YOUNGDAHL CONSULTING GROUP, INC.
ESTABLISHED 1984
1234 Glenhaven Court, El Dorado Hills, CA 95762
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www.youngdahl.net

Thomas P. Tomich
1112 Bucknell Drive
Davis, CA 95616

Project No. E19442.000
2 January, 2020

Attention: Mr. Thomas Tomich

Subject: **6331 Filbert Avenue, Orangevale, CA 95662**
Sacramento County Assessor Parcel Number (APN): 223-0091-002
Phase II Environmental Site Assessment

References:
1. Proposal and Contract for Filbert Ave (6331) Phase II ESA prepared by Youngdahl Consulting Group, Inc., dated 4 December 2019 (Proposal No. PE19-642).
2. Interim Guidance for Sampling Agricultural Properties (Third Revision), California Environmental Protection Agency- Department of Toxic Substances Control, dated 7 August 2008.
3. G. R. Brandford, et al. 1996. Background Concentrations of Trace and Major Elements in California Soils, Kearney Foundation of Soil Science Division of Agriculture and Natural Resources, University of California.

Dear Mr. Tomich:

In accordance with your authorization, Youngdahl Consulting Group, Inc. (Youngdahl) has performed a Phase II Environmental Site Assessment (Phase II ESA) for the parcel located at 6331 Filbert Avenue in Orangevale, California as shown in Figure 1 – Vicinity Map (Subject Property). The Subject Property is assigned Sacramento County Assessor Parcel Number (APN) 223-0091-002, encompasses approximately 9.4 acres; and includes an active fruit orchard, occupied residence, barn, and fruit stand structure. The purpose of this Phase II Limited Soil Investigation was to address the potential for contamination by historic uses of pesticides and herbicides as well as from equipment maintenance on the Subject Property.

Background and Scope

Youngdahl was contacted by Mr. Tomich (client) to conduct a Phase II ESA in preparation for a potential ownership change of the Subject Property due to family divestment from commercial agriculture. We understand that the Client's family has been growing fruit trees on the property since as early as 1895, and the Subject Property represents a 9.4-acre portion of a historically larger farming operation. In accordance with the Reference 1 Proposal, our scope of work consisted of:

(1) Historical Research of the Subject Property including review of historical aerial photographs and regulatory databases to determine and document historical uses of the Subject Property and to guide sampling efforts in order to adequately characterize the potential for contamination of the Subject Property by historic agricultural uses.

(2) A site reconnaissance by experienced environmental professionals to evaluate current site conditions and further guide sampling efforts based on site observations.

(3) Preparation of a soil sampling and analysis plan in accordance with the Reference 2 DTSC Interim Guidance document.

(4) Collection of Soil samples from the Subject Property in the orchard area(s), around the barn structure, and existing residence in accordance with the DTSC Interim Guidance document.

(5) Soil sample analysis by a California State Water Resource Control Board certified laboratory (California Laboratory Services Inc., Rancho Cordova; ELAP #1233) for organochlorine and lead arsenate pesticides (OCP, LA), total petroleum hydrocarbons as diesel/motor oil (TPH-d/mo), soil lead from potential lead based/lead containing paint, and for wear metals potentially occurring from the disposal of waste motor oil.

(6) Analysis of all field exploration data, laboratory testing data, and research findings in order to develop conclusions and recommendations concerning the absence or presence of contaminants on the Subject Property.

Historical Research

Youngdahl subcontracted the services of Environmental Data Resources (EDR/Lightbox) to provide historic aerial photographs of the Subject Property. Review of the aerial photos indicates that the Subject Property has been under agricultural use as an orchard since as early as 1937, consistent with the Client's narrative of the Subject Property history. The EDR aerial photograph package is attached as Appendix A. The State of California Water Resources Control Board's GeoTracker database was researched to identify if sites with groundwater contamination exist at or near the Subject Property. Also, the Department of Toxic Substance Control's (DTSC) Envirostor database was researched for sites of environmental concern at or near the Subject Property. The Subject Property was not identified on the GeoTracker or Envirostor web sites.

Site Reconnaissance and Sample Collection

On 16 December 2019, representatives of Youngdahl Consulting Group, Inc. visited the Subject Property to make reconnaissance observations and confirm observations made during review of historical records. The Client was on-site at the time of site reconnaissance and provided additional historical context of the Subject Property and identified areas where equipment was stored and maintenance was performed, and where pesticides were stored and mixed for application.

On 17 December 2019, a representative of Youngdahl Consulting Group, Inc. returned to the site to collect near-surface soil samples in accordance with the sample plan generated based on historical and reconnaissance observations and the Reference 2 guidance document. Table 1 of the Reference 2 guidance document recommends the collection of five 4-part composite soil samples for OCP analysis, and five discrete soil samples for Arsenic analysis for sites up to 10 acres in size. A sampling grid was generated and stratified random sample (SRS) locations were established using a random number generator and located in the *orchard area* by sub-meter global positioning coordinates. Twenty SRS points were selected to generate five 4-part composite soil samples to be analyzed for chlorinated pesticides. Of the twenty SRS points, five sample locations were selected for analyses of lead arsenate pesticides. In accordance with the Reference 2 guidance document, soil samples were collected from near surface materials, at a depth just below surficial extraneous material (0-6"), from alternating locations under the current drip-line of existing orchard trees, under the tree canopy, between the tree rows, and between trees within a row. Four SRS points from adjacent locations were field composited for each of the five OCP analyses (SRSC-01 through SRSC-05). Five SRS points were then selected for lead and arsenic analysis from locations selected to cumulatively generalize the whole site (SRS-03, SRS-04, SRS-08, SRS-13, SRS-19).

Judgmental sample locations were selected based on historical and site reconnaissance observations for two discrete near surface soil samples in equipment storage and *maintenance areas* (MA-01, MA-02) to be analyzed for waste oil wear metals, and total petroleum hydrocarbons quantified as motor oil and diesel.

Judgmental near surface discrete soil sample locations were selected adjacent to the *residential structure* (RS-E, RS-N, RS-NW) foundation perimeter in three locations not covered with concrete flatwork to be analyzed for lead from a past use of lead-based paint and for chlorinated pesticides potentially used to control termites.

Sample locations are shown on Figure 2 – Site Plan. All samples were collected with decontaminated hand tools into pre-cleaned, laboratory-supplied glass jars with Teflon-lined caps and placed on wet ice for transport to CLS in Rancho Cordova, CA under chain of custody protocol.

Quality Assurance/Quality Control
Sample collection was achieved using hand tools which were decontaminated before and between sample points using an aqueous solution of phosphate-free laboratory grade detergent and deionized water rinse. One duplicate composite sample (SRSC-01D) was collected for OCP analysis, and one duplicate (co-located, discrete) sample (SRS-13D) was collected for lead and arsenic analyses. All laboratory analyses were performed using EPA methods and associated Quality Control (QC) Measures including batch blank samples, lab control spikes and control spike duplicates, matrix spike and matrix spike duplicates, and surrogate recoveries. Laboratory QC results were reviewed as part of our data analysis and are considered to be within an acceptable range. QC data are included in the Laboratory Report, attached as Appendix B.

Discussion of Applicable Screening Levels
The California Department of Toxic Substances Control (DTSC) has developed the Human Health Risk Assessment (HHRA) Note 3 that presents recommended screening levels for constituents in soil and tap water. Also, the State of California has established procedures with set limits for hazardous waste characterization. Title 22 of the California Code of Regulations (CCR) provides the Soluble Threshold Limit Concentration (STLC) and Total Threshold Limit Concentration (TTLC) when determining hazardous waste characterization. Analyte concentrations exceeding the TTLC are classified as hazardous waste. The STLC is meant to simulate the conditions that may be present in a landfill where water passing through the surface may dissolve soluble materials and travel on into groundwater, leading to contamination. A target analyte exceeding ten times the STLC, but not exceeding the TTLC, may be subject to a Waste Extraction Test (WET) to check for soluble chemicals. The factor of ten is necessary to compensate for the 1:10 dilution factor present in the STLC.

Discussion of Analytical Results and Findings
Arsenic concentrations in orchard samples ranged from 2.6 to 5.5 mg/kg, exceeding the HHRA screening level of 0.11 mg/kg for residential soils. Further discussion of Arsenic in soil is provided below. Lead concentrations ranged from 8.2 to 37 mg/kg in site soil samples, none of which exceeded the HHRA screening level of 80 mg/kg for residential soils. Organochlorine pesticide was not detected in concentrations equal to or greater than laboratory detection limits in all samples analyzed. Motor Oil was detected in maintenance area soil samples at concentrations of 10 and 11 mg/kg, neither of which exceed the HHRA screening level of 2,500 mg/kg for TPH in residential soils.

For California, an important source of information on background trace metals is from the Kearny Foundation Special Report on Background Concentrations of Trace and Major Elements in California Soils (G. R. Bradford et al., Kearny Foundation of Soil Science, Division of Agriculture and Natural Resources, University of California, 1996). The study selected 50 samples from 22 benchmark soils from a collection of soil profiles held at the University of California, Berkeley (the soil profiles were collected in 1967). The profiles were taken from sites distant from known point sources of contamination throughout the state, primarily within agricultural fields. Arsenic concentrations across the 22 “benchmark” soils had an average of 3.5 mg/kg, a standard deviation of 2.5 mg/kg, and values ranging from 0.6 - 11 mg/kg. Samples analyzed in this study are within these average values and are considered within naturally occurring background levels.

Arsenic Concentrations
Arsenic was detected in orchard samples SRS-04, SRS-03, SRS-08, SRS-19, SRS-13 at concentrations of 3.7, 3.3, 3.6, 2.6, and 4.1 mg/kg; respectively. Arsenic concentrations exceeded residential HHRA levels in all detected samples. Arsenic is naturally present in soil, and the DTSC typically does not require site mitigation or site remediation for concentrations at or below naturally occurring background levels.

Lead Concentrations
Lead was detected in all samples analyzed. Residential structure samples RS-E, RS-N, RS-NW were reported to contain lead at concentrations of 12, 18, and 8.2 mg/kg; respectively. Lead was detected in orchard samples SRS-04, SRS-03, SRS-08, SRS-19, SRS-13 at concentrations of 27, 23, 26, 19, and 28 mg/kg; respectively. These concentrations are under the HHRA for residential and commercial soil screening levels.

Organochlorine Pesticide
All samples analyzed for chlorinated pesticides were reported to be non-detect at or above laboratory reporting limits.

Total Petroleum Hydrocarbons as Diesel and Motor Oil
The maintenance area samples (MA-01, MA-02) were reported to be non-detect for TPH as Diesel (<1.0 mg/kg). The laboratory reported Motor Oil in maintenance area samples at concentrations of 10 and 11 mg/kg, respectively. These concentrations are under the HHRA for residential and commercial soil screening levels.

Waste Oil Wear Metals
Chromium, Lead, and Zinc were detected in maintenance area samples (MA-01, MA-02) at concentrations of 12 & 13, 17 & 22, 31 & 110 mg/kg; respectively. These concentrations are under the HHRA for residential and commercial soil screening levels. The maintenance area samples were reported to be non-detect for Cadmium and Nickel (<1.0 mg/kg, <10 mg/kg; respectively).

Conclusions and Recommendations
Arsenic concentrations did not exceed typical naturally occurring background levels and are not of concern. Lead concentrations did not exceed the HHRA screening levels for residential and industrial/commercial soils and samples tested for organochlorinated pesticides were reported to be non-detect. It is the opinion of Youngdahl's environmental professional that no additional action is required for the Subject Property.

Limitations and Uniformity of Conditions

1. This report has been prepared for the exclusive use by Mr. Thomas P. Tomich, and for specific application to the Subject Property, located at 6331 Filbert Avenue, Orangevale, CA. Youngdahl Consulting Group, Inc. has endeavored to comply with generally accepted environmental geology practice common to the local area. Youngdahl Consulting Group, Inc. makes no other warranty, express or implied.

2. As of the present date, the findings of this report are valid for the property studied within the constraints of the data that was reviewed and the specific sampling locations and laboratory analyses completed. With the passage of time, changes in the conditions of a property can occur whether they are due to natural processes or to the works of man on this or adjacent properties. Legislation or the broadening of knowledge may result in

changes in applicable standards. Changes outside of our control may cause this report to be invalid, wholly or partially. Therefore, this report should not be relied upon after a period of three years without our review nor should it be used or is it applicable for any properties other than those studied.

3. The analyses and recommendations contained in this report are based on limited windows into the subsurface conditions and data obtained from subsurface exploration. The methods used indicate subsurface conditions only at the specific locations where samples were obtained, only at the time they were obtained, and only to the depths penetrated. Samples cannot be relied on to accurately reflect the strata variations that usually exist between sampling locations. Should any variations or undesirable conditions be encountered during the development of the site, Youngdahl Consulting Group, Inc. will provide supplemental recommendations as dictated by the field conditions.

Closure

Thank you for allowing us the opportunity to participate in this project. Please feel free to contact the undersigned with any comments or questions.

Very truly yours,
Youngdahl Consulting Group, Inc.

Ryan D McCoy
Staff Geologist

Reviewed by

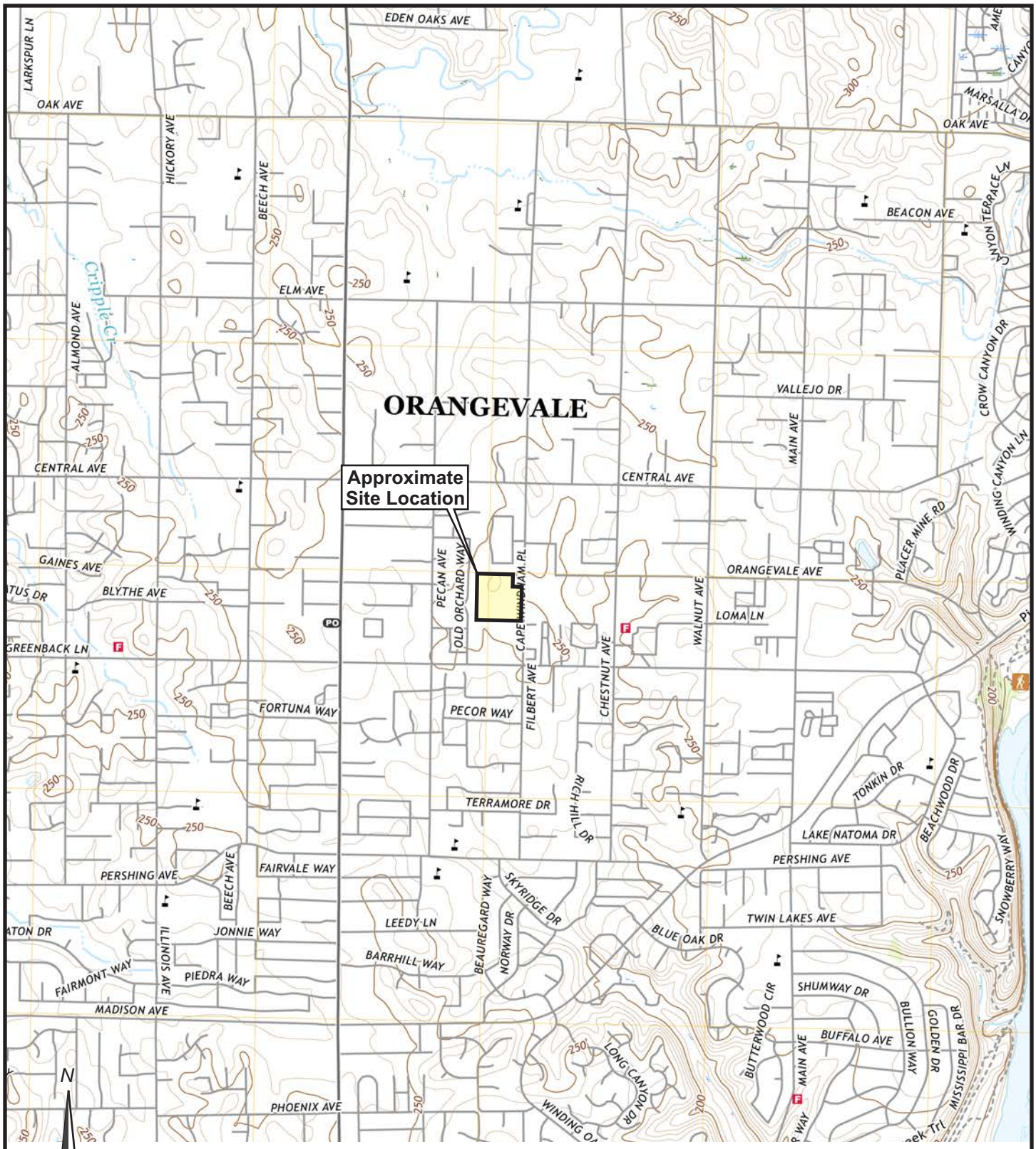
David C. Sederquist, C.E.G., C.HG.
Senior Engineering Geologist/Hydrogeologist

CERTIFIED ENGINEERING GEOLOGIST
DAVID C. SEDERQUIST
NO. 2133
EXPIRATION DATE
9-30-20
STATE OF CALIFORNIA

Attachments:
Figure 1 – Vicinity Map
Figure 2 – Site Plan
Appendix A – Historical Aerial Photographs
Appendix B – Laboratory Report

Distribution: 1 PDF: Client

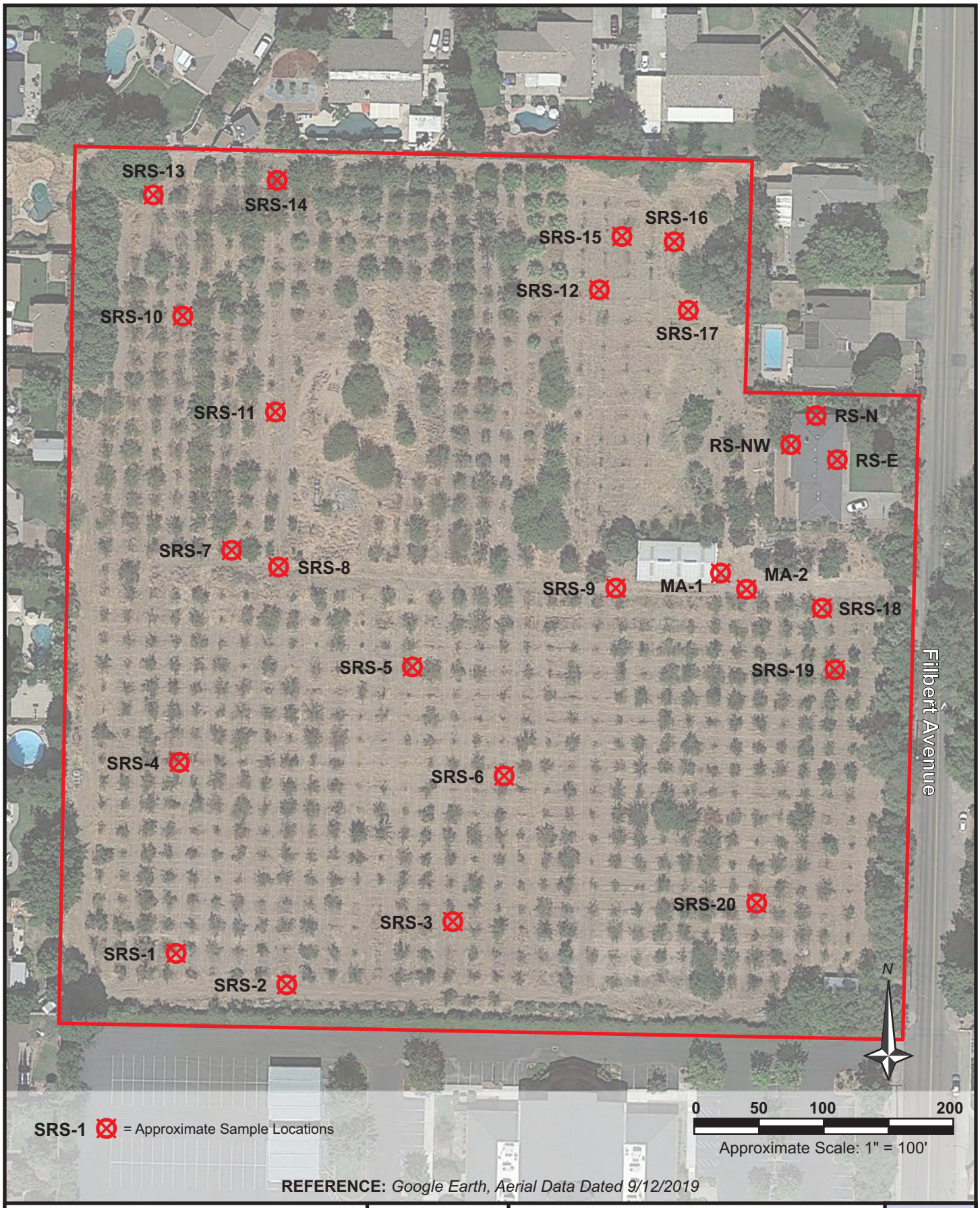
Figures



Scale: 1:24,000

BASE MAP REFERENCE: *U.S.G.S. 7.5 Minute Topographic Series, Folsom Quadrangle, Dated 2018*

YOUNGDAHL CONSULTING GROUP, INC. ESTABLISHED 1984	Project No.: E19442.000	**VICINITY MAP** **Filbert Ave (6331) Phase II ESA** Orangevale, California	**FIGURE 1**
	January 2020		



REFERENCE: *Google Earth, Aerial Data Dated 9/12/2019*

YOUNGDAHL CONSULTING GROUP, INC.
ESTABLISHED 1984

Project No.: E19442.000

January 2020

SITE PLAN

Filbert Ave (6331) Phase II ESA
Orangevale, California

FIGURE 2

Appendix A
Historical Aerial Photographs

Filbert Ave. 6331 Phase II ESA

6331 Filbert Avenue

Orangevale, CA 95662

Inquiry Number: 5898359.1

December 09, 2019

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

12/09/19

Site Name:

Filbert Ave. 6331 Phase II ES
6331 Filbert Avenue
Orangevale, CA 95662
EDR Inquiry # 5898359.1

Client Name:

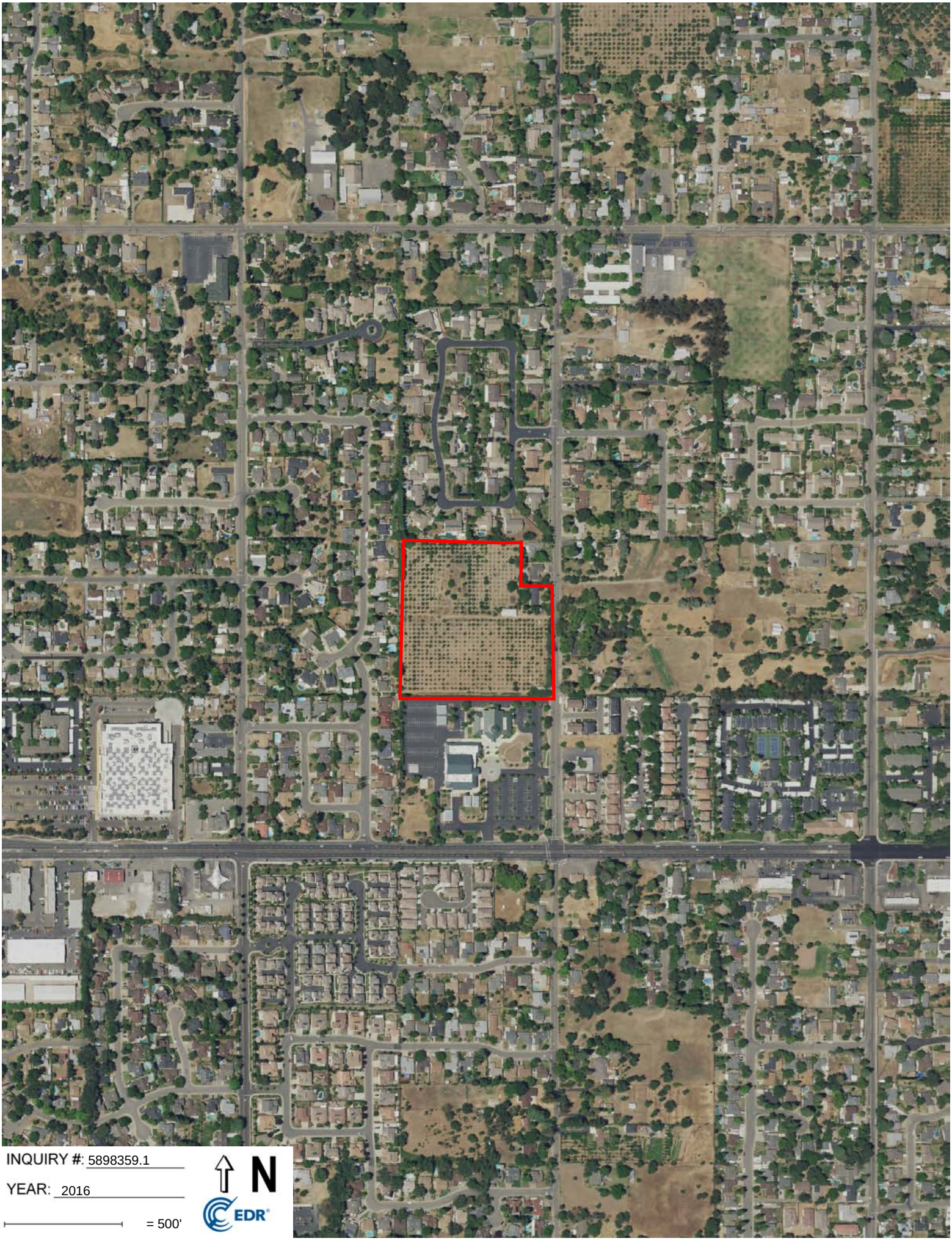
Youngdahl Consulting Group
1234 Glenhaven Court
El Dorado Hills, CA 95762
Contact: Ryan Mccoy

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	*Scale*	*Details*	*Source*
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
1998	1"=500'	Acquisition Date: September 12, 1998	USGS/DOQQ
1993	1"=500'	Flight Date: May 22, 1993	USDA
1984	1"=500'	Flight Date: June 08, 1984	USDA
1972	1"=500'	Flight Date: July 06, 1972	USDA
1966	1"=500'	Flight Date: August 04, 1966	USGS
1964	1"=500'	Flight Date: May 29, 1964	USDA
1957	1"=500'	Flight Date: August 24, 1957	USDA
1952	1"=500'	Flight Date: July 24, 1952	USGS
1937	1"=500'	Flight Date: August 16, 1937	USDA

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.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YEAR: 2016
= 500'
N
EDR


INQUIRY #: 5898359.1
YEAR: 2012
= 500'
N
EDR


INQUIRY #: 5898359.1
YEAR: 2009
= 500'
N
EDR


INQUIRY #: 5898359.1
YEAR: 2006
= 500'
N
EDR

INQUIRY #: 5898359.1

YEAR: 1998

= 500'

N

EDR


INQUIRY #: 5898359.1
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= 500'
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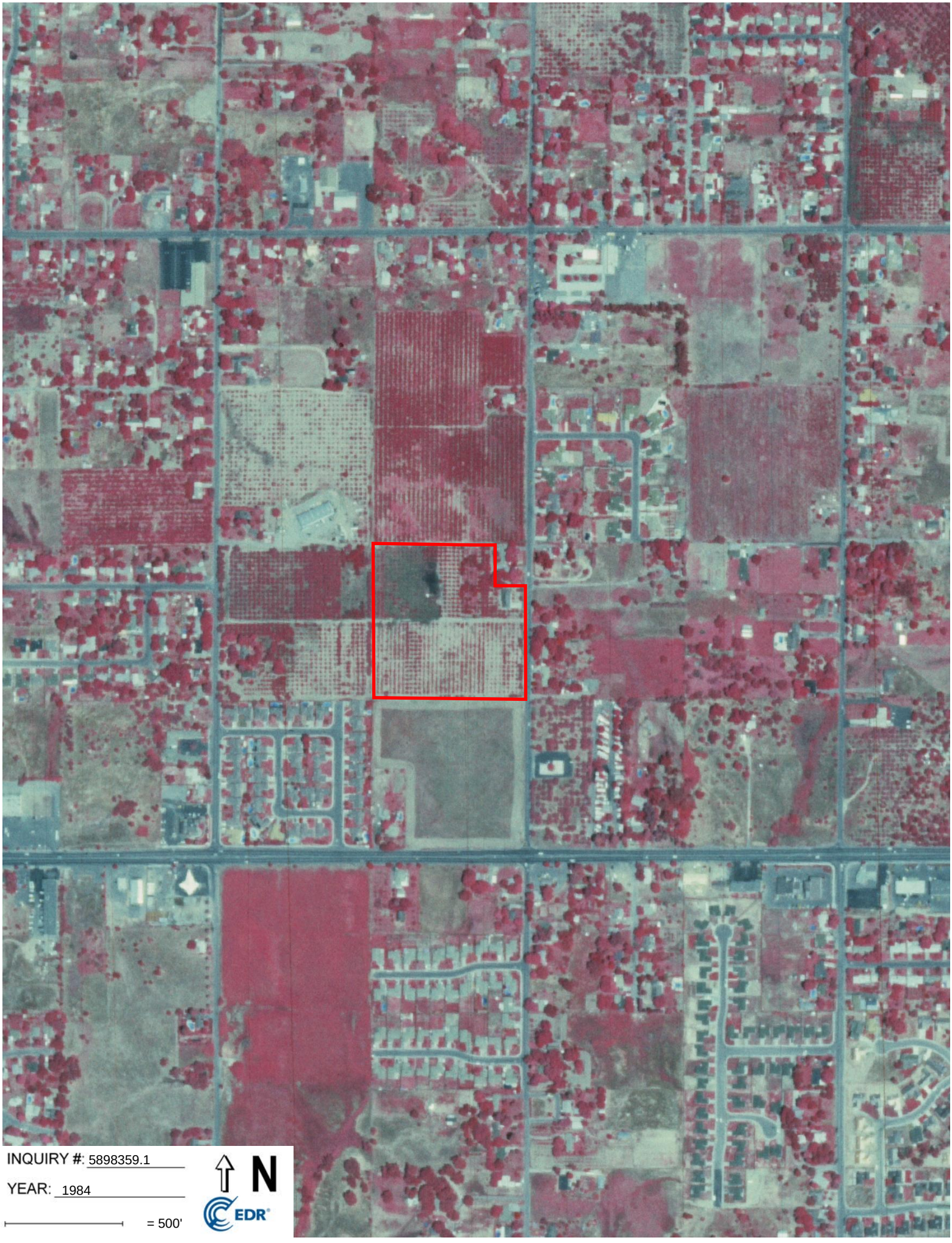
EDR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EDR


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YEAR: 1972
= 500'
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EDR


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EDR


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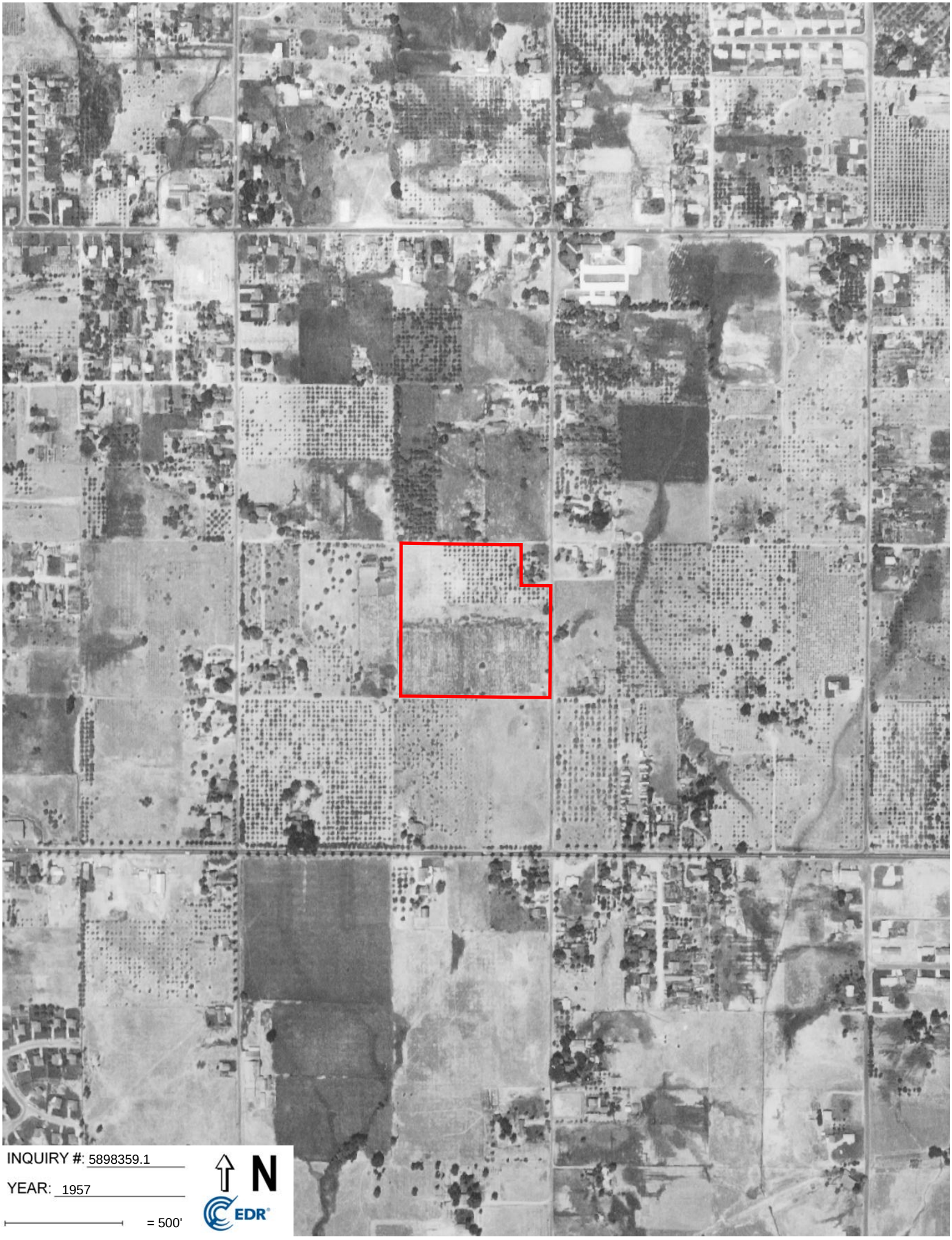
EDR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EDR


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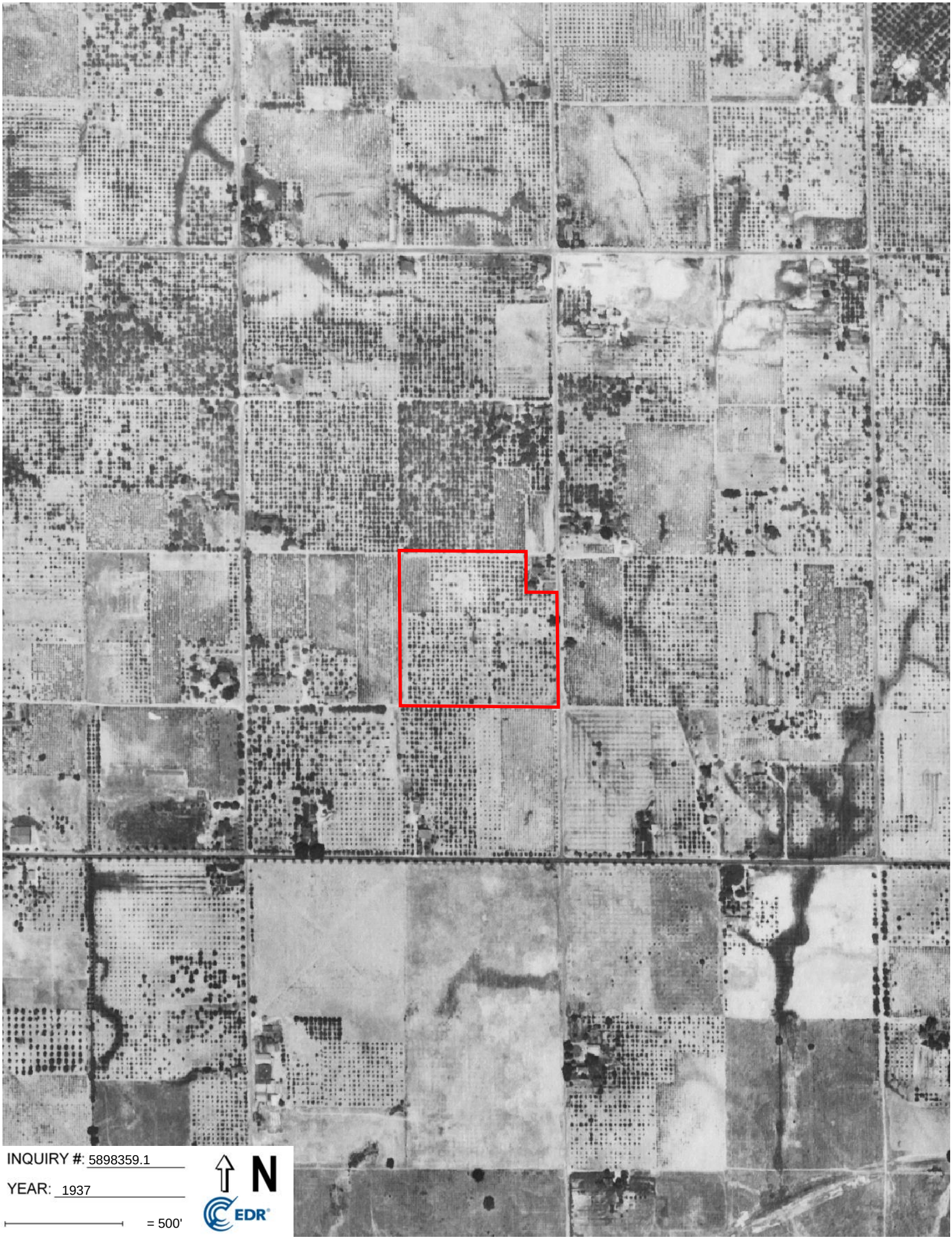
YEAR: 1952
= 500'
N
EDR



INQUIRY #: 5898359.1

YEAR: 1937

= 500'

N

EDR

Appendix B
Laboratory Report

CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

December 24, 2019

CLS Work Order #: 19L0989
COC #: 205115-6

David Sederquist
Youngdahl & Associates
1234 Glenhaven Court
El Dorado Hills, CA 95762

Project Name: Filbert Ave. Ph II ESA

Enclosed are the results of analyses for samples received by the laboratory on 12/17/19 17:00. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

James Liang, Ph.D.
Laboratory Director

CA SWRCB ELAP Accreditation/Registration number 1233

1 of 2

CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

CHAIN OF CUSTODY

CLS ID No.; 19L0989

LOG № 205115

HIGHLIGHTED AREAS MUST BE FILLED OUT PRIOR TO ACCEPTANCE

REPORT TO:

NAME AND ADDRESS: Yaugdahl Consulting Group

PROJECT MANAGER: Dave Sederquist PHONE#

PROJECT NAME: Filbert Ave. Ph. II ESA

SAMPLED BY: RDM

JOB DESCRIPTION:

SITE LOCATION: Orangevale

CLIENT JOB NUMBER: E19442.000

DESTINATION LABORATORY

☑ CLS (916) 638-7301
3249 FITZGERALD RD.
RANCHO CORDOVA, CA.
95742

☐ OTHER

PRESERVATIVES

GEOTRACKER:
EDF REPORT ☐ YES ☑ NO
GLOBAL ID:

CDPH WRITE ON EDT TRANSMISSION? ☐ YES ☐ NO
STATE SYSTEM NUMBER
IF "YES" PLEASE ENTER THE SOURCE NUMBER(S).

COMPOSITE:

DATE	TIME	SAMPLE IDENTIFICATION	MATRIX	CONTAINER NO.	CONTAINER TYPE	OCP 8081A	Pb only (6020)	As only (6020)	TPH D/MO	CAM 5 (metals PET)	TURN AROUND TIME 1 DAY	2 DAY	3 DAY	5 DAY	SPECIAL INSTRUCTIONS OR ALT. ID:
12/17/19	1330	MA-02	Soil	2	GJ				X	X				X	
	1300	MA-01		2					X	X					
	1400	RS-E		2		X	X								
	1430	RS-N		2		X	X								
	1500	RS-NW		2		X	X								
	1515	SRSC-01		1		X									
	1530	SRSC-02				X									
	1545	SRSC-03				X									
	1600	SRSC-04				X									INVOICE TO:
	1615	SRSC-05				X									
	1515	SRSC-01D				X									
	0915	SRS-04					X	X							P.O. #
↓	0830	SRS-03	↓	↓	↓		X	X						↓	QUOTE #

PRESERVATIVES: (1) HCL (2) HNO_3 (3) = COLD (4) = NaOH (5) = H_2SO_4 (6) = $Na_2S_2O_3$ (7) =

Email/Address

RELINQUISHED BY (SIGN)	PRINT NAME / COMPANY	DATE / TIME	RECEIVED BY (SIGN)	PRINT NAME / COMPANY
RDM	YCG, Inc.	12/17/19 1700		

RECD AT LAB BY: DATE / TIME: 12/17/19 1700 CONDITIONS / COMMENTS: 7.3/7.3

SHIPPED BY: ☐ FED X ☐ UPS ☐ OTHER AIR BILL #

White-Lab/Terms and conditions Yellow- Lab file copy/Terms and Conditions Pink- Origin/Terms and Conditions Gold-Project Mgr./Field Sampler/Terms and conditions

CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

CHAIN OF CUSTODY

CLS ID No.; 19L0949

LOG № 205116

HIGHLIGHTED AREAS MUST BE FILLED OUT PRIOR TO ACCEPTANCE

REPORT TO:

NAME AND ADDRESS: Youngdahl Consulting Group

PROJECT MANAGER / PHONE#

PROJECT NAME

SAMPLED BY

JOB DESCRIPTION

SITE LOCATION

CLIENT JOB NUMBER: E19442.000

DESTINATION LABORATORY

☑ CLS (916) 638-7301
3249 FITZGERALD RD.
RANCHO CORDOVA, CA.
95742

☐ OTHER

PRESERVATIVES

ANALYSIS REQUESTED: Pb Only (6020); As only (6020)

GEOTRACKER:
EDF REPORT ☐ YES ☑ NO
GLOBAL ID:

CDPH WRITE ON EDT TRANSMISSION? ☐ YES ☐ NO
STATE SYSTEM NUMBER
IF "YES" PLEASE ENTER THE SOURCE NUMBER(S).

COMPOSITE:

TURN AROUND TIME: 1 DAY / 2 DAY / 3 DAY / 5 DAY

SPECIAL INSTRUCTIONS
OR
ALT. ID:

DATE	TIME	SAMPLE IDENTIFICATION	MATRIX	CONTAINER NO.	CONTAINER TYPE	PRESERVATIVES	Pb Only (6020)	As only (6020)	5 DAY
12/4/19	0945	SRS-08	Soil	1	GJ	ICE	X	X	X
↓	1245	SRS-19	↓	1	↓	↓	X	X	X
	1200	SRS-13		1			X	X	X
↓	1200	SRS-13D	↓	1	↓	↓	X	X	X

INVOICE TO:

P.O. #

QUOTE #

Email/Address

PRESERVATIVES: (1) HCL (2) HNO_3 (3) = COLD (4) = NaOH (5) = H_2SO_4 (6) = $Na_2S_2O_3$ (7) =

RELINQUISHED BY (SIGN)	PRINT NAME / COMPANY	DATE / TIME	RECEIVED BY (SIGN)	PRINT NAME / COMPANY
RDM	YCG, Inc.	12/17/19 1700		

RECD AT LAB BY: C

DATE / TIME: 12.17.19 1700

CONDITIONS / COMMENTS: 7.3/7.3

SHIPPED BY: ☐ FED X ☐ UPS ☐ OTHER AIR BILL #

White-Lab/Terms and conditions Yellow- Lab file copy/Terms and Conditions Pink- Origin/Terms and Conditions Gold-Project Mgr./Field Sampler/Terms and conditions

Youngdahl & Associates	Project:	Filbert Ave. Ph II ESA	
1234 Glenhaven Court	Project Number:	E19442.000	**CLS Work Order #: 19L0989**
El Dorado Hills, CA 95762	Project Manager:	David Sederquist	COC #: 205115-6

Extractable Petroleum Hydrocarbons by EPA Method 8015M

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MA-02 (19L0989-01) Soil Sampled: 12/17/19 13:30 Received: 12/17/19 17:00									
Diesel	ND	1.0	mg/kg	1	1910695	12/19/19	12/20/19	EPA 8015M	
Motor Oil	**11**	1.0	"	"	"	"	"	"	
Surrogate: o-Terphenyl		*76 %*	*65-135*		*″*	"	*″*	*″*	
MA-01 (19L0989-02) Soil Sampled: 12/17/19 13:00 Received: 12/17/19 17:00									
Diesel	ND	1.0	mg/kg	1	1910695	12/19/19	12/20/19	EPA 8015M	
Motor Oil	**10**	1.0	"	"	"	"	"	"	
Surrogate: o-Terphenyl		*68 %*	*65-135*		*″*	"	*″*	*″*	

Youngdahl & Associates	Project:	Filbert Ave. Ph II ESA	
1234 Glenhaven Court	Project Number:	E19442.000	**CLS Work Order #: 19L0989**
El Dorado Hills, CA 95762	Project Manager:	David Sederquist	COC #: 205115-6

Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MA-02 (19L0989-01) Soil Sampled: 12/17/19 13:30 Received: 12/17/19 17:00									
Cadmium	ND	1.0	mg/kg	1	1910603	12/18/19	12/20/19	EPA 6010B	QC-2H
Chromium	**12**	5.0	"	"	"	"	"	"	
Lead	**17**	10	"	"	"	"	12/23/19	"	
Nickel	ND	10	"	"	"	"	12/20/19	"	
Zinc	**31**	5.0	"	"	"	"	"	"	
MA-01 (19L0989-02) Soil Sampled: 12/17/19 13:00 Received: 12/17/19 17:00									
Cadmium	ND	1.0	mg/kg	1	1910603	12/18/19	12/20/19	EPA 6010B	QC-2H
Chromium	**13**	5.0	"	"	"	"	"	"	
Lead	**22**	10	"	"	"	"	12/23/19	"	
Nickel	ND	10	"	"	"	"	12/20/19	"	
Zinc	**110**	5.0	"	"	"	"	"	"	
RS-E (19L0989-03) Soil Sampled: 12/17/19 14:00 Received: 12/17/19 17:00									
Lead	**12**	2.5	mg/kg	10	1910603	12/18/19	12/18/19	EPA 6020	
RS-N (19L0989-04) Soil Sampled: 12/17/19 14:30 Received: 12/17/19 17:00									
Lead	**18**	2.5	mg/kg	10	1910603	12/18/19	12/18/19	EPA 6020	
RS-NW (19L0989-05) Soil Sampled: 12/17/19 15:00 Received: 12/17/19 17:00									
Lead	**8.2**	2.5	mg/kg	10	1910603	12/18/19	12/18/19	EPA 6020	
SRS-04 (19L0989-12) Soil Sampled: 12/17/19 09:15 Received: 12/17/19 17:00									
Arsenic	**3.7**	2.0	mg/kg	10	1910603	12/18/19	12/18/19	EPA 6020	
Lead	**27**	2.5	"	"	"	"	"	"	

Youngdahl & Associates	Project:	Filbert Ave. Ph II ESA	
1234 Glenhaven Court	Project Number:	E19442.000	**CLS Work Order #: 19L0989**
El Dorado Hills, CA 95762	Project Manager:	David Sederquist	COC #: 205115-6

Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SRS-03 (19L0989-13) Soil Sampled: 12/17/19 08:30 Received: 12/17/19 17:00									
Arsenic	**3.3**	2.0	mg/kg	10	1910603	12/18/19	12/18/19	EPA 6020	
Lead	**23**	2.5	"	"	"	"	"	"	
SRS-08 (19L0989-14) Soil Sampled: 12/17/19 09:45 Received: 12/17/19 17:00									
Arsenic	**3.6**	2.0	mg/kg	10	1910603	12/18/19	12/18/19	EPA 6020	
Lead	**26**	2.5	"	"	"	"	"	"	
SRS-19 (19L0989-15) Soil Sampled: 12/17/19 12:45 Received: 12/17/19 17:00									
Arsenic	**2.6**	2.0	mg/kg	10	1910603	12/18/19	12/18/19	EPA 6020	
Lead	**19**	2.5	"	"	"	"	"	"	
SRS-13 (19L0989-16) Soil Sampled: 12/17/19 12:00 Received: 12/17/19 17:00									
Arsenic	**4.1**	2.0	mg/kg	10	1910603	12/18/19	12/18/19	EPA 6020	
Lead	**28**	2.5	"	"	"	"	"	"	
SRS-13D (19L0989-17) Soil Sampled: 12/17/19 12:00 Received: 12/17/19 17:00									
Arsenic	**5.5**	2.0	mg/kg	10	1910603	12/18/19	12/18/19	EPA 6020	
Lead	**37**	2.5	"	"	"	"	"	"	

Youngdahl & Associates	Project:	Filbert Ave. Ph II ESA	
1234 Glenhaven Court	Project Number:	E19442.000	**CLS Work Order #: 19L0989**
El Dorado Hills, CA 95762	Project Manager:	David Sederquist	COC #: 205115-6

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RS-E (19L0989-03) Soil Sampled: 12/17/19 14:00 Received: 12/17/19 17:00									
4,4´-DDD	ND	3.3	µg/kg	1	1910619	12/18/19	12/18/19	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*70 %*		*52-141*	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*78 %*		*46-139*	"	"	"	"	
RS-N (19L0989-04) Soil Sampled: 12/17/19 14:30 Received: 12/17/19 17:00									
4,4´-DDD	ND	3.3	µg/kg	1	1910619	12/18/19	12/18/19	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	

Youngdahl & Associates	Project:	Filbert Ave. Ph II ESA	
1234 Glenhaven Court	Project Number:	E19442.000	**CLS Work Order #: 19L0989**
El Dorado Hills, CA 95762	Project Manager:	David Sederquist	COC #: 205115-6

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RS-N (19L0989-04) Soil Sampled: 12/17/19 14:30 Received: 12/17/19 17:00									
Chlordane-technical	ND	3.3	µg/kg	1	1910619	"	12/18/19	EPA 8081A	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*89 %*		*52-141*	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*61 %*		*46-139*	"	"	"	"	
RS-NW (19L0989-05) Soil Sampled: 12/17/19 15:00 Received: 12/17/19 17:00									
4,4´-DDD	ND	3.3	µg/kg	1	1910619	12/18/19	12/18/19	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	

Youngdahl & Associates	Project:	Filbert Ave. Ph II ESA	
1234 Glenhaven Court	Project Number:	E19442.000	**CLS Work Order #: 19L0989**
El Dorado Hills, CA 95762	Project Manager:	David Sederquist	COC #: 205115-6

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RS-NW (19L0989-05) Soil Sampled: 12/17/19 15:00 Received: 12/17/19 17:00									
Endrin	ND	3.3	µg/kg	1	1910619	"	12/18/19	EPA 8081A	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*79 %*		*52-141*	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*59 %*		*46-139*	"	"	"	"	
SRSC-01 (19L0989-06) Soil Sampled: 12/17/19 15:15 Received: 12/17/19 17:00									
4,4´-DDD	ND	3.3	µg/kg	1	1910619	12/18/19	12/18/19	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	

Youngdahl & Associates	Project:	Filbert Ave. Ph II ESA	
1234 Glenhaven Court	Project Number:	E19442.000	**CLS Work Order #: 19L0989**
El Dorado Hills, CA 95762	Project Manager:	David Sederquist	COC #: 205115-6

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SRSC-01 (19L0989-06) Soil Sampled: 12/17/19 15:15 Received: 12/17/19 17:00									
Mirex	ND	3.3	µg/kg	1	1910619	"	12/18/19	EPA 8081A	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*78 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*63 %*	*46-139*		"	"	"	"	
SRSC-02 (19L0989-07) Soil Sampled: 12/17/19 15:30 Received: 12/17/19 17:00									
4,4´-DDD	ND	3.3	µg/kg	1	1910619	12/18/19	12/18/19	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*75 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*64 %*	*46-139*		"	"	"	"	

Youngdahl & Associates	Project:	Filbert Ave. Ph II ESA	
1234 Glenhaven Court	Project Number:	E19442.000	**CLS Work Order #: 19L0989**
El Dorado Hills, CA 95762	Project Manager:	David Sederquist	COC #: 205115-6

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SRSC-03 (19L0989-08) Soil Sampled: 12/17/19 15:45 Received: 12/17/19 17:00									
4,4´-DDD	ND	3.3	µg/kg	1	1910619	12/18/19	12/18/19	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*69 %*		*52-141*	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*57 %*		*46-139*	"	"	"	"	
SRSC-04 (19L0989-09) Soil Sampled: 12/17/19 16:00 Received: 12/17/19 17:00									
4,4´-DDD	ND	3.3	µg/kg	1	1910619	12/18/19	12/18/19	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	

Youngdahl & Associates	Project:	Filbert Ave. Ph II ESA	
1234 Glenhaven Court	Project Number:	E19442.000	**CLS Work Order #: 19L0989**
El Dorado Hills, CA 95762	Project Manager:	David Sederquist	COC #: 205115-6

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SRSC-04 (19L0989-09) Soil Sampled: 12/17/19 16:00 Received: 12/17/19 17:00									
Chlordane-technical	ND	3.3	µg/kg	1	1910619	"	12/18/19	EPA 8081A	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*77 %*		*52-141*	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*54 %*		*46-139*	"	"	"	"	
SRSC-05 (19L0989-10) Soil Sampled: 12/17/19 16:15 Received: 12/17/19 17:00									
4,4´-DDD	ND	3.3	µg/kg	1	1910619	12/18/19	12/18/19	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	

Youngdahl & Associates	Project:	Filbert Ave. Ph II ESA	
1234 Glenhaven Court	Project Number:	E19442.000	**CLS Work Order #: 19L0989**
El Dorado Hills, CA 95762	Project Manager:	David Sederquist	COC #: 205115-6

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SRSC-05 (19L0989-10) Soil Sampled: 12/17/19 16:15 Received: 12/17/19 17:00									
Endrin	ND	3.3	µg/kg	1	1910619	"	12/18/19	EPA 8081A	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*84 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*59 %*	*46-139*		"	"	"	"	
SRSC-01D (19L0989-11) Soil Sampled: 12/17/19 15:15 Received: 12/17/19 17:00									
4,4´-DDD	ND	3.3	µg/kg	1	1910619	12/18/19	12/18/19	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	

Youngdahl & Associates	Project:	Filbert Ave. Ph II ESA	
1234 Glenhaven Court	Project Number:	E19442.000	**CLS Work Order #: 19L0989**
El Dorado Hills, CA 95762	Project Manager:	David Sederquist	COC #: 205115-6

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SRSC-01D (19L0989-11) Soil Sampled: 12/17/19 15:15 Received: 12/17/19 17:00									
Mirex	ND	3.3	µg/kg	1	1910619	"	12/18/19	EPA 8081A	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*70 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*53 %*	*46-139*		"	"	"	"	

Youngdahl & Associates	Project:	Filbert Ave. Ph II ESA	
1234 Glenhaven Court	Project Number:	E19442.000	**CLS Work Order #: 19L0989**
El Dorado Hills, CA 95762	Project Manager:	David Sederquist	COC #: 205115-6

Extractable Petroleum Hydrocarbons by EPA Method 8015M - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1910695 - EPA 3510B GCNV										
Blank (1910695-BLK1)				Prepared: 12/19/19 Analyzed: 12/20/19						
Diesel	ND	1.0	mg/kg							
Motor Oil	ND	1.0	"							
Surrogate: o-Terphenyl	*0.355*		*"*	*0.500*		*71*	*65-135*			
LCS (1910695-BS1)				Prepared: 12/19/19 Analyzed: 12/20/19						
Diesel	40.5	1.0	mg/kg	50.0		81	65-135			
Surrogate: o-Terphenyl	*0.350*		*"*	*0.500*		*70*	*65-135*			
LCS Dup (1910695-BSD1)				Prepared: 12/19/19 Analyzed: 12/20/19						
Diesel	41.5	1.0	mg/kg	50.0		83	65-135	3	30	
Surrogate: o-Terphenyl	*0.390*		*"*	*0.500*		*78*	*65-135*			
Matrix Spike (1910695-MS1)		**Source: 19L0989-01**		Prepared: 12/19/19 Analyzed: 12/20/19						
Diesel	46.3	1.0	mg/kg	50.0	ND	93	59-138			
Surrogate: o-Terphenyl	*0.394*		*"*	*0.500*		*79*	*65-135*			
Matrix Spike Dup (1910695-MSD1)		**Source: 19L0989-01**		Prepared: 12/19/19 Analyzed: 12/20/19						
Diesel	46.7	1.0	mg/kg	50.0	ND	93	59-138	0.9	37	
Surrogate: o-Terphenyl	*0.392*		*"*	*0.500*		*78*	*65-135*			

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CLS Work Order #: 19L0989
COC #: 205115-6

Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1910603 - EPA 3050B										
Blank (1910603-BLK1)				Prepared & Analyzed: 12/18/19						
Lead	ND	0.25	mg/kg							
Arsenic	ND	0.20	"							
Cadmium	ND	1.0	"							
Chromium	ND	5.0	"							
Lead	ND	10	"							
Nickel	ND	10	"							
Zinc	ND	5.0	"							
LCS (1910603-BS1)				Prepared & Analyzed: 12/18/19						
Lead	10.2	0.25	mg/kg	10.0		102	75-125			
Arsenic	10.0	0.20	"	10.0		100	75-125			
Cadmium	11.7	1.0	"	10.0		117	75-125			
Chromium	11.6	5.0	"	10.0		116	75-125			
Lead	12.2	10	"	10.0		122	75-125			
Nickel	10.2	10	"	10.0		102	75-125			
Zinc	10.4	5.0	"	10.0		104	75-125			
Matrix Spike (1910603-MS1)	**Source: 19L0974-01**			Prepared & Analyzed: 12/18/19						
Lead	28.2	2.5	mg/kg	10.0	15.5	126	75-125			QM-5
Arsenic	15.2	2.0	"	10.0	4.30	109	75-125			
Cadmium	10.7	1.0	"	10.0	0.403	103	75-125			
Chromium	48.1	5.0	"	10.0	39.5	86	75-125			
Lead	22.1	10	"	10.0	13.9	82	75-125			
Nickel	66.6	10	"	10.0	58.8	78	75-125			
Zinc	79.3	5.0	"	10.0	70.5	89	75-125			
Matrix Spike Dup (1910603-MSD1)	**Source: 19L0974-01**			Prepared & Analyzed: 12/18/19						
Lead	27.3	2.5	mg/kg	10.0	15.5	117	75-125	3.15	30	
Arsenic	14.8	2.0	"	10.0	4.30	105	75-125	2	30	
Cadmium	10.5	1.0	"	10.0	0.403	101	75-125	2	30	
Chromium	55.0	5.0	"	10.0	39.5	155	75-125	13	30	QM-5
Lead	22.6	10	"	10.0	13.9	87	75-125	2	30	
Nickel	33.7	10	"	10.0	58.8	NR	75-125	66	30	QM-5

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Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1910603 - EPA 3050B										
Matrix Spike Dup (1910603-MSD1)	**Source: 19L0974-01**			Prepared: 12/18/19 Analyzed: 12/20/19						
Zinc	82.2	5.0	mg/kg	10.0	70.5	118	75-125	4	30	

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Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1910619 - LUFT-DHS GCNV										
Blank (1910619-BLK1)				Prepared & Analyzed: 12/18/19						
Aldrin	ND	1.0	µg/kg							
alpha-BHC	ND	1.7	"							
beta-BHC	ND	1.7	"							
gamma-BHC (Lindane)	ND	1.7	"							
delta-BHC	ND	1.7	"							
Chlordane-technical	ND	3.3	"							
4,4´-DDD	ND	3.3	"							
4,4´-DDE	ND	3.3	"							
4,4´-DDT	ND	3.3	"							
Dieldrin	ND	1.0	"							
Endosulfan I	ND	1.7	"							
Endosulfan II	ND	3.3	"							
Endosulfan sulfate	ND	3.3	"							
Endrin	ND	3.3	"							
Endrin aldehyde	ND	3.3	"							
Heptachlor	ND	1.7	"							
Heptachlor epoxide	ND	1.7	"							
Methoxychlor	ND	17	"							
Mirex	ND	3.3	"							
Toxaphene	ND	20	"							
Surrogate: Tetrachloro-meta-xylene	*6.17*		*"*	*8.33*		*74*	*46-139*			
Surrogate: Decachlorobiphenyl	*6.88*		*"*	*8.33*		*83*	*52-141*			
LCS (1910619-BS1)				Prepared & Analyzed: 12/18/19						
Aldrin	15.9	1.0	µg/kg	16.7		95	47-132			
gamma-BHC (Lindane)	16.6	1.7	"	16.7		100	56-133			
4,4´-DDT	20.1	3.3	"	16.7		121	46-137			
Dieldrin	18.7	1.0	"	16.7		112	44-143			
Endrin	24.4	3.3	"	16.7		146	30-147			
Heptachlor	17.8	1.7	"	16.7		107	33-148			
Surrogate: Tetrachloro-meta-xylene	*6.60*		*"*	*8.33*		*79*	*46-139*			

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Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1910619 - LUFT-DHS GCNV										
LCS (1910619-BS1)				Prepared & Analyzed: 12/18/19						
Surrogate: Decachlorobiphenyl	*6.94*		*µg/kg*	*8.33*		*83*	*52-141*			
LCS Dup (1910619-BSD1)				Prepared & Analyzed: 12/18/19						
Aldrin	15.3	1.0	µg/kg	16.7		92	47-132	4	30	
gamma-BHC (Lindane)	15.4	1.7	"	16.7		92	56-133	8	30	
4,4´-DDT	20.2	3.3	"	16.7		121	46-137	0.2	30	
Dieldrin	19.2	1.0	"	16.7		115	44-143	2	30	
Endrin	24.3	3.3	"	16.7		146	30-147	0.4	30	
Heptachlor	16.7	1.7	"	16.7		100	33-148	7	30	
Surrogate: Tetrachloro-meta-xylene	*5.13*		*"*	*8.33*		*62*	*46-139*			
Surrogate: Decachlorobiphenyl	*6.41*		*"*	*8.33*		*77*	*52-141*			
Matrix Spike (1910619-MS1)	**Source: 19L0989-03**			Prepared & Analyzed: 12/18/19						
Aldrin	13.3	1.0	µg/kg	16.7	ND	80	47-138			
gamma-BHC (Lindane)	15.1	1.7	"	16.7	ND	91	38-144			
4,4´-DDT	14.7	3.3	"	16.7	ND	88	41-157			
Dieldrin	15.1	1.0	"	16.7	ND	91	46-155			
Endrin	19.5	3.3	"	16.7	ND	117	34-149			
Heptachlor	15.1	1.7	"	16.7	ND	91	36-155			
Surrogate: Tetrachloro-meta-xylene	*12.5*		*"*	*20.8*		*60*	*46-139*			
Surrogate: Decachlorobiphenyl	*12.7*		*"*	*20.8*		*61*	*52-141*			
Matrix Spike Dup (1910619-MSD1)	**Source: 19L0989-03**			Prepared & Analyzed: 12/18/19						
Aldrin	15.3	1.0	µg/kg	16.7	ND	92	47-138	13	35	
gamma-BHC (Lindane)	16.2	1.7	"	16.7	ND	97	38-144	7	35	
4,4´-DDT	16.7	3.3	"	16.7	ND	100	41-157	13	35	
Dieldrin	17.5	1.0	"	16.7	ND	105	46-155	15	35	
Endrin	21.6	3.3	"	16.7	ND	130	34-149	10	35	
Heptachlor	16.7	1.7	"	16.7	ND	100	36-155	10	35	
Surrogate: Tetrachloro-meta-xylene	*12.1*		*"*	*20.8*		*58*	*46-139*			
Surrogate: Decachlorobiphenyl	*16.5*		*"*	*20.8*		*79*	*52-141*			

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Notes and Definitions

QM-5	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
QC-2H	The recovery of one CCV was greater than the acceptance limit. However, all analytes in the associated samples were ND; therefore a reanalysis was not performed.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference