling Location	Depth (ft bgs)	Date	Parathion, ethyl	Phorate	Ronnel (Fenchlorphos)	Sulfotep	Sulprofos (Bolstar)	Tetraethyl pyrophosphate (TEPP)	Tetrachlorvinphos (Rabon) (Stirofos)	Tokuthion (Prothiofos)	Trichloronate
Discrete TP	DU4-0-6	DU4	0.0-0.5	01/22/24	0.0433U, PRO	0.0433U, PRO	0.0433U, PRO	0.0433U, PRO	0.0433U, PRO	0.177U, PRO	0.0433U, PRO	0.0433U, PRO	0.0433U, PRO
Discrete TP	DU4-6-12		0.5-1.0	01/22/24	0.0434U, PRO	0.0434U, PRO	0.0434U, PRO	0.0434U, PRO	0.0434U, PRO	0.173U, PRO	0.0434U, PRO	0.0434U, PRO	0.0434U, PRO
Discrete TP	DU4-12-18		1.0-1.5	01/22/24	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO	0.180U, PRO	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO
Discrete TP	DU4-18-24		1.5-2.0	01/22/24	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO	0.178U, PRO	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO
Discrete TP	DU4-24-36		2.0-3.0	01/22/24	0.0437U, PRO	0.0437U, PRO	0.0437U, PRO	0.0437U, PRO	0.0437U, PRO	0.175U, PRO	0.0437U, PRO	0.0437U, PRO	0.0437U, PRO
Discrete TP	DU5-0-6	DU5	0.0-0.5	01/22/24	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO	0.180U, PRO	0.0451U, PRO	0.0451U, PRO	0.0451U, PRO
Discrete TP	DU5-6-12		0.5-1.0	01/22/24	0.0431U, PRO	0.0431U, PRO	0.0431U, PRO	0.0431U, PRO	0.0431U, PRO	0.172U, PRO	0.0431U, PRO	0.0431U, PRO	0.0431U, PRO
Discrete TP	DU5-12-18		1.0-1.5	01/22/24	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO	0.178U, PRO	0.0446U, PRO	0.0446U, PRO	0.0446U, PRO
Discrete TP	DU5-18-24		1.5-2.0	01/22/24	0.0453U, PRO	0.0453U, PRO	0.0453U, PRO	0.0453U, PRO	0.0453U, PRO	0.181U, PRO	0.0453U, PRO	0.0453U, PRO	0.0453U, PRO
Discrete TP	DU5-24-36		2.0-3.0	01/22/24	0.0448U, PRO	0.0448U, PRO	0.0448U, PRO	0.0488U, PRO, Q-42	0.0448U, PRO	0.179U, PRO, Q-42	0.0488U, PRO, Q-42	0.0448U, PRO	0.0448U, PRO
DEQ RBCs (a)	Ingestion, Dermal Contact and Inhalation (b)			OCC.	NE	NE	NE	NE	NE	NE	NE	NE	NE
DEQ RBCs (a)	Ingestion, Dermal Contact and Inhalation (b)			C. W.	NE	NE	NE	NE	NE	NE	NE	NE	NE
DEQ RBCs (a)	Ingestion, Dermal Contact and Inhalation (b)			E. W.	NE	NE	NE	NE	NE	NE	NE	NE	NE
DEQ RBCs (a)	Volatilization to Outdoor Air (c)			OCC.	NE	NE	NE	NE	NE	NE	NE	NE	NE
DEQ RBCs (a)	Leaching to Groundwater (d)			OCC.	NE	NE	NE	NE	NE	NE	NE	NE	NE
DEQ's clean fill values (e)					26	0.2	220	NE	NE	NE	0.49	NE	NE
USEPA RSLs (f)	Carcinogenic TR = 1E-06	Ingestion		I. & W.	NE	NE	NE	NE	NE	NE	140	NE	NE
USEPA RSLs (f)	Carcinogenic TR = 1E-06	Dermal		I. & W.	NE	NE	NE	NE	NE	NE	320	NE	NE
USEPA RSLs (f)	Carcinogenic TR = 1E-06	Inhalation		I. & W.	NE	NE	NE	NE	NE	NE	NE	NE	NE
USEPA RSLs (f)	Carcinogenic TR = 1E-06	Carcinogenic		I. & W.	NE	NE	NE	NE	NE	NE	96	NE	NE
USEPA RSLs (f)	Noncancer HI = 1	Ingestion		I. & W.	7,000	230	58,000	NE	NE	NE	35,000	NE	NE
USEPA RSLs (f)	Noncancer HI = 1	Dermal		I. & W.	17,000	550	NE	NE	NE	NE	83,000	NE	NE
USEPA RSLs (f)	Noncancer HI = 1	Inhalation		I. & W.	NE	NE	NE	NE	NE	NE	NE	NE	NE
USEPA RSLs (f)	Noncancer HI = 1	Carcinogenic		I. & W.	4,900	160	58,000	NE	NE	NE	25,000	NE	NE

Table 3. Soil Samples Analytical Results - Organophosphorus Herbicides
Supplemental Investigation: Hillcrest Development Site - 3283 Hillcrest Road, Medford, Oregon; Lot 1 and Lot 2 of Map 371W21D and Taxlot 300

Notes:

The laboratory MRLs that exceeds the Clean Fill Values are indicated with bold blue font.

Data Qualifiers:

Q-42 - Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits. (Refer to the QC Section of Analytical Report.)

PRO - Sample has undergone sample processing prior to extraction and analysis.

R-02 - The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.

U - The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.

Footnotes:

(a) Risk-Based Concentrations are referenced from the June 2023 update to the DEQ's Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites guidance document dated September 2003.

(b) This pathway is applicable anytime someone is likely to come into contact with contaminated soil. For the occupational scenario, exposure to contaminated soils should be considered for all contaminants found in the top three feet of soil.

(c) This pathway is applicable whenever vadose zone soils are contaminated with volatile compounds.

(d) This pathway is applicable whenever vadose zone contamination is found overlying an aquifer that is currently used or is reasonably likely to be used in the future for drinking water.

(e) Clean Fill Values are referenced from the DEQ's Clean Fill Determinations guidance document dated February 2019.

(f) Regional Screening Levels (RSLs) are referenced from the May 2022 update to the USEPA Generic Tables.

Symbols/Acronyms:

bgs - below ground surface

C. W. - construction worker receptors

>Csat - The soil RBC exceeds the limit of three-phase equilibrium partitioning. Soil concentrations in excess of this value indicate free product might be present.

DEQ - Department of Environmental Quality

DU - decision unit

E. W. - excavation worker receptors

ft - feet

GC/MS - gas chromatography/mass spectrometry

HI - Hazard Index

I & W. - industrial and worker receptors

>Max - The constituent RBC for this pathway is greater than 1,000,000 mg/Kg or 1,000,000 mg/L. Therefore, these substances are not expected to pose risks in the scenario shown.

MDL - Method Detection Limit

mg/kg - milligrams per kilogram

MRL - Method Reporting Limit

NE - No RBCs or RSLs are established for this constituent.

NV - The chemical is considered "nonvolatile" for the purposes of the exposure calculations.

OCC. - occupational receptors

RBC - risk-based concentration

RSLs - Regional Screening Levels

TP - test pit

TR - Target Risk

USEPA - United States Environmental Protection Agency

Table 4. Soil Samples Analytical Results - Chlorinated Herbicides
Supplemental Investigation: Hillcrest Development Site - 3283 Hillcrest Road, Medford, Oregon; Lot 1 and Lot 2 of Map 371W21D and Taxlot 300

SAMPLING DATA					PARAMETERS: Chlorinated Herbicides (mg/kg) USEPA 8151A									
Sample Type	Sample ID	Sampling Location	Depth (ft bgs)	Date	2,4,5-Trichlorophenoxyacetic acid (2,4,5-T)	2,4,5-Trichlorophenoxypropionic acid (2,4,5-TP) (Silvex)	2,4-Dichlorophenoxyacetic acid (2,4-D)	4-(2,4-dichlorophenoxy)butyric acid (2,4-DB)	Dalapon	Dicamba	Dichloroprop	Dinoseb	2-Methyl-4-chlorophenoxyacetic acid (MCPA)	Methylchlorophenoxy propionic acid (MCPP)
Discrete TP	DU4-0-6	DU4	0.0-0.5	01/22/24	0.011U,*1	0.011U	0.110U, *+	0.110U, *1	0.270U	0.011U	0.110U	0.110U	**11.0U**	11.0U
Discrete TP	DU4-6-12		0.5-1.0	01/22/24	0.011U, *1	0.011U	0.110U, *+	0.110U, *1	0.270U	0.011U	0.110U	0.110U	**11.0U**	11.0U
Discrete TP	DU4-12-18		1.0-1.5	01/22/24	0.0099U, *1	0.0099U	0.099U*+	0.099U*1	0.250U	0.0099U	0.099U	0.099U	**9.9U**	9.9U
Discrete TP	DU4-18-24		1.5-2.0	01/22/24	0.010U, *1	0.010U	0.100U, *+	0.100U, *1	0.250U	0.010U	0.100U	0.100U	**10.0U**	10.0U
Discrete TP	DU4-24-36		2.0-3.0	01/22/24	0.010U, *1	0.010U	0.100U, *+	0.100U, *1	0.250U	0.010U	0.100U	0.100U	**10.0U**	10.0U
Discrete TP	DU5-0-6	DU5	0.0-0.5	01/22/24	0.011U,*1	0.011U	0.110U, *+	0.110U, *1	0.260U	0.011U	0.110U	0.110U	**11.0U**	11.0U
Discrete TP	DU5-6-12		0.5-1.0	01/22/24	0.011U,*1	0.011U	0.110U, *+	0.110U, *1	0.270U	0.011U	0.110U	0.110U	**11.0U**	11.0U
Discrete TP	DU5-12-18		1.0-1.5	01/22/24	0.010U, *1	0.010U	0.100U, *+	0.100U, *1	0.260U	0.010U	0.100U	0.100U	**10.0U**	10.0U
Discrete TP	DU5-18-24		1.5-2.0	01/22/24	0.011U,*1	0.011U	0.110U, *+	0.110U, *1	0.260U	0.011U	0.110U	0.110U	**11.0U**	11.0U
Discrete TP	DU5-24-36		2.0-3.0	01/22/24	0.010U, *1	0.010U	0.100U, *+	0.100U, *1	0.260U	0.010U	0.100U	0.100U	**10.0U**	10.0U
DEQ RBCs (a)	Ingestion, Dermal Contact and Inhalation (b)			OCC.	NE	NE	8,200	NE	NE	NE	NE	NE	410	NE
DEQ RBCs (a)				C. W.	NE	NE	2,700	NE	NE	NE	NE	NE	130	NE
DEQ RBCs (a)				E. W.	NE	NE	74,000	NE	NE	NE	NE	NE	3,700	NE
DEQ RBCs (a)	Volatilization to Outdoor Air (c)			OCC.	NE	NE	NV	NE	NE	NE	NE	NE	NV	NE
DEQ RBCs (a)	Leaching to Groundwater (d)			OCC.	NE	NE	16	NE	NE	NE	NE	NE	0.61	NE
DEQ's clean fill values (e)					4.1	3.7	16	25	7.2	9	NE	7.8	0.61	NE
USEPA RSLs (f)	Carcinogenic TR = 1E-06	Ingestion		I. & W.	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
USEPA RSLs (f)		Dermal		I. & W.	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
USEPA RSLs (f)		Inhalation		I. & W.	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
USEPA RSLs (f)		Carcinogenic		I. & W.	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
USEPA RSLs (f)	Noncancer HI = 1	Ingestion		I. & W.	12,000	9,300	12,000	NE	35,000	35,000	NE	1,200	580	1,200
USEPA RSLs (f)		Dermal		I. & W.	28,000	22,000	55,000	NE	83,000	83,000	NE	2,800	1,400	2,800
USEPA RSLs (f)		Inhalation		I. & W.	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
USEPA RSLs (f)		Carcinogenic		I. & W.	8,200	6,600	9,600	NE	25,000	25,000	NE	820	410	820

Table 4. Soil Samples Analytical Results - Chlorinated Herbicides
Supplemental Investigation: Hillcrest Development Site - 3283 Hillcrest Road, Medford, Oregon; Lot 1 and Lot 2 of Map 371W21D and Taxlot 300

Notes:

The laboratory MRL that exceeds one or more RBCs are indicated with bold blue font.

Data Qualifiers:

*+ - LCS and/or LCSD is outside acceptance limits, high biased.

*1 - LCS / LCSD RPD exceeds control limits.

U - The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.

Footnotes:

(a) Risk-Based Concentrations are referenced from the June 2023 update to the DEQ's Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites guidance document dated September 2003.

(b) This pathway is applicable anytime someone is likely to come into contact with contaminated soil. For the occupational scenario, exposure to contaminated soils should be considered for all contaminants found in the top three feet of soil.

(c) This pathway is applicable whenever vadose zone soils are contaminated with volatile compounds.

(d) This pathway is applicable whenever vadose zone contamination is found overlying an aquifer that is currently used or is reasonably likely to be used in the future for drinking water.

(e) Clean Fill Values are referenced from the DEQ's Clean Fill Determinations guidance document dated February 2019.

(f) Regional Screening Levels (RSLs) are referenced from the May 2022 update to the USEPA Generic Tables.

Symbols/Acronyms:

bgs - below ground surface
C. W. - construction worker receptors
>Csat - The soil RBC exceeds the limit of three-phase equilibrium partitioning. Soil concentrations in excess of this value indicate free product might be present.
DEQ - Department of Environmental Quality
DU - decision unit
E. W. - excavation worker receptors
ft - feet
HI - Hazard Index
I & W. - industrial and worker receptors
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
>Max - The constituent RBC for this pathway is greater than 1,000,000 mg/Kg or 1,000,000 mg/L. Therefore, these substances are not expected to pose risks in the scenario shown.
MDL - Method Detection Limit
mg/kg - milligrams per kilogram
MRL - Method Reporting Limit
MS - Matrix Spike
MSD - Matrix Spike Duplicate
NE - No RBCs or RSLs are established for this constituent.
NV - The chemical is considered "nonvolatile" for the purposes of the exposure calculations.
OCC. - occupational receptors
RPD - Relative Percent Difference,
RBC - risk-based concentration
RSLs - Regional Screening Levels
TP - test pit
TR - Target Risk
USEPA - United States Environmental Protection Agency

APPENDIX 1

Photographic Documentation

1. Test Pit TP13.

4. Test Pit TP14.

2. Test Pit TP13.

5. Test Pit TP14.

3. Test Pit TP14.

6. Test Pit TP15.

7. Test Pit TP15.

10. Test Pit TP17.

8. Test Pit TP16.

11. Test Pit TP17.

9. Test Pit TP16.

12. Test Pit TP18.

13. Test Pit TP18.

16. Test Pit TP20.

14. Test Pit TP19.

17. Test Pit TP20.

15. Test Pit TP19.

APPENDIX 2

Complete Laboratory Results

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

Wednesday, March 6, 2024

Jonathan Williams
Alpine Environmental Consultants
12210 Antioch Road
White City, OR 97503

RE: A4A1444 - Hillcrest Orchards - [none]

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A4A1444, which was received by the laboratory on 1/25/2024 at 11:19:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: dthomas@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information	
Acceptable Receipt Temperature is less than, or equal to, 6 degC (not frozen), or received on ice the same day as sampling.	
(See Cooler Receipt Form for details)	
Cooler #1 3.2 degC	Cooler #2 4.8 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.
All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.

Apex Laboratories

Darwin Thomas, Business Development Director

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DU4-0-6	A4A1444-41	Soil	01/22/24 12:04	01/25/24 11:19
DU4-0-6	A4A1444-42	Soil	01/22/24 12:04	01/25/24 11:19
DU4-6-12	A4A1444-43	Soil	01/22/24 12:03	01/25/24 11:19
DU4-6-12	A4A1444-44	Soil	01/22/24 12:03	01/25/24 11:19
DU4-12-18	A4A1444-45	Soil	01/22/24 12:02	01/25/24 11:19
DU4-12-18	A4A1444-46	Soil	01/22/24 12:02	01/25/24 11:19
DU4-18-24	A4A1444-47	Soil	01/22/24 12:01	01/25/24 11:19
DU4-18-24	A4A1444-48	Soil	01/22/24 12:01	01/25/24 11:19
DU4-24-36	A4A1444-49	Soil	01/22/24 12:00	01/25/24 11:19
DU4-24-36	A4A1444-50	Soil	01/22/24 12:00	01/25/24 11:19
DU5-0-6	A4A1444-51	Soil	01/22/24 12:41	01/25/24 11:19
DU5-0-6	A4A1444-52	Soil	01/22/24 12:41	01/25/24 11:19
DU5-6-12	A4A1444-53	Soil	01/22/24 12:42	01/25/24 11:19
DU5-6-12	A4A1444-54	Soil	01/22/24 12:42	01/25/24 11:19
DU5-12-18	A4A1444-55	Soil	01/22/24 12:43	01/25/24 11:19
DU5-12-18	A4A1444-56	Soil	01/22/24 12:43	01/25/24 11:19
DU5-18-24	A4A1444-57	Soil	01/22/24 12:44	01/25/24 11:19
DU5-18-24	A4A1444-58	Soil	01/22/24 12:44	01/25/24 11:19
DU5-24-36	A4A1444-59	Soil	01/22/24 12:45	01/25/24 11:19
DU5-24-36	A4A1444-60	Soil	01/22/24 12:45	01/25/24 11:19

Apex Laboratories

Darwin Thomas, Business Development Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document(s) and updated by any subsequent written communications. This analytical report must be reproduced in its entirety.

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU4-0-6 (A4A1444-42RE1)				**Matrix: Soil**		**Batch: 24B0119**		**C-05, PRO**
Aldrin [2C]	ND	---	0.00184	mg/kg dry	1	02/06/24 19:32	EPA 8081B	
alpha-BHC [2C]	ND	---	0.00184	mg/kg dry	1	02/06/24 19:32	EPA 8081B	
beta-BHC [2C]	ND	---	0.00184	mg/kg dry	1	02/06/24 19:32	EPA 8081B	
delta-BHC [2C]	ND	---	0.00184	mg/kg dry	1	02/06/24 19:32	EPA 8081B	
gamma-BHC (Lindane) [2C]	ND	---	0.00184	mg/kg dry	1	02/06/24 19:32	EPA 8081B	
cis-Chlordane	ND	---	0.00184	mg/kg dry	1	02/06/24 19:32	EPA 8081B	
trans-Chlordane	ND	---	0.00184	mg/kg dry	1	02/06/24 19:32	EPA 8081B	
4,4'-DDD [2C]	**0.0696**	---	0.00184	mg/kg dry	1	02/06/24 19:32	EPA 8081B	
Dieldrin [2C]	**0.159**	---	0.00184	mg/kg dry	1	02/06/24 19:32	EPA 8081B	
Endosulfan I [2C]	ND	---	0.00184	mg/kg dry	1	02/06/24 19:32	EPA 8081B	
Endosulfan II [2C]	ND	---	0.00525	mg/kg dry	1	02/06/24 19:32	EPA 8081B	R-02
Endosulfan sulfate [2C]	ND	---	0.00184	mg/kg dry	1	02/06/24 19:32	EPA 8081B	
Endrin	ND	---	0.00184	mg/kg dry	1	02/06/24 19:32	EPA 8081B	
Endrin aldehyde	ND	---	0.00258	mg/kg dry	1	02/06/24 19:32	EPA 8081B	R-02
Endrin ketone [2C]	ND	---	0.00184	mg/kg dry	1	02/06/24 19:32	EPA 8081B	
Heptachlor [2C]	ND	---	0.00184	mg/kg dry	1	02/06/24 19:32	EPA 8081B	
Heptachlor epoxide [2C]	ND	---	0.00184	mg/kg dry	1	02/06/24 19:32	EPA 8081B	
Methoxychlor	ND	---	0.0167	mg/kg dry	1	02/06/24 19:32	EPA 8081B	R-02
Chlordane (Technical) [2C]	ND	---	0.0553	mg/kg dry	1	02/06/24 19:32	EPA 8081B	
Toxaphene (Total) [2C]	ND	---	0.0553	mg/kg dry	1	02/06/24 19:32	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery:*	*60 %*	*Limits: 42-129 %*	*1*	*02/06/24 19:32*	*EPA 8081B*	
Decachlorobiphenyl (Surr)			*84 %*	*55-130 %*	*1*	*02/06/24 19:32*	*EPA 8081B*	
DU4-0-6 (A4A1444-42RE2)				**Matrix: Soil**		**Batch: 24B0119**		**C-05, PRO**
4,4'-DDE [2C]	**1.36**	---	0.0369	mg/kg dry	20	02/07/24 12:53	EPA 8081B	
4,4'-DDT [2C]	**0.728**	---	0.0369	mg/kg dry	20	02/07/24 12:53	EPA 8081B	
DU4-6-12 (A4A1444-44RE1)				**Matrix: Soil**		**Batch: 24B0119**		**C-05, PRO**
Aldrin [2C]	ND	---	0.00179	mg/kg dry	1	02/06/24 20:05	EPA 8081B	
alpha-BHC [2C]	ND	---	0.00179	mg/kg dry	1	02/06/24 20:05	EPA 8081B	
beta-BHC [2C]	ND	---	0.00179	mg/kg dry	1	02/06/24 20:05	EPA 8081B	
delta-BHC [2C]	ND	---	0.00179	mg/kg dry	1	02/06/24 20:05	EPA 8081B	
gamma-BHC (Lindane) [2C]	ND	---	0.00179	mg/kg dry	1	02/06/24 20:05	EPA 8081B	
cis-Chlordane	ND	---	0.00179	mg/kg dry	1	02/06/24 20:05	EPA 8081B	

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC
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Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU4-6-12 (A4A1444-44RE1)				**Matrix: Soil**		**Batch: 24B0119**		**C-05, PRO**
trans-Chlordane	ND	---	0.00179	mg/kg dry	1	02/06/24 20:05	EPA 8081B	
4,4'-DDD [2C]	**0.0520**	---	0.00179	mg/kg dry	1	02/06/24 20:05	EPA 8081B	
Dieldrin [2C]	**0.118**	---	0.00179	mg/kg dry	1	02/06/24 20:05	EPA 8081B	
Endosulfan I [2C]	ND	---	0.00179	mg/kg dry	1	02/06/24 20:05	EPA 8081B	
Endosulfan II	ND	---	0.00313	mg/kg dry	1	02/06/24 20:05	EPA 8081B	R-02
Endosulfan sulfate [2C]	ND	---	0.00179	mg/kg dry	1	02/06/24 20:05	EPA 8081B	
Endrin	ND	---	0.00179	mg/kg dry	1	02/06/24 20:05	EPA 8081B	
Endrin aldehyde	ND	---	0.00188	mg/kg dry	1	02/06/24 20:05	EPA 8081B	R-02
Endrin ketone [2C]	ND	---	0.00179	mg/kg dry	1	02/06/24 20:05	EPA 8081B	
Heptachlor [2C]	ND	---	0.00179	mg/kg dry	1	02/06/24 20:05	EPA 8081B	
Heptachlor epoxide [2C]	ND	---	0.00179	mg/kg dry	1	02/06/24 20:05	EPA 8081B	
Methoxychlor	ND	---	0.0119	mg/kg dry	1	02/06/24 20:05	EPA 8081B	R-02
Chlordane (Technical) [2C]	ND	---	0.0536	mg/kg dry	1	02/06/24 20:05	EPA 8081B	
Toxaphene (Total) [2C]	ND	---	0.0536	mg/kg dry	1	02/06/24 20:05	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery:*	*64 %*	*Limits: 42-129 %*	*1*	*02/06/24 20:05*	*EPA 8081B*	
Decachlorobiphenyl (Surr)			*91 %*	*55-130 %*	*1*	*02/06/24 20:05*	*EPA 8081B*	
DU4-6-12 (A4A1444-44RE2)				**Matrix: Soil**		**Batch: 24B0119**		**PRO, C-05**
4,4'-DDE [2C]	**1.09**	---	0.0358	mg/kg dry	20	02/07/24 13:26	EPA 8081B	
4,4'-DDT [2C]	**0.484**	---	0.0358	mg/kg dry	20	02/07/24 13:26	EPA 8081B	
DU4-12-18 (A4A1444-46RE1)				**Matrix: Soil**		**Batch: 24B0119**		**C-05, PRO**
Aldrin [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
alpha-BHC [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
beta-BHC [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
delta-BHC [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
gamma-BHC (Lindane) [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
cis-Chlordane [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
trans-Chlordane [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
4,4'-DDD [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
4,4'-DDE [2C]	**0.0950**	---	0.00179	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
4,4'-DDT [2C]	**0.0260**	---	0.00179	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
Dieldrin [2C]	**0.00459**	---	0.00179	mg/kg dry	1	02/07/24 10:59	EPA 8081B	

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU4-12-18 (A4A1444-46RE1)				**Matrix: Soil**		**Batch: 24B0119**		**C-05, PRO**
Endosulfan I [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
Endosulfan II [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
Endosulfan sulfate [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
Endrin	ND	---	0.00179	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
Endrin aldehyde	ND	---	0.00179	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
Endrin ketone [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
Heptachlor [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
Heptachlor epoxide [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
Methoxychlor [2C]	ND	---	0.00536	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
Chlordane (Technical) [2C]	ND	---	0.0536	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
Toxaphene (Total) [2C]	ND	---	0.0536	mg/kg dry	1	02/07/24 10:59	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery:*	*51 %*	*Limits: 42-129 %*	*1*	*02/07/24 10:59*	*EPA 8081B*	
Decachlorobiphenyl (Surr)			*83 %*	*55-130 %*	*1*	*02/07/24 10:59*	*EPA 8081B*	
DU4-18-24 (A4A1444-48RE1)				**Matrix: Soil**		**Batch: 24B0119**		**C-05, PRO**
Aldrin [2C]	ND	---	0.00169	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
alpha-BHC [2C]	ND	---	0.00169	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
beta-BHC [2C]	ND	---	0.00169	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
delta-BHC [2C]	ND	---	0.00169	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
gamma-BHC (Lindane) [2C]	ND	---	0.00169	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
cis-Chlordane [2C]	ND	---	0.00169	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
trans-Chlordane [2C]	ND	---	0.00169	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
4,4'-DDD [2C]	ND	---	0.00169	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
4,4'-DDE [2C]	**0.00948**	---	0.00169	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
4,4'-DDT [2C]	**0.00209**	---	0.00169	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
Dieldrin [2C]	ND	---	0.00169	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
Endosulfan I [2C]	ND	---	0.00169	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
Endosulfan II [2C]	ND	---	0.00169	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
Endosulfan sulfate [2C]	ND	---	0.00169	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
Endrin [2C]	ND	---	0.00169	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
Endrin aldehyde [2C]	ND	---	0.00169	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
Endrin ketone [2C]	ND	---	0.00169	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
Heptachlor [2C]	ND	---	0.00169	mg/kg dry	1	02/07/24 11:16	EPA 8081B	

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Darwin Thomas, Business Development Director

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ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU4-18-24 (A4A1444-48RE1)				**Matrix: Soil**		**Batch: 24B0119**		**C-05, PRO**
Heptachlor epoxide [2C]	ND	---	0.00169	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
Methoxychlor [2C]	ND	---	0.00506	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
Chlordane (Technical) [2C]	ND	---	0.0506	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
Toxaphene (Total) [2C]	ND	---	0.0506	mg/kg dry	1	02/07/24 11:16	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery:*	*57 %*	*Limits: 42-129 %*	*1*	*02/07/24 11:16*	*EPA 8081B*	
Decachlorobiphenyl (Surr)			*85 %*	*55-130 %*	*1*	*02/07/24 11:16*	*EPA 8081B*	
DU4-24-36 (A4A1444-50RE1)				**Matrix: Soil**		**Batch: 24B0119**		**C-05, PRO**
Aldrin [2C]	ND	---	0.00180	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
alpha-BHC [2C]	ND	---	0.00180	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
beta-BHC [2C]	ND	---	0.00180	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
delta-BHC [2C]	ND	---	0.00180	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
gamma-BHC (Lindane) [2C]	ND	---	0.00180	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
cis-Chlordane [2C]	ND	---	0.00180	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
trans-Chlordane [2C]	ND	---	0.00180	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
4,4'-DDD [2C]	ND	---	0.00180	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
4,4'-DDE [2C]	**0.00568**	---	0.00180	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
4,4'-DDT [2C]	**0.00305**	---	0.00180	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
Dieldrin [2C]	ND	---	0.00180	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
Endosulfan I [2C]	ND	---	0.00180	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
Endosulfan II [2C]	ND	---	0.00180	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
Endosulfan sulfate [2C]	ND	---	0.00180	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
Endrin [2C]	ND	---	0.00180	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
Endrin aldehyde [2C]	ND	---	0.00180	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
Endrin ketone [2C]	ND	---	0.00180	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
Heptachlor [2C]	ND	---	0.00180	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
Heptachlor epoxide [2C]	ND	---	0.00180	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
Methoxychlor [2C]	ND	---	0.00541	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
Chlordane (Technical) [2C]	ND	---	0.0541	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
Toxaphene (Total) [2C]	ND	---	0.0541	mg/kg dry	1	02/07/24 11:32	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery:*	*57 %*	*Limits: 42-129 %*	*1*	*02/07/24 11:32*	*EPA 8081B*	
Decachlorobiphenyl (Surr)			*90 %*	*55-130 %*	*1*	*02/07/24 11:32*	*EPA 8081B*	

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ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU5-0-6 (A4A1444-52RE1)				**Matrix: Soil**		**Batch: 24B0119**		**C-05, PRO**
Aldrin [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 11:48	EPA 8081B	
alpha-BHC [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 11:48	EPA 8081B	
beta-BHC [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 11:48	EPA 8081B	
delta-BHC [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 11:48	EPA 8081B	
gamma-BHC (Lindane) [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 11:48	EPA 8081B	
cis-Chlordane	ND	---	0.00179	mg/kg dry	1	02/07/24 11:48	EPA 8081B	
trans-Chlordane	ND	---	0.00179	mg/kg dry	1	02/07/24 11:48	EPA 8081B	
4,4'-DDD [2C]	**0.0160**	---	0.00179	mg/kg dry	1	02/07/24 11:48	EPA 8081B	
Dieldrin	**0.0768**	---	0.00179	mg/kg dry	1	02/07/24 11:48	EPA 8081B	
Endosulfan I [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 11:48	EPA 8081B	
Endosulfan II [2C]	ND	---	0.00242	mg/kg dry	1	02/07/24 11:48	EPA 8081B	R-02
Endosulfan sulfate	ND	---	0.00358	mg/kg dry	1	02/07/24 11:48	EPA 8081B	R-02
Endrin	ND	---	0.00179	mg/kg dry	1	02/07/24 11:48	EPA 8081B	
Endrin aldehyde	ND	---	0.00233	mg/kg dry	1	02/07/24 11:48	EPA 8081B	R-02
Endrin ketone [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 11:48	EPA 8081B	
Heptachlor [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 11:48	EPA 8081B	
Heptachlor epoxide [2C]	ND	---	0.00179	mg/kg dry	1	02/07/24 11:48	EPA 8081B	
Methoxychlor	ND	---	0.0139	mg/kg dry	1	02/07/24 11:48	EPA 8081B	R-02
Chlordane (Technical) [2C]	ND	---	0.0537	mg/kg dry	1	02/07/24 11:48	EPA 8081B	
Toxaphene (Total) [2C]	ND	---	0.0537	mg/kg dry	1	02/07/24 11:48	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery:*	*64 %*	*Limits: 42-129 %*	*1*	*02/07/24 11:48*	*EPA 8081B*	
Decachlorobiphenyl (Surr)			*91 %*	*55-130 %*	*1*	*02/07/24 11:48*	*EPA 8081B*	
DU5-0-6 (A4A1444-52RE2)				**Matrix: Soil**		**Batch: 24B0119**		**C-05, PRO**
4,4'-DDE [2C]	**1.10**	---	0.0358	mg/kg dry	20	02/07/24 14:47	EPA 8081B	
4,4'-DDT [2C]	**0.335**	---	0.0358	mg/kg dry	20	02/07/24 14:47	EPA 8081B	
DU5-6-12 (A4A1444-54RE1)				**Matrix: Soil**		**Batch: 24B0119**		**C-05, PRO**
Aldrin [2C]	ND	---	0.00184	mg/kg dry	1	02/07/24 12:04	EPA 8081B	
alpha-BHC [2C]	ND	---	0.00184	mg/kg dry	1	02/07/24 12:04	EPA 8081B	
beta-BHC [2C]	ND	---	0.00184	mg/kg dry	1	02/07/24 12:04	EPA 8081B	
delta-BHC [2C]	ND	---	0.00184	mg/kg dry	1	02/07/24 12:04	EPA 8081B	
gamma-BHC (Lindane) [2C]	ND	---	0.00184	mg/kg dry	1	02/07/24 12:04	EPA 8081B	
cis-Chlordane	ND	---	0.00184	mg/kg dry	1	02/07/24 12:04	EPA 8081B	

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Darwin Thomas, Business Development Director

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ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU5-6-12 (A4A1444-54RE1)				**Matrix: Soil**		**Batch: 24B0119**		**C-05, PRO**
trans-Chlordane	ND	---	0.00184	mg/kg dry	1	02/07/24 12:04	EPA 8081B	
4,4'-DDD [2C]	**0.00626**	---	0.00184	mg/kg dry	1	02/07/24 12:04	EPA 8081B	
Dieldrin	**0.0431**	---	0.00184	mg/kg dry	1	02/07/24 12:04	EPA 8081B	
Endosulfan I [2C]	ND	---	0.00184	mg/kg dry	1	02/07/24 12:04	EPA 8081B	
Endosulfan II	ND	---	0.00184	mg/kg dry	1	02/07/24 12:04	EPA 8081B	
Endosulfan sulfate [2C]	ND	---	0.00184	mg/kg dry	1	02/07/24 12:04	EPA 8081B	
Endrin	ND	---	0.00184	mg/kg dry	1	02/07/24 12:04	EPA 8081B	
Endrin aldehyde	ND	---	0.00184	mg/kg dry	1	02/07/24 12:04	EPA 8081B	
Endrin ketone [2C]	ND	---	0.00184	mg/kg dry	1	02/07/24 12:04	EPA 8081B	
Heptachlor [2C]	ND	---	0.00184	mg/kg dry	1	02/07/24 12:04	EPA 8081B	
Heptachlor epoxide [2C]	ND	---	0.00184	mg/kg dry	1	02/07/24 12:04	EPA 8081B	
Methoxychlor	ND	---	0.00552	mg/kg dry	1	02/07/24 12:04	EPA 8081B	
Chlordane (Technical) [2C]	ND	---	0.0552	mg/kg dry	1	02/07/24 12:04	EPA 8081B	
Toxaphene (Total) [2C]	ND	---	0.0552	mg/kg dry	1	02/07/24 12:04	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery:*	*56 %*	*Limits: 42-129 %*	*1*	*02/07/24 12:04*	*EPA 8081B*	
Decachlorobiphenyl (Surr)			*86 %*	*55-130 %*	*1*	*02/07/24 12:04*	*EPA 8081B*	
DU5-6-12 (A4A1444-54RE2)				**Matrix: Soil**		**Batch: 24B0119**		**PRO, C-05**
4,4'-DDE [2C]	**0.644**	---	0.0184	mg/kg dry	10	02/07/24 15:03	EPA 8081B	
4,4'-DDT [2C]	**0.193**	---	0.0184	mg/kg dry	10	02/07/24 15:03	EPA 8081B	
DU5-12-18 (A4A1444-56RE1)				**Matrix: Soil**		**Batch: 24B0119**		**C-05, PRO**
Aldrin [2C]	ND	---	0.00183	mg/kg dry	1	02/07/24 12:21	EPA 8081B	
alpha-BHC [2C]	ND	---	0.00183	mg/kg dry	1	02/07/24 12:21	EPA 8081B	
beta-BHC [2C]	ND	---	0.00183	mg/kg dry	1	02/07/24 12:21	EPA 8081B	
delta-BHC [2C]	ND	---	0.00183	mg/kg dry	1	02/07/24 12:21	EPA 8081B	
gamma-BHC (Lindane) [2C]	ND	---	0.00183	mg/kg dry	1	02/07/24 12:21	EPA 8081B	
cis-Chlordane [2C]	ND	---	0.00183	mg/kg dry	1	02/07/24 12:21	EPA 8081B	
trans-Chlordane [2C]	ND	---	0.00183	mg/kg dry	1	02/07/24 12:21	EPA 8081B	
4,4'-DDD [2C]	ND	---	0.00183	mg/kg dry	1	02/07/24 12:21	EPA 8081B	
Dieldrin	**0.0114**	---	0.00183	mg/kg dry	1	02/07/24 12:21	EPA 8081B	
Endosulfan I [2C]	ND	---	0.00183	mg/kg dry	1	02/07/24 12:21	EPA 8081B	
Endosulfan II [2C]	ND	---	0.00183	mg/kg dry	1	02/07/24 12:21	EPA 8081B	
Endosulfan sulfate [2C]	ND	---	0.00183	mg/kg dry	1	02/07/24 12:21	EPA 8081B	

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Darwin Thomas, Business Development Director

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ORELAP ID: **OR100062**

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU5-12-18 (A4A1444-56RE1)				**Matrix: Soil**		**Batch: 24B0119**		**C-05, PRO**
Endrin	ND	---	0.00183	mg/kg dry	1	02/07/24 12:21	EPA 8081B	
Endrin aldehyde	ND	---	0.00183	mg/kg dry	1	02/07/24 12:21	EPA 8081B	
Endrin ketone [2C]	ND	---	0.00183	mg/kg dry	1	02/07/24 12:21	EPA 8081B	
Heptachlor [2C]	ND	---	0.00183	mg/kg dry	1	02/07/24 12:21	EPA 8081B	
Heptachlor epoxide [2C]	ND	---	0.00183	mg/kg dry	1	02/07/24 12:21	EPA 8081B	
Methoxychlor	ND	---	0.00549	mg/kg dry	1	02/07/24 12:21	EPA 8081B	
Chlordane (Technical) [2C]	ND	---	0.0549	mg/kg dry	1	02/07/24 12:21	EPA 8081B	
Toxaphene (Total) [2C]	ND	---	0.0549	mg/kg dry	1	02/07/24 12:21	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery:*	*53 %*	*Limits: 42-129 %*	*1*	*02/07/24 12:21*	*EPA 8081B*	
Decachlorobiphenyl (Surr)			*85 %*	*55-130 %*	*1*	*02/07/24 12:21*	*EPA 8081B*	
DU5-12-18 (A4A1444-56RE2)				**Matrix: Soil**		**Batch: 24B0119**		**C-05, PRO**
4,4'-DDE [2C]	**0.207**	---	0.00916	mg/kg dry	5	02/07/24 15:20	EPA 8081B	
4,4'-DDT [2C]	**0.0522**	---	0.00916	mg/kg dry	5	02/07/24 15:20	EPA 8081B	
DU5-18-24 (A4A1444-58RE1)				**Matrix: Soil**		**Batch: 24B0119**		**C-05, PRO**
Aldrin [2C]	ND	---	0.00173	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
alpha-BHC [2C]	ND	---	0.00173	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
beta-BHC [2C]	ND	---	0.00173	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
delta-BHC [2C]	ND	---	0.00173	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
gamma-BHC (Lindane) [2C]	ND	---	0.00173	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
cis-Chlordane [2C]	ND	---	0.00173	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
trans-Chlordane [2C]	ND	---	0.00173	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
4,4'-DDD [2C]	ND	---	0.00173	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
4,4'-DDE [2C]	**0.0682**	---	0.00173	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
4,4'-DDT [2C]	**0.0195**	---	0.00173	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
Dieldrin	**0.00189**	---	0.00173	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
Endosulfan I [2C]	ND	---	0.00173	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
Endosulfan II [2C]	ND	---	0.00173	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
Endosulfan sulfate [2C]	ND	---	0.00173	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
Endrin	ND	---	0.00173	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
Endrin aldehyde	ND	---	0.00173	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
Endrin ketone [2C]	ND	---	0.00173	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
Heptachlor [2C]	ND	---	0.00173	mg/kg dry	1	02/07/24 12:37	EPA 8081B	

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ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU5-18-24 (A4A1444-58RE1)				**Matrix: Soil**		**Batch: 24B0119**		**C-05, PRO**
Heptachlor epoxide [2C]	ND	---	0.00173	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
Methoxychlor [2C]	ND	---	0.00518	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
Chlordane (Technical) [2C]	ND	---	0.0518	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
Toxaphene (Total) [2C]	ND	---	0.0518	mg/kg dry	1	02/07/24 12:37	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery:*	*63 %*	*Limits: 42-129 %*	*1*	*02/07/24 12:37*	*EPA 8081B*	
Decachlorobiphenyl (Surr)			*80 %*	*55-130 %*	*1*	*02/07/24 12:37*	*EPA 8081B*	
DU5-24-36 (A4A1444-60RE1)				**Matrix: Soil**		**Batch: 24B0119**		**C-05, PRO**
Aldrin [2C]	ND	---	0.00175	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
alpha-BHC [2C]	ND	---	0.00175	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
beta-BHC [2C]	ND	---	0.00175	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
delta-BHC [2C]	ND	---	0.00175	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
gamma-BHC (Lindane) [2C]	ND	---	0.00175	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
cis-Chlordane [2C]	ND	---	0.00175	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
trans-Chlordane [2C]	ND	---	0.00175	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
4,4'-DDD [2C]	ND	---	0.00175	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
4,4'-DDE [2C]	**0.0267**	---	0.00175	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
4,4'-DDT [2C]	**0.00661**	---	0.00175	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
Dieldrin [2C]	ND	---	0.00175	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
Endosulfan I [2C]	ND	---	0.00175	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
Endosulfan II [2C]	ND	---	0.00175	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
Endosulfan sulfate [2C]	ND	---	0.00175	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
Endrin [2C]	ND	---	0.00175	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
Endrin aldehyde	ND	---	0.00175	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
Endrin ketone [2C]	ND	---	0.00175	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
Heptachlor [2C]	ND	---	0.00175	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
Heptachlor epoxide [2C]	ND	---	0.00175	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
Methoxychlor [2C]	ND	---	0.00524	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
Chlordane (Technical) [2C]	ND	---	0.0524	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
Toxaphene (Total) [2C]	ND	---	0.0524	mg/kg dry	1	02/06/24 20:21	EPA 8081B	
Surrogate: 2,4,5,6-TCMX (Surr)		*Recovery:*	*68 %*	*Limits: 42-129 %*	*1*	*02/06/24 20:21*	*EPA 8081B*	
Decachlorobiphenyl (Surr)			*94 %*	*55-130 %*	*1*	*02/06/24 20:21*	*EPA 8081B*	

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Darwin Thomas, Business Development Director

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ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Organophosphorus Pesticides (OPPs) by EPA 8270E (GC/MS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU4-0-6 (A4A1444-42RE1)				**Matrix: Soil**		**Batch: 24B0134**		**PRO**
Azinphos methyl (Guthion)	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Chlorpyrifos	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Coumaphos	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Demeton O	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Demeton S	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Diazinon	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Dichlorvos	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Dimethoate	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Disulfoton	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
EPN	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Ethoprop	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Fensulfothion	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Fenthion	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Malathion	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Merphos	ND	---	0.107	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	R-02
Methyl parathion	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Mevinphos (Phosdrin)	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Monocrotophos	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Naled (Dibrom)	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Parathion, ethyl	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Phorate	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Ronnel (Fenchlorphos)	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Sulfotep	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Sulprofos (Bolstar)	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
TEPP	ND	---	0.177	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Tetrachlorvinphos (Rabon)	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Tokuthion (Prothiofos)	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Trichloronate	ND	---	0.0443	mg/kg dry	1	02/05/24 20:14	EPA 8270E OPPs	
Surrogate: Tributyl phosphate (Surr)		*Recovery:*	*26 %*	*Limits: 10-136 %*	*1*	*02/05/24 20:14*	*EPA 8270E OPPs*	
Triphenyl phosphate (Surr)			*37 %*	*34-121 %*	*1*	*02/05/24 20:14*	*EPA 8270E OPPs*	
DU4-6-12 (A4A1444-44)				**Matrix: Soil**		**Batch: 24B0134**		**PRO**
Azinphos methyl (Guthion)	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	

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Darwin Thomas, Business Development Director

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ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Organophosphorus Pesticides (OPPs) by EPA 8270E (GC/MS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU4-6-12 (A4A1444-44)				**Matrix: Soil**		**Batch: 24B0134**		**PRO**
Chlorpyrifos	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Coumaphos	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Demeton O	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Demeton S	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Diazinon	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Dichlorvos	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Dimethoate	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Disulfoton	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
EPN	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Ethoprop	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Fensulfothion	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Fenthion	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Malathion	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Merphos	ND	---	0.345	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	R-02
Methyl parathion	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Mevinphos (Phosdrin)	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Monocrotophos	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Naled (Dibrom)	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Parathion, ethyl	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Phorate	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Ronnel (Fenchlorphos)	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Sulfotep	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Sulprofos (Bolstar)	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
TEPP	ND	---	0.173	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Tetrachlorvinphos (Rabon)	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Tokuthion (Prothiofos)	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Trichloronate	ND	---	0.0434	mg/kg dry	1	02/05/24 22:32	EPA 8270E OPPs	
Surrogate: Tributyl phosphate (Surr)		*Recovery:*	*16 %*	*Limits: 10-136 %*	*1*	*02/05/24 22:32*	*EPA 8270E OPPs*	
Triphenyl phosphate (Surr)			*29 %*	*34-121 %*	*1*	*02/05/24 22:32*	*EPA 8270E OPPs*	*S-03*
DU4-12-18 (A4A1444-46)				**Matrix: Soil**		**Batch: 24B0134**		**PRO**
Azinphos methyl (Guthion)	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Chlorpyrifos	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	

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Darwin Thomas, Business Development Director

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ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Organophosphorus Pesticides (OPPs) by EPA 8270E (GC/MS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU4-12-18 (A4A1444-46)				**Matrix: Soil**		**Batch: 24B0134**		**PRO**
Coumaphos	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Demeton O	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Demeton S	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Diazinon	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Dichlorvos	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Dimethoate	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Disulfoton	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
EPN	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Ethoprop	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Fensulfothion	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Fenthion	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Malathion	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Merphos	ND	---	0.133	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	R-02
Methyl parathion	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Mevinphos (Phosdrin)	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Monocrotophos	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Naled (Dibrom)	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Parathion, ethyl	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Phorate	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Ronnel (Fenchlorphos)	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Sulfotep	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Sulprofos (Bolstar)	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
TEPP	ND	---	0.180	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Tetrachlorvinphos (Rabon)	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Tokuthion (Prothiofos)	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Trichloronate	ND	---	0.0451	mg/kg dry	1	02/05/24 23:07	EPA 8270E OPPs	
Surrogate: Tributyl phosphate (Surr)		*Recovery:*	*12 %*	*Limits: 10-136 %*	*1*	*02/05/24 23:07*	*EPA 8270E OPPs*	
Triphenyl phosphate (Surr)			*16 %*	*34-121 %*	*1*	*02/05/24 23:07*	*EPA 8270E OPPs*	*S-03*
DU4-18-24 (A4A1444-48)				**Matrix: Soil**		**Batch: 24B0134**		**PRO**
Azinphos methyl (Guthion)	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Chlorpyrifos	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Coumaphos	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	

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Darwin Thomas, Business Development Director

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ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Organophosphorus Pesticides (OPPs) by EPA 8270E (GC/MS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU4-18-24 (A4A1444-48)				**Matrix: Soil**		**Batch: 24B0134**		**PRO**
Demeton O	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Demeton S	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Diazinon	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Dichlorvos	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Dimethoate	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Disulfoton	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
EPN	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Ethoprop	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Fensulfothion	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Fenthion	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Malathion	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Merphos	ND	---	0.0704	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	R-02
Methyl parathion	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Mevinphos (Phosdrin)	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Monocrotophos	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Naled (Dibrom)	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Parathion, ethyl	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Phorate	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Ronnel (Fenchlorphos)	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Sulfotep	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Sulprofos (Bolstar)	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
TEPP	ND	---	0.178	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Tetrachlorvinphos (Rabon)	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Tokuthion (Prothiofos)	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Trichloronate	ND	---	0.0446	mg/kg dry	1	02/05/24 23:41	EPA 8270E OPPs	
Surrogate: Tributyl phosphate (Surr)		*Recovery:*	*11 %*	*Limits: 10-136 %*	*1*	*02/05/24 23:41*	*EPA 8270E OPPs*	
Triphenyl phosphate (Surr)			*20 %*	*34-121 %*	*1*	*02/05/24 23:41*	*EPA 8270E OPPs*	*S-03*
DU4-24-36 (A4A1444-50)				**Matrix: Soil**		**Batch: 24B0134**		**PRO**
Azinphos methyl (Guthion)	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Chlorpyrifos	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Coumaphos	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Demeton O	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	

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ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Organophosphorus Pesticides (OPPs) by EPA 8270E (GC/MS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU4-24-36 (A4A1444-50)				**Matrix: Soil**		**Batch: 24B0134**		**PRO**
Demeton S	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Diazinon	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Dichlorvos	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Dimethoate	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Disulfoton	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
EPN	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Ethoprop	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Fensulfothion	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Fenthion	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Malathion	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Merphos	ND	---	0.0542	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	R-02
Methyl parathion	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Mevinphos (Phosdrin)	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Monocrotophos	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Naled (Dibrom)	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Parathion, ethyl	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Phorate	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Ronnel (Fenchlorphos)	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Sulfotep	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Sulprofos (Bolstar)	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
TEPP	ND	---	0.175	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Tetrachlorvinphos (Rabon)	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Tokuthion (Prothiofos)	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Trichloronate	ND	---	0.0437	mg/kg dry	1	02/06/24 00:16	EPA 8270E OPPs	
Surrogate: Tributyl phosphate (Surr)		*Recovery:*	*13 %*	*Limits: 10-136 %*	*1*	*02/06/24 00:16*	*EPA 8270E OPPs*	
Triphenyl phosphate (Surr)			*23 %*	*34-121 %*	*1*	*02/06/24 00:16*	*EPA 8270E OPPs*	*S-03*
DU5-0-6 (A4A1444-52)				**Matrix: Soil**		**Batch: 24B0134**		**PRO**
Azinphos methyl (Guthion)	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Chlorpyrifos	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Coumaphos	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Demeton O	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Demeton S	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	

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Darwin Thomas, Business Development Director

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ORELAP ID: **OR100062**

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Organophosphorus Pesticides (OPPs) by EPA 8270E (GC/MS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU5-0-6 (A4A1444-52)				**Matrix: Soil**		**Batch: 24B0134**		**PRO**
Diazinon	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Dichlorvos	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Dimethoate	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Disulfoton	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
EPN	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Ethoprop	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Fensulfothion	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Fenthion	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Malathion	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Merphos	ND	---	0.161	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	R-02
Methyl parathion	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Mevinphos (Phosdrin)	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Monocrotophos	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Naled (Dibrom)	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Parathion, ethyl	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Phorate	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Ronnel (Fenchlorphos)	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Sulfotep	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Sulprofos (Bolstar)	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
TEPP	ND	---	0.180	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Tetrachlorvinphos (Rabon)	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Tokuthion (Prothiofos)	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Trichloronate	ND	---	0.0451	mg/kg dry	1	02/06/24 00:51	EPA 8270E OPPs	
Surrogate: Tributyl phosphate (Surr)		*Recovery:*	*20 %*	*Limits: 10-136 %*	*1*	*02/06/24 00:51*	*EPA 8270E OPPs*	
Triphenyl phosphate (Surr)			*31 %*	*34-121 %*	*1*	*02/06/24 00:51*	*EPA 8270E OPPs*	*S-03*
DU5-6-12 (A4A1444-54)				**Matrix: Soil**		**Batch: 24B0134**		**PRO**
Azinphos methyl (Guthion)	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Chlorpyrifos	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Coumaphos	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Demeton O	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Demeton S	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Diazinon	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	

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ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Organophosphorus Pesticides (OPPs) by EPA 8270E (GC/MS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU5-6-12 (A4A1444-54)				**Matrix: Soil**		**Batch: 24B0134**		**PRO**
Dichlorvos	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Dimethoate	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Disulfoton	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
EPN	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Ethoprop	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Fensulfothion	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Fenthion	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Malathion	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Merphos	ND	---	0.165	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	R-02
Methyl parathion	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Mevinphos (Phosdrin)	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Monocrotophos	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Naled (Dibrom)	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Parathion, ethyl	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Phorate	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Ronnel (Fenchlorphos)	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Sulfotep	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Sulprofos (Bolstar)	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
TEPP	ND	---	0.172	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Tetrachlorvinphos (Rabon)	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Tokuthion (Prothiofos)	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Trichloronate	ND	---	0.0431	mg/kg dry	1	02/06/24 01:26	EPA 8270E OPPs	
Surrogate: Tributyl phosphate (Surr)		*Recovery:*	*15 %*	*Limits: 10-136 %*	*1*	*02/06/24 01:26*	*EPA 8270E OPPs*	
Triphenyl phosphate (Surr)			*25 %*	*34-121 %*	*1*	*02/06/24 01:26*	*EPA 8270E OPPs*	*S-03*
DU5-12-18 (A4A1444-56)				**Matrix: Soil**		**Batch: 24B0134**		**PRO**
Azinphos methyl (Guthion)	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Chlorpyrifos	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Coumaphos	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Demeton O	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Demeton S	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Diazinon	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Dichlorvos	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	

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Darwin Thomas, Business Development Director

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ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Organophosphorus Pesticides (OPPs) by EPA 8270E (GC/MS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU5-12-18 (A4A1444-56)				**Matrix: Soil**		**Batch: 24B0134**		**PRO**
Dimethoate	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Disulfoton	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
EPN	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Ethoprop	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Fensulfothion	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Fenthion	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Malathion	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Merphos	ND	---	0.143	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	R-02
Methyl parathion	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Mevinphos (Phosdrin)	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Monocrotophos	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Naled (Dibrom)	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Parathion, ethyl	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Phorate	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Ronnel (Fenchlorphos)	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Sulfotep	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Sulprofos (Bolstar)	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
TEPP	ND	---	0.178	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Tetrachlorvinphos (Rabon)	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Tokuthion (Prothiofos)	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Trichloronate	ND	---	0.0446	mg/kg dry	1	02/06/24 02:00	EPA 8270E OPPs	
Surrogate: Tributyl phosphate (Surr)		*Recovery:*	*15 %*	*Limits: 10-136 %*	*1*	*02/06/24 02:00*	*EPA 8270E OPPs*	
Triphenyl phosphate (Surr)			*26 %*	*34-121 %*	*1*	*02/06/24 02:00*	*EPA 8270E OPPs*	*S-03*
DU5-18-24 (A4A1444-58)				**Matrix: Soil**		**Batch: 24B0134**		**PRO**
Azinphos methyl (Guthion)	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Chlorpyrifos	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Coumaphos	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Demeton O	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Demeton S	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Diazinon	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Dichlorvos	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Dimethoate	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	

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Darwin Thomas, Business Development Director

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ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Organophosphorus Pesticides (OPPs) by EPA 8270E (GC/MS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU5-18-24 (A4A1444-58)				**Matrix: Soil**		**Batch: 24B0134**		**PRO**
Disulfoton	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
EPN	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Ethoprop	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Fensulfothion	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Fenthion	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Malathion	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Merphos	ND	---	0.0933	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	R-02
Methyl parathion	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Mevinphos (Phosdrin)	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Monocrotophos	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Naled (Dibrom)	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Parathion, ethyl	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Phorate	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Ronnel (Fenchlorphos)	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Sulfotep	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Sulprofos (Bolstar)	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
TEPP	ND	---	0.181	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Tetrachlorvinphos (Rabon)	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Tokuthion (Prothiofos)	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Trichloronate	ND	---	0.0453	mg/kg dry	1	02/06/24 02:34	EPA 8270E OPPs	
Surrogate: Tributyl phosphate (Surr)		*Recovery:*	*16 %*	*Limits: 10-136 %*	*1*	*02/06/24 02:34*	*EPA 8270E OPPs*	
Triphenyl phosphate (Surr)			*25 %*	*34-121 %*	*1*	*02/06/24 02:34*	*EPA 8270E OPPs*	*S-03*
DU5-24-36 (A4A1444-60)				**Matrix: Soil**		**Batch: 24B0134**		**PRO**
Azinphos methyl (Guthion)	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	
Chlorpyrifos	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	Q-42
Coumaphos	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	
Demeton O	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	Q-42
Demeton S	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	Q-42
Diazinon	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	Q-42
Dichlorvos	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	Q-42
Dimethoate	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	Q-42
Disulfoton	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	

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ORELAP ID: OR100062

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Organophosphorus Pesticides (OPPs) by EPA 8270E (GC/MS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU5-24-36 (A4A1444-60)				**Matrix: Soil**		**Batch: 24B0134**		**PRO**
EPN	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	
Ethoprop	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	Q-42
Fensulfothion	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	Q-42
Fenthion	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	Q-42
Malathion	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	Q-42
Merphos	ND	---	0.0510	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	R-02
Methyl parathion	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	
Mevinphos (Phosdrin)	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	Q-42
Monocrotophos	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	Q-42
Naled (Dibrom)	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	Q-42
Parathion, ethyl	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	
Phorate	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	
Ronnel (Fenchlorphos)	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	
Sulfotep	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	Q-42
Sulprofos (Bolstar)	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	
TEPP	ND	---	0.179	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	Q-42
Tetrachlorvinphos (Rabon)	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	Q-42
Tokuthion (Prothiofos)	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	
Trichloronate	ND	---	0.0448	mg/kg dry	1	02/05/24 21:23	EPA 8270E OPPs	
Surrogate: Tributyl phosphate (Surr)		*Recovery:*	*19 %*	*Limits: 10-136 %*	*1*	*02/05/24 21:23*	*EPA 8270E OPPs*	
Triphenyl phosphate (Surr)			*26 %*	*34-121 %*	*1*	*02/05/24 21:23*	*EPA 8270E OPPs*	*S-03*

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Darwin Thomas, Business Development Director

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Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU4-0-6 (A4A1444-42)				**Matrix: Soil**				
Batch: 24A0946								
Antimony	ND	---	1.08	mg/kg dry	10	01/31/24 02:36	EPA 6020B	PRO
Arsenic	**73.2**	---	1.08	mg/kg dry	10	01/31/24 02:36	EPA 6020B	**PRO**
Barium	**189**	---	1.08	mg/kg dry	10	01/31/24 02:36	EPA 6020B	**PRO**
Beryllium	**0.714**	---	0.216	mg/kg dry	10	01/31/24 02:36	EPA 6020B	**PRO**
Cadmium	ND	---	0.216	mg/kg dry	10	01/31/24 02:36	EPA 6020B	PRO
Chromium	**28.5**	---	1.08	mg/kg dry	10	01/31/24 02:36	EPA 6020B	**PRO**
Cobalt	**17.8**	---	1.08	mg/kg dry	10	01/31/24 02:36	EPA 6020B	**PRO**
Copper	**67.5**	---	2.16	mg/kg dry	10	01/31/24 02:36	EPA 6020B	**PRO**
Lead	**241**	---	0.216	mg/kg dry	10	01/31/24 02:36	EPA 6020B	**PRO**
Mercury	ND	---	0.0866	mg/kg dry	10	01/31/24 02:36	EPA 6020B	PRO
Molybdenum	ND	---	1.08	mg/kg dry	10	01/31/24 02:36	EPA 6020B	PRO
Nickel	**31.7**	---	2.16	mg/kg dry	10	01/31/24 02:36	EPA 6020B	**PRO**
Selenium	ND	---	1.08	mg/kg dry	10	01/31/24 02:36	EPA 6020B	PRO
Silver	ND	---	0.216	mg/kg dry	10	01/31/24 02:36	EPA 6020B	PRO
Thallium	ND	---	0.216	mg/kg dry	10	01/31/24 02:36	EPA 6020B	PRO
Vanadium	**78.3**	---	2.16	mg/kg dry	10	01/31/24 02:36	EPA 6020B	**PRO**
Zinc	**87.2**	---	4.33	mg/kg dry	10	01/31/24 02:36	EPA 6020B	**PRO**
DU4-6-12 (A4A1444-44)				**Matrix: Soil**				
Batch: 24A0946								
Antimony	ND	---	1.09	mg/kg dry	10	01/31/24 03:06	EPA 6020B	PRO
Arsenic	**88.3**	---	1.09	mg/kg dry	10	01/31/24 03:06	EPA 6020B	**PRO**
Barium	**203**	---	1.09	mg/kg dry	10	01/31/24 03:06	EPA 6020B	**PRO**
Beryllium	**0.752**	---	0.219	mg/kg dry	10	01/31/24 03:06	EPA 6020B	**PRO**
Cadmium	ND	---	0.219	mg/kg dry	10	01/31/24 03:06	EPA 6020B	PRO
Chromium	**26.6**	---	1.09	mg/kg dry	10	01/31/24 03:06	EPA 6020B	**PRO**
Cobalt	**17.9**	---	1.09	mg/kg dry	10	01/31/24 03:06	EPA 6020B	**PRO**
Copper	**53.9**	---	2.19	mg/kg dry	10	01/31/24 03:06	EPA 6020B	**PRO**
Lead	**289**	---	0.219	mg/kg dry	10	01/31/24 03:06	EPA 6020B	**PRO**
Mercury	ND	---	0.0875	mg/kg dry	10	01/31/24 03:06	EPA 6020B	PRO
Molybdenum	ND	---	1.09	mg/kg dry	10	01/31/24 03:06	EPA 6020B	PRO
Nickel	**32.6**	---	2.19	mg/kg dry	10	01/31/24 03:06	EPA 6020B	**PRO**
Selenium	ND	---	1.09	mg/kg dry	10	01/31/24 03:06	EPA 6020B	PRO

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Darwin Thomas, Business Development Director

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503-718-2323
ORELAP ID: OR100062

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU4-6-12 (A4A1444-44)				**Matrix: Soil**				
Silver	ND	---	0.219	mg/kg dry	10	01/31/24 03:06	EPA 6020B	PRO
Thallium	ND	---	0.219	mg/kg dry	10	01/31/24 03:06	EPA 6020B	PRO
Vanadium	**71.3**	---	2.19	mg/kg dry	10	01/31/24 03:06	EPA 6020B	**PRO**
Zinc	**80.4**	---	4.38	mg/kg dry	10	01/31/24 03:06	EPA 6020B	**PRO**
DU4-12-18 (A4A1444-46)				**Matrix: Soil**				
Batch: 24A0946								
Antimony	ND	---	1.06	mg/kg dry	10	01/31/24 03:12	EPA 6020B	PRO
Arsenic	**37.2**	---	1.06	mg/kg dry	10	01/31/24 03:12	EPA 6020B	**PRO**
Barium	**214**	---	1.06	mg/kg dry	10	01/31/24 03:12	EPA 6020B	**PRO**
Beryllium	**0.801**	---	0.212	mg/kg dry	10	01/31/24 03:12	EPA 6020B	**PRO**
Cadmium	ND	---	0.212	mg/kg dry	10	01/31/24 03:12	EPA 6020B	PRO
Chromium	**29.1**	---	1.06	mg/kg dry	10	01/31/24 03:12	EPA 6020B	**PRO**
Cobalt	**17.7**	---	1.06	mg/kg dry	10	01/31/24 03:12	EPA 6020B	**PRO**
Copper	**44.0**	---	2.12	mg/kg dry	10	01/31/24 03:12	EPA 6020B	**PRO**
Lead	**93.3**	---	0.212	mg/kg dry	10	01/31/24 03:12	EPA 6020B	**PRO**
Mercury	ND	---	0.0848	mg/kg dry	10	01/31/24 03:12	EPA 6020B	PRO
Molybdenum	ND	---	1.06	mg/kg dry	10	01/31/24 03:12	EPA 6020B	PRO
Nickel	**37.3**	---	2.12	mg/kg dry	10	01/31/24 03:12	EPA 6020B	**PRO**
Selenium	ND	---	1.06	mg/kg dry	10	01/31/24 03:12	EPA 6020B	PRO
Silver	ND	---	0.212	mg/kg dry	10	01/31/24 03:12	EPA 6020B	PRO
Thallium	**0.213**	---	0.212	mg/kg dry	10	01/31/24 03:12	EPA 6020B	**PRO**
Vanadium	**74.3**	---	2.12	mg/kg dry	10	01/31/24 03:12	EPA 6020B	**PRO**
Zinc	**71.8**	---	4.24	mg/kg dry	10	01/31/24 03:12	EPA 6020B	**PRO**
DU4-18-24 (A4A1444-48)				**Matrix: Soil**				
Batch: 24A0946								
Antimony	ND	---	1.02	mg/kg dry	10	01/31/24 03:18	EPA 6020B	PRO
Arsenic	**12.2**	---	1.02	mg/kg dry	10	01/31/24 03:18	EPA 6020B	**PRO**
Barium	**205**	---	1.02	mg/kg dry	10	01/31/24 03:18	EPA 6020B	**PRO**
Beryllium	**0.759**	---	0.204	mg/kg dry	10	01/31/24 03:18	EPA 6020B	**PRO**
Cadmium	ND	---	0.204	mg/kg dry	10	01/31/24 03:18	EPA 6020B	PRO
Chromium	**26.8**	---	1.02	mg/kg dry	10	01/31/24 03:18	EPA 6020B	**PRO**
Cobalt	**18.0**	---	1.02	mg/kg dry	10	01/31/24 03:18	EPA 6020B	**PRO**

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Darwin Thomas, Business Development Director

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503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU4-18-24 (A4A1444-48)				**Matrix: Soil**				
Copper	**40.0**	---	2.04	mg/kg dry	10	01/31/24 03:18	EPA 6020B	**PRO**
Lead	**27.3**	---	0.204	mg/kg dry	10	01/31/24 03:18	EPA 6020B	**PRO**
Mercury	ND	---	0.0816	mg/kg dry	10	01/31/24 03:18	EPA 6020B	PRO
Molybdenum	ND	---	1.02	mg/kg dry	10	01/31/24 03:18	EPA 6020B	PRO
Nickel	**36.6**	---	2.04	mg/kg dry	10	01/31/24 03:18	EPA 6020B	**PRO**
Selenium	ND	---	1.02	mg/kg dry	10	01/31/24 03:18	EPA 6020B	PRO
Silver	ND	---	0.204	mg/kg dry	10	01/31/24 03:18	EPA 6020B	PRO
Thallium	**0.220**	---	0.204	mg/kg dry	10	01/31/24 03:18	EPA 6020B	**PRO**
Vanadium	**73.9**	---	2.04	mg/kg dry	10	01/31/24 03:18	EPA 6020B	**PRO**
Zinc	**68.8**	---	4.08	mg/kg dry	10	01/31/24 03:18	EPA 6020B	**PRO**
DU4-24-36 (A4A1444-50)				**Matrix: Soil**				
Batch: 24A0946								
Antimony	ND	---	1.03	mg/kg dry	10	01/31/24 03:24	EPA 6020B	PRO
Arsenic	**9.59**	---	1.03	mg/kg dry	10	01/31/24 03:24	EPA 6020B	**PRO**
Barium	**212**	---	1.03	mg/kg dry	10	01/31/24 03:24	EPA 6020B	**PRO**
Beryllium	**0.857**	---	0.207	mg/kg dry	10	01/31/24 03:24	EPA 6020B	**PRO**
Cadmium	ND	---	0.207	mg/kg dry	10	01/31/24 03:24	EPA 6020B	PRO
Chromium	**31.6**	---	1.03	mg/kg dry	10	01/31/24 03:24	EPA 6020B	**PRO**
Cobalt	**18.1**	---	1.03	mg/kg dry	10	01/31/24 03:24	EPA 6020B	**PRO**
Copper	**42.7**	---	2.07	mg/kg dry	10	01/31/24 03:24	EPA 6020B	**PRO**
Lead	**15.9**	---	0.207	mg/kg dry	10	01/31/24 03:24	EPA 6020B	**PRO**
Mercury	ND	---	0.0828	mg/kg dry	10	01/31/24 03:24	EPA 6020B	PRO
Molybdenum	ND	---	1.03	mg/kg dry	10	01/31/24 03:24	EPA 6020B	PRO
Nickel	**38.9**	---	2.07	mg/kg dry	10	01/31/24 03:24	EPA 6020B	**PRO**
Selenium	ND	---	1.03	mg/kg dry	10	01/31/24 03:24	EPA 6020B	PRO
Silver	ND	---	0.207	mg/kg dry	10	01/31/24 03:24	EPA 6020B	PRO
Thallium	**0.220**	---	0.207	mg/kg dry	10	01/31/24 03:24	EPA 6020B	**PRO**
Vanadium	**79.1**	---	2.07	mg/kg dry	10	01/31/24 03:24	EPA 6020B	**PRO**
Zinc	**77.0**	---	4.14	mg/kg dry	10	01/31/24 03:24	EPA 6020B	**PRO**
DU5-0-6 (A4A1444-52)				**Matrix: Soil**				
Batch: 24A0946								
Antimony	ND	---	1.03	mg/kg dry	10	01/31/24 03:31	EPA 6020B	PRO

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Darwin Thomas, Business Development Director

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503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU5-0-6 (A4A1444-52)				**Matrix: Soil**				
Arsenic	**77.4**	---	1.03	mg/kg dry	10	01/31/24 03:31	EPA 6020B	**PRO**
Barium	**220**	---	1.03	mg/kg dry	10	01/31/24 03:31	EPA 6020B	**PRO**
Beryllium	**0.897**	---	0.206	mg/kg dry	10	01/31/24 03:31	EPA 6020B	**PRO**
Cadmium	ND	---	0.206	mg/kg dry	10	01/31/24 03:31	EPA 6020B	PRO
Chromium	**24.9**	---	1.03	mg/kg dry	10	01/31/24 03:31	EPA 6020B	**PRO**
Cobalt	**17.4**	---	1.03	mg/kg dry	10	01/31/24 03:31	EPA 6020B	**PRO**
Copper	**46.7**	---	2.06	mg/kg dry	10	01/31/24 03:31	EPA 6020B	**PRO**
Lead	**307**	---	0.206	mg/kg dry	10	01/31/24 03:31	EPA 6020B	**PRO**
Mercury	ND	---	0.0824	mg/kg dry	10	01/31/24 03:31	EPA 6020B	PRO
Molybdenum	ND	---	1.03	mg/kg dry	10	01/31/24 03:31	EPA 6020B	PRO
Nickel	**32.5**	---	2.06	mg/kg dry	10	01/31/24 03:31	EPA 6020B	**PRO**
Selenium	ND	---	1.03	mg/kg dry	10	01/31/24 03:31	EPA 6020B	PRO
Silver	ND	---	0.206	mg/kg dry	10	01/31/24 03:31	EPA 6020B	PRO
Thallium	ND	---	0.206	mg/kg dry	10	01/31/24 03:31	EPA 6020B	PRO
Vanadium	**69.7**	---	2.06	mg/kg dry	10	01/31/24 03:31	EPA 6020B	**PRO**
Zinc	**70.4**	---	4.12	mg/kg dry	10	01/31/24 03:31	EPA 6020B	**PRO**
DU5-6-12 (A4A1444-54)				**Matrix: Soil**				
Batch: 24A0946								
Antimony	ND	---	1.07	mg/kg dry	10	01/31/24 03:37	EPA 6020B	PRO
Arsenic	**49.7**	---	1.07	mg/kg dry	10	01/31/24 03:37	EPA 6020B	**PRO**
Barium	**234**	---	1.07	mg/kg dry	10	01/31/24 03:37	EPA 6020B	**PRO**
Beryllium	**0.827**	---	0.213	mg/kg dry	10	01/31/24 03:37	EPA 6020B	**PRO**
Cadmium	ND	---	0.213	mg/kg dry	10	01/31/24 03:37	EPA 6020B	PRO
Chromium	**27.9**	---	1.07	mg/kg dry	10	01/31/24 03:37	EPA 6020B	**PRO**
Cobalt	**19.3**	---	1.07	mg/kg dry	10	01/31/24 03:37	EPA 6020B	**PRO**
Copper	**44.3**	---	2.13	mg/kg dry	10	01/31/24 03:37	EPA 6020B	**PRO**
Lead	**171**	---	0.213	mg/kg dry	10	01/31/24 03:37	EPA 6020B	**PRO**
Mercury	ND	---	0.0854	mg/kg dry	10	01/31/24 03:37	EPA 6020B	PRO
Molybdenum	ND	---	1.07	mg/kg dry	10	01/31/24 03:37	EPA 6020B	PRO
Nickel	**34.9**	---	2.13	mg/kg dry	10	01/31/24 03:37	EPA 6020B	**PRO**
Selenium	ND	---	1.07	mg/kg dry	10	01/31/24 03:37	EPA 6020B	PRO
Silver	ND	---	0.213	mg/kg dry	10	01/31/24 03:37	EPA 6020B	PRO

Apex Laboratories

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ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU5-6-12 (A4A1444-54)				**Matrix: Soil**				
Thallium	ND	---	0.213	mg/kg dry	10	01/31/24 03:37	EPA 6020B	PRO
Vanadium	**81.6**	---	2.13	mg/kg dry	10	01/31/24 03:37	EPA 6020B	**PRO**
Zinc	**66.9**	---	4.27	mg/kg dry	10	01/31/24 03:37	EPA 6020B	**PRO**
DU5-12-18 (A4A1444-56)				**Matrix: Soil**				
Batch: 24A0946								
Antimony	ND	---	1.08	mg/kg dry	10	01/31/24 03:43	EPA 6020B	PRO
Arsenic	**36.7**	---	1.08	mg/kg dry	10	01/31/24 03:43	EPA 6020B	**PRO**
Barium	**248**	---	1.08	mg/kg dry	10	01/31/24 03:43	EPA 6020B	**PRO**
Beryllium	**0.802**	---	0.216	mg/kg dry	10	01/31/24 03:43	EPA 6020B	**PRO**
Cadmium	ND	---	0.216	mg/kg dry	10	01/31/24 03:43	EPA 6020B	PRO
Chromium	**29.0**	---	1.08	mg/kg dry	10	01/31/24 03:43	EPA 6020B	**PRO**
Cobalt	**19.7**	---	1.08	mg/kg dry	10	01/31/24 03:43	EPA 6020B	**PRO**
Copper	**42.6**	---	2.16	mg/kg dry	10	01/31/24 03:43	EPA 6020B	**PRO**
Lead	**102**	---	0.216	mg/kg dry	10	01/31/24 03:43	EPA 6020B	**PRO**
Mercury	ND	---	0.0864	mg/kg dry	10	01/31/24 03:43	EPA 6020B	PRO
Molybdenum	ND	---	1.08	mg/kg dry	10	01/31/24 03:43	EPA 6020B	PRO
Nickel	**38.8**	---	2.16	mg/kg dry	10	01/31/24 03:43	EPA 6020B	**PRO**
Selenium	ND	---	1.08	mg/kg dry	10	01/31/24 03:43	EPA 6020B	PRO
Silver	ND	---	0.216	mg/kg dry	10	01/31/24 03:43	EPA 6020B	PRO
Thallium	ND	---	0.216	mg/kg dry	10	01/31/24 03:43	EPA 6020B	PRO
Vanadium	**81.0**	---	2.16	mg/kg dry	10	01/31/24 03:43	EPA 6020B	**PRO**
Zinc	**66.5**	---	4.32	mg/kg dry	10	01/31/24 03:43	EPA 6020B	**PRO**
DU5-18-24 (A4A1444-58)				**Matrix: Soil**				
Batch: 24A0946								
Antimony	ND	---	1.07	mg/kg dry	10	01/31/24 03:49	EPA 6020B	PRO
Arsenic	**15.1**	---	1.07	mg/kg dry	10	01/31/24 03:49	EPA 6020B	**PRO**
Barium	**235**	---	1.07	mg/kg dry	10	01/31/24 03:49	EPA 6020B	**PRO**
Beryllium	**0.792**	---	0.213	mg/kg dry	10	01/31/24 03:49	EPA 6020B	**PRO**
Cadmium	ND	---	0.213	mg/kg dry	10	01/31/24 03:49	EPA 6020B	PRO
Chromium	**30.9**	---	1.07	mg/kg dry	10	01/31/24 03:49	EPA 6020B	**PRO**
Cobalt	**19.7**	---	1.07	mg/kg dry	10	01/31/24 03:49	EPA 6020B	**PRO**
Copper	**40.5**	---	2.13	mg/kg dry	10	01/31/24 03:49	EPA 6020B	**PRO**

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Darwin Thomas, Business Development Director

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6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU5-18-24 (A4A1444-58)				**Matrix: Soil**				
Lead	**40.7**	---	0.213	mg/kg dry	10	01/31/24 03:49	EPA 6020B	**PRO**
Mercury	ND	---	0.0853	mg/kg dry	10	01/31/24 03:49	EPA 6020B	PRO
Molybdenum	ND	---	1.07	mg/kg dry	10	01/31/24 03:49	EPA 6020B	PRO
Nickel	**37.5**	---	2.13	mg/kg dry	10	01/31/24 03:49	EPA 6020B	**PRO**
Selenium	ND	---	1.07	mg/kg dry	10	01/31/24 03:49	EPA 6020B	PRO
Silver	ND	---	0.213	mg/kg dry	10	01/31/24 03:49	EPA 6020B	PRO
Thallium	ND	---	0.213	mg/kg dry	10	01/31/24 03:49	EPA 6020B	PRO
Vanadium	**84.0**	---	2.13	mg/kg dry	10	01/31/24 03:49	EPA 6020B	**PRO**
Zinc	**66.3**	---	4.27	mg/kg dry	10	01/31/24 03:49	EPA 6020B	**PRO**
DU5-24-36 (A4A1444-60)				**Matrix: Soil**				
Batch: 24A0946								
Antimony	ND	---	1.03	mg/kg dry	10	01/31/24 03:55	EPA 6020B	PRO
Arsenic	**9.86**	---	1.03	mg/kg dry	10	01/31/24 03:55	EPA 6020B	**PRO**
Barium	**236**	---	1.03	mg/kg dry	10	01/31/24 03:55	EPA 6020B	**PRO**
Beryllium	**0.774**	---	0.206	mg/kg dry	10	01/31/24 03:55	EPA 6020B	**PRO**
Cadmium	ND	---	0.206	mg/kg dry	10	01/31/24 03:55	EPA 6020B	PRO
Chromium	**35.2**	---	1.03	mg/kg dry	10	01/31/24 03:55	EPA 6020B	**PRO**
Cobalt	**19.9**	---	1.03	mg/kg dry	10	01/31/24 03:55	EPA 6020B	**PRO**
Copper	**43.6**	---	2.06	mg/kg dry	10	01/31/24 03:55	EPA 6020B	**PRO**
Lead	**22.1**	---	0.206	mg/kg dry	10	01/31/24 03:55	EPA 6020B	**PRO**
Mercury	ND	---	0.0825	mg/kg dry	10	01/31/24 03:55	EPA 6020B	PRO
Molybdenum	ND	---	1.03	mg/kg dry	10	01/31/24 03:55	EPA 6020B	PRO
Nickel	**40.0**	---	2.06	mg/kg dry	10	01/31/24 03:55	EPA 6020B	**PRO**
Selenium	ND	---	1.03	mg/kg dry	10	01/31/24 03:55	EPA 6020B	PRO
Silver	ND	---	0.206	mg/kg dry	10	01/31/24 03:55	EPA 6020B	PRO
Thallium	ND	---	0.206	mg/kg dry	10	01/31/24 03:55	EPA 6020B	PRO
Vanadium	**88.5**	---	2.06	mg/kg dry	10	01/31/24 03:55	EPA 6020B	**PRO**
Zinc	**71.9**	---	4.13	mg/kg dry	10	01/31/24 03:55	EPA 6020B	**PRO**

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Darwin Thomas, Business Development Director

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ORELAP ID: OR100062

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DU4-0-6 (A4A1444-42)				**Matrix: Soil**		**Batch: 24A0999**		**PRO**
% Solids	**97.9**	---	1.00	%	1	02/01/24 07:44	EPA 8000D	
DU4-6-12 (A4A1444-44)				**Matrix: Soil**		**Batch: 24A0999**		**PRO**
% Solids	**99.3**	---	1.00	%	1	02/01/24 07:44	EPA 8000D	
DU4-12-18 (A4A1444-46)				**Matrix: Soil**		**Batch: 24A0999**		**PRO**
% Solids	**99.6**	---	1.00	%	1	02/01/24 07:44	EPA 8000D	
DU4-18-24 (A4A1444-48)				**Matrix: Soil**		**Batch: 24A0999**		**PRO**
% Solids	**100**	---	1.00	%	1	02/01/24 07:44	EPA 8000D	**DW>100**
DU4-24-36 (A4A1444-50)				**Matrix: Soil**		**Batch: 24A0999**		**PRO**
% Solids	**99.6**	---	1.00	%	1	02/01/24 07:44	EPA 8000D	
DU5-0-6 (A4A1444-52)				**Matrix: Soil**		**Batch: 24A0999**		**PRO**
% Solids	**98.8**	---	1.00	%	1	02/01/24 07:44	EPA 8000D	
DU5-6-12 (A4A1444-54)				**Matrix: Soil**		**Batch: 24A0999**		**PRO**
% Solids	**98.6**	---	1.00	%	1	02/01/24 07:44	EPA 8000D	
DU5-12-18 (A4A1444-56)				**Matrix: Soil**		**Batch: 24A0999**		**PRO**
% Solids	**99.1**	---	1.00	%	1	02/01/24 07:44	EPA 8000D	
DU5-18-24 (A4A1444-58)				**Matrix: Soil**		**Batch: 24A0999**		**PRO**
% Solids	**99.1**	---	1.00	%	1	02/01/24 07:44	EPA 8000D	
DU5-24-36 (A4A1444-60)				**Matrix: Soil**		**Batch: 24A0999**		**PRO**
% Solids	**98.9**	---	1.00	%	1	02/01/24 07:44	EPA 8000D	

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Darwin Thomas, Business Development Director

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503-718-2323
ORELAP ID: **OR100062**

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24B0119 - EPA 3546/3640A (GPC)							**Soil**					
Blank (24B0119-BLK1)			Prepared: 02/01/24 16:45		Analyzed: 02/06/24 19:00							**C-05**
EPA 8081B												
Aldrin	ND	---	0.00200	mg/kg wet	1	---	---	---	---	---	---	
alpha-BHC	ND	---	0.00200	mg/kg wet	1	---	---	---	---	---	---	
beta-BHC	ND	---	0.00200	mg/kg wet	1	---	---	---	---	---	---	
delta-BHC	ND	---	0.00200	mg/kg wet	1	---	---	---	---	---	---	
gamma-BHC (Lindane)	ND	---	0.00200	mg/kg wet	1	---	---	---	---	---	---	
cis-Chlordane	ND	---	0.00200	mg/kg wet	1	---	---	---	---	---	---	
trans-Chlordane	ND	---	0.00200	mg/kg wet	1	---	---	---	---	---	---	
4,4'-DDD	ND	---	0.00200	mg/kg wet	1	---	---	---	---	---	---	
4,4'-DDE	ND	---	0.00200	mg/kg wet	1	---	---	---	---	---	---	
4,4'-DDT	ND	---	0.00200	mg/kg wet	1	---	---	---	---	---	---	
Dieldrin	ND	---	0.00200	mg/kg wet	1	---	---	---	---	---	---	
Endosulfan I	ND	---	0.00200	mg/kg wet	1	---	---	---	---	---	---	
Endosulfan II	ND	---	0.00200	mg/kg wet	1	---	---	---	---	---	---	
Endosulfan sulfate	ND	---	0.00200	mg/kg wet	1	---	---	---	---	---	---	
Endrin	ND	---	0.00200	mg/kg wet	1	---	---	---	---	---	---	
Endrin aldehyde	ND	---	0.00200	mg/kg wet	1	---	---	---	---	---	---	
Endrin ketone	ND	---	0.00200	mg/kg wet	1	---	---	---	---	---	---	
Heptachlor	ND	---	0.00200	mg/kg wet	1	---	---	---	---	---	---	
Heptachlor epoxide	ND	---	0.00200	mg/kg wet	1	---	---	---	---	---	---	
Methoxychlor	ND	---	0.00600	mg/kg wet	1	---	---	---	---	---	---	
Chlordane (Technical)	ND	---	0.0600	mg/kg wet	1	---	---	---	---	---	---	
Toxaphene (Total)	ND	---	0.0600	mg/kg wet	1	---	---	---	---	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 75 %*		*Limits: 42-129 %*			*Dilution: 1x*				
Decachlorobiphenyl (Surr)			*118 %*		*55-130 %*			*"*				
LCS (24B0119-BS1)			Prepared: 02/01/24 16:45		Analyzed: 02/06/24 19:16							**C-05**
EPA 8081B												
Aldrin	0.0411	---	0.00200	mg/kg wet	1	0.0500	---	82	45-136%	---	---	
alpha-BHC	0.0409	---	0.00200	mg/kg wet	1	0.0500	---	82	45-137%	---	---	
beta-BHC	0.0481	---	0.00200	mg/kg wet	1	0.0500	---	96	50-136%	---	---	
delta-BHC	0.0503	---	0.00200	mg/kg wet	1	0.0500	---	101	47-139%	---	---	
gamma-BHC (Lindane)	0.0414	---	0.00200	mg/kg wet	1	0.0500	---	83	49-135%	---	---	
cis-Chlordane	0.0477	---	0.00200	mg/kg wet	1	0.0500	---	95	54-133%	---	---	

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503-718-2323
ORELAP ID: **OR100062**

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24B0119 - EPA 3546/3640A (GPC)							**Soil**					
LCS (24B0119-BS1)			Prepared: 02/01/24 16:45		Analyzed: 02/06/24 19:16							**C-05**
trans-Chlordane	0.0483	---	0.00200	mg/kg wet	1	0.0500	---	97	53-135%	---	---	
4,4'-DDD	0.0637	---	0.00200	mg/kg wet	1	0.0500	---	127	56-139%	---	---	
4,4'-DDE	0.0576	---	0.00200	mg/kg wet	1	0.0500	---	115	56-134%	---	---	
Dieldrin	0.0538	---	0.00200	mg/kg wet	1	0.0500	---	108	56-136%	---	---	
Endosulfan I	0.0492	---	0.00200	mg/kg wet	1	0.0500	---	98	53-132%	---	---	
Endosulfan II	0.0607	---	0.00200	mg/kg wet	1	0.0500	---	121	53-134%	---	---	
Endosulfan sulfate	0.0616	---	0.00200	mg/kg wet	1	0.0500	---	123	55-136%	---	---	
Endrin	0.0618	---	0.00200	mg/kg wet	1	0.0500	---	124	57-140%	---	---	
Endrin aldehyde	0.0478	---	0.00200	mg/kg wet	1	0.0500	---	96	35-137%	---	---	
Endrin ketone	0.0588	---	0.00200	mg/kg wet	1	0.0500	---	118	55-136%	---	---	
Heptachlor	0.0438	---	0.00200	mg/kg wet	1	0.0500	---	88	47-136%	---	---	
Heptachlor epoxide	0.0464	---	0.00200	mg/kg wet	1	0.0500	---	93	52-136%	---	---	
Methoxychlor	0.0788	---	0.00600	mg/kg wet	1	0.0500	---	**158**	**52-143%**	---	---	Q-29
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 76 %*		*Limits: 42-129 %*			*Dilution: 1x*				
Decachlorobiphenyl (Surr)			*109 %*		*55-130 %*			*"*				
LCS (24B0119-BS2)			Prepared: 02/01/24 16:45		Analyzed: 02/07/24 13:42							**C-05**
EPA 8081B												
4,4'-DDT	0.0632	---	0.00200	mg/kg wet	1	0.0500	---	126	50-141%	---	---	
Duplicate (24B0119-DUP1)			Prepared: 02/01/24 16:45		Analyzed: 02/06/24 19:49							**C-05, PRO**
QC Source Sample: DU4-0-6 (A4A1444-42RE1)												
EPA 8081B												
Aldrin	ND	---	0.00182	mg/kg dry	1	---	ND	---	---	---	30%	
alpha-BHC	ND	---	0.00182	mg/kg dry	1	---	ND	---	---	---	30%	
beta-BHC	ND	---	0.00182	mg/kg dry	1	---	ND	---	---	---	30%	
delta-BHC	ND	---	0.00182	mg/kg dry	1	---	ND	---	---	---	30%	
gamma-BHC (Lindane)	ND	---	0.00182	mg/kg dry	1	---	ND	---	---	---	30%	
cis-Chlordane	ND	---	0.00182	mg/kg dry	1	---	ND	---	---	---	30%	
trans-Chlordane	ND	---	0.00182	mg/kg dry	1	---	ND	---	---	---	30%	
4,4'-DDD	**0.0818**	---	0.00182	mg/kg dry	1	---	0.0696	---	---	16	30%	
Dieldrin	**0.181**	---	0.00182	mg/kg dry	1	---	0.159	---	---	13	30%	
Endosulfan I	ND	---	0.00182	mg/kg dry	1	---	ND	---	---	---	30%	
Endosulfan II	ND	---	0.00611	mg/kg dry	1	---	ND	---	---	---	30%	R-02

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503-718-2323
ORELAP ID: OR100062

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24B0119 - EPA 3546/3640A (GPC)							**Soil**					
Duplicate (24B0119-DUP1)			Prepared: 02/01/24 16:45		Analyzed: 02/06/24 19:49							**C-05, PRO**
QC Source Sample: DU4-0-6 (A4A1444-42RE1)												
Endosulfan sulfate	ND	---	0.00210	mg/kg dry	1	---	ND	---	---	---	30%	R-02
Endrin	ND	---	0.00374	mg/kg dry	1	---	ND	---	---	---	30%	R-02
Endrin aldehyde	ND	---	0.00237	mg/kg dry	1	---	ND	---	---	---	30%	R-02
Endrin ketone	ND	---	0.00182	mg/kg dry	1	---	ND	---	---	---	30%	
Heptachlor	ND	---	0.00182	mg/kg dry	1	---	ND	---	---	---	30%	
Heptachlor epoxide	ND	---	0.00182	mg/kg dry	1	---	ND	---	---	---	30%	
Methoxychlor	ND	---	0.0199	mg/kg dry	1	---	ND	---	---	---	30%	R-02
Chlordane (Technical)	ND	---	0.0547	mg/kg dry	1	---	ND	---	---	---	30%	
Toxaphene (Total)	ND	---	0.0547	mg/kg dry	1	---	ND	---	---	---	30%	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 69 %*		*Limits: 42-129 %*				*Dilution: 1x*			
Decachlorobiphenyl (Surr)			*104 %*		*55-130 %*				*"*			
Duplicate (24B0119-DUP2)			Prepared: 02/01/24 16:45		Analyzed: 02/07/24 13:09							**C-05, PRO**
QC Source Sample: DU4-0-6 (A4A1444-42RE2)												
EPA 8081B												
4,4'-DDE	**1.60**	---	0.0365	mg/kg dry	20	---	1.36	---	---	16	30%	
4,4'-DDT	**0.858**	---	0.0365	mg/kg dry	20	---	0.728	---	---	16	30%	
Matrix Spike (24B0119-MS1)			Prepared: 02/01/24 16:45		Analyzed: 02/06/24 20:37							**C-05, PRO**
QC Source Sample: DU5-24-36 (A4A1444-60RE1)												
EPA 8081B												
Aldrin	0.0292	---	0.00183	mg/kg dry	1	0.0458	ND	64	45-136%	---	---	
alpha-BHC	0.0299	---	0.00183	mg/kg dry	1	0.0458	ND	65	45-137%	---	---	
beta-BHC	0.0337	---	0.00183	mg/kg dry	1	0.0458	ND	74	50-136%	---	---	
delta-BHC	0.0356	---	0.00183	mg/kg dry	1	0.0458	ND	78	47-139%	---	---	
gamma-BHC (Lindane)	0.0303	---	0.00183	mg/kg dry	1	0.0458	ND	66	49-135%	---	---	
cis-Chlordane	0.0354	---	0.00183	mg/kg dry	1	0.0458	ND	77	54-133%	---	---	
trans-Chlordane	0.0348	---	0.00183	mg/kg dry	1	0.0458	ND	76	53-135%	---	---	
4,4'-DDD	0.0466	---	0.00183	mg/kg dry	1	0.0458	ND	102	56-139%	---	---	
4,4'-DDE	0.0640	---	0.00183	mg/kg dry	1	0.0458	0.0267	81	56-134%	---	---	
4,4'-DDT	0.0538	---	0.00183	mg/kg dry	1	0.0458	0.00661	103	50-141%	---	---	
Dieldrin	0.0406	---	0.00183	mg/kg dry	1	0.0458	ND	89	56-136%	---	---	

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ORELAP ID: **OR100062**

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24B0119 - EPA 3546/3640A (GPC)							**Soil**					
Matrix Spike (24B0119-MS1)			Prepared: 02/01/24 16:45		Analyzed: 02/06/24 20:37							**C-05, PRO**
QC Source Sample: DU5-24-36 (A4A1444-60RE1)												
Endosulfan I	0.0370	---	0.00183	mg/kg dry	1	0.0458	ND	81	53-132%	---	---	
Endosulfan II	0.0429	---	0.00183	mg/kg dry	1	0.0458	ND	94	53-134%	---	---	
Endosulfan sulfate	0.0454	---	0.00183	mg/kg dry	1	0.0458	ND	99	55-136%	---	---	
Endrin	0.0456	---	0.00183	mg/kg dry	1	0.0458	ND	100	57-140%	---	---	
Endrin aldehyde	0.0407	---	0.00183	mg/kg dry	1	0.0458	ND	89	35-137%	---	---	
Endrin ketone	0.0405	---	0.00183	mg/kg dry	1	0.0458	ND	89	55-136%	---	---	
Heptachlor	0.0315	---	0.00183	mg/kg dry	1	0.0458	ND	69	47-136%	---	---	
Heptachlor epoxide	0.0347	---	0.00183	mg/kg dry	1	0.0458	ND	76	52-136%	---	---	
Methoxychlor	0.0509	---	0.00549	mg/kg dry	1	0.0458	ND	111	52-143%	---	---	
Surr: 2,4,5,6-TCMX (Surr)			*Recovery: 63 %*		*Limits: 42-129 %*				*Dilution: 1x*			
Decachlorobiphenyl (Surr)			*92 %*		*55-130 %*				*"*			

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Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

QUALITY CONTROL (QC) SAMPLE RESULTS

Organophosphorus Pesticides (OPPs) by EPA 8270E (GC/MS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24B0134 - EPA 3546							**Soil**					
Blank (24B0134-BLK1)			Prepared: 02/05/24 14:05		Analyzed: 02/05/24 18:29							
EPA 8270E OPPs												
Azinphos methyl (Guthion)	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Chlorpyrifos	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Coumaphos	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Demeton O	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Demeton S	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Diazinon	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Dichlorvos	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Dimethoate	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Disulfoton	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
EPN	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Ethoprop	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Fensulfothion	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Fenthion	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Malathion	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Merphos	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Methyl parathion	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Mevinphos (Phosdrin)	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Monocrotophos	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Naled (Dibrom)	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Parathion, ethyl	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Phorate	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Ronnel (Fenchlorphos)	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Sulfotep	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Sulprofos (Bolstar)	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
TEPP	ND	---	0.200	mg/kg wet	1	---	---	---	---	---	---	
Tetrachlorvinphos (Rabon)	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Tokuthion (Prothiofos)	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Trichloronate	ND	---	0.0500	mg/kg wet	1	---	---	---	---	---	---	
Surr: Tributyl phosphate (Surr)			*Recovery: 76 %*		*Limits: 10-136 %*			*Dilution: 1x*				
Triphenyl phosphate (Surr)			*78 %*		*34-121 %*			*"*				
LCS (24B0134-BS1)			Prepared: 02/05/24 14:05		Analyzed: 02/05/24 19:04							
EPA 8270E OPPs												

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Darwin Thomas, Business Development Director

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ORELAP ID: **OR100062**

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

QUALITY CONTROL (QC) SAMPLE RESULTS

Organophosphorus Pesticides (OPPs) by EPA 8270E (GC/MS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24B0134 - EPA 3546							**Soil**					
LCS (24B0134-BS1)			Prepared: 02/05/24 14:05		Analyzed: 02/05/24 19:04							
Azinphos methyl (Guthion)	0.477	---	0.0500	mg/kg wet	1	0.400	---	119	38-156%	---	---	
Chlorpyrifos	0.346	---	0.0500	mg/kg wet	1	0.400	---	87	47-140%	---	---	
Coumaphos	0.427	---	0.0500	mg/kg wet	1	0.400	---	107	37-160%	---	---	
Demeton O	0.190	---	0.0500	mg/kg wet	1	0.184	---	103	66-127%	---	---	
Demeton S	0.174	---	0.0500	mg/kg wet	1	0.194	---	90	70-121%	---	---	
Diazinon	0.385	---	0.0500	mg/kg wet	1	0.400	---	96	42-134%	---	---	
Dichlorvos	0.414	---	0.0500	mg/kg wet	1	0.400	---	104	39-142%	---	---	
Dimethoate	0.317	---	0.0500	mg/kg wet	1	0.400	---	79	16-139%	---	---	
Disulfoton	0.370	---	0.0500	mg/kg wet	1	0.400	---	93	28-145%	---	---	
EPN	0.460	---	0.0500	mg/kg wet	1	0.400	---	115	44-137%	---	---	Q-41
Ethoprop	0.328	---	0.0500	mg/kg wet	1	0.400	---	82	47-128%	---	---	
Fensulfothion	0.420	---	0.0500	mg/kg wet	1	0.400	---	105	27-147%	---	---	
Fenthion	0.369	---	0.0500	mg/kg wet	1	0.400	---	92	44-134%	---	---	
Malathion	0.328	---	0.0500	mg/kg wet	1	0.400	---	82	46-137%	---	---	
Merphos	0.417	---	0.0500	mg/kg wet	1	0.400	---	104	66-131%	---	---	
Methyl parathion	0.436	---	0.0500	mg/kg wet	1	0.400	---	109	49-138%	---	---	
Mevinphos (Phosdrin)	0.405	---	0.0500	mg/kg wet	1	0.400	---	101	12-176%	---	---	
Monocrotophos	0.115	---	0.0500	mg/kg wet	1	0.400	---	29	10-153%	---	---	
Naled (Dibrom)	0.366	---	0.0500	mg/kg wet	1	0.400	---	91	10-174%	---	---	
Parathion, ethyl	0.397	---	0.0500	mg/kg wet	1	0.400	---	99	50-139%	---	---	
Phorate	0.385	---	0.0500	mg/kg wet	1	0.400	---	96	23-142%	---	---	
Ronnel (Fenchlorphos)	0.367	---	0.0500	mg/kg wet	1	0.400	---	92	45-138%	---	---	
Sulfotep	0.341	---	0.0500	mg/kg wet	1	0.400	---	85	52-126%	---	---	
Sulprofos (Bolstar)	0.356	---	0.0500	mg/kg wet	1	0.400	---	89	48-139%	---	---	
TEPP	0.218	---	0.200	mg/kg wet	1	0.400	---	55	16-126%	---	---	Q-41
Tetrachlorvinphos (Rabon)	0.405	---	0.0500	mg/kg wet	1	0.400	---	101	54-129%	---	---	
Tokuthion (Prothiofos)	0.350	---	0.0500	mg/kg wet	1	0.400	---	88	45-136%	---	---	
Trichloronate	0.357	---	0.0500	mg/kg wet	1	0.400	---	89	37-140%	---	---	
Surr: Tributyl phosphate (Surr)			*Recovery: 83 %*		*Limits: 10-136 %*				*Dilution: 1x*			
Triphenyl phosphate (Surr)			*81 %*		*34-121 %*				*"*			
Duplicate (24B0134-DUP1)			Prepared: 02/05/24 14:05		Analyzed: 02/05/24 20:48							**PRO**

QC Source Sample: DU4-0-6 (A4A1444-42RE1)

EPA 8270E OPPs

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Darwin Thomas, Business Development Director

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Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

QUALITY CONTROL (QC) SAMPLE RESULTS

Organophosphorus Pesticides (OPPs) by EPA 8270E (GC/MS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24B0134 - EPA 3546							**Soil**					
Duplicate (24B0134-DUP1)			Prepared: 02/05/24 14:05		Analyzed: 02/05/24 20:48							**PRO**
QC Source Sample: DU4-0-6 (A4A1444-42RE1)												
Azinphos methyl (Guthion)	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Chlorpyrifos	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Coumaphos	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Demeton O	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Demeton S	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Diazinon	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Dichlorvos	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Dimethoate	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Disulfoton	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
EPN	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Ethoprop	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Fensulfothion	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Fenthion	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Malathion	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Merphos	ND	---	0.226	mg/kg dry	1	---	ND	---	---	---	30%	R-02
Methyl parathion	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Mevinphos (Phosdrin)	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Monocrotophos	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Naled (Dibrom)	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Parathion, ethyl	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Phorate	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Ronnel (Fenchlorphos)	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Sulfotep	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Sulprofos (Bolstar)	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
TEPP	ND	---	0.179	mg/kg dry	1	---	ND	---	---	---	30%	
Tetrachlorvinphos (Rabon)	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Tokuthion (Prothiofos)	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Trichloronate	ND	---	0.0447	mg/kg dry	1	---	ND	---	---	---	30%	
Surr: Tributyl phosphate (Surr)			*Recovery: 31 %*		*Limits: 10-136 %*				*Dilution: 1x*			
Triphenyl phosphate (Surr)			*42 %*		*34-121 %*				*"*			
Matrix Spike (24B0134-MS1)			Prepared: 02/05/24 14:05		Analyzed: 02/05/24 21:58							**PRO**
QC Source Sample: DU5-24-36 (A4A1444-60)												

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Darwin Thomas, Business Development Director

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ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

QUALITY CONTROL (QC) SAMPLE RESULTS

Organophosphorus Pesticides (OPPs) by EPA 8270E (GC/MS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24B0134 - EPA 3546							**Soil**					
Matrix Spike (24B0134-MS1)			Prepared: 02/05/24 14:05		Analyzed: 02/05/24 21:58							**PRO**
QC Source Sample: DU5-24-36 (A4A1444-60)												
EPA 8270E OPPs												
Azinphos methyl (Guthion)	0.172	---	0.0450	mg/kg dry	1	0.360	ND	48	38-156%	---	---	
Chlorpyrifos	0.127	---	0.0450	mg/kg dry	1	0.360	ND	**35**	**47-140%**	---	---	Q-01
Coumaphos	0.216	---	0.0450	mg/kg dry	1	0.360	ND	60	37-160%	---	---	
Demeton O	ND	---	0.0450	mg/kg dry	1	0.166	ND	**17**	**66-127%**	---	---	Q-01
Demeton S	ND	---	0.0450	mg/kg dry	1	0.175	ND	**18**	**70-121%**	---	---	Q-01
Diazinon	ND	---	0.0450	mg/kg dry	1	0.360	ND		**42-134%**	---	---	Q-01
Dichlorvos	ND	---	0.0450	mg/kg dry	1	0.360	ND	**9**	**39-142%**	---	---	Q-01
Dimethoate	0.0541	---	0.0450	mg/kg dry	1	0.360	ND	**15**	**16-139%**	---	---	Q-01
Disulfoton	0.256	---	0.0450	mg/kg dry	1	0.360	ND	71	28-145%	---	---	
EPN	0.338	---	0.0450	mg/kg dry	1	0.360	ND	94	44-137%	---	---	Q-41
Ethoprop	0.0700	---	0.0450	mg/kg dry	1	0.360	ND	**19**	**47-128%**	---	---	Q-01
Fensulfothion	0.0928	---	0.0450	mg/kg dry	1	0.360	ND	**26**	**27-147%**	---	---	Q-01
Fenthion	ND	---	0.0450	mg/kg dry	1	0.360	ND		**44-134%**	---	---	Q-01
Malathion	0.112	---	0.0450	mg/kg dry	1	0.360	ND	**31**	**46-137%**	---	---	Q-01
Merphos	0.0658	---	0.0513	mg/kg dry	1	0.360	ND	**18**	**66-131%**	---	---	Q-02
Methyl parathion	0.271	---	0.0450	mg/kg dry	1	0.360	ND	75	49-138%	---	---	
Mevinphos (Phosdrin)	ND	---	0.0450	mg/kg dry	1	0.360	ND	**9**	**12-176%**	---	---	Q-01
Monocrotophos	ND	---	0.0450	mg/kg dry	1	0.360	ND		**10-153%**	---	---	Q-01
Naled (Dibrom)	ND	---	0.0450	mg/kg dry	1	0.360	ND		**10-174%**	---	---	Q-01
Parathion, ethyl	0.269	---	0.0450	mg/kg dry	1	0.360	ND	75	50-139%	---	---	
Phorate	0.214	---	0.0450	mg/kg dry	1	0.360	ND	59	23-142%	---	---	
Ronnel (Fenchlorphos)	0.237	---	0.0450	mg/kg dry	1	0.360	ND	66	45-138%	---	---	
Sulfotep	0.0487	---	0.0450	mg/kg dry	1	0.360	ND	**14**	**52-126%**	---	---	Q-01
Sulprofos (Bolstar)	0.252	---	0.0450	mg/kg dry	1	0.360	ND	70	48-139%	---	---	
TEPP	ND	---	0.180	mg/kg dry	1	0.360	ND		**16-126%**	---	---	Q-01, Q-41
Tetrachlorvinphos (Rabon)	ND	---	0.0450	mg/kg dry	1	0.360	ND		**54-129%**	---	---	Q-01
Tokuthion (Prothiofos)	0.253	---	0.0450	mg/kg dry	1	0.360	ND	70	45-136%	---	---	
Trichloronate	0.220	---	0.0450	mg/kg dry	1	0.360	ND	61	37-140%	---	---	
Surr: Tributyl phosphate (Surr)			*Recovery: 22 %*		*Limits: 10-136 %*			*Dilution: 1x*				
Triphenyl phosphate (Surr)			*30 %*		*34-121 %*			*"*				*S-03*

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ORELAP ID: OR100062

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24A0946 - EPA 3051A							**Soil**					
Blank (24A0946-BLK1)			Prepared: 01/30/24 14:35 Analyzed: 01/31/24 02:17									
EPA 6020B												
Antimony	ND	---	1.00	mg/kg wet	10	---	---	---	---	---	---	
Arsenic	ND	---	1.00	mg/kg wet	10	---	---	---	---	---	---	
Barium	ND	---	1.00	mg/kg wet	10	---	---	---	---	---	---	
Beryllium	ND	---	0.200	mg/kg wet	10	---	---	---	---	---	---	
Cadmium	ND	---	0.200	mg/kg wet	10	---	---	---	---	---	---	
Chromium	ND	---	1.00	mg/kg wet	10	---	---	---	---	---	---	
Cobalt	ND	---	1.00	mg/kg wet	10	---	---	---	---	---	---	
Copper	ND	---	2.00	mg/kg wet	10	---	---	---	---	---	---	
Lead	ND	---	0.200	mg/kg wet	10	---	---	---	---	---	---	
Mercury	ND	---	0.0800	mg/kg wet	10	---	---	---	---	---	---	
Molybdenum	ND	---	1.00	mg/kg wet	10	---	---	---	---	---	---	
Nickel	ND	---	2.00	mg/kg wet	10	---	---	---	---	---	---	
Selenium	ND	---	1.00	mg/kg wet	10	---	---	---	---	---	---	
Silver	ND	---	0.200	mg/kg wet	10	---	---	---	---	---	---	
Thallium	ND	---	0.200	mg/kg wet	10	---	---	---	---	---	---	
Vanadium	ND	---	2.00	mg/kg wet	10	---	---	---	---	---	---	
Zinc	ND	---	4.00	mg/kg wet	10	---	---	---	---	---	---	
LCS (24A0946-BS1)			Prepared: 01/30/24 14:35 Analyzed: 01/31/24 02:30									
EPA 6020B												
Antimony	24.3	---	1.00	mg/kg wet	10	25.0	---	97	80-120%	---	---	
Arsenic	48.8	---	1.00	mg/kg wet	10	50.0	---	98	80-120%	---	---	
Barium	49.7	---	1.00	mg/kg wet	10	50.0	---	99	80-120%	---	---	
Beryllium	25.1	---	0.200	mg/kg wet	10	25.0	---	101	80-120%	---	---	
Cadmium	49.1	---	0.200	mg/kg wet	10	50.0	---	98	80-120%	---	---	
Chromium	51.0	---	1.00	mg/kg wet	10	50.0	---	102	80-120%	---	---	
Cobalt	50.3	---	1.00	mg/kg wet	10	50.0	---	101	80-120%	---	---	
Copper	52.0	---	2.00	mg/kg wet	10	50.0	---	104	80-120%	---	---	
Lead	47.7	---	0.200	mg/kg wet	10	50.0	---	95	80-120%	---	---	
Mercury	0.954	---	0.0800	mg/kg wet	10	1.00	---	95	80-120%	---	---	
Molybdenum	24.4	---	1.00	mg/kg wet	10	25.0	---	98	80-120%	---	---	
Nickel	50.6	---	2.00	mg/kg wet	10	50.0	---	101	80-120%	---	---	
Selenium	24.9	---	1.00	mg/kg wet	10	25.0	---	100	80-120%	---	---	

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ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24A0946 - EPA 3051A							**Soil**					
LCS (24A0946-BS1)			Prepared: 01/30/24 14:35		Analyzed: 01/31/24 02:30							
Silver	24.8	---	0.200	mg/kg wet	10	25.0	---	99	80-120%	---	---	
Thallium	24.3	---	0.200	mg/kg wet	10	25.0	---	97	80-120%	---	---	
Vanadium	50.0	---	2.00	mg/kg wet	10	50.0	---	100	80-120%	---	---	
Zinc	50.6	---	4.00	mg/kg wet	10	50.0	---	101	80-120%	---	---	
Duplicate (24A0946-DUP1)			Prepared: 01/30/24 14:35		Analyzed: 01/31/24 02:42							
QC Source Sample: DU4-0-6 (A4A1444-42)												
EPA 6020B												
Antimony	ND	---	0.998	mg/kg dry	10	---	ND	---	---	---	20%	PRO
Arsenic	**70.3**	---	0.998	mg/kg dry	10	---	73.2	---	---	4	20%	PRO
Barium	**180**	---	0.998	mg/kg dry	10	---	189	---	---	5	20%	PRO
Beryllium	**0.661**	---	0.200	mg/kg dry	10	---	0.714	---	---	8	20%	PRO
Cadmium	ND	---	0.200	mg/kg dry	10	---	0.131	---	---	***	20%	PRO
Chromium	**27.4**	---	0.998	mg/kg dry	10	---	28.5	---	---	4	20%	PRO
Cobalt	**16.9**	---	0.998	mg/kg dry	10	---	17.8	---	---	5	20%	PRO
Copper	**64.4**	---	2.00	mg/kg dry	10	---	67.5	---	---	5	20%	PRO
Lead	**233**	---	0.200	mg/kg dry	10	---	241	---	---	3	20%	PRO
Mercury	ND	---	0.0798	mg/kg dry	10	---	0.0469	---	---	***	**20%**	PRO
Molybdenum	ND	---	0.998	mg/kg dry	10	---	ND	---	---	---	20%	PRO
Nickel	**30.8**	---	2.00	mg/kg dry	10	---	31.7	---	---	3	20%	PRO
Selenium	ND	---	0.998	mg/kg dry	10	---	ND	---	---	---	20%	PRO
Silver	ND	---	0.200	mg/kg dry	10	---	ND	---	---	---	20%	PRO
Thallium	ND	---	0.200	mg/kg dry	10	---	0.200	---	---	***	20%	PRO
Vanadium	**76.5**	---	2.00	mg/kg dry	10	---	78.3	---	---	2	20%	PRO
Zinc	**84.5**	---	3.99	mg/kg dry	10	---	87.2	---	---	3	20%	PRO
Matrix Spike (24A0946-MS1)			Prepared: 01/30/24 14:35		Analyzed: 01/31/24 03:00							
QC Source Sample: DU4-0-6 (A4A1444-42)												
EPA 6020B												
Antimony	21.2	---	1.10	mg/kg dry	10	27.4	ND	77	75-125%	---	---	PRO
Arsenic	123	---	1.10	mg/kg dry	10	54.8	73.2	91	75-125%	---	---	PRO
Barium	237	---	1.10	mg/kg dry	10	54.8	189	87	75-125%	---	---	PRO
Beryllium	28.2	---	0.219	mg/kg dry	10	27.4	0.714	100	75-125%	---	---	PRO
Cadmium	52.6	---	0.219	mg/kg dry	10	54.8	0.131	96	75-125%	---	---	PRO

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC
6700 S.W. Sandburg Street
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503-718-2323
ORELAP ID: OR100062

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24A0946 - EPA 3051A							**Soil**					
Matrix Spike (24A0946-MS1)			Prepared: 01/30/24 14:35		Analyzed: 01/31/24 03:00							
QC Source Sample: DU4-0-6 (A4A1444-42)												
Chromium	86.9	---	1.10	mg/kg dry	10	54.8	28.5	107	75-125%	---	---	PRO
Cobalt	71.2	---	1.10	mg/kg dry	10	54.8	17.8	97	75-125%	---	---	PRO
Copper	122	---	2.19	mg/kg dry	10	54.8	67.5	99	75-125%	---	---	PRO
Lead	301	---	0.219	mg/kg dry	10	54.8	241	110	75-125%	---	---	PRO
Mercury	1.09	---	0.0877	mg/kg dry	10	1.10	0.0469	95	75-125%	---	---	PRO
Molybdenum	24.2	---	1.10	mg/kg dry	10	27.4	ND	88	75-125%	---	---	PRO
Nickel	88.0	---	2.19	mg/kg dry	10	54.8	31.7	103	75-125%	---	---	PRO
Selenium	23.8	---	1.10	mg/kg dry	10	27.4	ND	87	75-125%	---	---	PRO
Silver	26.3	---	0.219	mg/kg dry	10	27.4	ND	96	75-125%	---	---	PRO
Thallium	25.4	---	0.219	mg/kg dry	10	27.4	0.200	92	75-125%	---	---	PRO
Vanadium	136	---	2.19	mg/kg dry	10	54.8	78.3	105	75-125%	---	---	PRO
Zinc	145	---	4.39	mg/kg dry	10	54.8	87.2	105	75-125%	---	---	PRO

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ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24A0999 - Total Solids (Dry Weight) - 2022							Soil					
Duplicate (24A0999-DUP1)			Prepared: 01/31/24 09:54		Analyzed: 02/01/24 07:44							
QC Source Sample: Non-SDG (A4A1568-01)												
% Solids	**72.9**	---	1.00	%	1	---	73.4	---	---	0.8	10%	
Duplicate (24A0999-DUP2)			Prepared: 01/31/24 09:54		Analyzed: 02/01/24 07:44							
QC Source Sample: Non-SDG (A4A1568-03)												
% Solids	**75.0**	---	1.00	%	1	---	72.8	---	---	3	10%	
Duplicate (24A0999-DUP3)			Prepared: 01/31/24 09:54		Analyzed: 02/01/24 07:44							
QC Source Sample: Non-SDG (A4A1568-04)												
% Solids	**77.3**	---	1.00	%	1	---	77.4	---	---	0.08	10%	
Duplicate (24A0999-DUP4)			Prepared: 01/31/24 09:54		Analyzed: 02/01/24 07:44							
QC Source Sample: Non-SDG (A4A1568-05)												
% Solids	**77.4**	---	1.00	%	1	---	77.4	---	---	0.06	10%	
Duplicate (24A0999-DUP5)			Prepared: 01/31/24 17:59		Analyzed: 02/01/24 07:44							
QC Source Sample: Non-SDG (A4A1627-02)												
% Solids	**75.2**	---	1.00	%	1	---	81.6	---	---	8	10%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

SAMPLE PREPARATION INFORMATION

Organochlorine Pesticides by EPA 8081B

Prep: EPA 3546/3640A (GPC)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24B0119							
A4A1444-42RE1	Soil	EPA 8081B	01/22/24 12:04	02/01/24 16:45	11.09g/10mL	10g/5mL	1.80
A4A1444-42RE2	Soil	EPA 8081B	01/22/24 12:04	02/01/24 16:45	11.09g/10mL	10g/5mL	1.80
A4A1444-44RE1	Soil	EPA 8081B	01/22/24 12:03	02/01/24 16:45	11.26g/10mL	10g/5mL	1.78
A4A1444-44RE2	Soil	EPA 8081B	01/22/24 12:03	02/01/24 16:45	11.26g/10mL	10g/5mL	1.78
A4A1444-46RE1	Soil	EPA 8081B	01/22/24 12:02	02/01/24 16:45	11.24g/10mL	10g/5mL	1.78
A4A1444-48RE1	Soil	EPA 8081B	01/22/24 12:01	02/01/24 16:45	11.86g/10mL	10g/5mL	1.69
A4A1444-50RE1	Soil	EPA 8081B	01/22/24 12:00	02/01/24 16:45	11.14g/10mL	10g/5mL	1.80
A4A1444-52RE1	Soil	EPA 8081B	01/22/24 12:41	02/01/24 16:45	11.3g/10mL	10g/5mL	1.77
A4A1444-52RE2	Soil	EPA 8081B	01/22/24 12:41	02/01/24 16:45	11.3g/10mL	10g/5mL	1.77
A4A1444-54RE1	Soil	EPA 8081B	01/22/24 12:42	02/01/24 16:45	11.01g/10mL	10g/5mL	1.82
A4A1444-54RE2	Soil	EPA 8081B	01/22/24 12:42	02/01/24 16:45	11.01g/10mL	10g/5mL	1.82
A4A1444-56RE1	Soil	EPA 8081B	01/22/24 12:43	02/01/24 16:45	11.02g/10mL	10g/5mL	1.81
A4A1444-56RE2	Soil	EPA 8081B	01/22/24 12:43	02/01/24 16:45	11.02g/10mL	10g/5mL	1.81
A4A1444-58RE1	Soil	EPA 8081B	01/22/24 12:44	02/01/24 16:45	11.69g/10mL	10g/5mL	1.71
A4A1444-60RE1	Soil	EPA 8081B	01/22/24 12:45	02/01/24 16:45	11.58g/10mL	10g/5mL	1.73

Organophosphorus Pesticides (OPPs) by EPA 8270E (GC/MS)

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24B0134							
A4A1444-42RE1	Soil	EPA 8270E OPPs	01/22/24 12:04	02/05/24 14:05	11.52g/5mL	10g/5mL	0.87
A4A1444-44	Soil	EPA 8270E OPPs	01/22/24 12:03	02/05/24 14:05	11.61g/5mL	10g/5mL	0.86
A4A1444-46	Soil	EPA 8270E OPPs	01/22/24 12:02	02/05/24 14:05	11.14g/5mL	10g/5mL	0.90
A4A1444-48	Soil	EPA 8270E OPPs	01/22/24 12:01	02/05/24 14:05	11.22g/5mL	10g/5mL	0.89
A4A1444-50	Soil	EPA 8270E OPPs	01/22/24 12:00	02/05/24 14:05	11.49g/5mL	10g/5mL	0.87
A4A1444-52	Soil	EPA 8270E OPPs	01/22/24 12:41	02/05/24 14:05	11.22g/5mL	10g/5mL	0.89
A4A1444-54	Soil	EPA 8270E OPPs	01/22/24 12:42	02/05/24 14:05	11.77g/5mL	10g/5mL	0.85
A4A1444-56	Soil	EPA 8270E OPPs	01/22/24 12:43	02/05/24 14:05	11.31g/5mL	10g/5mL	0.88
A4A1444-58	Soil	EPA 8270E OPPs	01/22/24 12:44	02/05/24 14:05	11.13g/5mL	10g/5mL	0.90
A4A1444-60	Soil	EPA 8270E OPPs	01/22/24 12:45	02/05/24 14:05	11.29g/5mL	10g/5mL	0.89

Total Metals by EPA 6020B (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor

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ORELAP ID: OR100062

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

SAMPLE PREPARATION INFORMATION

Total Metals by EPA 6020B (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24A0946							
A4A1444-42	Soil	EPA 6020B	01/22/24 12:04	01/30/24 14:35	0.472g/50mL	0.5g/50mL	1.06
A4A1444-44	Soil	EPA 6020B	01/22/24 12:03	01/30/24 14:35	0.46g/50mL	0.5g/50mL	1.09
A4A1444-46	Soil	EPA 6020B	01/22/24 12:02	01/30/24 14:35	0.474g/50mL	0.5g/50mL	1.05
A4A1444-48	Soil	EPA 6020B	01/22/24 12:01	01/30/24 14:35	0.49g/50mL	0.5g/50mL	1.02
A4A1444-50	Soil	EPA 6020B	01/22/24 12:00	01/30/24 14:35	0.485g/50mL	0.5g/50mL	1.03
A4A1444-52	Soil	EPA 6020B	01/22/24 12:41	01/30/24 14:35	0.491g/50mL	0.5g/50mL	1.02
A4A1444-54	Soil	EPA 6020B	01/22/24 12:42	01/30/24 14:35	0.475g/50mL	0.5g/50mL	1.05
A4A1444-56	Soil	EPA 6020B	01/22/24 12:43	01/30/24 14:35	0.467g/50mL	0.5g/50mL	1.07
A4A1444-58	Soil	EPA 6020B	01/22/24 12:44	01/30/24 14:35	0.473g/50mL	0.5g/50mL	1.06
A4A1444-60	Soil	EPA 6020B	01/22/24 12:45	01/30/24 14:35	0.49g/50mL	0.5g/50mL	1.02

Percent Dry Weight

Prep: Total Solids (Dry Weight) - 2022

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24A0999							
A4A1444-42	Soil	EPA 8000D	01/22/24 12:04	01/31/24 09:54			NA
A4A1444-44	Soil	EPA 8000D	01/22/24 12:03	01/31/24 09:54			NA
A4A1444-46	Soil	EPA 8000D	01/22/24 12:02	01/31/24 09:54			NA
A4A1444-48	Soil	EPA 8000D	01/22/24 12:01	01/31/24 09:54			NA
A4A1444-50	Soil	EPA 8000D	01/22/24 12:00	01/31/24 09:54			NA
A4A1444-52	Soil	EPA 8000D	01/22/24 12:41	01/31/24 09:54			NA
A4A1444-54	Soil	EPA 8000D	01/22/24 12:42	01/31/24 09:54			NA
A4A1444-56	Soil	EPA 8000D	01/22/24 12:43	01/31/24 09:54			NA
A4A1444-58	Soil	EPA 8000D	01/22/24 12:44	01/31/24 09:54			NA
A4A1444-60	Soil	EPA 8000D	01/22/24 12:45	01/31/24 09:54			NA

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ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

C-05	Extract has undergone a GPC (Gel-Permeation Chromatography) cleanup per EPA 3640A. Reporting levels may be raised due to dilution necessary for cleanup. Sample Final Volume includes the GPC dilution factor, see the Prep page for details.
DW>100	Calculated Dry Weight for this sample was slightly greater than 100%, due to limitations of the method with extremely dry samples. Result was set to 100% for calculation purposes.
PRO	Sample has undergone sample processing prior to extraction and analysis.
Q-01	Spike recovery and/or RPD is outside acceptance limits.
Q-02	Spike recovery is outside of established control limits due to matrix interference.
Q-29	Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
Q-41	Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
Q-42	Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits. (Refer to the QC Section of Analytical Report.)
R-02	The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
S-03	Sample re-extract, or the analysis of an associated Batch QC sample, confirms surrogate failure due to sample matrix effect.

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12210 Antioch Road	Project Number: **[none]**	**Report ID:**
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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.

ND Analyte NOT DETECTED at or above the detection or reporting limit.

NR Result Not Reported

RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.

" dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.

" wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.

" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

Results for Volatiles analyses on soils and sediments that are reported on a “dry weight” basis include the water miscible solvent (WMS) correction referenced in the EPA 8000 Method guidance documents. Solid and Liquid samples reported on an “As Received” basis do not have the WMS correction applied, as dry weight was not performed.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

" *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).

-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.

-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

-Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level, if results are not reported to the MDL.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

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ANALYTICAL REPORT

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White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.
Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provded by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

Darwin Thomas, Business Development Director

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Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

APEX LABS — **CHAIN OF CUSTODY** — Lab # A4A1444 — COC 2 of 5

6700 SW Sandburg Street, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-336-0745

Company: Alpine Environmental Corporation LLC | Project Mgr: Jonathan Williams | Project Name: Hillcrest Orchards | Project #

Address: 12210 Antioch Rd, White City Oregon | Phone: 541-944-4685 | Fax: | Email: jwilliams@alpine-env-llc

Sampled by: Toby Shallcross

Site Location: OR WA
Other: _____

ANALYSIS REQUEST

	SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	BTEX	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs	8270 SIM PAHs	8151A Chlorinated Herb	8081 Chlor. Pest	Ag 17 Metals	8270E Organophosphorus P	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn	TCLP Metals (8)	RSM/ISM*	Associated Composit Sampl
1	TP13-0-6		1/22/2024	1204	S	2														X	DU4-0-6
2	TP13-6-12		1/22/2024	1203	S	2														X	DU4-6-12
3	TP13-12-18		1/22/2024	1202	S	2														X	DU4-12-18
4	TP13-18-24		1/22/2024	1201	S	2														X	DU4-18-24
5	TP13-24-36		1/22/2024	1200	S	2														X	DU4-24-36
6	TP14-0-6		1/22/2024	1219	S	2														X	DU4-0-6
7	TP14-6-12		1/22/2024	1218	S	2														X	DU4-6-12
8	TP14-12-18		1/22/2024	1217	S	2														X	DU4-12-18
9	TP14-18-24		1/22/2024	1216	S	2														X	DU4-18-24
10	TP14-24-36		1/22/2024	1215	S	2														X	DU4-24-36

Normal Turn Around Time (TAT) = 7-10 Business Days — YES x — NO

TAT Requested (circle): 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: _____

SPECIAL INSTRUCTIONS:

* Please Archive one of the 2 jars for each discrete sample

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Toby Shallcross	Signature:	Signature:	Signature:
Date: 1/24/2024	Date: 1/25/24	Date:	Date:
Time: 1300	Time: 11:19	Time:	Time:
Printed Name: Toby Shallcross	Printed Name: Ryat Sabor	Printed Name:	Printed Name:
Company: AEC	Company: Apex	Company:	Company:

Apex Laboratories

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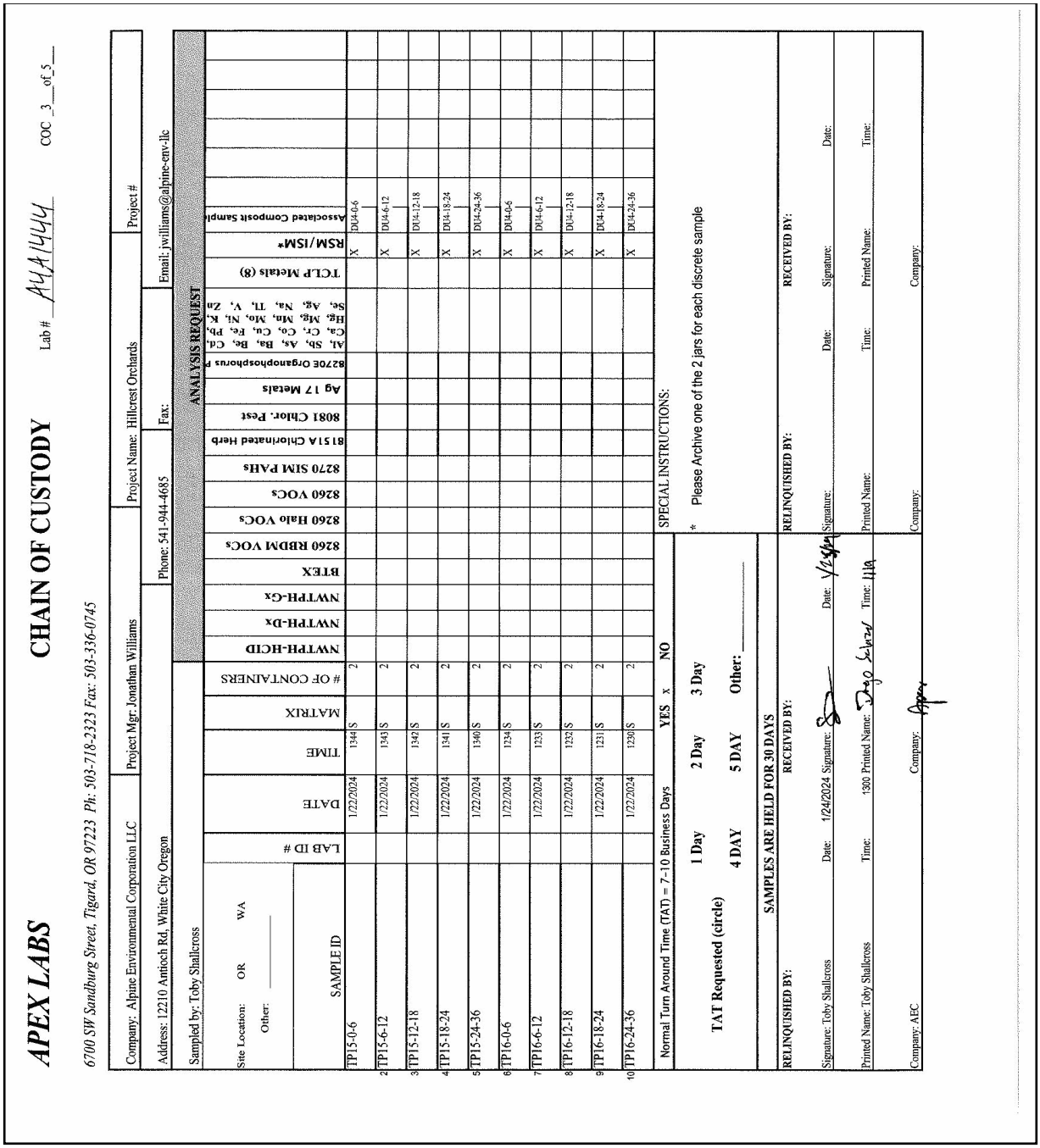
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**



APEX LABS — CHAIN OF CUSTODY — Lab # A4A1444 — COC 3 of 5

6700 SW Sandburg Street, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-336-0745

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Sampled by: Toby Shallcross

Site Location: OR WA Other: _____

ANALYSIS REQUEST

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	BTEX	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs	8270 SIM PAHs	8151A Chlorinated Herb	8081 Chlor. Pest	Ag 17 Metals	8270E Organophosphorus P	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn	TCLP Metals (8)	RSM/ISM*	Associated Composit Sampl
1 TP15-0-6		1/22/2024	1344	S	2														X	DI14-0-6
2 TP15-6-12		1/22/2024	1343	S	2														X	DI14-6-12
3 TP15-12-18		1/22/2024	1342	S	2														X	DI14-12-18
4 TP15-18-24		1/22/2024	1341	S	2														X	DI14-18-24
5 TP15-24-36		1/22/2024	1340	S	2														X	DI14-24-36
6 TP16-0-6		1/22/2024	1234	S	2														X	DI14-0-6
7 TP16-6-12		1/22/2024	1233	S	2														X	DI14-6-12
8 TP16-12-18		1/22/2024	1232	S	2														X	DI14-12-18
9 TP16-18-24		1/22/2024	1231	S	2														X	DI14-18-24
10 TP16-24-36		1/22/2024	1230	S	2														X	DI14-24-36

Normal Turn Around Time (TAT) = 7–10 Business Days YES x NO

TAT Requested (circle): 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: _____

SPECIAL INSTRUCTIONS:

* Please Archive one of the 2 jars for each discrete sample

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Toby Shallcross	Signature:	Signature:	Signature:
Date: 1/24/2024	Date:	Date:	Date:
Printed Name: Toby Shallcross	Printed Name:	Printed Name:	Printed Name:
Time: 1300	Time:	Time:	Time:
Company: AEC	Company:	Company:	Company:

Apex Laboratories

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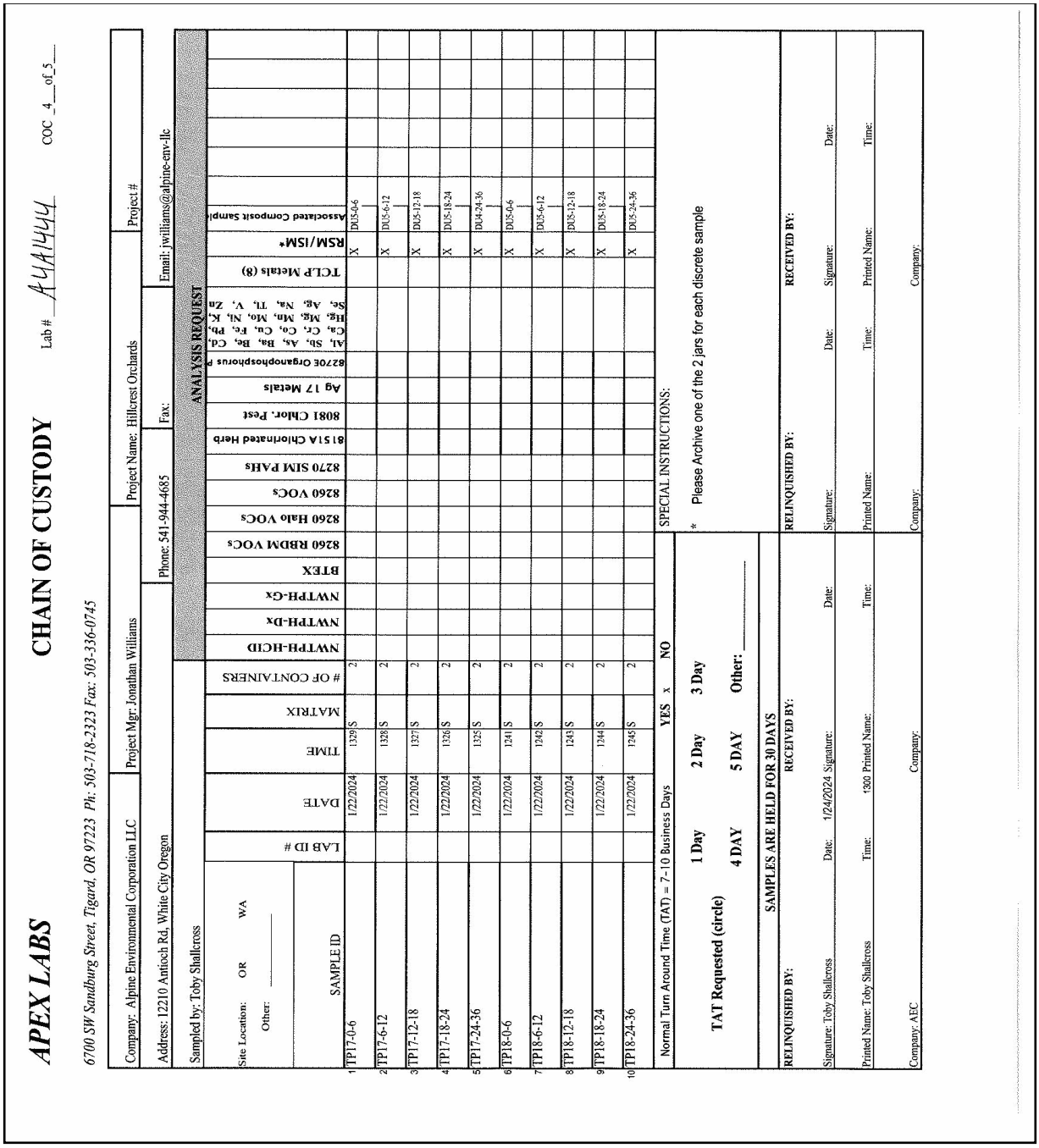
ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**



APEX LABS — CHAIN OF CUSTODY — Lab # A4A1444 — COC 4 of 5

6700 SW Sandburg Street, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-336-0745

Company: Alpine Environmental Corporation LLC | Project Mgr: Jonathan Williams | Project Name: Hillcrest Orchards | Project #

Address: 12210 Antioch Rd, White City Oregon | Phone: 541-944-4685 | Fax: | Email: jwilliams@alpine-env-llc

Sampled by: Toby Shallcross

Site Location: OR WA
Other: _____

ANALYSIS REQUEST

#	SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	BTEX	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs	8270 SIM PAHs	8151A Chlorinated Herb	8081 Chlor. Pest	Ag 17 Metals	8270E Organophosphorus P	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn	TCLP Metals (8)	RSM/ISM*	Associated Composit Sampl
1	TP17-0-6		1/22/2024	1329	S	2														X	DU5-0-6
2	TP17-6-12		1/22/2024	1328	S	2														X	DU5-6-12
3	TP17-12-18		1/22/2024	1327	S	2														X	DU5-12-18
4	TP17-18-24		1/22/2024	1326	S	2														X	DU5-18-24
5	TP17-24-36		1/22/2024	1325	S	2														X	DU4-24-36
6	TP18-0-6		1/22/2024	1241	S	2														X	DU5-0-6
7	TP18-6-12		1/22/2024	1240	S	2														X	DU5-6-12
8	TP18-12-18		1/22/2024	1248	S	2														X	DU5-12-18
9	TP18-18-24		1/22/2024	1244	S	2														X	DU5-18-24
10	TP18-24-36		1/22/2024	1245	S	2														X	DU5-24-36

Normal Turn Around Time (TAT) = 7-10 Business Days YES x NO

TAT Requested (circle): 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: _____

SPECIAL INSTRUCTIONS:
* Please Archive one of the 2 jars for each discrete sample

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY: RECEIVED BY:
Signature: Toby Shallcross Date: 1/24/2024 Signature: Date:
Printed Name: Toby Shallcross Time: 1300 Printed Name: Time:
Company: AEC Company:

RELINQUISHED BY: RECEIVED BY:
Signature: Date: Signature: Date:
Printed Name: Time: Printed Name: Time:
Company: Company:

Apex Laboratories

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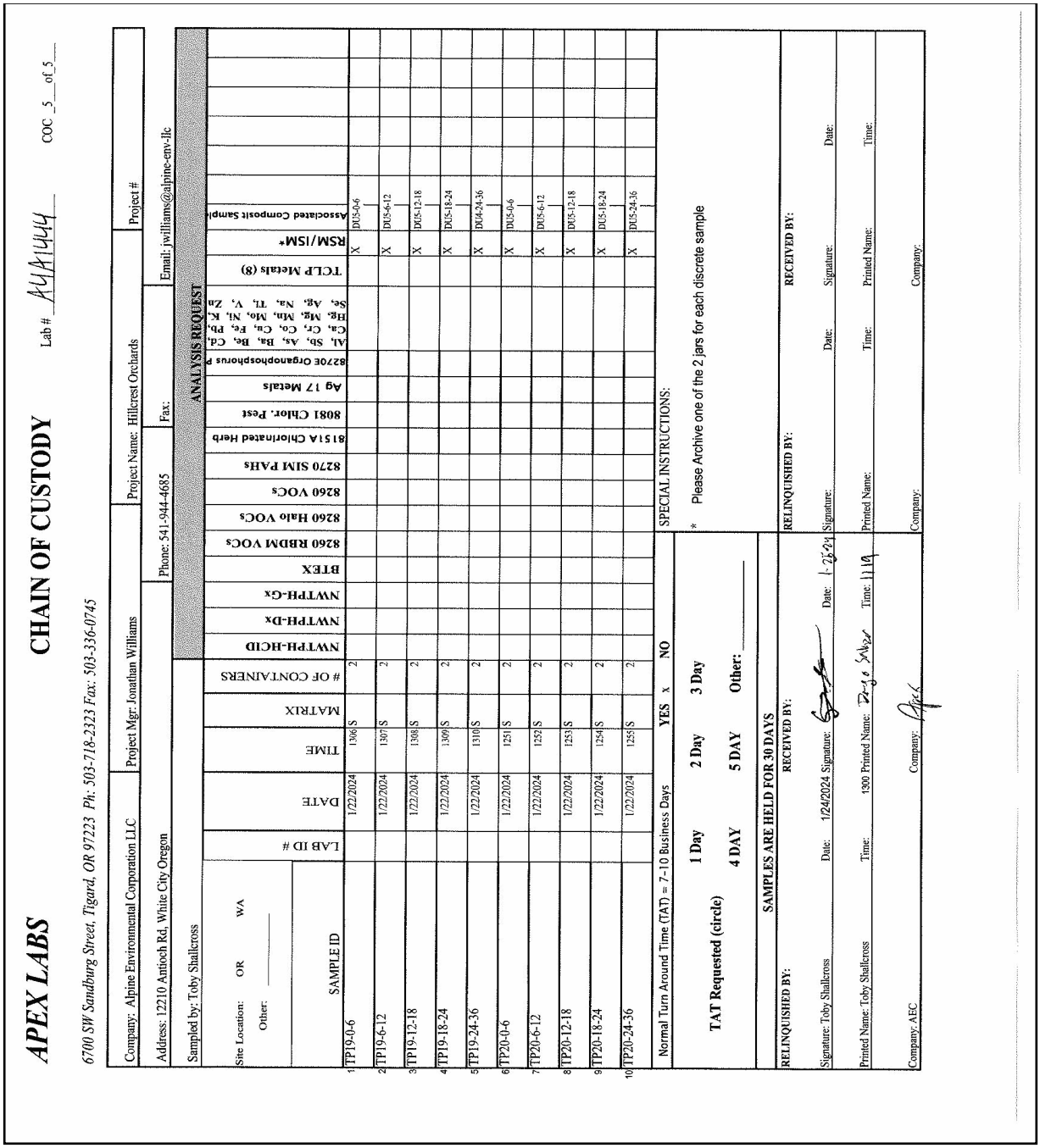
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**



APEX LABS

CHAIN OF CUSTODY

Lab # A4A1444 COC 5 of 5

6700 SW Sandburg Street, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-336-0745

Company: Alpine Environmental Corporation LLC | Project Mgr: Jonathan Williams | Project Name: Hillcrest Orchards | Project #

Address: 12210 Antioch Rd, White City Oregon | Phone: 541-944-4685 | Fax: | Email: jwilliams@alpine-env-llc

Sampled by: Toby Shallcross

Site Location: OR WA Other: _____

ANALYSIS REQUEST

	SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	BTEX	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs	8270 SIM PAHs	8151A Chlorinated Herb	8081 Chlor. Pest	Ag 17 Metals	8270E Organophosphorus Pest	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn	TCLP Metals (8)	RSM/ISM*	Associated Composite Sample
1	TP19-0-6		1/22/2024	1306	S	2														X	DU5-0-6
2	TP19-6-12		1/22/2024	1307	S	2														X	DU5-6-12
3	TP19-12-18		1/22/2024	1308	S	2														X	DU5-12-18
4	TP19-18-24		1/22/2024	1309	S	2														X	DU5-18-24
5	TP19-24-36		1/22/2024	1310	S	2														X	DU4-24-36
6	TP20-0-6		1/22/2024	1251	S	2														X	DU5-0-6
7	TP20-6-12		1/22/2024	1252	S	2														X	DU5-6-12
8	TP20-12-18		1/22/2024	1253	S	2														X	DU5-12-18
9	TP20-18-24		1/22/2024	1254	S	2														X	DU5-18-24
10	TP20-24-36		1/22/2024	1255	S	2														X	DU5-24-36

Normal Turn Around Time (TAT) = 7-10 Business Days YES x NO

TAT Requested (circle): 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: _____

SPECIAL INSTRUCTIONS:

* Please Archive one of the 2 jars for each discrete sample

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Toby Shallcross	Date: 1/24/2024 Signature:	Date: 1-25-24 Signature:	Date: Signature:
Printed Name: Toby Shallcross	Time: 1300 Printed Name:	Time: 1110 Printed Name:	Time: Printed Name:
Company: AEC	Company:	Company:	Company:

Apex Laboratories

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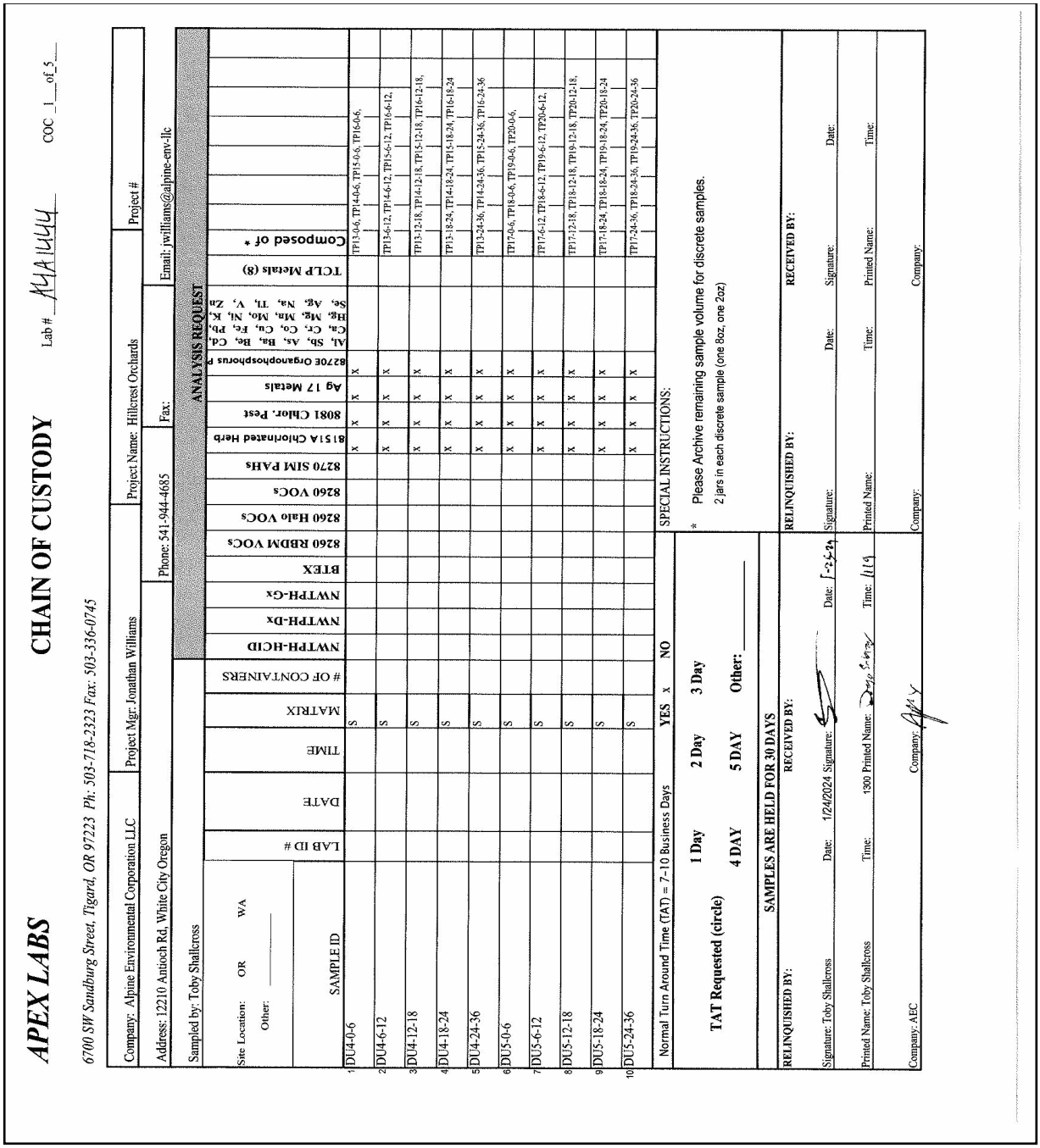
ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**



APEX LABS — CHAIN OF CUSTODY — Lab # A4A1444 — COC 1 of 5

6700 SW Sandburg Street, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-336-0745

Company: Alpine Environmental Corporation LLC | Project Mgr: Jonathan Williams | Project Name: Hillcrest Orchards | Project #

Address: 12210 Antioch Rd, White City Oregon | Phone: 541-944-4685 | Fax: | Email: jwilliams@alpine-env-llc

Sampled by: Toby Shallcross

Site Location: OR WA Other: _____

ANALYSIS REQUEST

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	BTEX	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs	8270 SIM PAHs	8151A Chlorinated Herb	8081 Chlor. Pest	Ag 17 Metals	8270E Organophosphorus P	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn	TCLP Metals (8)	Composed of *
1 DU4-0-6				S										x	x	x	x			TP13-0-6, TP14-0-6, TP15-0-6, TP16-0-6,
2 DU4-6-12				S										x	x	x	x			TP13-6-12, TP14-6-12, TP15-6-12, TP16-6-12,
3 DU4-12-18				S										x	x	x	x			TP13-12-18, TP14-12-18, TP15-12-18, TP16-12-18,
4 DU4-18-24				S										x	x	x	x			TP13-18-24, TP14-18-24, TP15-18-24, TP16-18-24
5 DU4-24-36				S										x	x	x	x			TP13-24-36, TP14-24-36, TP15-24-36, TP16-24-36
6 DU5-0-6				S										x	x	x	x			TP17-0-6, TP18-0-6, TP19-0-6, TP20-0-6,
7 DU5-6-12				S										x	x	x	x			TP17-6-12, TP18-6-12, TP19-6-12, TP20-6-12,
8 DU5-12-18				S										x	x	x	x			TP17-12-18, TP18-12-18, TP19-12-18, TP20-12-18,
9 DU5-18-24				S										x	x	x	x			TP17-18-24, TP18-18-24, TP19-18-24, TP20-18-24
10 DU5-24-36				S										x	x	x	x			TP17-24-36, TP18-24-36, TP19-24-36, TP20-24-36

Normal Turn Around Time (TAT) = 7-10 Business Days — YES x NO

TAT Requested (circle): 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: _____

SPECIAL INSTRUCTIONS:

* Please Archive remaining sample volume for discrete samples.
2 jars in each discrete sample (one 8oz, one 2oz)

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Toby Shallcross	Signature:	Signature:	Signature:
Date: 1/24/2024	Date: 1-25-24	Date:	Date:
Time: 1300	Time: 1114	Time:	Time:
Printed Name: Toby Shallcross	Printed Name:	Printed Name:	Printed Name:
Company: AEC	Company:	Company:	Company:

Apex Laboratories

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Darwin Thomas, Business Development Director

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ORELAP ID: **OR100062**

ANALYTICAL REPORT

Alpine Environmental Consultants	Project: **Hillcrest Orchards**	
12210 Antioch Road	Project Number: **[none]**	**Report ID:**
White City, OR 97503	Project Manager: **Jonathan Williams**	**A4A1444 - 03 06 24 0800**

APEX LABS COOLER RECEIPT FORM

Client: Alpine Environmental Consultants Element WO#: A4 A1444

Project/Project #: Hillcrest Orchards

Delivery Info: apc for 085 1/25/24 m 1/25

Date/time received: 1-25-24 @ ~~1105~~ 1119 By: DJS

Delivered by: Apex__Client__ESS__FedEx X UPS__Radio__Morgan__SDS__Evergreen__Other__

Cooler Inspection Date/time inspected: 1-25-24 @ ~~1105~~ 1119 By: DJS

Chain of Custody included? Yes__ No X m 1/25

Signed/dated by client? Yes X No X

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	3.2	4.8					
Custody seals? (Y/N)	N	N					
Received on ice? (Y/N)	Y	Y					
Temp. blanks? (Y/N)	Y	Y					
Ice type: (Gel/Real/Other)	DJS 1-25-24 Real	Real					
Condition (In/Out):	In	In					

Cooler out of temp? (Y/N) Possible reason why:

Green dots applied to out of temperature samples? Yes/No

Out of temperature samples form initiated? Yes/No

Sample Inspection: Date/time inspected: 1/25/24 @ 1700 By: VW

All samples intact? Yes X No__ Comments:

Bottle labels/COCs agree? Yes__ No X Comments: label reads T15-0-6, T15-6-12, T15-12-18, T15-18-24, T15-24-36, T16-0-6 on all coats. 202 jar reads T19-12-18.

COC/container discrepancies form initiated? Yes__ No X

Containers/volumes received appropriate for analysis? Yes X No__ Comments:

Do VOA vials have visible headspace? Yes__ No__ NA X

Comments

Water samples: pH checked: Yes__No__NA X pH appropriate? Yes__No__NA X pH ID:

Comments:

Additional information:

Labeled by: VW Witness: APW Cooler Inspected by: VW

Form Y-003 R-01

Apex Laboratories

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Darwin Thomas, Business Development Director

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Darwin Thomas
Apex Laboratories LLC
6700 SW Sandburg St.
Tigard, Oregon 97223

Generated 2/12/2024 7:43:07 PM

JOB DESCRIPTION

A4A1444

JOB NUMBER

570-170247-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Generated
2/12/2024 7:43:07 PM

Authorized for release by
Lori Thompson, Project Manager I
Lori.Thompson@et.eurofinsus.com
(657)212-3035

Table of Contents

Definitions/Glossary

Client: Apex Laboratories LLC
Job ID: 570-170247-1
Project/Site: A4A1444

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
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.
¤	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

Job Narrative
570-170247-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/31/2024 9:55 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.1°C

Herbicides
Method 8151A: The continuing calibration verification (CCV) associated with 570-409559 recovered high and outside the control limits for 2,4,5-T, 2,4,5-TP (Silvex), 2,4-D, 2,4-DB, Dicamba, Dichlorprop, Dinoseb, MCPA and 2,4-Dichlorophenylacetic acid on one column. Results are confirmed on both columns and reported from the passing column. The associated samples are: DU4-0-6 (570-170247-1), DU4-6-12 (570-170247-2), DU4-12-18 (570-170247-3), DU4-18-24 (570-170247-4), DU4-24-36 (570-170247-5), DU5-0-6 (570-170247-6), DU5-6-12 (570-170247-7), DU5-12-18 (570-170247-8), DU5-18-24 (570-170247-9) and DU5-24-36 (570-170247-10).

Method 8151A: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 570-407889 and analytical batch 570-409559 recovered outside control limits for the following analytes: 2,4,5-T and 2,4-DB.

Method 8151A: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 570-407889 and analytical batch 570-409559 recovered outside control limits for the following analytes: 2,4-D. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Apex Laboratories LLC
Job ID: 570-170247-1
Project/Site: A4A1444

Client Sample ID: DU4-0-6 — Lab Sample ID: 570-170247-1

No Detections.

Client Sample ID: DU4-6-12 — Lab Sample ID: 570-170247-2

No Detections.

Client Sample ID: DU4-12-18 — Lab Sample ID: 570-170247-3

No Detections.

Client Sample ID: DU4-18-24 — Lab Sample ID: 570-170247-4

No Detections.

Client Sample ID: DU4-24-36 — Lab Sample ID: 570-170247-5

No Detections.

Client Sample ID: DU5-0-6 — Lab Sample ID: 570-170247-6

No Detections.

Client Sample ID: DU5-6-12 — Lab Sample ID: 570-170247-7

No Detections.

Client Sample ID: DU5-12-18 — Lab Sample ID: 570-170247-8

No Detections.

Client Sample ID: DU5-18-24 — Lab Sample ID: 570-170247-9

No Detections.

Client Sample ID: DU5-24-36 — Lab Sample ID: 570-170247-10

No Detections.

This Detection Summary does not include radiochemical test results.

Method: SW846 8151A - Herbicides (GC)

Client Sample ID: DU4-0-6
Date Collected: 01/22/24 12:04
Date Received: 01/31/24 09:55
Lab Sample ID: 570-170247-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND	*1	11	4.0	ug/Kg	☼	02/05/24 22:56	02/10/24 23:11	1
2,4,5-TP (Silvex)	ND		11	8.1	ug/Kg	☼	02/05/24 22:56	02/10/24 23:11	1
2,4-D	ND	*+	110	52	ug/Kg	☼	02/05/24 22:56	02/10/24 23:11	1
2,4-DB	ND	*1	110	110	ug/Kg	☼	02/05/24 22:56	02/10/24 23:11	1
Dalapon	ND		270	78	ug/Kg	☼	02/05/24 22:56	02/10/24 23:11	1
Dicamba	ND		11	5.1	ug/Kg	☼	02/05/24 22:56	02/10/24 23:11	1
Dichlorprop	ND		110	53	ug/Kg	☼	02/05/24 22:56	02/10/24 23:11	1
Dinoseb	ND		110	63	ug/Kg	☼	02/05/24 22:56	02/10/24 23:11	1
MCPA	ND		11000	5200	ug/Kg	☼	02/05/24 22:56	02/10/24 23:11	1
MCPP	ND		11000	7100	ug/Kg	☼	02/05/24 22:56	02/10/24 23:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*49*		*20 - 163*	*02/05/24 22:56*	*02/10/24 23:11*	*1*

Client Sample ID: DU4-6-12
Date Collected: 01/22/24 12:03
Date Received: 01/31/24 09:55
Lab Sample ID: 570-170247-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND	*1	11	4.0	ug/Kg	☼	02/05/24 22:56	02/10/24 23:33	1
2,4,5-TP (Silvex)	ND		11	8.0	ug/Kg	☼	02/05/24 22:56	02/10/24 23:33	1
2,4-D	ND	*+	110	52	ug/Kg	☼	02/05/24 22:56	02/10/24 23:33	1
2,4-DB	ND	*1	110	110	ug/Kg	☼	02/05/24 22:56	02/10/24 23:33	1
Dalapon	ND		270	77	ug/Kg	☼	02/05/24 22:56	02/10/24 23:33	1
Dicamba	ND		11	5.1	ug/Kg	☼	02/05/24 22:56	02/10/24 23:33	1
Dichlorprop	ND		110	53	ug/Kg	☼	02/05/24 22:56	02/10/24 23:33	1
Dinoseb	ND		110	63	ug/Kg	☼	02/05/24 22:56	02/10/24 23:33	1
MCPA	ND		11000	5200	ug/Kg	☼	02/05/24 22:56	02/10/24 23:33	1
MCPP	ND		11000	7100	ug/Kg	☼	02/05/24 22:56	02/10/24 23:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*32*	*p*	*20 - 163*	*02/05/24 22:56*	*02/10/24 23:33*	*1*

Client Sample ID: DU4-12-18
Date Collected: 01/22/24 12:02
Date Received: 01/31/24 09:55
Lab Sample ID: 570-170247-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND	*1	9.9	3.7	ug/Kg	☼	02/05/24 22:56	02/10/24 23:55	1
2,4,5-TP (Silvex)	ND		9.9	7.5	ug/Kg	☼	02/05/24 22:56	02/10/24 23:55	1
2,4-D	ND	*+	99	48	ug/Kg	☼	02/05/24 22:56	02/10/24 23:55	1
2,4-DB	ND	*1	99	99	ug/Kg	☼	02/05/24 22:56	02/10/24 23:55	1
Dalapon	ND		250	72	ug/Kg	☼	02/05/24 22:56	02/10/24 23:55	1
Dicamba	ND		9.9	4.7	ug/Kg	☼	02/05/24 22:56	02/10/24 23:55	1
Dichlorprop	ND		99	49	ug/Kg	☼	02/05/24 22:56	02/10/24 23:55	1
Dinoseb	ND		99	58	ug/Kg	☼	02/05/24 22:56	02/10/24 23:55	1
MCPA	ND		9900	4800	ug/Kg	☼	02/05/24 22:56	02/10/24 23:55	1
MCPP	ND		9900	6500	ug/Kg	☼	02/05/24 22:56	02/10/24 23:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*46*	*p*	*20 - 163*	*02/05/24 22:56*	*02/10/24 23:55*	*1*

Method: SW846 8151A - Herbicides (GC)

Client Sample ID: DU4-18-24
Date Collected: 01/22/24 12:01
Date Received: 01/31/24 09:55

Lab Sample ID: 570-170247-4
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND	*1	10	3.7	ug/Kg	☼	02/05/24 22:56	02/11/24 00:18	1
2,4,5-TP (Silvex)	ND		10	7.6	ug/Kg	☼	02/05/24 22:56	02/11/24 00:18	1
2,4-D	ND	*+	100	49	ug/Kg	☼	02/05/24 22:56	02/11/24 00:18	1
2,4-DB	ND	*1	100	100	ug/Kg	☼	02/05/24 22:56	02/11/24 00:18	1
Dalapon	ND		250	73	ug/Kg	☼	02/05/24 22:56	02/11/24 00:18	1
Dicamba	ND		10	4.8	ug/Kg	☼	02/05/24 22:56	02/11/24 00:18	1
Dichlorprop	ND		100	50	ug/Kg	☼	02/05/24 22:56	02/11/24 00:18	1
Dinoseb	ND		100	59	ug/Kg	☼	02/05/24 22:56	02/11/24 00:18	1
MCPA	ND		10000	4900	ug/Kg	☼	02/05/24 22:56	02/11/24 00:18	1
MCPP	ND		10000	6600	ug/Kg	☼	02/05/24 22:56	02/11/24 00:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*37*	*p*	*20 - 163*	*02/05/24 22:56*	*02/11/24 00:18*	*1*

Client Sample ID: DU4-24-36
Date Collected: 01/22/24 12:00
Date Received: 01/31/24 09:55

Lab Sample ID: 570-170247-5
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND	*1	10	3.7	ug/Kg	☼	02/05/24 22:56	02/11/24 00:40	1
2,4,5-TP (Silvex)	ND		10	7.6	ug/Kg	☼	02/05/24 22:56	02/11/24 00:40	1
2,4-D	ND	*+	100	49	ug/Kg	☼	02/05/24 22:56	02/11/24 00:40	1
2,4-DB	ND	*1	100	100	ug/Kg	☼	02/05/24 22:56	02/11/24 00:40	1
Dalapon	ND		250	73	ug/Kg	☼	02/05/24 22:56	02/11/24 00:40	1
Dicamba	ND		10	4.8	ug/Kg	☼	02/05/24 22:56	02/11/24 00:40	1
Dichlorprop	ND		100	50	ug/Kg	☼	02/05/24 22:56	02/11/24 00:40	1
Dinoseb	ND		100	60	ug/Kg	☼	02/05/24 22:56	02/11/24 00:40	1
MCPA	ND		10000	4900	ug/Kg	☼	02/05/24 22:56	02/11/24 00:40	1
MCPP	ND		10000	6700	ug/Kg	☼	02/05/24 22:56	02/11/24 00:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*37*	*p*	*20 - 163*	*02/05/24 22:56*	*02/11/24 00:40*	*1*

Client Sample ID: DU5-0-6
Date Collected: 01/22/24 12:41
Date Received: 01/31/24 09:55

Lab Sample ID: 570-170247-6
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND	*1	11	3.9	ug/Kg	☼	02/05/24 22:56	02/11/24 01:02	1
2,4,5-TP (Silvex)	ND		11	8.0	ug/Kg	☼	02/05/24 22:56	02/11/24 01:02	1
2,4-D	ND	*+	110	51	ug/Kg	☼	02/05/24 22:56	02/11/24 01:02	1
2,4-DB	ND	*1	110	110	ug/Kg	☼	02/05/24 22:56	02/11/24 01:02	1
Dalapon	ND		260	77	ug/Kg	☼	02/05/24 22:56	02/11/24 01:02	1
Dicamba	ND		11	5.0	ug/Kg	☼	02/05/24 22:56	02/11/24 01:02	1
Dichlorprop	ND		110	52	ug/Kg	☼	02/05/24 22:56	02/11/24 01:02	1
Dinoseb	ND		110	62	ug/Kg	☼	02/05/24 22:56	02/11/24 01:02	1
MCPA	ND		11000	5100	ug/Kg	☼	02/05/24 22:56	02/11/24 01:02	1
MCPP	ND		11000	7000	ug/Kg	☼	02/05/24 22:56	02/11/24 01:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*69*		*20 - 163*	*02/05/24 22:56*	*02/11/24 01:02*	*1*

Method: SW846 8151A - Herbicides (GC)

Client Sample ID: DU5-6-12
Date Collected: 01/22/24 12:42
Date Received: 01/31/24 09:55

Lab Sample ID: 570-170247-7
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND	*1	11	3.9	ug/Kg	☼	02/05/24 22:56	02/11/24 01:24	1
2,4,5-TP (Silvex)	ND		11	8.0	ug/Kg	☼	02/05/24 22:56	02/11/24 01:24	1
2,4-D	ND	*+	110	52	ug/Kg	☼	02/05/24 22:56	02/11/24 01:24	1
2,4-DB	ND	*1	110	110	ug/Kg	☼	02/05/24 22:56	02/11/24 01:24	1
Dalapon	ND		270	77	ug/Kg	☼	02/05/24 22:56	02/11/24 01:24	1
Dicamba	ND		11	5.0	ug/Kg	☼	02/05/24 22:56	02/11/24 01:24	1
Dichlorprop	ND		110	52	ug/Kg	☼	02/05/24 22:56	02/11/24 01:24	1
Dinoseb	ND		110	63	ug/Kg	☼	02/05/24 22:56	02/11/24 01:24	1
MCPA	ND		11000	5200	ug/Kg	☼	02/05/24 22:56	02/11/24 01:24	1
MCPP	ND		11000	7000	ug/Kg	☼	02/05/24 22:56	02/11/24 01:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*38*	*p*	*20 - 163*	*02/05/24 22:56*	*02/11/24 01:24*	*1*

Client Sample ID: DU5-12-18
Date Collected: 01/22/24 12:43
Date Received: 01/31/24 09:55

Lab Sample ID: 570-170247-8
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND	*1	10	3.8	ug/Kg	☼	02/05/24 22:56	02/11/24 01:46	1
2,4,5-TP (Silvex)	ND		10	7.8	ug/Kg	☼	02/05/24 22:56	02/11/24 01:46	1
2,4-D	ND	*+	100	51	ug/Kg	☼	02/05/24 22:56	02/11/24 01:46	1
2,4-DB	ND	*1	100	100	ug/Kg	☼	02/05/24 22:56	02/11/24 01:46	1
Dalapon	ND		260	75	ug/Kg	☼	02/05/24 22:56	02/11/24 01:46	1
Dicamba	ND		10	4.9	ug/Kg	☼	02/05/24 22:56	02/11/24 01:46	1
Dichlorprop	ND		100	51	ug/Kg	☼	02/05/24 22:56	02/11/24 01:46	1
Dinoseb	ND		100	61	ug/Kg	☼	02/05/24 22:56	02/11/24 01:46	1
MCPA	ND		10000	5100	ug/Kg	☼	02/05/24 22:56	02/11/24 01:46	1
MCPP	ND		10000	6900	ug/Kg	☼	02/05/24 22:56	02/11/24 01:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*52*	*p*	*20 - 163*	*02/05/24 22:56*	*02/11/24 01:46*	*1*

Client Sample ID: DU5-18-24
Date Collected: 01/22/24 12:44
Date Received: 01/31/24 09:55

Lab Sample ID: 570-170247-9
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND	*1	11	3.9	ug/Kg	☼	02/05/24 22:56	02/11/24 02:08	1
2,4,5-TP (Silvex)	ND		11	7.9	ug/Kg	☼	02/05/24 22:56	02/11/24 02:08	1
2,4-D	ND	*+	110	51	ug/Kg	☼	02/05/24 22:56	02/11/24 02:08	1
2,4-DB	ND	*1	110	110	ug/Kg	☼	02/05/24 22:56	02/11/24 02:08	1
Dalapon	ND		260	76	ug/Kg	☼	02/05/24 22:56	02/11/24 02:08	1
Dicamba	ND		11	5.0	ug/Kg	☼	02/05/24 22:56	02/11/24 02:08	1
Dichlorprop	ND		110	52	ug/Kg	☼	02/05/24 22:56	02/11/24 02:08	1
Dinoseb	ND		110	62	ug/Kg	☼	02/05/24 22:56	02/11/24 02:08	1
MCPA	ND		11000	5100	ug/Kg	☼	02/05/24 22:56	02/11/24 02:08	1
MCPP	ND		11000	7000	ug/Kg	☼	02/05/24 22:56	02/11/24 02:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*35*	*p*	*20 - 163*	*02/05/24 22:56*	*02/11/24 02:08*	*1*

Client: Apex Laboratories LLC
Job ID: 570-170247-1
Project/Site: A4A1444

Method: SW846 8151A - Herbicides (GC)

Client Sample ID: DU5-24-36
Lab Sample ID: 570-170247-10
Date Collected: 01/22/24 12:45
Matrix: Solid
Date Received: 01/31/24 09:55

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND	*1	10	3.8	ug/Kg	☼	02/05/24 22:56	02/11/24 02:30	1
2,4,5-TP (Silvex)	ND		10	7.8	ug/Kg	☼	02/05/24 22:56	02/11/24 02:30	1
2,4-D	ND	*+	100	50	ug/Kg	☼	02/05/24 22:56	02/11/24 02:30	1
2,4-DB	ND	*1	100	100	ug/Kg	☼	02/05/24 22:56	02/11/24 02:30	1
Dalapon	ND		260	75	ug/Kg	☼	02/05/24 22:56	02/11/24 02:30	1
Dicamba	ND		10	4.9	ug/Kg	☼	02/05/24 22:56	02/11/24 02:30	1
Dichlorprop	ND		100	51	ug/Kg	☼	02/05/24 22:56	02/11/24 02:30	1
Dinoseb	ND		100	61	ug/Kg	☼	02/05/24 22:56	02/11/24 02:30	1
MCPA	ND		10000	5000	ug/Kg	☼	02/05/24 22:56	02/11/24 02:30	1
MCPP	ND		10000	6800	ug/Kg	☼	02/05/24 22:56	02/11/24 02:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*22*	*p*	*20 - 163*	*02/05/24 22:56*	*02/11/24 02:30*	*1*

Surrogate Summary

Client: Apex Laboratories LLC
Project/Site: A4A1444

Job ID: 570-170247-1

Method: 8151A - Herbicides (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	DCPAA2 (20-163)							
570-170247-1	DU4-0-6	49							
570-170247-2	DU4-6-12	32 p							
570-170247-3	DU4-12-18	46 p							
570-170247-4	DU4-18-24	37 p							
570-170247-5	DU4-24-36	37 p							
570-170247-6	DU5-0-6	69							
570-170247-7	DU5-6-12	38 p							
570-170247-8	DU5-12-18	52 p							
570-170247-9	DU5-18-24	35 p							
570-170247-10	DU5-24-36	22 p							
LCS 570-407889/2-A	Lab Control Sample	92							
LCSD 570-407889/3-A	Lab Control Sample Dup	94							
MB 570-407889/1-A	Method Blank	58							

Surrogate Legend

DCPAA = 2,4-Dichlorophenylacetic acid

Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 570-407889/1-A
Matrix: Solid
Analysis Batch: 409559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 407889

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-T	ND		10	3.7	ug/Kg		02/05/24 22:55	02/10/24 22:05	1
2,4,5-TP (Silvex)	ND		10	7.5	ug/Kg		02/05/24 22:55	02/10/24 22:05	1
2,4-D	ND		100	49	ug/Kg		02/05/24 22:55	02/10/24 22:05	1
2,4-DB	ND		100	100	ug/Kg		02/05/24 22:55	02/10/24 22:05	1
Dalapon	ND		250	72	ug/Kg		02/05/24 22:55	02/10/24 22:05	1
Dicamba	ND		10	4.7	ug/Kg		02/05/24 22:55	02/10/24 22:05	1
Dichlorprop	ND		100	49	ug/Kg		02/05/24 22:55	02/10/24 22:05	1
Dinoseb	ND		100	59	ug/Kg		02/05/24 22:55	02/10/24 22:05	1
MCPA	ND		10000	4900	ug/Kg		02/05/24 22:55	02/10/24 22:05	1
MCPP	ND		10000	6600	ug/Kg		02/05/24 22:55	02/10/24 22:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*58*		*20 - 163*	*02/05/24 22:55*	*02/10/24 22:05*	*1*

Lab Sample ID: LCS 570-407889/2-A
Matrix: Solid
Analysis Batch: 409559

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 407889

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
2,4,5-T			20.0	9.027	J p	ug/Kg		45	26 - 180		
2,4,5-TP (Silvex)			20.0	21.23		ug/Kg		106	10 - 180		
2,4-D			200	1567	E *+	ug/Kg		784	13 - 180		
2,4-DB			200	116.7		ug/Kg		58	10 - 180		
Dalapon			500	188.3	J	ug/Kg		38	10 - 176		
Dicamba			20.0	12.31		ug/Kg		62	21 - 164		
Dichlorprop			200	167.7		ug/Kg		84	10 - 175		
Dinoseb			100	105.6		ug/Kg		106	10 - 180		
MCPA			20000	32250		ug/Kg		161	22 - 180		
MCPP			20000	19340	p	ug/Kg		97	18 - 180		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*92*		*20 - 163*

Lab Sample ID: LCSD 570-407889/3-A
Matrix: Solid
Analysis Batch: 409559

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 407889

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4,5-T			20.0	27.09	*1	ug/Kg		135	26 - 180	100	40
2,4,5-TP (Silvex)			20.0	22.72		ug/Kg		114	10 - 180	7	40
2,4-D			200	1145	E *+	ug/Kg		572	13 - 180	31	40
2,4-DB			200	187.8	*1	ug/Kg		94	10 - 180	47	40
Dalapon			500	200.6	J	ug/Kg		40	10 - 176	6	40
Dicamba			20.0	13.38		ug/Kg		67	21 - 164	8	40
Dichlorprop			200	176.9		ug/Kg		88	10 - 175	5	40
Dinoseb			100	71.00	J	ug/Kg		71	10 - 180	39	40
MCPA			20000	32500		ug/Kg		163	22 - 180	5	40
MCPP			20000	20820	p	ug/Kg		104	18 - 180	7	40

Method: 8151A - Herbicides (GC) (Continued)

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4-Dichlorophenylacetic acid	94		20 - 163

QC Association Summary

Client: Apex Laboratories LLC
Project/Site: A4A1444

Job ID: 570-170247-1

GC Semi VOA

Prep Batch: 407889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-170247-1	DU4-0-6	Total/NA	Solid	8151A	
570-170247-2	DU4-6-12	Total/NA	Solid	8151A	
570-170247-3	DU4-12-18	Total/NA	Solid	8151A	
570-170247-4	DU4-18-24	Total/NA	Solid	8151A	
570-170247-5	DU4-24-36	Total/NA	Solid	8151A	
570-170247-6	DU5-0-6	Total/NA	Solid	8151A	
570-170247-7	DU5-6-12	Total/NA	Solid	8151A	
570-170247-8	DU5-12-18	Total/NA	Solid	8151A	
570-170247-9	DU5-18-24	Total/NA	Solid	8151A	
570-170247-10	DU5-24-36	Total/NA	Solid	8151A	
MB 570-407889/1-A	Method Blank	Total/NA	Solid	8151A	
LCS 570-407889/2-A	Lab Control Sample	Total/NA	Solid	8151A	
LCSD 570-407889/3-A	Lab Control Sample Dup	Total/NA	Solid	8151A	

Analysis Batch: 409559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-170247-1	DU4-0-6	Total/NA	Solid	8151A	407889
570-170247-2	DU4-6-12	Total/NA	Solid	8151A	407889
570-170247-3	DU4-12-18	Total/NA	Solid	8151A	407889
570-170247-4	DU4-18-24	Total/NA	Solid	8151A	407889
570-170247-5	DU4-24-36	Total/NA	Solid	8151A	407889
570-170247-6	DU5-0-6	Total/NA	Solid	8151A	407889
570-170247-7	DU5-6-12	Total/NA	Solid	8151A	407889
570-170247-8	DU5-12-18	Total/NA	Solid	8151A	407889
570-170247-9	DU5-18-24	Total/NA	Solid	8151A	407889
570-170247-10	DU5-24-36	Total/NA	Solid	8151A	407889
MB 570-407889/1-A	Method Blank	Total/NA	Solid	8151A	407889
LCS 570-407889/2-A	Lab Control Sample	Total/NA	Solid	8151A	407889
LCSD 570-407889/3-A	Lab Control Sample Dup	Total/NA	Solid	8151A	407889

Lab Chronicle

Client: Apex Laboratories LLC
Project/Site: A4A1444

Job ID: 570-170247-1

Client Sample ID: DU4-0-6

Lab Sample ID: 570-170247-1

Date Collected: 01/22/24 12:04
Matrix: Solid
Date Received: 01/31/24 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8151A			48.52 g	5 mL	407889	02/05/24 22:56	J7WE	EET CAL 4
Total/NA	Analysis	8151A		1	1 mL	1 mL	409559	02/10/24 23:11	J7WE	EET CAL 4

Instrument ID: GC41

Client Sample ID: DU4-6-12

Lab Sample ID: 570-170247-2

Date Collected: 01/22/24 12:03
Matrix: Solid
Date Received: 01/31/24 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8151A			47.93 g	5 mL	407889	02/05/24 22:56	J7WE	EET CAL 4
Total/NA	Analysis	8151A		1	1 mL	1 mL	409559	02/10/24 23:33	J7WE	EET CAL 4

Instrument ID: GC41

Client Sample ID: DU4-12-18

Lab Sample ID: 570-170247-3

Date Collected: 01/22/24 12:02
Matrix: Solid
Date Received: 01/31/24 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8151A			51.42 g	5 mL	407889	02/05/24 22:56	J7WE	EET CAL 4
Total/NA	Analysis	8151A		1	1 mL	1 mL	409559	02/10/24 23:55	J7WE	EET CAL 4

Instrument ID: GC41

Client Sample ID: DU4-18-24

Lab Sample ID: 570-170247-4

Date Collected: 01/22/24 12:01
Matrix: Solid
Date Received: 01/31/24 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8151A			50.52 g	5 mL	407889	02/05/24 22:56	J7WE	EET CAL 4
Total/NA	Analysis	8151A		1	1 mL	1 mL	409559	02/11/24 00:18	J7WE	EET CAL 4

Instrument ID: GC41

Client Sample ID: DU4-24-36

Lab Sample ID: 570-170247-5

Date Collected: 01/22/24 12:00
Matrix: Solid
Date Received: 01/31/24 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8151A			50.23 g	5 mL	407889	02/05/24 22:56	J7WE	EET CAL 4
Total/NA	Analysis	8151A		1	1 mL	1 mL	409559	02/11/24 00:40	J7WE	EET CAL 4

Instrument ID: GC41

Lab Chronicle

Client: Apex Laboratories LLC
Project/Site: A4A1444

Job ID: 570-170247-1

Client Sample ID: DU5-0-6

Lab Sample ID: 570-170247-6

Date Collected: 01/22/24 12:41
Matrix: Solid
Date Received: 01/31/24 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8151A			48.56 g	5 mL	407889	02/05/24 22:56	J7WE	EET CAL 4
Total/NA	Analysis	8151A		1	1 mL	1 mL	409559	02/11/24 01:02	J7WE	EET CAL 4
	Instrument ID: GC41									

Client Sample ID: DU5-6-12

Lab Sample ID: 570-170247-7

Date Collected: 01/22/24 12:42
Matrix: Solid
Date Received: 01/31/24 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8151A			48.23 g	5 mL	407889	02/05/24 22:56	J7WE	EET CAL 4
Total/NA	Analysis	8151A		1	1 mL	1 mL	409559	02/11/24 01:24	J7WE	EET CAL 4
	Instrument ID: GC41									

Client Sample ID: DU5-12-18

Lab Sample ID: 570-170247-8

Date Collected: 01/22/24 12:43
Matrix: Solid
Date Received: 01/31/24 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8151A			49.21 g	5 mL	407889	02/05/24 22:56	J7WE	EET CAL 4
Total/NA	Analysis	8151A		1	1 mL	1 mL	409559	02/11/24 01:46	J7WE	EET CAL 4
	Instrument ID: GC41									

Client Sample ID: DU5-18-24

Lab Sample ID: 570-170247-9

Date Collected: 01/22/24 12:44
Matrix: Solid
Date Received: 01/31/24 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8151A			48.65 g	5 mL	407889	02/05/24 22:56	J7WE	EET CAL 4
Total/NA	Analysis	8151A		1	1 mL	1 mL	409559	02/11/24 02:08	J7WE	EET CAL 4
	Instrument ID: GC41									

Client Sample ID: DU5-24-36

Lab Sample ID: 570-170247-10

Date Collected: 01/22/24 12:45
Matrix: Solid
Date Received: 01/31/24 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8151A			49.86 g	5 mL	407889	02/05/24 22:56	J7WE	EET CAL 4
Total/NA	Analysis	8151A		1	1 mL	1 mL	409559	02/11/24 02:30	J7WE	EET CAL 4
	Instrument ID: GC41									

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: Apex Laboratories LLC
Project/Site: A4A1444

Job ID: 570-170247-1

Laboratory: Eurofins Calscience

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4175	02-02-24 *
Washington	State	C916-18	10-11-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Apex Laboratories LLC
Project/Site: A4A1444

Job ID: 570-170247-1

Method	Method Description	Protocol	Laboratory
8151A	Herbicides (GC)	SW846	EET CAL 4
8151A	Extraction (Herbicides)	SW846	EET CAL 4

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: Apex Laboratories LLC
Project/Site: A4A1444

Job ID: 570-170247-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-170247-1	DU4-0-6	Solid	01/22/24 12:04	01/31/24 09:55
570-170247-2	DU4-6-12	Solid	01/22/24 12:03	01/31/24 09:55
570-170247-3	DU4-12-18	Solid	01/22/24 12:02	01/31/24 09:55
570-170247-4	DU4-18-24	Solid	01/22/24 12:01	01/31/24 09:55
570-170247-5	DU4-24-36	Solid	01/22/24 12:00	01/31/24 09:55
570-170247-6	DU5-0-6	Solid	01/22/24 12:41	01/31/24 09:55
570-170247-7	DU5-6-12	Solid	01/22/24 12:42	01/31/24 09:55
570-170247-8	DU5-12-18	Solid	01/22/24 12:43	01/31/24 09:55
570-170247-9	DU5-18-24	Solid	01/22/24 12:44	01/31/24 09:55
570-170247-10	DU5-24-36	Solid	01/22/24 12:45	01/31/24 09:55

SUBCONTRACT ORDER

Apex Laboratories

A4A1444

AKC 1/25/24 DB

SENDING LABORATORY:

Apex Laboratories
6700 S.W. Sandburg Street
Tigard, OR 97223
Phone: (503) 718-2323
Fax: (503) 336-0745
Project Manager: Darwin Thomas

RECEIVING LABORATORY:

Eurofins_CalScience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Phone :(714) 895-5494
Fax: (714) 894-7501

After Processing Composite of -01, -06, -11, -16

1 **Sample Name: DU4-0-6** **Soil** **Sampled: 01/22/24 12:04** (A4A1444-42)

Analysis	Due	Expires	Comments
8151A Herbicides (SUB) *Containers Supplied:* (B)4 oz Glass Jar	02/07/24 17:00	02/05/24 12:04	

After Processing Composite of -02, -07, -12, -17

2 **Sample Name: DU4-6-12** **Soil** **Sampled: 01/22/24 12:03** (A4A1444-44)

Analysis	Due	Expires	Comments
8151A Herbicides (SUB) *Containers Supplied:* (B)4 oz Glass Jar	02/07/24 17:00	02/05/24 12:03	

After Processing Composite of -03, -08, -13, -18

3 **Sample Name: DU4-12-18** **Soil** **Sampled: 01/22/24 12:02** (A4A1444-46)

Analysis	Due	Expires	Comments
8151A Herbicides (SUB) *Containers Supplied:* (B)4 oz Glass Jar	02/07/24 17:00	02/05/24 12:02	

After Processing Composite of -04, -09, -14, -19

4 **Sample Name: DU4-18-24** **Soil** **Sampled: 01/22/24 12:01** (A4A1444-48)

Analysis	Due	Expires	Comments
8151A Herbicides (SUB) *Containers Supplied:* (B)4 oz Glass Jar	02/07/24 17:00	02/05/24 12:01	

Standard TAT

570-170247 Chain of Custody

Loc: 570 170247

Released By Date 1/30/24 1432 Received By Fed Ex (Shipper) Date

Released By Fed Ex (Shipper) Date Received By Date 1/31/24 0955

2.1/2.1 SC12

Page 1 of 2

Page 20 of 22

2/12/2024

SUBCONTRACT ORDER

Apex Laboratories

A4A1444

After Processing Composite of -05, -10, -15, -20

5 **Sample Name: DU4-24-36** **Soil** **Sampled: 01/22/24 12:00** (A4A1444-50)

Analysis	Due	Expires	Comments
8151A Herbicides (SUB) *Containers Supplied:* (B)4 oz Glass Jar	02/07/24 17:00	02/05/24 12:00	

After Processing Composite of -21, -26, -31, -36

6 **Sample Name: DU5-0-6** **Soil** **Sampled: 01/22/24 12:41** (A4A1444-52)

Analysis	Due	Expires	Comments
8151A Herbicides (SUB) *Containers Supplied:* (B)4 oz Glass Jar	02/07/24 17:00	02/05/24 12:41	

After Processing Composite of -22, -27, -32, -37

7 **Sample Name: DU5-6-12** **Soil** **Sampled: 01/22/24 12:42** (A4A1444-54)

Analysis	Due	Expires	Comments
8151A Herbicides (SUB) *Containers Supplied:* (B)4 oz Glass Jar	02/07/24 17:00	02/05/24 12:42	

After Processing Composite of -23, -28, -33, -38

8 **Sample Name: DU5-12-18** **Soil** **Sampled: 01/22/24 12:43** (A4A1444-56)

Analysis	Due	Expires	Comments
8151A Herbicides (SUB) *Containers Supplied:* (B)4 oz Glass Jar	02/07/24 17:00	02/05/24 12:43	

After Processing Composite of -24, -29, -34, -39

9 **Sample Name: DU5-18-24** **Soil** **Sampled: 01/22/24 12:44** (A4A1444-58)

Analysis	Due	Expires	Comments
8151A Herbicides (SUB) *Containers Supplied:* (B)4 oz Glass Jar	02/07/24 17:00	02/05/24 12:44	

After Processing Composite of -25, -30, -35, -40

10 **Sample Name: DU5-24-36** **Soil** **Sampled: 01/22/24 12:45** (A4A1444-60)

Analysis	Due	Expires	Comments
8151A Herbicides (SUB) *Containers Supplied:* (B)4 oz Glass Jar	02/07/24 17:00	02/05/24 12:45	

Standard TAT

Released By	Date	Received By	Date
Fed Ex (Shipper)	1/30/24 1432	Fed Ex (Shipper)	
Released By	Date	Received By	Date
			1/31/24 0955

Login Sample Receipt Checklist

Client: Apex Laboratories LLC

Job Number: 570-170247-1

Login Number: 170247

List Source: Eurofins Calscience

List Number: 1

Creator: Yu, Tiffany

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?	True	
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	

APPENDIX 3

Groundwater Beneficial Use Survey Technical Memorandum

Alpine Environmental Consultants, LLC
12210 Antioch Road
White City, Oregon 97503
541.944.4685
jwilliams@alpine-env-llc.com

July 15, 2024

Mr. John Day
Hillcrest Corp as Managing Partner for Cogswell Limited Partnership
3285 Hillcrest Road
Medford, Oregon 97504

RE: Technical Memorandum Describing the Groundwater Beneficial Use Survey for the 2-Acre Parcel; Hillcrest Development Site; 3283 Hillcrest Road in Medford, Oregon

This technical memorandum prepared by Alpine Environmental Consultants, LLC (AEC) describes the results of a Groundwater Beneficial Use Survey completed for the 2-Acre Parcel at the Hillcrest Development Site in Medford, Oregon. The Groundwater Beneficial Use Survey was completed to evaluate potential risks residual concentrations of pesticides in shallow soil at the 2-Acre Parcel might pose to human receptors using private water supply wells within a ¼-mile radius of the 2-Acre Parcel. Residual concentrations of pesticides in shallow soil at the 2-Acre Parcel could pose a risk to human receptors if the pesticides were leached from the soil by the infiltration of precipitation through soil, the leached pesticides reached the water table, and the impacted groundwater were extracted from a private water supply well and used for drinking and/or bathing. The location of the 2-Acre Parcel and the ¼-mile search radius are illustrated on **Figure 1**.

AEC completed the Groundwater Beneficial Use Survey by reviewing the Oregon Water Resources Department (WRD) on-line database in order to acquire information regarding water supply wells within the vicinity of the 2-Acre Parcel. For the purposes of this memorandum, water supply wells are defined as those wells used to provide water for domestic, municipal, irrigation, and/or industrial use. The WRD database was accessed on July 2, 2024. AEC reviewed the well logs in Township 37 South, Range 1 West, and Sections 21 and 25. A total of 23 well logs for water supply wells were identified within these two sections. Two of these water supply wells were known to be distal to the 2-Acre parcel. The remaining 21 water supply wells were further researched to determine if they were within ¼-mile of the 2-Acre Parcel.

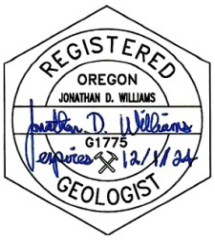
Based on a review of the WRD well logs for these 21 water supply wells, no water supply wells with known addresses are located within a ¼-mile radius of the 2-Acre Parcel. However, within the two sections searched, there were seven water supply wells that could not be accurately mapped due to a lack of well address information. A data summary for the aforementioned 21 water supply wells and copies of the well logs for the seven water supply wells that could not be accurately mapped due to a lack of well address information are included in **Attachment A**.

The 2-Acre Parcel and the entire area within the ¼-mile radius of the 2-Acre Parcel are within the service area of the Medford Water Commission. Given the availability of municipal water and the lack of mapped water supply wells within the 2-Acre Parcel and within a ¼-mile radius of the 2-Acre Parcel, the available data suggest residual concentrations of pesticides in shallow soil at the 2-Acre Parcel do not pose unacceptable risks to human receptors using water supply wells within ¼-mile of the 2-Acre Parcel.

This technical memorandum was prepared by Jonathan Williams. Mr. Williams received a Bachelor of Science degree in Geology, with honors, from Duke University in 1987. He has 30 years of experience working with geological, hydrogeological, groundwater modeling, and environmental projects. Mr. Williams has been a Registered Geologist in the State of Oregon since 1996.

Please feel free to contact Jonathan Williams at 541-944-4685 or jwilliams@alpine-env-llc.com if you have any questions about this technical memorandum.

ALPINE ENVIRONMENTAL CONSULTANTS, LLC



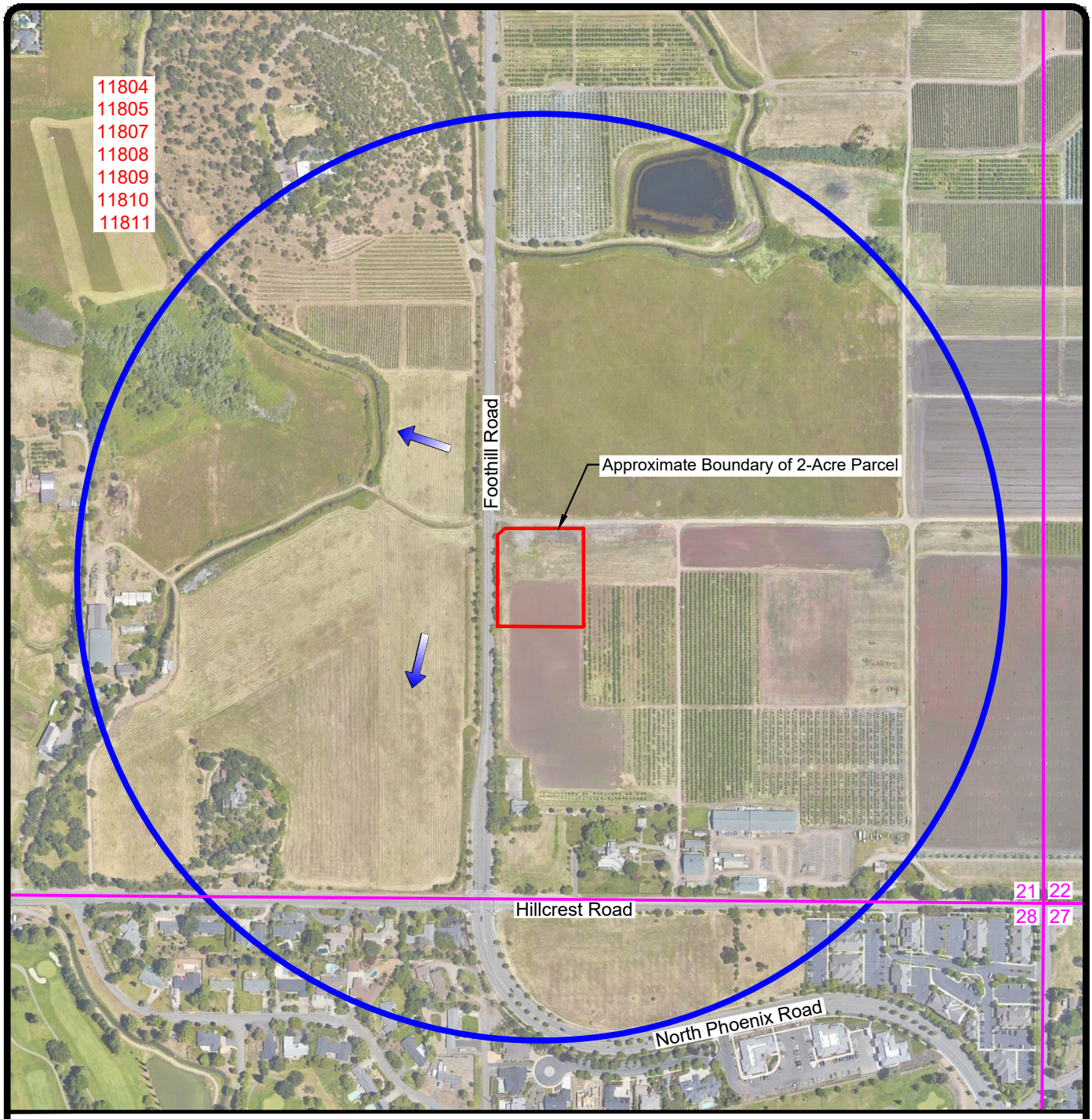
Jonathan D. Williams, R.G.
Senior Hydrogeologist, Principal

Attachments:

Figure 1 – Groundwater Beneficial Use Map

Attachment A – Well Summary Table and Well Logs

FIGURES



SOURCE: Google Earth (2022)

LEGEND

11804 Domestic, Industrial or Irrigation Water Well Log Number (Exact Location Unknown)

1/4-Mile Radius from Site Location

Inferred Groundwater Flow Direction

21 | 22
28 | 27 Section Line and Desingation

N
W E
S

SCALE FEET
0 500 1,000

ALPINE ENVIRONMENTAL CONSULTANTS, LLC

DATE: 7/3/24 DRAWN BY: SM

Figure 1
Groundwater Beneficial Use Map
2-Acre Parcel
3285 Hillcrest Road
Medford, Oregon

f1_BenUseSurvey-Hillcrest

ATTACHMENT A

Well Summary Table and Well Logs

	wl_nbr	name_last	name_first	name_company	street	city	zip	type	first_water	depth	static WL	date	new	epen	domestic	sctn	qtr160	qtr40	tax_lot	street_of_well	max_yield
	11804	HARTWEIN	GEORGE		53 MACE STREET	MEDFORD	97501	W	0	186	35	5/18/1966	X		X	21					30
	11805	LOWMAN	J A		1033 INGRID	MEDFORD	97501	W	0	300	6	2/7/1966	X		X	21					3
	11807	CHISUM	CHARLES		RT 3 BOX 121	MEDFORD	97501	W	0	80	7	9/25/1965	X		X	21					12
Unk Loc	11808	NISTLER	JAMES		406 W MAIN STREET	MEDFORD	97501	W	0	120	43	6/22/1965	X		X	21					6
	11809	LOGAN	GORDON		RT 1 BOX 571	TALENT	97540	W	0	132	24	10/31/1964	X		X	21	NW				20
	11810	KENNEDY	JACK		1417 JOHNSON	MEDFORD	97501	W	0	248	23	2/24/1964	X		X	21					3
	11811	MINTON	EARL		RT 3 BOX 123	MEDFORD	97501	W	0	156	35	5/9/1962	X		X	21					30
	11799	REED	BOB		1306 BROOKDALE	MEDFORD	97504	W	83	100	42	6/2/1988	X		X	21	NW	NE		3426 LONE PINE	60
	11800	PERDUE	CHARLES		3544 LONE PINE ROAD	MEDFORD	97501	W	60	122	60	12/5/1978		X	X	21	NW	NE			5
	11801	AKRLIN	HANS		4325 COREY ROAD	MEDFORD	97501	W	55	60	6	7/7/1971	X		X	21	NE	SW			50
	11803	STALLER	MICHAEL	STALLER, TEEN	PO BOX 43	ASHLAND	97520	W	40	240	3	8/30/1988	X		X	21	NE	NW	100	3458 EDGEVALE, MEDFORD	10
	12022	HOADLEY	MR RAY	HOADLEY, MRS RAY	RT 3 BOX 183 E	MEDFORD	97501	W	0	150	14	6/29/1966		X	X	28	SE				7
Not Within	12023	CLYMER	GLENN		RT 3 BOX 186 D BARNETT RD	MEDFORD	97501	W	0	156	12	1/30/1961	X		X	28	SE			100 FT NORTH OF BARNETT ROAD	20
Search Area	12024	BOHM	F R		RT 3 BOX 1803	MEDFORD	97501	W	0	60	10	9/3/1957	X		X	28	SE	SW			3
	51706	JOHNSON	CLAYTON & YVONN		1762 E MC ANDREWS J	MEDFORD	97504	W								21			700	1175 BROOKDALE	
	34841	PHILLIPS	HARVEY		PO BOX 96	EAGLE POINT	97524	W	50	104	17	1/14/1981	X		X	21			700	SIERRA DRIVE-LAST HOUSE (EPoint)	8
	11798	STALLER	MICHAEL	STALLER, TEENA	PO BOX 43	ASHLAND	97520	W	226	475	180	5/10/1988	X		X	21			100	LONE PINE ROAD	0
	11813	REYNOLDS	ROBERT		1516 OREGON AVE	MEDFORD	97501	W	0	120	35	4/28/1960	X		X	21				PIERCE SUBDIVISION LOT 5 BLOCK 5	7
	11814	MCOUAT	ANDREW	MCOUAT, DOROTHY	612 PIERCE ROAD	MEDFORD	97501	W	0	350	30	10/1/1957	X		X	21					6
	11812	PMIT	DALE		3232 LONE PINE ROAD	MEDFORD	97501	W	0	160	35	6/21/1962	X		X	21					3
	11802			GOLF HOLDING CO	PO BOX 427	MEDFORD	97501	W	0	435	48	7/26/1967	X		X	21				1632 THATCHER LANE	2

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

RECEIVED
MAY 31 1966
STATE ENGINEER
SALEM OREGON

WATER WELL REPORT

STATE OF OREGON
(Please type or print)

Jack 11804

State Well No. 37/1W-21

State Permit No. .....

(1) OWNER:

Name George Hartwein

Address 533 Mace St. Medford, Ore

(2) LOCATION OF WELL:

County Jackson Driller's well number

¼ ¼ Section 21 T. 37S R. 1W W.M.

Bearing and distance from section or subdivision corner

(3) TYPE OF WORK (check):

New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 12.

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐

Irrigation ☐ Test Well ☐ Other ☐

(5) TYPE OF WELL:

Rotary ☐ Driven ☐

Cable ☒ Jetted ☐

Dug ☐ Bored ☐

(6) CASING INSTALLED:

Threaded ☐ Welded ☑

6" Diam. from 0 ft. to 18 ft. Gage 1/4"

..." Diam. from ... ft. to ... ft. Gage ...

..." Diam. from ... ft. to ... ft. Gage ...

(7) PERFORATIONS:

Perforated? ☐ Yes ☒ No

Type of perforator used

Size of perforations in. by in.

... perforations from ... ft. to ... ft.

... perforations from ... ft. to ... ft.

... perforations from ... ft. to ... ft.

... perforations from ... ft. to ... ft.

... perforations from ... ft. to ... ft.

(8) SCREENS:

Well screen installed? ☐ Yes ☒ No

Manufacturer's Name .....

Type ..... Model No. .....

Diam. ..... Slot size ..... Set from ..... ft. to ..... ft.

Diam. ..... Slot size ..... Set from ..... ft. to ..... ft.

(9) CONSTRUCTION:

Well seal—Material used in seal Cement grout

Depth of seal 18 ft. Was a packer used? Clay

Diameter of well bore to bottom of seal 11 in.

Were any loose strata cemented off? ☐ Yes ☒ No Depth .....

Was a drive shoe used? ☒ Yes ☐ No

Was well gravel packed? ☐ Yes ☒ No Size of gravel: .....

Gravel placed from ... ft. to ... ft.

Did any strata contain unusuable water? ☐ Yes ☒ No

Type of water? depth of strata

Method of sealing strata off

(10) WATER LEVELS:

Static level 35 ft. below land surface Date 5-18-66

Artesian pressure lbs. per square inch Date

(11) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☒ No If yes, by whom?

Yield: gal./min. with ... ft. drawdown after ... hrs.

" " " "

" " " "

Bailer test 30 gal./min. with 75 ft. drawdown after 1 hrs.

Artesian flow g.p.m. Date

Temperature of water 60 Was a chemical analysis made? ☐ Yes ☒ No

(12) WELL LOG:

Diameter of well below casing 6

Depth drilled 186 ft. Depth of completed well 186 ft.

Formation: *Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.*

MATERIAL	FROM	TO
Top soil sandy (brown)	0	2
Sandstone hard (brown)	2	37
" " (gray)	37	62
" " (Blue)	62	88
" " (dark blue)	88	93
" " (Gray)	93	176
Claystone (blue)	176	186
1½ gpm water at 93 ft.		
water bearing 176 to 186		
Casing		

Work started 5-10 1966 Completed 5-18 1966

Date well drilling machine moved off of well 5-18 1966

(13) PUMP:

Manufacturer's Name .....

Type: ..... H.P. .....

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Geo. Hartwein
(Person, firm, or corporation) (Type or print)

Address Medford, Oregon

Drilling Machine Operator's License No. #75

[Signed] Geo. Hartwein
(Water Well Contractor)

Contractor's License No. 175 Date 5-27-, 1966

(USE ADDITIONAL SHEETS IF NECESSARY)

Jack
11805

NOTICE TO WATER WELL CONTRACTOR: The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

RECEIVED
FEB 11 1966
STATE ENGINEER
SALEM, OREGON

WATER WELL REPORT
STATE OF OREGON
(Please type or print)

State Well No. 37/1W-21

State Permit No.

(1) OWNER:
Name J.A. Lowman
Address 1033 Ingrid
Medford, Oregon

(2) LOCATION OF WELL:
County Jackson Driller's well number
¼ ¼ Section 21 T. 37S R. 1W W.M.
Bearing and distance from section or subdivision corner
10 FT NORTH & 21 FT EAST OF SOUTH WEST CORNER

(3) TYPE OF WORK (check):
New Well ☑ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(4) PROPOSED USE (check):
Domestic ☑ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) TYPE OF WELL:
Rotary ☑ Driven ☐
Cable ☐ Jetted ☐
Dug ☐ Bored ☐

(6) CASING INSTALLED:
Threaded ☐ Welded ☑
6" Diam. from 0 ft. to 20 ft. Gage .250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

(7) PERFORATIONS:
Perforated? ☐ Yes ☒ No
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(8) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(9) CONSTRUCTION:
Well seal—Material used in seal BENTONITE & COTTINGS
Depth of seal 20 ft. Was a packer used? NO
Diameter of well bore to bottom of seal 9 1/2 in.
Were any loose strata cemented off? ☐ Yes ☒ No Depth
Was a drive shoe used? ☐ Yes ☒ No
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off

(10) WATER LEVELS:
Static level 6 ft. below land surface Date 2-7-66
Artesian pressure lbs. per square inch Date

(11) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "
Bailer test 3 1/2 gal./min. with 152 ft. drawdown after 1 hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? ☐ Yes ☒ No

(12) WELL LOG:
Diameter of well below casing 6
Depth drilled 300 ft. Depth of completed well 300 ft.
Formation: *Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.*

MATERIAL	FROM	TO
SOIL	0	4
SANDSTONE BROWN	4	16
SANDSTONE GRAY	16	158
CEMENTED SAND		
COARSE GRAY	158	165
SANDSTONE GRAY	165	256
CLAY STONE GRAY	256	263
SANDSTONE GRAY	263	300
WATER	161	165

Work started XXXX 2-5 19 66 Completed 2-7 19 66
Date well drilling machine moved off of well 2-7 19 66

(13) PUMP:
Manufacturer's Name
Type: H.P.

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME CRATER WELL DRILLING, INC.
(Person, firm or corporation) (Type or print)
Address 3061 Crater Lake Ave., Medford, Ore.

Drilling Machine Operator's License No. 344
[Signed] C. A. Eastwood
(Water Well Contractor)
Contractor's License No. 83 Date 2-10, 1966

(USE ADDITIONAL SHEETS IF NECESSARY)

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON, 97310, within 30 days from the date of well completion.

RECEIVED NOV 1 1965 STATE ENGINEER SALEM OREGON

Jack 11807

WATER WELL REPORT
STATE OF OREGON
(Please type or print)

State Well No. 37/1W-21

State Permit No.

(1) OWNER:
Name Charles Chesnut
Address Rt 3 box 121 Medford, Ore

(2) LOCATION OF WELL:
County Jackson Driller's well number Drill #2
¼ ¼ Section 21 T. 37S R. 1W W.M.
Bearing and distance from section or subdivision corner

(3) TYPE OF WORK (check):
New Well [X] Deepening [ ] Reconditioning [ ] Abandon [ ]
If abandonment, describe material and procedure in Item 12.

(4) PROPOSED USE (check):
Domestic [X] Industrial [ ] Municipal [ ]
Irrigation [ ] Test Well [ ] Other [ ]

(5) TYPE OF WELL:
Rotary [ ] Driven [ ]
Cable [X] Jetted [ ]
Dug [ ] Bored [ ]

(6) CASING INSTALLED:
Threaded [ ] Welded [X]
6" Diam. from 0 ft. to 20 ft. Gage 1/4"
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

(7) PERFORATIONS:
Perforated? [ ] Yes [X] No
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(8) SCREENS:
Well screen installed? [ ] Yes [X] No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(9) CONSTRUCTION:
Well seal—Material used in seal Cement grout
Depth of seal 20 ft. Was a packer used?
Diameter of well bore to bottom of seal 12 in.
Were any loose strata cemented off? [ ] Yes [X] No Depth
Was a drive shoe used? [X] Yes [ ] No
Was well gravel packed? [ ] Yes [X] No Size of gravel:
Gravel placed from ft. to ft.
Did any strata contain unusuable water? [ ] Yes [X] No
Type of water? depth of strata
Method of sealing strata off

(10) WATER LEVELS:
Static level 7 ft. below land surface Date 9-28-65
Artesian pressure lbs. per square inch Date

(11) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? [ ] Yes [X] No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "
Bailer test 12 gal./min. with 70 ft. drawdown after 1 hrs.
Artesian flow g.p.m. Date
Temperature of water 61 Was a chemical analysis made? [ ] Yes [X] No

(12) WELL LOG:
Diameter of well below casing 6"
Depth drilled 80 ft. Depth of completed well 80 ft.
Formation: *Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.*

MATERIAL	FROM	TO
top soil, sandy (brown)	0	4
fine clay (yellow)	4	7
sandstone (brown)	7	20
" soft (blue)	20	60
" hard (blue)	60	80

Work started 9-24 19 . Completed 9-28 1965
Date well drilling machine moved off of well 9-28 1965

(13) PUMP:
Manufacturer's Name
Type: H.P.

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Gil Bros (Person, firm or corporation) (Type or print)
Address 96 Medford, Ore
Drilling Machine Operator's License No. 8
[Signed] Leland D. Gil (Water Well Contractor)
Contractor's License No. 175 Date 10-26, 1965

(USE ADDITIONAL SHEETS IF NECESSARY)

Jack 11808

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

RECEIVED JUL 7 1965 STATE ENGINEER SALEM OREGON

WATER WELL REPORT
STATE OF OREGON
(Please type or print)

State Well No. 37/1W-21

State Permit No. .....

(1) OWNER:
Name James Nistler
Address 406 W Main
Medford, Oregon

(2) LOCATION OF WELL:
County Jackson Driller's well number
¼ ¼ Section 21 T. 37 S R. 1W W.M.
Bearing and distance from section or subdivision corner
45 FT SOUTH & 3 FT EAST OF NORTH WEST CORNER

(3) TYPE OF WORK (check):
New Well ☑ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(4) PROPOSED USE (check):
Domestic ☑ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) TYPE OF WELL:
Rotary ☐ Driven ☐
Cable ☑ Jetted ☐
Dug ☐ Bored ☐

(6) CASING INSTALLED:
Threaded ☐ Welded ☑
6" Diam. from 0 ft. to 18 ft. Gage .250
..." Diam. from ... ft. to ... ft. Gage ...
..." Diam. from ... ft. to ... ft. Gage ...

(7) PERFORATIONS:
Perforated? ☐ Yes ☑ No
Type of perforator used
Size of perforations in. by in.
... perforations from ... ft. to ... ft.
... perforations from ... ft. to ... ft.
... perforations from ... ft. to ... ft.
... perforations from ... ft. to ... ft.
... perforations from ... ft. to ... ft.

(8) SCREENS:
Well screen installed? ☐ Yes ☑ No
Manufacturer's Name ...
Type ... Model No. ...
Diam. ... Slot size ... Set from ... ft. to ... ft.
Diam. ... Slot size ... Set from ... ft. to ... ft.

(9) CONSTRUCTION:
Well seal—Material used in seal BENTONITE & COTTING
Depth of seal 18 ft. Was a packer used? NO
Diameter of well bore to bottom of seal 9 1/2 in.
Were any loose strata cemented off? ☐ Yes ☑ No Depth ...
Was a drive shoe used? ☐ Yes ☑ No
Was well gravel packed? ☐ Yes ☑ No Size of gravel: ...
Gravel placed from ... ft. to ... ft.
Did any strata contain unusable water? ☐ Yes ☑ No
Type of water? depth of strata
Method of sealing strata off

(10) WATER LEVELS:
Static level 43 ft. below land surface Date 6-22-65
Artesian pressure lbs. per square inch Date

(11) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☑ No If yes, by whom?
Yield: gal./min. with ... ft. drawdown after ... hrs.
" " " "
" " " "
Bailer test 6 1/3 gal./min. with 68 ft. drawdown after 2 hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? ☐ Yes ☑ No

(12) WELL LOG:
Diameter of well below casing 6
Depth drilled 120 ft. Depth of completed well 120 ft.
Formation: *Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.*

MATERIAL	FROM	TO
SOIL SAND &	0	2
SAND STONE BROWN	2	11
SANDSTONE HARD GRAY	11	120
WATER	42	44
	112	115

Work started 6-16 19 65 Completed 6-22 1965
Date well drilling machine moved off of well 6-22 1965

(13) PUMP:
Manufacturer's Name ...
Type: ... H.P. ...

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME CRATER WELL DRILLING, INC.
(Person, firm or corporation) (Type or print)
Address 3061 Crater Lake Ave., Medford, Ore.

Drilling Machine Operator's License No. 71
[Signed] P. A. Chitwood
(Water Well Contractor)
Contractor's License No. 83 Date 7-2, 1965

(USE ADDITIONAL SHEETS IF NECESSARY)

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

RECEIVED NOV 20 1964 STATE ENGINEER SALEM, OREGON

WATER WELL REPORT
STATE OF OREGON
(Please type or print)

Jack 11809

State Well No. 37/1W-21

State Permit No.

(1) OWNER:
Name Gordon Fogan
Address R1 Box 57
Talent, Ore.

(2) LOCATION OF WELL:
County Jackson Driller's well number
¼ NW ¼ Section 21 T. 37S. R. 1W. W.M.
Bearing and distance from section or subdivision corner

(3) TYPE OF WORK (check):
New Well ☑ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(4) PROPOSED USE (check):
Domestic ☑ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) TYPE OF WELL:
Rotary ☐ Driven ☐
Cable ☑ Jetted ☐
Dug ☐ Bored ☐

(6) CASING INSTALLED:
Threaded ☐ Welded ☐
6" Diam. from 0 ft. to 18½ ft. Gage .25
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

(7) PERFORATIONS:
Perforated? ☐ Yes ☑ No
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(8) SCREENS:
Well screen installed? ☐ Yes ☑ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(9) CONSTRUCTION:
Well seal—Material used in seal Bentonite
Depth of seal 18½ ft. Was a packer used? no
Diameter of well bore to bottom of seal 8 in.
Were any loose strata cemented off? ☐ Yes ☑ No Depth
Was a drive shoe used? ☑ Yes ☐ No
Was well gravel packed? ☐ Yes ☑ No Size of gravel:
Gravel placed from ft. to ft.
Did any strata contain unusuable water? ☐ Yes ☑ No
Type of water? depth of strata
Method of sealing strata off

(10) WATER LEVELS:
Static level 24 ft. below land surface Date 10-31-64
Artesian pressure lbs. per square inch Date

(11) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☑ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "
Bailer test 20 gal./min. with 80 ft. drawdown after 1 hrs.
Artesian flow g.p.m. Date
Temperature of water 56 Was a chemical analysis made? ☐ Yes ☑ No

(12) WELL LOG:
Diameter of well below casing 6
Depth drilled 132 ft. Depth of completed well 132 ft.
Formation: *Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.*

MATERIAL	FROM	TO
gravely top soil brown	0	1
Conglomerate ft. "	1	4
sandstone " "	4	12
" "	12	21
Claystone tan grey	21	49
" hard O.D.	49	58
" tan grey	58	74
" blue grey	74	132

Work started 10-26 1964 Completed 10-31 1964
Date well drilling machine moved off of well 11-2 1964

(13) PUMP:
Manufacturer's Name
Type: H.P.

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
NAME M.D. SHULTS well Drilling (Person, firm or corporation) (Type or print)
Address 2034 W. main Medford
Drilling Machine Operator's License No. 94
[Signed] M.D. Shults (Water Well Contractor)
Contractor's License No. 105 Date 11-2, 1964

(USE ADDITIONAL SHEETS IF NECESSARY)

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

RECEIVED MAR 2 1964 STATE ENGINEER SALEM, OREGON

Jack 11810

WATER WELL REPORT
STATE OF OREGON
(Please type or print)

State Well No. 37/1W-21

State Permit No.

(1) OWNER:
Name Jack Kennedy
Address 1417 Johnson,
Medford, Oregon

(2) LOCATION OF WELL:
County Jackson Driller's well number
¼ ¼ Section 21 T. 37 R. 1W W.M.
Bearing and distance from section or subdivision corner
35 FT NORTH & 25 FT WEST OF SOUTHEAST CORNER

(3) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) TYPE OF WELL:
Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
Dug ☐ Bored ☐

(6) CASING INSTALLED:
Threaded ☐ Welded ☒
6" Diam. from 0 ft. to 32 ft. Gage .230
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

(7) PERFORATIONS:
Perforated? ☐ Yes ☒ No
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(8) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(9) CONSTRUCTION:
Well seal—Material used in seal BENTONITE SLURRY
Depth of seal 31 ft. Was a packer used? NO
Diameter of well bore to bottom of seal 6 1/2 in.
Were any loose strata cemented off? ☐ Yes ☒ No Depth
Was a drive shoe used? ☐ Yes ☒ No
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.
Did any strata contain unusuable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off

(10) WATER LEVELS:
Static level 23 ft. below land surface Date 2-24-64
Artesian pressure lbs. per square inch Date

(11) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "
Bailer test 3 1/2 gal./min. with 22 ft. drawdown after 2 hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? ☐ Yes ☒ No

(12) WELL LOG:
Diameter of well below casing 6"
Depth drilled 248 ft. Depth of completed well 248 ft.
Formation: *Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.*

MATERIAL	FROM	TO
SOIL - BLACK CLAY	0	3
BOULDERS & CLAY YELLOW	3	9
CLAY & SAND YELLOW	9	26
SANDSTONE, BROWN	26	35
SANDSTONE, BLUE	35	56
SANDSTONE, HARD GRAY	56	179
SANDSTONE, BLUE	179	187
SANDSTONE, HARD GRAY	187	218
SANDSTONE, BLUE	218	233
SANDSTONE, HARD GRAY	233	248
WATER	39	41
	225	230

Work started 2-12 1964. Completed 2-24 1964
Date well drilling machine moved off of well 2-24 1964

(13) PUMP:
Manufacturer's Name
Type: H.P.

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME CRATER WELL DRILLING, INC.
(Person, firm or corporation) (Type or print)
Address 3061 Crater Lake Ave

Drilling Machine Operator's License No. 71

[Signed] P. A. Chitwood
(Water Well Contractor)

Contractor's License No. 83 Date 2-28, 1964

(USE ADDITIONAL SHEETS IF NECESSARY)

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM 10, OREGON within 30 days from the date of well completion.

RECEIVED
MAY 14 1962
STATE ENGINEER
SALEM, OREGON

WATER WELL REPORT
STATE OF OREGON
(Please type or print)

Jack
11811

State Well No. 37/1W-21

State Permit No. .....

(1) OWNER:
Name Earl Minton
Address Rt. 3 Box 123,
Medford, Oregon

(2) LOCATION OF WELL:
County Jackson Driller's well number
¼ ¼ Section 21 T. 37 R. 1W W.M.
Bearing and distance from section or subdivision corner

(3) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) TYPE OF WELL:
Rotary ☒ Driven ☐
Cable ☐ Jetted ☐
Dug ☐ Bored ☐

(6) CASING INSTALLED:
Threaded ☐ Welded ☒
6 " Diam. from 0 ft. to 46 ft. Gage 188
..... " Diam. from ..... ft. to ..... ft. Gage .....
..... " Diam. from ..... ft. to ..... ft. Gage .....

(7) PERFORATIONS:
Perforated? ☐ Yes ☒ No
Type of perforator used
Size of perforations in. by in.
..... perforations from ..... ft. to ..... ft.
..... perforations from ..... ft. to ..... ft.
..... perforations from ..... ft. to ..... ft.
..... perforations from ..... ft. to ..... ft.
..... perforations from ..... ft. to ..... ft.

(8) SCREENS:
Well screen installed ☐ Yes ☒ No
Manufacturer's Name .....
Type ..... Model No. .....
Diam. ..... Slot size ..... Set from ..... ft. to ..... ft.
Diam. ..... Slot size ..... Set from ..... ft. to ..... ft.

(9) CONSTRUCTION:
Well seal—Material used in seal Drive Shoe-Puddled cla
Depth of seal 46 ft. Was a packer used? No
Diameter of well bore to bottom of seal 8 in.
Were any loose strata cemented off? ☐ Yes ☒ No Depth .....
Was a drive shoe used? ☒ Yes ☐ No
Was well gravel packed? ☐ Yes ☐ No Size of gravel: .....
Gravel placed from ..... ft. to ..... ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? Depth of strata
Method of sealing strata off

(10) WATER LEVELS:
Static level 35 ft. below land surface Date May 9
Artesian pressure lbs. per square inch Date

(11) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "
Bailer test 30 gal./min. with 30 ft. drawdown after 1 hrs.
Artesian flow g.p.m. Date
Temperature of water 56 Was a chemical analysis made? ☐ Yes ☒ No

(12) WELL LOG:
Diameter of well below casing 6
Depth drilled 156 ft. Depth of completed well 156 ft.

Formation: *Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.*

MATERIAL	FROM	TO
Soil--Black	0	6
Clay--Black	6	30
Claystone--Yellow	30	42
Claystone--Blue	42	95
Claystone--Brown	95	135
Sandstone--Blue--Hard	135	156

Work started May 1 19 62 Completed May 9 19 62
Date well drilling machine moved off of well May 10 19 62

(13) PUMP:
Manufacturer's Name .....
Type: ..... H.P. .....

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME GRIBBLE AND MILKOWSKI
(Person, firm or corporation) (Type or print)
Address Rt. 2 Box 483, Gold Hill, Oregon.

Drilling Machine Operator's License No. 73
[Signed] Virgil Gribble
(Water Well Contractor)
Contractor's License No. 73 Date May 10, 1962

(USE ADDITIONAL SHEETS IF NECESSARY)