SURFICIAL SOIL SAMPLING REPORT
HORTICULTURAL CENTER
MERRITT COLLEGE
12500 CAMPUS DRIVE
OAKLAND, CALIFORNIA

Prepared for

Peralta Community College District
333 E 8th Street
Oakland, California 94606

Prepared by

Terraphase Engineering Inc.
1404 Franklin Street, Suite 600
Oakland, California 94612

March 24, 2021

Project Number 0034.017.0001

terraphase engineering

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March 24, 2021

Atheria Smith
Facilities Planning and Development Manager
Peralta Community College
333 E 8th Street
Oakland, California 94606

Subject: Surficial Soil Sampling Report, Proposed Horticultural Center, Merritt College, 12500 Campus Drive, Oakland, California

Dear Ms. Smith:

Terraphase Engineering Inc. (Terraphase) is pleased to present the attached Surficial Soil Sampling Report for the proposed Merritt College Horticultural Center reconstruction, to be located at 12500 Campus Drive, in Oakland ("the Site").

Terraphase collected nine (9) surficial soil samples (8 primary samples and one duplicate sample) to evaluate shallow surficial soils for the presence of residual agricultural chemicals identified as a Recognized Environmental Condition in the Phase I Environmental Site Assessment for the Site, prepared by Basics Environmental in May 2020. The surficial sampling was conducted in accordance with California Environmental Protection Agency and California Department of Toxics Substance Control's Interim Guidance for Sampling Agricultural Properties, dated August 7, 2008.

We appreciate the opportunity to provide this service for the Peralta Community College District and look forward to being of further assistance as the project proceeds. If you have any questions concerning the contents of the attached report, please feel free to call me at (510) 645-1853 at any time.

Sincerely,

Jeff Raines, P.E. (C51120), GE (2762)
Principal Geotechnical Engineer

Attachment

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CONTENTS

ACRONYMS AND ABBREVIATIONS

bgs	below ground surface
CAM 17	California Administrative Manual 17
DTSC	Department of Toxic Substances Control
ESA	Phase I Environmental Site Assessment
ESLs	RWQCB Environmental Screening Levels
mg/kg	milligrams per kilogram
OCPs	organo-chlorine pesticides
REC	Recognized environmental Condition
RWQCB	Regional Water Quality Control Board
the Site	the proposed Merritt College Horticultural Center reconstruction located at 12500 Campus Drive in Oakland, California
Terraphase	Terraphase Engineering Inc.
USEPA	United States Environmental Protection Agency

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1.0 INTRODUCTION

Terraphase Engineering Inc. (Terraphase) has prepared this report to present the results of our surficial soil sampling for the proposed Merritt College Horticultural Complex reconstruction to be located at 12500 Campus Drive in Oakland, California ("the Site"; Figure 1). This Surficial Soil Sampling Report is based on the proposal prepared for the Peralta Community College District by Terraphase, dated August 20, 2020.

A Phase I Environmental Site Assessment (ESA) was performed at the Site by Basics Environmental, dated May 7, 2020 (Basics 2020). In the ESA, Basics identified a Recognized Environmental Condition (REC) associated with the past use of hazardous materials as part of landscape horticulture and maintenance operations for approximately the past 45 years at the Site, coupled with lack of hazardous materials documentation from the 1970's to 1993 and limited environmental sampling (Basics 2020). Basics' ESA recommended soil sampling be conducted in accordance with the California Environmental Protection Agency and California Department of Toxics Substance Control's Interim Guidance for Sampling Agricultural Properties, dated August 7, 2008 (DTSC 2008). In accordance with this guidance, Terraphase collected a total of nine surficial soil samples from 8 primary sample locations, plus one duplicate sample. The locations of the surficial soil samples are presented on Figure 2.

1.1 Project Description

The Site is located at 37.79° north latitude and 122.167° west longitude. The proposed project consists of surficial soil sampling to evaluate for the presence of horticultural chemicals related to historical horticultural Site use and is being conducted at this time prior to the redevelopment of the Merritt College horticultural complex. Nine surficial soil samples were collected from depths of between 0 and 0.5 feet below ground surface (bgs) and analyzed for the presence of pesticides (including organo-chlorine pesticides [OCPs]) and metals.

1.2 Scope of Work

Based on our understanding of the client development, the following scope of services was formulated and completed:

- Terraphase collected nine (9) total surficial soil samples, consisting of 8 primary and 1 duplicate soil sample. The samples were analyzed for pesticides and metals to evaluate potential impacts from the Site's past horticultural usage, as identified in Basics Environmental's 2020 ESA.

This report summarizes surficial soil sampling results and presents our conclusions and recommendations.

2.0 BACKGROUND

2.1 Geology

Three different geologic formations are present at the Site: Leona Rhyolite, Knoxville Shale, and Franciscan Serpentine (Graymer 2000). These rocks are arranged in parallel bands, elongated northwest to southeast from one end of the campus to the other. The rhyolite, a bluish-gray, hard, somewhat fractured, fine-grained crystalline volcanic rock, forms the high ridge on the southeast along the axis of the property. The Knoxville Formation consists of interbedded layers of shale, sandstone and limestone. The Site is located near the boundary between the Leona Rhyolite and the Knoxville Formation. (Terraphase 2020)

Ages of erosion have cut valleys in the soft shale and left high hills where lies the hard, resistant rhyolite. Serpentine, a blue-green, fine-grained intrusive rock occurs as thin tabular bodies within the shale near the eastern extremity of the campus. Much of this rock is distinctly platy and weak, or highly sheared and greasy to the touch, but, locally, there are large masses of hard crystalline serpentine rock enclosed by sheared serpentine. One serpentine boulder was noted (about 12 inches in diameter) on the hillside above the Horticultural Complex. (Terraphase 2020)

2.2 Hydrogeology

As previously reported by Terraphase, a prior boring advanced during a prior investigation encountered measurable groundwater at an elevation of 877 feet (NAD88) above mean sea level, which is between 28 and 29 feet below the asphalt parking lot surrounding the current Horticultural Complex (Terraphase 2020). A previous ESA for the Site identified that depth to groundwater in the area was between 25 to 60 feet bgs and that groundwater flow direction is expected to generally follow topography and flow towards the southwest (Basics 2020). Groundwater was not encountered in any of the surficial soil borings advanced during this sampling event.

2.3 Site Development and Uses

The Site is an irregularly shaped, approximate 7.5-acre parcel located in the northwestern portion of the Merritt Community College and is called the Merritt Community College Horticulture Center, used as a horticulture study area for Merritt Community College students. The existing horticulture center is proposed for redevelopment and is currently developed with a one-story commercial building, one-story lath house, one-story greenhouse, one-story storage/maintenance building, and several associated structures with associated paved and landscaped areas. (Basics 2020)

3.0 SURFICIAL SOIL SAMPLING

3.1 Pre-Field Activities

Before field activities were performed, a site-specific Health and Safety Plan (HASP) was prepared to address the health and safety concerns specific to the field procedures associated with the soil sampling. A copy of the HASP was kept onsite during fieldwork activities. A total of eight soil boring locations were chosen based on a ¼-acre grid in accordance with the DTSC's "Interim Guidelines For Sampling Agricultural Fields that are Proposed for School Site" (DTSC 2008).

3.2 Field and Laboratory Methods

Surficial soil sampling (sample locations AG-1 through AG-8) was performed on October 21, 2020. Each surficial soil sample was collected by Terraphase field personnel using a single-use, disposable scoop, under the oversight of a California licensed Professional Engineer. To prevent cross-contamination between sample locations, a new single-use disposable scoop was used for each sample. Following sampling, each sample location was backfilled with native material to existing grade, and no investigation-derived waste was generated nor disposed of off-Site. The surficial soil sample locations (AG-1 through AG-8) are shown on Figure 2, and sample collection procedures were photographed and documented on a daily field log, which is presented as Appendix A.

After surficial soil sample collection, soil sample material was placed directly into laboratory provided, 8-ounce glass jars. Samples were labeled, placed in an ice-chilled cooler, and delivered to McCampbell Analytical, Inc. under standard chain-of-custody protocol. McCampbell Analytical, Inc. is a California-certified laboratory located in Pittsburg, California.

All soil samples collected during this sampling event were analyzed for pesticides and heavy metals in accordance with DTSC's "Interim Guidelines for Sampling Agricultural Fields that are Proposed for School Site" (DTSC 2008). Samples were analyzed for pesticides, including OCPs, using United States Environmental Protection Agency (USEPA) method 8081A and for California Administrative Manual 17 (CAM 17) metals using USEPA method 6020 (8 primary samples and 1 duplicate sample). All samples were collected from the ground surface, from depths of approximately 0 to 0.5 feet bgs.

4.0 Soil Analytical Results

A total of 9 discrete soil samples were analyzed by McCampbell Analytical, Inc. Soil analytical results are presented below by chemical group analyzed. Pesticides results are shown on Table 1 and metals results are shown on Table 2. The laboratory analytical results and sample chain-of-custody documentation for these samples are presented in Appendix B.

4.1 Pesticides

Pesticide results (including OCPs) are presented on Table 1. Pesticide results were compared to their respective Environmental Screening Levels (ESLs) promulgated by the San Francisco Regional Water Quality Control Board, specifically the Direct Exposure Human Health Risk Levels for Commercial/Industrial Soil, Shallow Exposure (RWQCB 2019).

No pesticides were detected at concentrations above their respective ESLs. The pesticide p,p-DDE was the only pesticide detected above its respective laboratory reporting limit, at a concentration of 0.0024 milligrams per kilogram (mg/kg), which was well below its ESL of 8.3 mg/kg. The other pesticides a-chlordane, b-BHC, d-BHC, dieldrin, endosulfan I, Endrin Ketone, g-chlordane, p,p-DDD, p,p-DDE, and p,p-DDT were detected at concentrations less than their respective reporting limits/minimum levels of quantitation, but above their method detection limits, and therefore, all their concentrations are estimated. No estimated concentrations of any of the pesticides analyzed exceeded their respective ESLs.

4.2 Metals

Results from metals analysis are presented in Table 2. Metals results were compared to their respective ESLs promulgated by the San Francisco Regional Water Quality Control Board, specifically the Direct Exposure Human Health Risk Levels for Commercial/Industrial Soil, Shallow Exposure (RWQCB 2019), unless otherwise noted.

No metals, except for arsenic, were detected at concentrations that exceeded their respective ESLs. All nine surficial soil samples had concentrations of arsenic that exceeded the ESL for arsenic of 0.31 mg/kg. However, arsenic concentrations in soil which are below 12 mg/kg are typically considered natural background concentrations, and none of the samples collected exceeded the background concentration of 12 mg/kg[1] for arsenic. Arsenic concentrations ranged from 2.8 mg/kg (AG-1) to 9.7 mg/kg (AG-6).

The other metals, antimony, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc were all detected at concentrations greater than their respective reporting limits. However, all these metals were

[1] California Department of Toxic Substances Control, G. Chernoff, W. Bosan, and D. Oudiz, Determination of a Southern California Regional Background Arsenic Concentration in Soil, March 2008

detected at concentrations that were well below their respective ESLs and are considered to be representative of their respective regional background levels.

4.3 Quality Assurance

Field quality control samples included the collection of a duplicate soil sample, which was analyzed for pesticides including OCPs using USEPA method 8081A and CAM 17 metals using USEPA method 6020, which was the same analysis as the primary samples. Analytical results of duplicate samples are presented in Tables 1 and 2 alongside the primary sample results. During this investigation, one duplicate sample, DUP-1, was collected with the primary sample from sample location Ag-8.

Laboratory quality control measures included method blanks, matrix spike/ duplicates, surrogate recoveries, and laboratory control samples/duplicates, as specified by the individual methods. The laboratory also assigned laboratory data qualifiers to data, as appropriate and in accordance with the individual methods. Based on a review of the laboratory reports, the data, as qualified, is usable for the intended purpose of this Surficial Soil Sampling Report.

5.0 Conclusions and Recommendations

No pesticides were detected above their respective ESLs in any of the samples collected during this investigation. Metals concentrations did not exceed any of their respective ESLs, with the exception of arsenic, which exceeded its ESL of 0.31 mg/kg, but was below the generally-accepted background concentration level for arsenic of 12 mg/kg in the San Francisco Bay area (see for example, LBNL 2009) .

Based on all results being either below their respective ESLs or representative of native background concentrations, as was the case with arsenic, Terraphase recommends no further sampling at this time, with respect to potential environmental concerns related to historical horticultural usage in this area, which were identified as an REC in the ESA for this Site (Basics 2020).

6.0 REFERENCES AND BIBLIOGRAPHY

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TABLES

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Table 1
Soil Analytical Results - Pesiticides
Surficial Soil Sampling Report
Merritt Community College, 12500 Campus Drive, Oakland, California

				PESTICIDES - EPA 8081										
				a-Chlordane	b-BHC	d-BHC	Dieldrin	Endosulfan I	Endrin ketone	g-Chlordane	p,p-DDD	p,p-DDE	p,p-DDT	Other Pesticides
Sample Location	Sample ID	Sample Depth (ft-bgs)	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Ag-1	Ag-1	Surface (0-0.5)	10/21/2020	ND (0.0012)	ND (0.00092)	ND (0.0015)	ND (0.0012)	ND (0.0013)	ND (0.0014)	ND (0.00099)	ND (0.0015)	ND (0.0014)	ND (0.002)	ND
Ag-2	Ag-2	Surface (0-0.5)	10/21/2020	**0.0012 JP**	**0.0012 JP**	**0.00034 JP**	**0.00076 J**	**0.0012 JP**	**0.00071 JP**	**0.00086 JP**	ND (0.0003)	**0.0013 J**	**0.0018 JP**	ND
Ag-3	Ag-3	Surface (0-0.5)	10/21/2020	**0.0033 JP**	ND (0.00046)	ND (0.00075)	**0.0019 J**	**0.0015 JP**	ND (0.0007)	**0.0021 JP**	**0.0029 J**	**0.0023 J**	**0.0022 J**	ND
Ag-4	Ag-4	Surface (0-0.5)	10/21/2020	**0.0002 J**	ND (0.000092)	ND (0.00015)	**0.0003 J**	**0.00032 JP**	ND (0.00014)	ND (0.000099)	**0.00031 J**	**0.0024**	**0.00085 J**	ND
Ag-5	Ag-5	Surface (0-0.5)	10/21/2020	ND (0.012)	ND (0.0092)	ND (0.015)	ND (0.012)	ND (0.013)	ND (0.014)	ND (0.0099)	ND (0.015)	ND (0.014)	**0.066 JP**	ND
Ag-6	Ag-6	Surface (0-0.5)	10/21/2020	ND (0.0024)	ND (0.0018)	ND (0.003)	ND (0.0024)	ND (0.0026)	ND (0.0028)	ND (0.002)	ND (0.003)	**0.005 J**	ND (0.004)	ND
Ag-7	Ag-7	Surface (0-0.5)	10/21/2020	ND (0.12)	ND (0.092)	ND (0.15)	ND (0.12)	ND (0.13)	ND (0.14)	ND (0.099)	ND (0.15)	ND (0.14)	**0.21 J**	ND
Ag-8	Ag-8	Surface (0-0.5)	10/21/2020	ND (0.06)	ND (0.046)	ND (0.075)	ND (0.06)	ND (0.065)	ND (0.07)	ND (0.05)	ND (0.075)	ND (0.07)	ND (0.1)	ND
	DUP-1	Surface (0-0.5)	10/21/2020	ND (0.024)	ND (0.018)	ND (0.03)	ND (0.024)	ND (0.026)	ND (0.028)	ND (0.02)	ND (0.03)	ND (0.028)	ND (0.04)	ND
Direct Exposure Human Health Risk Levels - Commercial/Industrial - Shallow Exposure - 2019 ESLs				2.2	--	--	0.16	5,800	290	2.2	12	8.3	8.5	N/A

Notes:
Analytes detected above the MDL are presented in **bold** print
B = Analyte detected in the associated Method Blank and in the sample
EPA = United States Environmnental Protection Agency
ESL = San Francisco Bay Regional Water Quality Control Board Envirnmental Screening Levels
ft-bgs = feet below ground surface
mg/kg = milligrams per kilogram
MDL = Method detection limit
ML =Minimum Level of Quantitation
P = Agreement between quantitative confirmation results exceed method recommended limits
RL = Reporting limit
J = Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value
ND = Analyte not detected above MDL
(0.61) = MDL concentration in mg/kg
-- = ESL not available
Gray shading = SFBWRQCB Direct Expoure Human Health Risk Levels, commercial/industrial, shallow exposure ESL, 2019 (Revision 2)

Table 2
Soil Analytical Results - Metals
Surficial Soil Sampling Report
Merritt Community College, 12500 Campus Drive, Oakland, California

				METALS - EPA 6020																
				Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Sample Location	Sample ID	Sample Depth (ft-bgs)	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	**mg/kg**	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Ag-1	Ag-1	Surface (0-0.5)	10/21/2020	**0.32 J**	**2.8**	**100**	**0.17 J**	**1.1 B**	**24**	**4.8**	**35**	**25**	**0.22**	**0.52**	**18**	**0.46 J**	**2.2**	ND (0.067)	**20**	**79**
Ag-2	Ag-2	Surface (0-0.5)	10/21/2020	**0.61**	**9.1**	**240**	**0.53**	**0.4 JB**	**34**	**15**	**69**	**41**	**0.13**	**1.0**	**43**	**0.69**	ND (0.067)	**0.13 J**	**63**	**210**
Ag-3	Ag-3	Surface (0-0.5)	10/21/2020	**0.50**	**4.0**	**160**	**0.24 J**	**0.55 B**	**27**	**6.3**	**40**	**24**	**0.094**	**0.91**	**27**	**0.4 J**	**0.14 J**	ND (0.067)	**27**	**180**
Ag-4	Ag-4	Surface (0-0.5)	10/21/2020	**0.26 J**	**5.3**	**92**	**0.24 J**	**0.46 JB**	**22**	**4.6**	**21**	**22**	**0.058**	**0.39 J**	**21**	**0.46 J**	ND (0.067)	**0.067**	**28**	**1100**
Ag-5	Ag-5	Surface (0-0.5)	10/21/2020	**0.57**	**4.9**	**270**	**0.43 J**	**0.46 J**	**30**	**9.1**	**40**	**23**	**0.21**	**0.54**	**35**	**1.0**	**0.2 J**	**0.14 J**	**47**	**140**
Ag-6	Ag-6	Surface (0-0.5)	10/21/2020	**0.36 J**	**9.7**	**250**	**0.51**	**0.28 JB**	**33**	**15**	**85**	**20**	**0.37**	**0.76**	**48**	**1.1**	ND (0.067)	**0.15 J**	**56**	**150**
Ag-7	Ag-7	Surface (0-0.5)	10/21/2020	ND (1.6)	**9.3**	**500**	**0.78 J**	ND (0.61)	**40**	**17**	**91**	**24**	ND (0.32)	**1.6**	**56**	ND (1.5)	ND (0.067)	ND (0.067)	**78**	**210**
Ag-8	Ag-8	Surface (0-0.5)	10/21/2020	**0.62**	**9.4**	**300**	**0.59**	**0.18 J**	**58**	**18**	**56**	**22**	**0.24**	**0.61**	**77**	**1.2**	**0.12 J**	**0.12 J**	**64 B**	**120 B**
	DUP-1	Surface (0-0.5)	10/21/2020	**0.42 J**	**5.8**	**130**	**0.38 J**	**0.13 J**	**28**	**8.4**	**41**	**19**	**0.078**	**0.64**	**31**	**0.58**	ND (0.067)	**0.089 J**	**44 B**	**140 B**
Direct Exposure Human Health Risk Levels - Commercial/Industrial - Shallow Exposure - 2019 ESLs				160	0.31[#1]	220,000	230	1,100	160*	350	47,000	320	190	5,800	11,100	5,800	5,800	12	5,800	350,000

Notes:
Analytes detected above the MDL are presented in **bold** print
B = Analyte detected in the associated Method Blank and in the sample
CA DTSC = California Department of Toxic Substances Control
EPA = United States Environmnental Protection Agency
ESL = San Francisco Bay Regional Water Quality Control Board Envirnmental Screening Levels
ft-bgs = feet below ground surface
mg/kg = milligrams per kilogram
MDL = Method detection limit
ML =Minimum Level of Quantitation
RL = Reporting limit
J = Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value
ND = Analyte not detected above MDL
(0.61) = MDL concentration in mg/kg
[#1] = Although the ESL for arsenic shown here is 0.31 mg/kg, any arsenic concentration below 12 mg/kg in soil in the San Francisco Bay area is considered background (CA DTSC 2008)
* = Soil Tier 1 ESL
-- = ESL not available
Gray shading = exceedance of SFBWRQCB Direct Expoure Human Health Risk Levels, commercial/industrial, shallow exposure ESL, 2019 (Revision 2)

FIGURES

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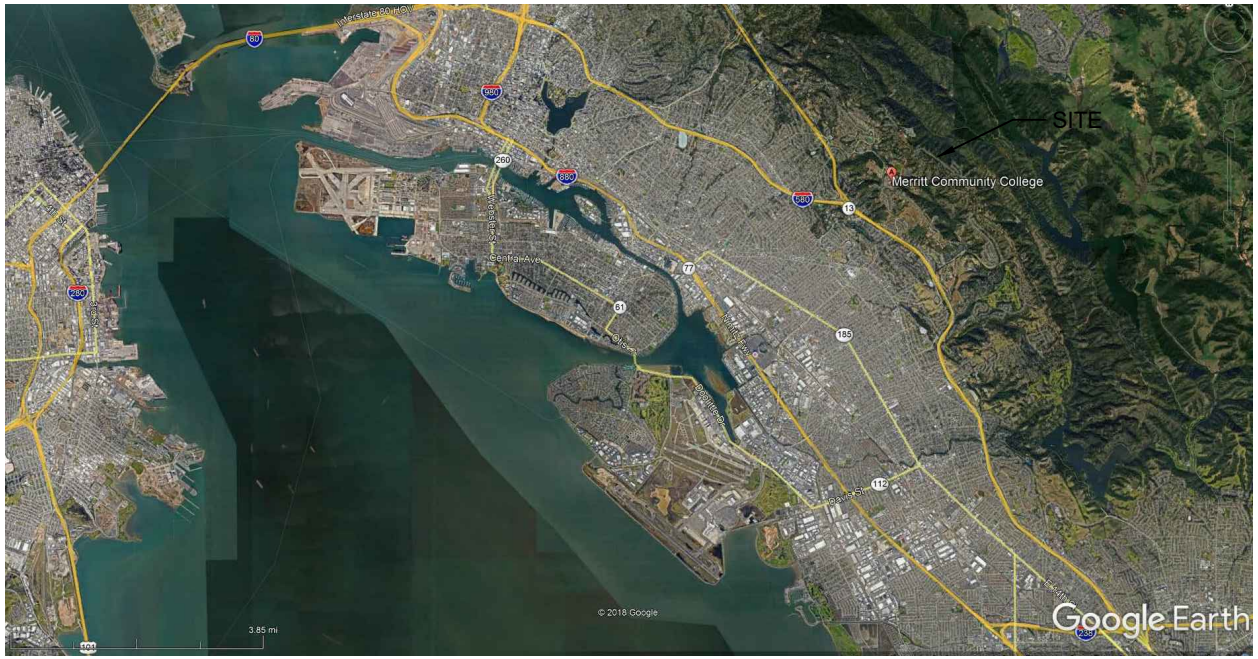
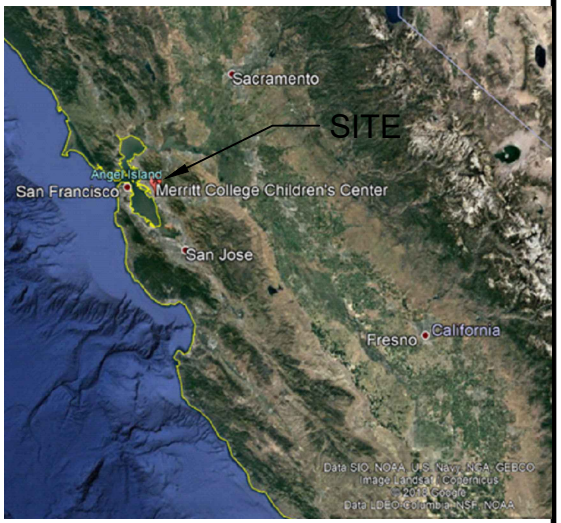
J:\CADD FILES\0034 Peralta\Merritt College\merritt hort.dwg Drawn by:_____; Checked by:_____





N

0 0.75 1.5 3

Approximate Scale in Miles

Source: Google Earth

SAFETY FIRST	CLIENT: PERALTA COMMUNITY COLLEGE DISTR	**SITE LOCATION**
terraphase engineering	PROJECT: HORTICULTURAL CENTER	
	PROJECT NUMBER: 0034.005.0003	**Figure 1**

LEGEND

Ag-1 Sample Location

0 45 90 180

Approximate Scale in Feet

Source: GoogleEarth

SAFETY FIRST	CLIENT: PERALTA COMMUNITY COLLEGE DISTR	**BORING LOCATIONS**
terraphase engineering	PROJECT: HORTICULTURAL CENTER	
	PROJECT NUMBER: 0034.005.0003	**Figure 2**

APPENDIX A
DAILY FIELD LOG, 10-22-2020

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Daily Field Log

Date: 10-21-20	**Day of the Week:** Wednesday	**Logged by:** Mr.Torres
Project Name: Prop HBMS Merritt Horticulture	**Project Number:** 0034.017.001	
Site Location / Address:		
Weather Conditions: 70, sunny	**Start Time:** 0915	**Stop Time:** 1315
Personnel present on site: Sal Mendoza, Sal Torres, and MichaelSchootinger		

Time	Notes
0953	Begansampling at AG-1

Daily Field Log Cont'd:

Time	Notes	Locations of samples taken
AG-2	 	
AG-3	 	
AG-5	 	

Daily Field Log Cont'd:

Time	Notes	Locations of samples taken

AG-6

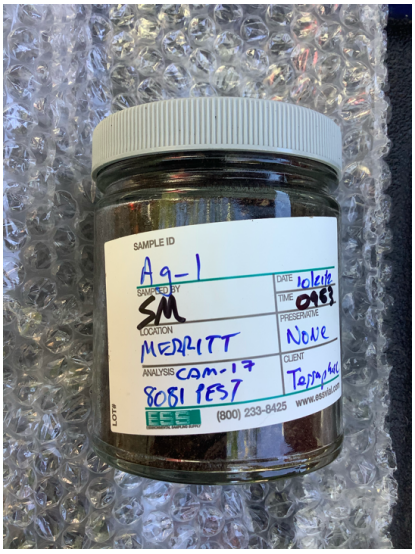
AG-7

AG-8

Daily Field Log Cont'd:

Time	Notes	1049 Sampling complete

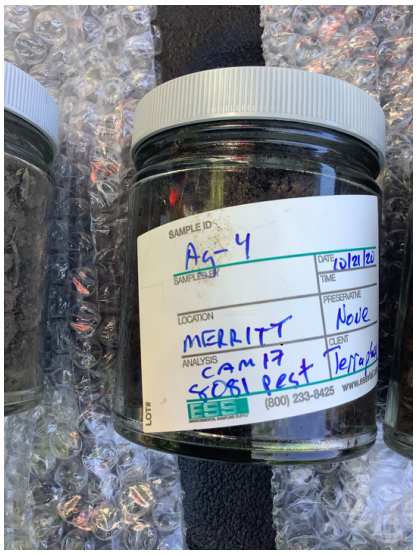
AG-1



AG-2

AG-3

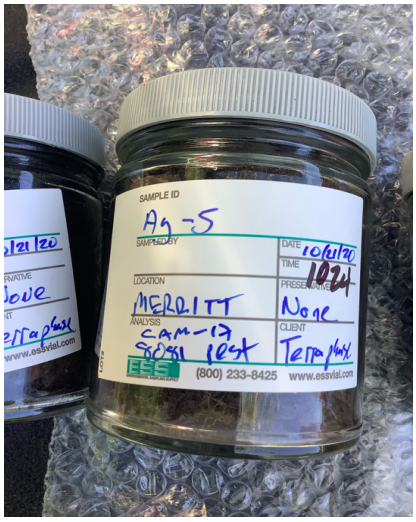
AG-4



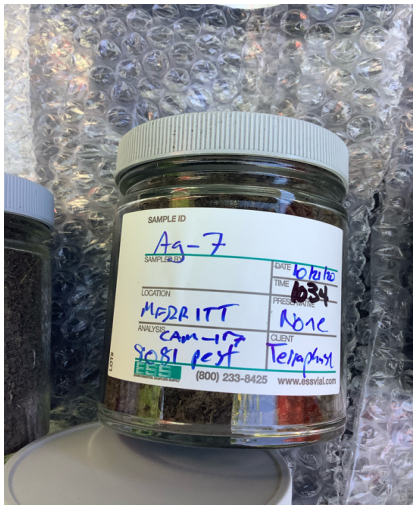
Daily Field Log Cont'd:

Time	Notes	1049 Sampling complete

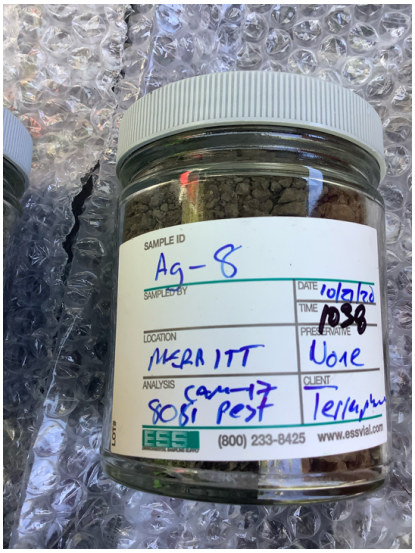
AG-5



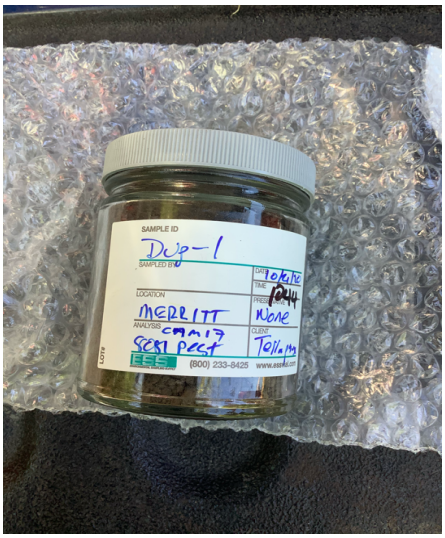
AG-7



AG-8



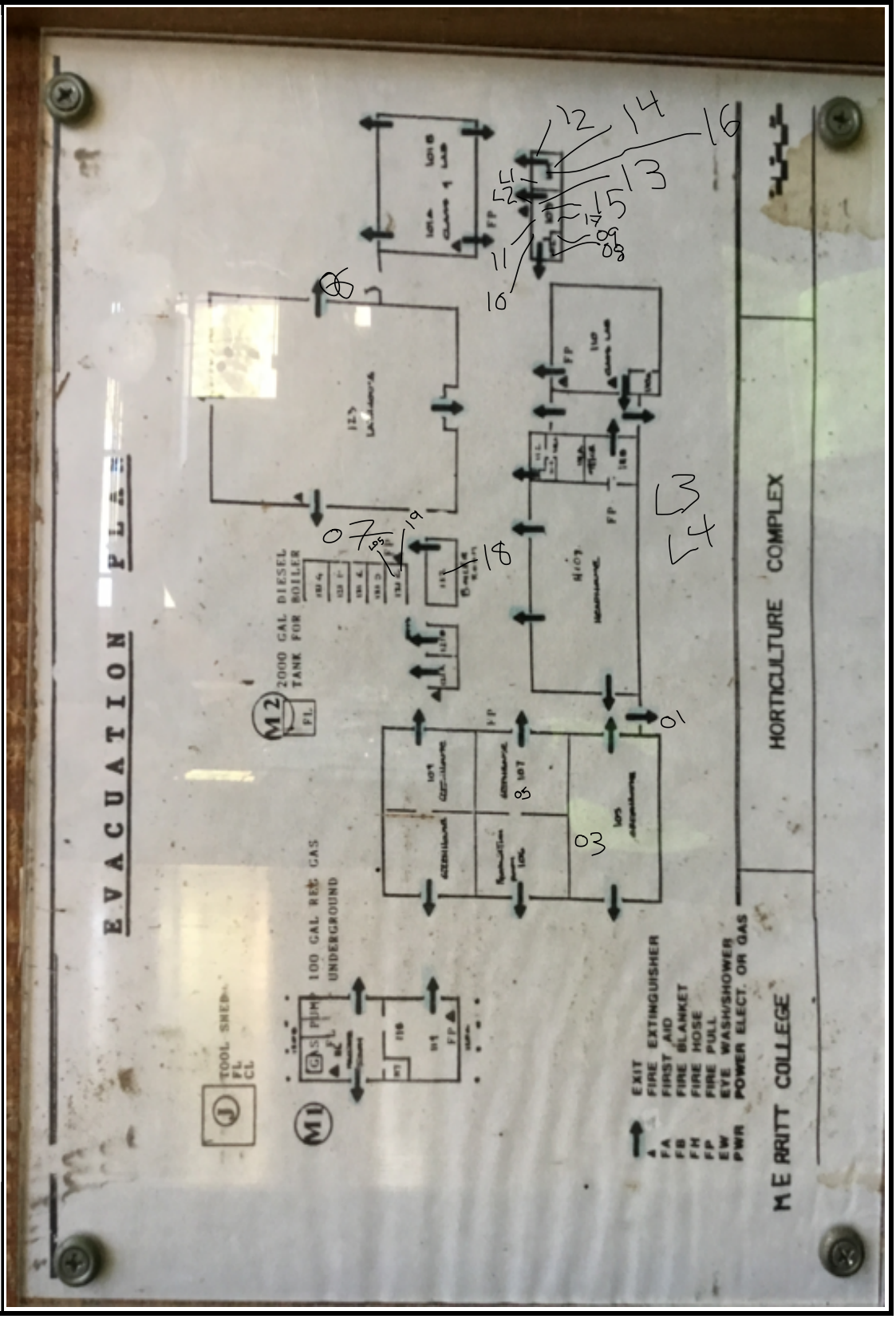
DUP-1



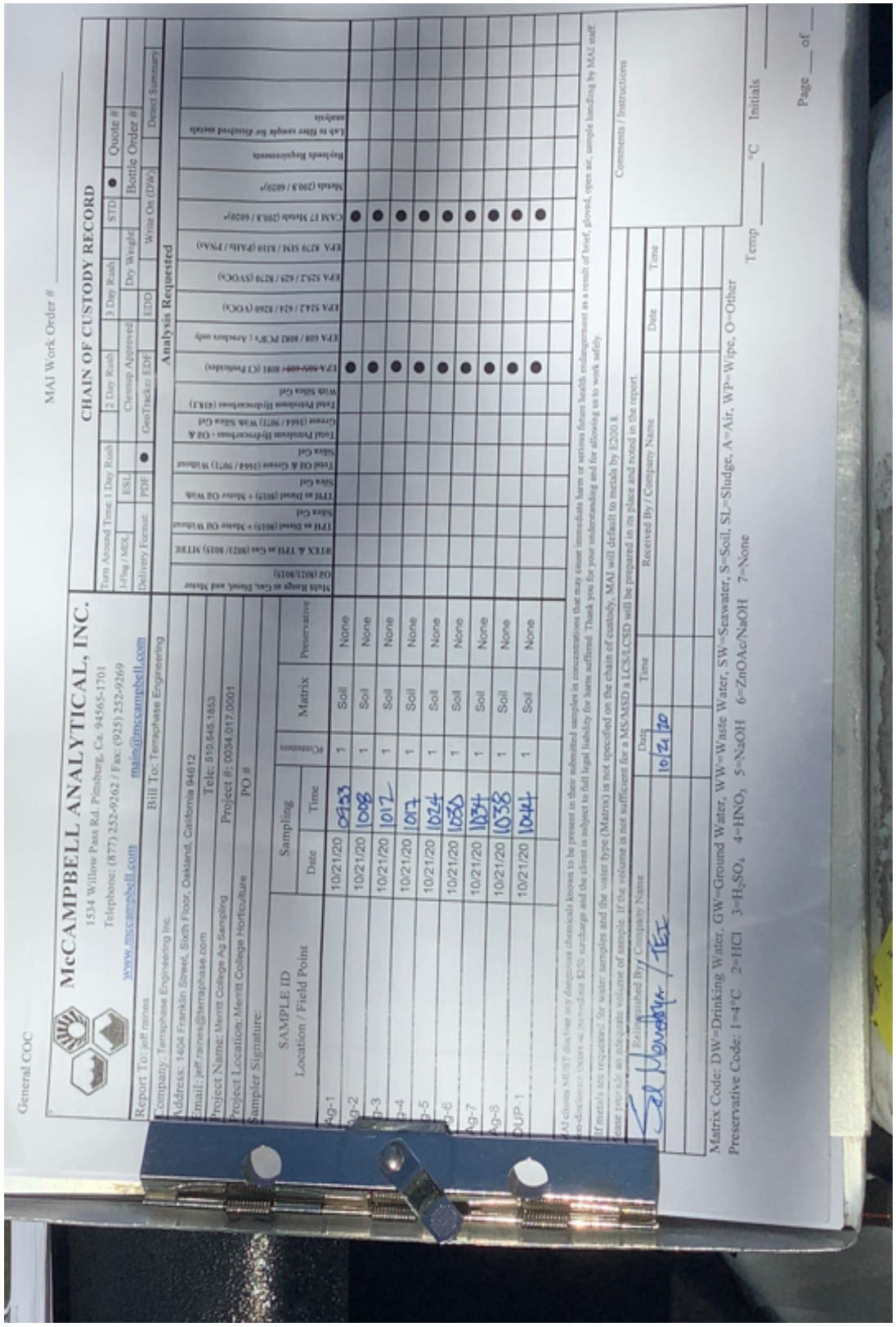
Daily Field Log Cont'd:

Time	Notes
	All samples gathered, stored in cool and secure container

Daily Field Log Cont'd:

Time	Notes Sample location map
	

Daily Field Log Cont'd:

Time	Notes Final COC
	

APPENDIX B
LABORATORY ANALYTICAL REPORT – SOIL RESULTS

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McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 2010B37

Report Created for: Terraphase Engineering Inc.

1404 Franklin Street, Ste. 600
Oakland, CA 94612

Project Contact: Jeff Raines
Project P.O.:
Project: 0034.017.0001; Merritt College Ag Sampling

Project Received: 10/21/2020

Analytical Report reviewed & approved for release on 10/27/2020 by:

Susan Thompson
Project Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.

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Glossary of Terms & Qualifier Definitions

Client: Terraphase Engineering Inc.
Project: 0034.017.0001; Merritt College Ag Sampling
WorkOrder: 2010B37

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
CPT	Consumer Product Testing not NELAP Accredited
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
LQL	Lowest Quantitation Level
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Glossary of Terms & Qualifier Definitions

Client: Terraphase Engineering Inc.
Project: 0034.017.0001; Merritt College Ag Sampling
WorkOrder: 2010B37

Analytical Qualifiers

B	Analyte detected in the associated Method Blank and in the sample
J	Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.
P	Agreement between quantitative confirmation results exceed method recommended limits
S	Surrogate recovery outside accepted recovery limits.
a2	Sample diluted due to cluttered chromatogram.
a3	Sample diluted due to high organic content interfering with quantitative/or qualitative analysis.
c4	Surrogate recovery outside of the control limits due to coelution with another peak(s) / cluttered chromatogram.

Quality Control Qualifiers

F1	MS/MSD recovery and/or RPD is out of acceptance criteria; LCS validates the prep batch.
F2	LCS/LCSD recovery and/or RPD/RSD is out of acceptance criteria.

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Detection Summary

Client: Terraphase Engineering Inc. **WorkOrder:** 2010B37

Project: 0034.017.0001; Merritt College Ag Sampling

Client ID: Ag-1 **Lab ID: 2010B37-001A**

Analyte	Result	Qual	RL	MDL	DF	Unit	ExtType/ CleanUp	Method
Antimony	0.32	J	0.50	0.16	1	mg/Kg		SW6020
Arsenic	2.8		0.50	0.15	1	mg/Kg		SW6020
Barium	100		5.0	0.57	1	mg/Kg		SW6020
Beryllium	0.17	J	0.50	0.073	1	mg/Kg		SW6020
Cadmium	1.1	B	0.50	0.061	1	mg/Kg		SW6020
Chromium	24		0.50	0.13	1	mg/Kg		SW6020
Cobalt	4.8		0.50	0.052	1	mg/Kg		SW6020
Copper	35		0.50	0.18	1	mg/Kg		SW6020
Lead	25		0.50	0.14	1	mg/Kg		SW6020
Mercury	0.22		0.050	0.032	1	mg/Kg		SW6020
Molybdenum	0.52		0.50	0.16	1	mg/Kg		SW6020
Nickel	18		0.50	0.17	1	mg/Kg		SW6020
Selenium	0.46	J	0.50	0.15	1	mg/Kg		SW6020
Silver	2.2		0.50	0.12	1	mg/Kg		SW6020
Vanadium	20		0.50	0.13	1	mg/Kg		SW6020
Zinc	79		5.0	3.0	1	mg/Kg		SW6020

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Detection Summary

Client: Terraphase Engineering Inc. **WorkOrder:** 2010B37

Project: 0034.017.0001; Merritt College Ag Sampling

Client ID: Ag-2 **Lab ID: 2010B37-002A**

Analyte	Result	Qual	RL	MDL	DF	Unit	ExtType/ CleanUp	Method
Antimony	0.61		0.50	0.16	1	mg/Kg		SW6020
Arsenic	9.1		0.50	0.15	1	mg/Kg		SW6020
Barium	240		5.0	0.57	1	mg/Kg		SW6020
Beryllium	0.53		0.50	0.073	1	mg/Kg		SW6020
Cadmium	0.40	JB	0.50	0.061	1	mg/Kg		SW6020
Chromium	34		0.50	0.13	1	mg/Kg		SW6020
Cobalt	15		0.50	0.052	1	mg/Kg		SW6020
Copper	69		0.50	0.18	1	mg/Kg		SW6020
Lead	41		0.50	0.14	1	mg/Kg		SW6020
Mercury	0.13		0.050	0.032	1	mg/Kg		SW6020
Molybdenum	1.0		0.50	0.16	1	mg/Kg		SW6020
Nickel	43		0.50	0.17	1	mg/Kg		SW6020
Selenium	0.69		0.50	0.15	1	mg/Kg		SW6020
Thallium	0.13	J	0.50	0.067	1	mg/Kg		SW6020
Vanadium	63		0.50	0.13	1	mg/Kg		SW6020
Zinc	210		5.0	3.0	1	mg/Kg		SW6020
b-BHC	0.0012	JP	0.0020	0.00018	2	mg/kg		SW8081A
d-BHC	0.00034	JP	0.0020	0.00030	2	mg/kg		SW8081A
a-Chlordane	0.0012	JP	0.0020	0.00024	2	mg/kg		SW8081A
g-Chlordane	0.00086	JP	0.0020	0.00020	2	mg/kg		SW8081A
p,p-DDE	0.0013	J	0.0020	0.00028	2	mg/kg		SW8081A
p,p-DDT	0.0018	JP	0.0020	0.00040	2	mg/kg		SW8081A
Dieldrin	0.00076	J	0.0020	0.00024	2	mg/kg		SW8081A
Endosulfan I	0.0012	JP	0.0020	0.00026	2	mg/kg		SW8081A
Endrin ketone	0.00071	JP	0.0020	0.00028	2	mg/kg		SW8081A

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Detection Summary

Client: Terraphase Engineering Inc. **WorkOrder:** 2010B37

Project: 0034.017.0001; Merritt College Ag Sampling

Client ID: Ag-3 **Lab ID: 2010B37-003A**

Analyte	Result	Qual	RL	MDL	DF	Unit	ExtType/ CleanUp	Method
Antimony	0.50		0.50	0.16	1	mg/Kg		SW6020
Arsenic	4.0		0.50	0.15	1	mg/Kg		SW6020
Barium	160		5.0	0.57	1	mg/Kg		SW6020
Beryllium	0.24	J	0.50	0.073	1	mg/Kg		SW6020
Cadmium	0.55	B	0.50	0.061	1	mg/Kg		SW6020
Chromium	27		0.50	0.13	1	mg/Kg		SW6020
Cobalt	6.3		0.50	0.052	1	mg/Kg		SW6020
Copper	40		0.50	0.18	1	mg/Kg		SW6020
Lead	24		0.50	0.14	1	mg/Kg		SW6020
Mercury	0.094		0.050	0.032	1	mg/Kg		SW6020
Molybdenum	0.91		0.50	0.16	1	mg/Kg		SW6020
Nickel	27		0.50	0.17	1	mg/Kg		SW6020
Selenium	0.40	J	0.50	0.15	1	mg/Kg		SW6020
Silver	0.14	J	0.50	0.12	1	mg/Kg		SW6020
Vanadium	27		0.50	0.13	1	mg/Kg		SW6020
Zinc	180		5.0	3.0	1	mg/Kg		SW6020
a-Chlordane	0.0033	JP	0.0050	0.00060	5	mg/kg		SW8081A
g-Chlordane	0.0021	JP	0.0050	0.00050	5	mg/kg		SW8081A
p,p-DDD	0.0029	J	0.0050	0.00075	5	mg/kg		SW8081A
p,p-DDE	0.0023	J	0.0050	0.00070	5	mg/kg		SW8081A
p,p-DDT	0.0022	J	0.0050	0.0010	5	mg/kg		SW8081A
Dieldrin	0.0019	J	0.0050	0.00060	5	mg/kg		SW8081A
Endosulfan I	0.0015	JP	0.0050	0.00065	5	mg/kg		SW8081A

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Detection Summary

Client: Terraphase Engineering Inc. **WorkOrder:** 2010B37

Project: 0034.017.0001; Merritt College Ag Sampling

Client ID: Ag-4 **Lab ID: 2010B37-004A**

Analyte	Result	Qual	RL	MDL	DF	Unit	ExtType/ CleanUp	Method
Antimony	0.26	J	0.50	0.16	1	mg/Kg		SW6020
Arsenic	5.3		0.50	0.15	1	mg/Kg		SW6020
Barium	92		5.0	0.57	1	mg/Kg		SW6020
Beryllium	0.24	J	0.50	0.073	1	mg/Kg		SW6020
Cadmium	0.46	JB	0.50	0.061	1	mg/Kg		SW6020
Chromium	22		0.50	0.13	1	mg/Kg		SW6020
Cobalt	4.6		0.50	0.052	1	mg/Kg		SW6020
Copper	21		0.50	0.18	1	mg/Kg		SW6020
Lead	22		0.50	0.14	1	mg/Kg		SW6020
Mercury	0.058		0.050	0.032	1	mg/Kg		SW6020
Molybdenum	0.39	J	0.50	0.16	1	mg/Kg		SW6020
Nickel	21		0.50	0.17	1	mg/Kg		SW6020
Selenium	0.46	J	0.50	0.15	1	mg/Kg		SW6020
Vanadium	28		0.50	0.13	1	mg/Kg		SW6020
Zinc	1100		5.0	3.0	1	mg/Kg		SW6020
a-Chlordane	0.00020	J	0.0010	0.00012	1	mg/kg		SW8081A
p,p-DDD	0.00031	J	0.0010	0.00015	1	mg/kg		SW8081A
p,p-DDE	0.0024		0.0010	0.00014	1	mg/kg		SW8081A
p,p-DDT	0.00085	J	0.0010	0.00020	1	mg/kg		SW8081A
Dieldrin	0.00030	J	0.0010	0.00012	1	mg/kg		SW8081A
Endosulfan I	0.00032	JP	0.0010	0.00013	1	mg/kg		SW8081A

Client ID: Ag-5 **Lab ID: 2010B37-005A**

Analyte	Result	Qual	RL	MDL	DF	Unit	ExtType/ CleanUp	Method
Antimony	0.57		0.50	0.16	1	mg/Kg		SW6020
Arsenic	4.9		0.50	0.15	1	mg/Kg		SW6020
Barium	270		5.0	0.57	1	mg/Kg		SW6020
Beryllium	0.43	J	0.50	0.073	1	mg/Kg		SW6020
Cadmium	0.46	JB	0.50	0.061	1	mg/Kg		SW6020
Chromium	30		0.50	0.13	1	mg/Kg		SW6020
Cobalt	9.1		0.50	0.052	1	mg/Kg		SW6020
Copper	40		0.50	0.18	1	mg/Kg		SW6020
Lead	23		0.50	0.14	1	mg/Kg		SW6020
Mercury	0.21		0.050	0.032	1	mg/Kg		SW6020
Molybdenum	0.54		0.50	0.16	1	mg/Kg		SW6020
Nickel	35		0.50	0.17	1	mg/Kg		SW6020
Selenium	1.0		0.50	0.15	1	mg/Kg		SW6020
Silver	0.20	J	0.50	0.12	1	mg/Kg		SW6020
Thallium	0.14	J	0.50	0.067	1	mg/Kg		SW6020
Vanadium	47		0.50	0.13	1	mg/Kg		SW6020
Zinc	140		5.0	3.0	1	mg/Kg		SW6020
p,p-DDT	0.066	JP	0.10	0.020	100	mg/kg		SW8081A

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Detection Summary

Client: Terraphase Engineering Inc. **WorkOrder:** 2010B37

Project: 0034.017.0001; Merritt College Ag Sampling

Client ID: Ag-6 **Lab ID: 2010B37-006A**

Analyte	Result	Qual	RL	MDL	DF	Unit	ExtType/ CleanUp	Method
Antimony	0.36	J	0.50	0.16	1	mg/Kg		SW6020
Arsenic	9.7		0.50	0.15	1	mg/Kg		SW6020
Barium	250		5.0	0.57	1	mg/Kg		SW6020
Beryllium	0.51		0.50	0.073	1	mg/Kg		SW6020
Cadmium	0.28	JB	0.50	0.061	1	mg/Kg		SW6020
Chromium	33		0.50	0.13	1	mg/Kg		SW6020
Cobalt	15		0.50	0.052	1	mg/Kg		SW6020
Copper	85		0.50	0.18	1	mg/Kg		SW6020
Lead	20		0.50	0.14	1	mg/Kg		SW6020
Mercury	0.37		0.050	0.032	1	mg/Kg		SW6020
Molybdenum	0.76		0.50	0.16	1	mg/Kg		SW6020
Nickel	48		0.50	0.17	1	mg/Kg		SW6020
Selenium	1.1		0.50	0.15	1	mg/Kg		SW6020
Thallium	0.15	J	0.50	0.067	1	mg/Kg		SW6020
Vanadium	56		0.50	0.13	1	mg/Kg		SW6020
Zinc	150		5.0	3.0	1	mg/Kg		SW6020
p,p-DDE	0.0050	J	0.020	0.0028	20	mg/kg		SW8081A

Client ID: Ag-7 **Lab ID: 2010B37-007A**

Analyte	Result	Qual	RL	MDL	DF	Unit	ExtType/ CleanUp	Method
Arsenic	9.3		5.0	1.5	10	mg/Kg		SW6020
Barium	500		50	5.7	10	mg/Kg		SW6020
Beryllium	0.78	J	5.0	0.73	10	mg/Kg		SW6020
Chromium	40		5.0	1.3	10	mg/Kg		SW6020
Cobalt	17		5.0	0.52	10	mg/Kg		SW6020
Copper	91		5.0	1.8	10	mg/Kg		SW6020
Lead	24		5.0	1.4	10	mg/Kg		SW6020
Nickel	56		5.0	1.7	10	mg/Kg		SW6020
Vanadium	78		5.0	1.3	10	mg/Kg		SW6020
Zinc	210		50	30	10	mg/Kg		SW6020
p,p-DDT	0.21	J	1.0	0.20	1000	mg/kg		SW8081A

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Detection Summary

Client: Terraphase Engineering Inc. **WorkOrder:** 2010B37

Project: 0034.017.0001; Merritt College Ag Sampling

Client ID: Ag-8 **Lab ID: 2010B37-008A**

Analyte	Result	Qual	RL	MDL	DF	Unit	ExtType/ CleanUp	Method
Antimony	0.62		0.50	0.16	1	mg/Kg		SW6020
Arsenic	9.4		0.50	0.15	1	mg/Kg		SW6020
Barium	300		5.0	0.57	1	mg/Kg		SW6020
Beryllium	0.59		0.50	0.073	1	mg/Kg		SW6020
Cadmium	0.18	J	0.50	0.061	1	mg/Kg		SW6020
Chromium	58		0.50	0.13	1	mg/Kg		SW6020
Cobalt	18		0.50	0.052	1	mg/Kg		SW6020
Copper	56		0.50	0.18	1	mg/Kg		SW6020
Lead	22		0.50	0.14	1	mg/Kg		SW6020
Mercury	0.24		0.050	0.032	1	mg/Kg		SW6020
Molybdenum	0.61		0.50	0.16	1	mg/Kg		SW6020
Nickel	77		0.50	0.17	1	mg/Kg		SW6020
Selenium	1.2		0.50	0.15	1	mg/Kg		SW6020
Silver	0.12	J	0.50	0.12	1	mg/Kg		SW6020
Thallium	0.12	J	0.50	0.067	1	mg/Kg		SW6020
Vanadium	64	B	0.50	0.13	1	mg/Kg		SW6020
Zinc	120	B	5.0	3.0	1	mg/Kg		SW6020

Client ID: DUP-1 **Lab ID: 2010B37-009A**

Analyte	Result	Qual	RL	MDL	DF	Unit	ExtType/ CleanUp	Method
Antimony	0.42	J	0.50	0.16	1	mg/Kg		SW6020
Arsenic	5.8		0.50	0.15	1	mg/Kg		SW6020
Barium	130		5.0	0.57	1	mg/Kg		SW6020
Beryllium	0.38	J	0.50	0.073	1	mg/Kg		SW6020
Cadmium	0.13	J	0.50	0.061	1	mg/Kg		SW6020
Chromium	28		0.50	0.13	1	mg/Kg		SW6020
Cobalt	8.4		0.50	0.052	1	mg/Kg		SW6020
Copper	41		0.50	0.18	1	mg/Kg		SW6020
Lead	19		0.50	0.14	1	mg/Kg		SW6020
Mercury	0.078		0.050	0.032	1	mg/Kg		SW6020
Molybdenum	0.64		0.50	0.16	1	mg/Kg		SW6020
Nickel	31		0.50	0.17	1	mg/Kg		SW6020
Selenium	0.58		0.50	0.15	1	mg/Kg		SW6020
Thallium	0.089	J	0.50	0.067	1	mg/Kg		SW6020
Vanadium	44	B	0.50	0.13	1	mg/Kg		SW6020
Zinc	140	B	5.0	3.0	1	mg/Kg		SW6020

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Analytical Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Received:	10/21/2020 12:35	**Extraction Method:**	SW3550B
Date Prepared:	10/22/2020	**Analytical Method:**	SW8081A
Project:	0034.017.0001; Merritt College Ag Sampling	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Ag-1	**2010B37-001A**	**Soil**	**10/21/2020 09:53**	**GC23 10232038.d**	**207878**

Analytes	Result	MDL	RL	DF	Date Analyzed
Aldrin	ND	0.0012	0.010	5	10/23/2020 20:55
a-BHC	ND	0.0027	0.010	5	10/23/2020 20:55
b-BHC	ND	0.00092	0.010	5	10/23/2020 20:55
d-BHC	ND	0.0015	0.010	5	10/23/2020 20:55
g-BHC	ND	0.0014	0.010	5	10/23/2020 20:55
Chlordane (Technical)	ND	0.025	0.25	5	10/23/2020 20:55
a-Chlordane	ND	0.0012	0.010	5	10/23/2020 20:55
g-Chlordane	ND	0.00099	0.010	5	10/23/2020 20:55
p,p-DDD	ND	0.0015	0.010	5	10/23/2020 20:55
p,p-DDE	ND	0.0014	0.010	5	10/23/2020 20:55
p,p-DDT	ND	0.0020	0.010	5	10/23/2020 20:55
Dieldrin	ND	0.0012	0.010	5	10/23/2020 20:55
Endosulfan I	ND	0.0013	0.010	5	10/23/2020 20:55
Endosulfan II	ND	0.0013	0.010	5	10/23/2020 20:55
Endosulfan sulfate	ND	0.0013	0.010	5	10/23/2020 20:55
Endrin	ND	0.0010	0.010	5	10/23/2020 20:55
Endrin aldehyde	ND	0.0011	0.010	5	10/23/2020 20:55
Endrin ketone	ND	0.0014	0.010	5	10/23/2020 20:55
Heptachlor	ND	0.0017	0.010	5	10/23/2020 20:55
Heptachlor epoxide	ND	0.0011	0.010	5	10/23/2020 20:55
Hexachlorobenzene	ND	0.0029	0.10	5	10/23/2020 20:55
Hexachlorocyclopentadiene	ND	0.0036	0.20	5	10/23/2020 20:55
Methoxychlor	ND	0.0031	0.010	5	10/23/2020 20:55
Toxaphene	ND	0.12	0.50	5	10/23/2020 20:55

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	117	69-143	10/23/2020 20:55

Analyst(s): BRV Analytical Comments: a2

(Cont.)

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Analytical Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Received:	10/21/2020 12:35	**Extraction Method:**	SW3550B
Date Prepared:	10/22/2020	**Analytical Method:**	SW8081A
Project:	0034.017.0001; Merritt College Ag Sampling	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Ag-2	**2010B37-002A**	**Soil**	**10/21/2020 10:08**	**GC40 10222054.d**	**207878**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.00024	0.0020	2	10/22/2020 22:50
a-BHC	ND		0.00054	0.0020	2	10/22/2020 22:50
b-BHC	**0.0012**	JP	0.00018	0.0020	2	10/22/2020 22:50
d-BHC	**0.00034**	JP	0.00030	0.0020	2	10/22/2020 22:50
g-BHC	ND		0.00028	0.0020	2	10/22/2020 22:50
Chlordane (Technical)	ND		0.0050	0.050	2	10/22/2020 22:50
a-Chlordane	**0.0012**	JP	0.00024	0.0020	2	10/22/2020 22:50
g-Chlordane	**0.00086**	JP	0.00020	0.0020	2	10/22/2020 22:50
p,p-DDD	ND		0.00030	0.0020	2	10/22/2020 22:50
p,p-DDE	**0.0013**	J	0.00028	0.0020	2	10/22/2020 22:50
p,p-DDT	**0.0018**	JP	0.00040	0.0020	2	10/22/2020 22:50
Dieldrin	**0.00076**	J	0.00024	0.0020	2	10/22/2020 22:50
Endosulfan I	**0.0012**	JP	0.00026	0.0020	2	10/22/2020 22:50
Endosulfan II	ND		0.00026	0.0020	2	10/22/2020 22:50
Endosulfan sulfate	ND		0.00026	0.0020	2	10/22/2020 22:50
Endrin	ND		0.00020	0.0020	2	10/22/2020 22:50
Endrin aldehyde	ND		0.00022	0.0020	2	10/22/2020 22:50
Endrin ketone	**0.00071**	JP	0.00028	0.0020	2	10/22/2020 22:50
Heptachlor	ND		0.00034	0.0020	2	10/22/2020 22:50
Heptachlor epoxide	ND		0.00022	0.0020	2	10/22/2020 22:50
Hexachlorobenzene	ND		0.00058	0.020	2	10/22/2020 22:50
Hexachlorocyclopentadiene	ND		0.00072	0.040	2	10/22/2020 22:50
Methoxychlor	ND		0.00062	0.0020	2	10/22/2020 22:50
Toxaphene	ND		0.024	0.10	2	10/22/2020 22:50

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	82	69-143	10/22/2020 22:50

Analyst(s): CN Analytical Comments: a3

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Analytical Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Received:	10/21/2020 12:35	**Extraction Method:**	SW3550B
Date Prepared:	10/22/2020	**Analytical Method:**	SW8081A
Project:	0034.017.0001; Merritt College Ag Sampling	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Ag-3	2010B37-003A	Soil	10/21/2020 10:12	GC40 10222055.d	207878

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.00060	0.0050	5	10/22/2020 23:04
a-BHC	ND		0.0014	0.0050	5	10/22/2020 23:04
b-BHC	ND		0.00046	0.0050	5	10/22/2020 23:04
d-BHC	ND		0.00075	0.0050	5	10/22/2020 23:04
g-BHC	ND		0.00070	0.0050	5	10/22/2020 23:04
Chlordane (Technical)	ND		0.012	0.12	5	10/22/2020 23:04
a-Chlordane	**0.0033**	JP	0.00060	0.0050	5	10/22/2020 23:04
g-Chlordane	**0.0021**	JP	0.00050	0.0050	5	10/22/2020 23:04
p,p-DDD	**0.0029**	J	0.00075	0.0050	5	10/22/2020 23:04
p,p-DDE	**0.0023**	J	0.00070	0.0050	5	10/22/2020 23:04
p,p-DDT	**0.0022**	J	0.0010	0.0050	5	10/22/2020 23:04
Dieldrin	**0.0019**	J	0.00060	0.0050	5	10/22/2020 23:04
Endosulfan I	**0.0015**	JP	0.00065	0.0050	5	10/22/2020 23:04
Endosulfan II	ND		0.00065	0.0050	5	10/22/2020 23:04
Endosulfan sulfate	ND		0.00065	0.0050	5	10/22/2020 23:04
Endrin	ND		0.00050	0.0050	5	10/22/2020 23:04
Endrin aldehyde	ND		0.00055	0.0050	5	10/22/2020 23:04
Endrin ketone	ND		0.00070	0.0050	5	10/22/2020 23:04
Heptachlor	ND		0.00085	0.0050	5	10/22/2020 23:04
Heptachlor epoxide	ND		0.00055	0.0050	5	10/22/2020 23:04
Hexachlorobenzene	ND		0.0015	0.050	5	10/22/2020 23:04
Hexachlorocyclopentadiene	ND		0.0018	0.10	5	10/22/2020 23:04
Methoxychlor	ND		0.0016	0.0050	5	10/22/2020 23:04
Toxaphene	ND		0.060	0.25	5	10/22/2020 23:04

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	78	69-143	10/22/2020 23:04

Analyst(s): CN Analytical Comments: a3

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Analytical Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Received:	10/21/2020 12:35	**Extraction Method:**	SW3550B
Date Prepared:	10/22/2020	**Analytical Method:**	SW8081A
Project:	0034.017.0001; Merritt College Ag Sampling	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Ag-4	**2010B37-004A**	**Soil**	**10/21/2020 10:17**	**GC40 10222056.d**	**207878**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.00012	0.0010	1	10/22/2020 23:18
a-BHC	ND		0.00027	0.0010	1	10/22/2020 23:18
b-BHC	ND		0.000092	0.0010	1	10/22/2020 23:18
d-BHC	ND		0.00015	0.0010	1	10/22/2020 23:18
g-BHC	ND		0.00014	0.0010	1	10/22/2020 23:18
Chlordane (Technical)	ND		0.0025	0.025	1	10/22/2020 23:18
a-Chlordane	**0.00020**	J	0.00012	0.0010	1	10/22/2020 23:18
g-Chlordane	ND		0.000099	0.0010	1	10/22/2020 23:18
p,p-DDD	**0.00031**	J	0.00015	0.0010	1	10/22/2020 23:18
p,p-DDE	**0.0024**		0.00014	0.0010	1	10/22/2020 23:18
p,p-DDT	**0.00085**	J	0.00020	0.0010	1	10/22/2020 23:18
Dieldrin	**0.00030**	J	0.00012	0.0010	1	10/22/2020 23:18
Endosulfan I	**0.00032**	JP	0.00013	0.0010	1	10/22/2020 23:18
Endosulfan II	ND		0.00013	0.0010	1	10/22/2020 23:18
Endosulfan sulfate	ND		0.00013	0.0010	1	10/22/2020 23:18
Endrin	ND		0.00010	0.0010	1	10/22/2020 23:18
Endrin aldehyde	ND		0.00011	0.0010	1	10/22/2020 23:18
Endrin ketone	ND		0.00014	0.0010	1	10/22/2020 23:18
Heptachlor	ND		0.00017	0.0010	1	10/22/2020 23:18
Heptachlor epoxide	ND		0.00011	0.0010	1	10/22/2020 23:18
Hexachlorobenzene	ND		0.00029	0.010	1	10/22/2020 23:18
Hexachlorocyclopentadiene	ND		0.00036	0.020	1	10/22/2020 23:18
Methoxychlor	ND		0.00031	0.0010	1	10/22/2020 23:18
Toxaphene	ND		0.012	0.050	1	10/22/2020 23:18

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	76	69-143	10/22/2020 23:18

Analyst(s): CN Analytical Comments: a3

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Analytical Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Received:	10/21/2020 12:35	**Extraction Method:**	SW3550B
Date Prepared:	10/22/2020	**Analytical Method:**	SW8081A
Project:	0034.017.0001; Merritt College Ag Sampling	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Ag-5	**2010B37-005A**	**Soil**	**10/21/2020 10:24**	**GC23 10232041.d**	**207878**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.012	0.10	100	10/23/2020 21:42
a-BHC	ND		0.027	0.10	100	10/23/2020 21:42
b-BHC	ND		0.0092	0.10	100	10/23/2020 21:42
d-BHC	ND		0.015	0.10	100	10/23/2020 21:42
g-BHC	ND		0.014	0.10	100	10/23/2020 21:42
Chlordane (Technical)	ND		0.25	2.5	100	10/23/2020 21:42
a-Chlordane	ND		0.012	0.10	100	10/23/2020 21:42
g-Chlordane	ND		0.0099	0.10	100	10/23/2020 21:42
p,p-DDD	ND		0.015	0.10	100	10/23/2020 21:42
p,p-DDE	ND		0.014	0.10	100	10/23/2020 21:42
p,p-DDT	**0.066**	JP	0.020	0.10	100	10/23/2020 21:42
Dieldrin	ND		0.012	0.10	100	10/23/2020 21:42
Endosulfan I	ND		0.013	0.10	100	10/23/2020 21:42
Endosulfan II	ND		0.013	0.10	100	10/23/2020 21:42
Endosulfan sulfate	ND		0.013	0.10	100	10/23/2020 21:42
Endrin	ND		0.010	0.10	100	10/23/2020 21:42
Endrin aldehyde	ND		0.011	0.10	100	10/23/2020 21:42
Endrin ketone	ND		0.014	0.10	100	10/23/2020 21:42
Heptachlor	ND		0.017	0.10	100	10/23/2020 21:42
Heptachlor epoxide	ND		0.011	0.10	100	10/23/2020 21:42
Hexachlorobenzene	ND		0.029	1.0	100	10/23/2020 21:42
Hexachlorocyclopentadiene	ND		0.036	2.0	100	10/23/2020 21:42
Methoxychlor	ND		0.031	0.10	100	10/23/2020 21:42
Toxaphene	ND		1.2	5.0	100	10/23/2020 21:42

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	102	69-143	10/23/2020 21:42

Analyst(s): BRV Analytical Comments: a2

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Analytical Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Received:	10/21/2020 12:35	**Extraction Method:**	SW3550B
Date Prepared:	10/22/2020	**Analytical Method:**	SW8081A
Project:	0034.017.0001; Merritt College Ag Sampling	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Ag-6	**2010B37-006A**	**Soil**	**10/21/2020 10:30**	**GC23 10232042.d**	**207878**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.0024	0.020	20	10/23/2020 21:57
a-BHC	ND		0.0054	0.020	20	10/23/2020 21:57
b-BHC	ND		0.0018	0.020	20	10/23/2020 21:57
d-BHC	ND		0.0030	0.020	20	10/23/2020 21:57
g-BHC	ND		0.0028	0.020	20	10/23/2020 21:57
Chlordane (Technical)	ND		0.050	0.50	20	10/23/2020 21:57
a-Chlordane	ND		0.0024	0.020	20	10/23/2020 21:57
g-Chlordane	ND		0.0020	0.020	20	10/23/2020 21:57
p,p-DDD	ND		0.0030	0.020	20	10/23/2020 21:57
p,p-DDE	**0.0050**	J	0.0028	0.020	20	10/23/2020 21:57
p,p-DDT	ND		0.0040	0.020	20	10/23/2020 21:57
Dieldrin	ND		0.0024	0.020	20	10/23/2020 21:57
Endosulfan I	ND		0.0026	0.020	20	10/23/2020 21:57
Endosulfan II	ND		0.0026	0.020	20	10/23/2020 21:57
Endosulfan sulfate	ND		0.0026	0.020	20	10/23/2020 21:57
Endrin	ND		0.0020	0.020	20	10/23/2020 21:57
Endrin aldehyde	ND		0.0022	0.020	20	10/23/2020 21:57
Endrin ketone	ND		0.0028	0.020	20	10/23/2020 21:57
Heptachlor	ND		0.0034	0.020	20	10/23/2020 21:57
Heptachlor epoxide	ND		0.0022	0.020	20	10/23/2020 21:57
Hexachlorobenzene	ND		0.0058	0.20	20	10/23/2020 21:57
Hexachlorocyclopentadiene	ND		0.0072	0.40	20	10/23/2020 21:57
Methoxychlor	ND		0.0062	0.020	20	10/23/2020 21:57
Toxaphene	ND		0.24	1.0	20	10/23/2020 21:57

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	82	69-143	10/23/2020 21:57

Analyst(s): BRV Analytical Comments: a2

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Analytical Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Received:	10/21/2020 12:35	**Extraction Method:**	SW3550B
Date Prepared:	10/22/2020	**Analytical Method:**	SW8081A
Project:	0034.017.0001; Merritt College Ag Sampling	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Ag-7	2010B37-007A	Soil	10/21/2020 10:34	GC23 10232043.d	207878

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aldrin	ND		0.12	1.0	1,000	10/23/2020 22:13
a-BHC	ND		0.27	1.0	1,000	10/23/2020 22:13
b-BHC	ND		0.092	1.0	1,000	10/23/2020 22:13
d-BHC	ND		0.15	1.0	1,000	10/23/2020 22:13
g-BHC	ND		0.14	1.0	1,000	10/23/2020 22:13
Chlordane (Technical)	ND		2.5	25	1,000	10/23/2020 22:13
a-Chlordane	ND		0.12	1.0	1,000	10/23/2020 22:13
g-Chlordane	ND		0.099	1.0	1,000	10/23/2020 22:13
p,p-DDD	ND		0.15	1.0	1,000	10/23/2020 22:13
p,p-DDE	ND		0.14	1.0	1,000	10/23/2020 22:13
p,p-DDT	**0.21**	J	0.20	1.0	1,000	10/23/2020 22:13
Dieldrin	ND		0.12	1.0	1,000	10/23/2020 22:13
Endosulfan I	ND		0.13	1.0	1,000	10/23/2020 22:13
Endosulfan II	ND		0.13	1.0	1,000	10/23/2020 22:13
Endosulfan sulfate	ND		0.13	1.0	1,000	10/23/2020 22:13
Endrin	ND		0.10	1.0	1,000	10/23/2020 22:13
Endrin aldehyde	ND		0.11	1.0	1,000	10/23/2020 22:13
Endrin ketone	ND		0.14	1.0	1,000	10/23/2020 22:13
Heptachlor	ND		0.17	1.0	1,000	10/23/2020 22:13
Heptachlor epoxide	ND		0.11	1.0	1,000	10/23/2020 22:13
Hexachlorobenzene	ND		0.29	10	1,000	10/23/2020 22:13
Hexachlorocyclopentadiene	ND		0.36	20	1,000	10/23/2020 22:13
Methoxychlor	ND		0.31	1.0	1,000	10/23/2020 22:13
Toxaphene	ND		12	50	1,000	10/23/2020 22:13

Surrogates	REC (%)	Qualifiers	Limits	
Decachlorobiphenyl	229	S	69-143	10/23/2020 22:13

Analyst(s): BRV

Analytical Comments: a2,c4

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Analytical Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Received:	10/21/2020 12:35	**Extraction Method:**	SW3550B
Date Prepared:	10/22/2020	**Analytical Method:**	SW8081A
Project:	0034.017.0001; Merritt College Ag Sampling	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Ag-8	**2010B37-008A**	**Soil**	**10/21/2020 10:38**	**GC23 10232044.d**	**207878**

Analytes	Result	MDL	RL	DF	Date Analyzed
Aldrin	ND	0.060	0.50	500	10/23/2020 22:28
a-BHC	ND	0.14	0.50	500	10/23/2020 22:28
b-BHC	ND	0.046	0.50	500	10/23/2020 22:28
d-BHC	ND	0.075	0.50	500	10/23/2020 22:28
g-BHC	ND	0.070	0.50	500	10/23/2020 22:28
Chlordane (Technical)	ND	1.2	12	500	10/23/2020 22:28
a-Chlordane	ND	0.060	0.50	500	10/23/2020 22:28
g-Chlordane	ND	0.050	0.50	500	10/23/2020 22:28
p,p-DDD	ND	0.075	0.50	500	10/23/2020 22:28
p,p-DDE	ND	0.070	0.50	500	10/23/2020 22:28
p,p-DDT	ND	0.10	0.50	500	10/23/2020 22:28
Dieldrin	ND	0.060	0.50	500	10/23/2020 22:28
Endosulfan I	ND	0.065	0.50	500	10/23/2020 22:28
Endosulfan II	ND	0.065	0.50	500	10/23/2020 22:28
Endosulfan sulfate	ND	0.065	0.50	500	10/23/2020 22:28
Endrin	ND	0.050	0.50	500	10/23/2020 22:28
Endrin aldehyde	ND	0.055	0.50	500	10/23/2020 22:28
Endrin ketone	ND	0.070	0.50	500	10/23/2020 22:28
Heptachlor	ND	0.085	0.50	500	10/23/2020 22:28
Heptachlor epoxide	ND	0.055	0.50	500	10/23/2020 22:28
Hexachlorobenzene	ND	0.15	5.0	500	10/23/2020 22:28
Hexachlorocyclopentadiene	ND	0.18	10	500	10/23/2020 22:28
Methoxychlor	ND	0.16	0.50	500	10/23/2020 22:28
Toxaphene	ND	6.0	25	500	10/23/2020 22:28

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	139	69-143	10/23/2020 22:28

Analyst(s): BRV Analytical Comments: a2,c4

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Analytical Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Received:	10/21/2020 12:35	**Extraction Method:**	SW3550B
Date Prepared:	10/22/2020	**Analytical Method:**	SW8081A
Project:	0034.017.0001; Merritt College Ag Sampling	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DUP-1	2010B37-009A	Soil	10/21/2020 10:44	GC23 10232045.d	207878

Analytes	Result	MDL	RL	DF	Date Analyzed
Aldrin	ND	0.024	0.20	200	10/23/2020 22:44
a-BHC	ND	0.054	0.20	200	10/23/2020 22:44
b-BHC	ND	0.018	0.20	200	10/23/2020 22:44
d-BHC	ND	0.030	0.20	200	10/23/2020 22:44
g-BHC	ND	0.028	0.20	200	10/23/2020 22:44
Chlordane (Technical)	ND	0.50	5.0	200	10/23/2020 22:44
a-Chlordane	ND	0.024	0.20	200	10/23/2020 22:44
g-Chlordane	ND	0.020	0.20	200	10/23/2020 22:44
p,p-DDD	ND	0.030	0.20	200	10/23/2020 22:44
p,p-DDE	ND	0.028	0.20	200	10/23/2020 22:44
p,p-DDT	ND	0.040	0.20	200	10/23/2020 22:44
Dieldrin	ND	0.024	0.20	200	10/23/2020 22:44
Endosulfan I	ND	0.026	0.20	200	10/23/2020 22:44
Endosulfan II	ND	0.026	0.20	200	10/23/2020 22:44
Endosulfan sulfate	ND	0.026	0.20	200	10/23/2020 22:44
Endrin	ND	0.020	0.20	200	10/23/2020 22:44
Endrin aldehyde	ND	0.022	0.20	200	10/23/2020 22:44
Endrin ketone	ND	0.028	0.20	200	10/23/2020 22:44
Heptachlor	ND	0.034	0.20	200	10/23/2020 22:44
Heptachlor epoxide	ND	0.022	0.20	200	10/23/2020 22:44
Hexachlorobenzene	ND	0.058	2.0	200	10/23/2020 22:44
Hexachlorocyclopentadiene	ND	0.072	4.0	200	10/23/2020 22:44
Methoxychlor	ND	0.062	0.20	200	10/23/2020 22:44
Toxaphene	ND	2.4	10	200	10/23/2020 22:44

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	110	69-143	10/23/2020 22:44

Analyst(s): BRV Analytical Comments: a2

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Received:	10/21/2020 12:35	**Extraction Method:**	SW3050B
Date Prepared:	10/22/2020-10/23/2020	**Analytical Method:**	SW6020
Project:	0034.017.0001; Merritt College Ag Sampling	**Unit:**	mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Ag-1	**2010B37-001A**	**Soil**	**10/21/2020 09:53**	**ICP-MS5 148SMPL.d**	**207851**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Antimony	**0.32**	J	0.16	0.50	1	10/23/2020 10:48
Arsenic	**2.8**		0.15	0.50	1	10/23/2020 10:48
Barium	**100**		0.57	5.0	1	10/23/2020 10:48
Beryllium	**0.17**	J	0.073	0.50	1	10/23/2020 10:48
Cadmium	**1.1**	B	0.061	0.50	1	10/23/2020 10:48
Chromium	**24**		0.13	0.50	1	10/23/2020 10:48
Cobalt	**4.8**		0.052	0.50	1	10/23/2020 10:48
Copper	**35**		0.18	0.50	1	10/23/2020 10:48
Lead	**25**		0.14	0.50	1	10/23/2020 10:48
Mercury	**0.22**		0.032	0.050	1	10/23/2020 10:48
Molybdenum	**0.52**		0.16	0.50	1	10/23/2020 10:48
Nickel	**18**		0.17	0.50	1	10/23/2020 10:48
Selenium	**0.46**	J	0.15	0.50	1	10/23/2020 10:48
Silver	**2.2**		0.12	0.50	1	10/23/2020 10:48
Thallium	ND		0.067	0.50	1	10/23/2020 10:48
Vanadium	**20**		0.13	0.50	1	10/23/2020 10:48
Zinc	**79**		3.0	5.0	1	10/23/2020 10:48

Surrogates	REC (%)	Limits	
Terbium	104	70-130	10/23/2020 10:48

Analyst(s): WV

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Analytical Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Received:	10/21/2020 12:35	**Extraction Method:**	SW3050B
Date Prepared:	10/22/2020-10/23/2020	**Analytical Method:**	SW6020
Project:	0034.017.0001; Merritt College Ag Sampling	**Unit:**	mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Ag-2	**2010B37-002A**	**Soil**	**10/21/2020 10:08**	**ICP-MS5 152SMPL.d**	**207851**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Antimony	**0.61**		0.16	0.50	1	10/23/2020 11:01
Arsenic	**9.1**		0.15	0.50	1	10/23/2020 11:01
Barium	**240**		0.57	5.0	1	10/23/2020 11:01
Beryllium	**0.53**		0.073	0.50	1	10/23/2020 11:01
Cadmium	**0.40**	JB	0.061	0.50	1	10/23/2020 11:01
Chromium	**34**		0.13	0.50	1	10/23/2020 11:01
Cobalt	**15**		0.052	0.50	1	10/23/2020 11:01
Copper	**69**		0.18	0.50	1	10/23/2020 11:01
Lead	**41**		0.14	0.50	1	10/23/2020 11:01
Mercury	**0.13**		0.032	0.050	1	10/23/2020 11:01
Molybdenum	**1.0**		0.16	0.50	1	10/23/2020 11:01
Nickel	**43**		0.17	0.50	1	10/23/2020 11:01
Selenium	**0.69**		0.15	0.50	1	10/23/2020 11:01
Silver	ND		0.12	0.50	1	10/23/2020 11:01
Thallium	**0.13**	J	0.067	0.50	1	10/23/2020 11:01
Vanadium	**63**		0.13	0.50	1	10/23/2020 11:01
Zinc	**210**		3.0	5.0	1	10/23/2020 11:01

Surrogates	REC (%)	Limits	
Terbium	106	70-130	10/23/2020 11:01

Analyst(s): WV

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Analytical Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Received:	10/21/2020 12:35	**Extraction Method:**	SW3050B
Date Prepared:	10/22/2020-10/23/2020	**Analytical Method:**	SW6020
Project:	0034.017.0001; Merritt College Ag Sampling	**Unit:**	mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Ag-3	**2010B37-003A**	**Soil**	**10/21/2020 10:12**	**ICP-MS5 174SMPL.d**	**207851**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Antimony	**0.50**		0.16	0.50	1	10/23/2020 13:02
Arsenic	**4.0**		0.15	0.50	1	10/23/2020 13:02
Barium	**160**		0.57	5.0	1	10/23/2020 13:02
Beryllium	**0.24**	J	0.073	0.50	1	10/23/2020 13:02
Cadmium	**0.55**	B	0.061	0.50	1	10/23/2020 13:02
Chromium	**27**		0.13	0.50	1	10/23/2020 13:02
Cobalt	**6.3**		0.052	0.50	1	10/23/2020 13:02
Copper	**40**		0.18	0.50	1	10/23/2020 13:02
Lead	**24**		0.14	0.50	1	10/23/2020 13:02
Mercury	**0.094**		0.032	0.050	1	10/23/2020 13:02
Molybdenum	**0.91**		0.16	0.50	1	10/23/2020 13:02
Nickel	**27**		0.17	0.50	1	10/23/2020 13:02
Selenium	**0.40**	J	0.15	0.50	1	10/23/2020 13:02
Silver	**0.14**	J	0.12	0.50	1	10/23/2020 13:02
Thallium	ND		0.067	0.50	1	10/23/2020 13:02
Vanadium	**27**		0.13	0.50	1	10/23/2020 13:02
Zinc	**180**		3.0	5.0	1	10/23/2020 13:02

Surrogates	REC (%)	Limits	
Terbium	99	70-130	10/23/2020 13:02

Analyst(s): WV

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Analytical Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Received:	10/21/2020 12:35	**Extraction Method:**	SW3050B
Date Prepared:	10/22/2020-10/23/2020	**Analytical Method:**	SW6020
Project:	0034.017.0001; Merritt College Ag Sampling	**Unit:**	mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Ag-4	**2010B37-004A**	**Soil**	**10/21/2020 10:17**	**ICP-MS4 125SMPL.d**	**207851**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Antimony	**0.26**	J	0.16	0.50	1	10/23/2020 09:28
Arsenic	**5.3**		0.15	0.50	1	10/23/2020 09:28
Barium	**92**		0.57	5.0	1	10/23/2020 09:28
Beryllium	**0.24**	J	0.073	0.50	1	10/23/2020 09:28
Cadmium	**0.46**	JB	0.061	0.50	1	10/23/2020 09:28
Chromium	**22**		0.13	0.50	1	10/23/2020 09:28
Cobalt	**4.6**		0.052	0.50	1	10/23/2020 09:28
Copper	**21**		0.18	0.50	1	10/23/2020 09:28
Lead	**22**		0.14	0.50	1	10/23/2020 09:28
Mercury	**0.058**		0.032	0.050	1	10/23/2020 09:28
Molybdenum	**0.39**	J	0.16	0.50	1	10/23/2020 09:28
Nickel	**21**		0.17	0.50	1	10/23/2020 09:28
Selenium	**0.46**	J	0.15	0.50	1	10/23/2020 09:28
Silver	ND		0.12	0.50	1	10/23/2020 09:28
Thallium	ND		0.067	0.50	1	10/23/2020 09:28
Vanadium	**28**		0.13	0.50	1	10/23/2020 09:28
Zinc	**1100**		3.0	5.0	1	10/23/2020 09:28

Surrogates	REC (%)	Limits	
Terbium	94	70-130	10/23/2020 09:28

Analyst(s): WV

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Analytical Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Received:	10/21/2020 12:35	**Extraction Method:**	SW3050B
Date Prepared:	10/22/2020-10/23/2020	**Analytical Method:**	SW6020
Project:	0034.017.0001; Merritt College Ag Sampling	**Unit:**	mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Ag-5	**2010B37-005A**	**Soil**	**10/21/2020 10:24**	**ICP-MS4 126SMPL.d**	**207851**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Antimony	**0.57**		0.16	0.50	1	10/23/2020 09:31
Arsenic	**4.9**		0.15	0.50	1	10/23/2020 09:31
Barium	**270**		0.57	5.0	1	10/23/2020 09:31
Beryllium	**0.43**	J	0.073	0.50	1	10/23/2020 09:31
Cadmium	**0.46**	JB	0.061	0.50	1	10/23/2020 09:31
Chromium	**30**		0.13	0.50	1	10/23/2020 09:31
Cobalt	**9.1**		0.052	0.50	1	10/23/2020 09:31
Copper	**40**		0.18	0.50	1	10/23/2020 09:31
Lead	**23**		0.14	0.50	1	10/23/2020 09:31
Mercury	**0.21**		0.032	0.050	1	10/23/2020 09:31
Molybdenum	**0.54**		0.16	0.50	1	10/23/2020 09:31
Nickel	**35**		0.17	0.50	1	10/23/2020 09:31
Selenium	**1.0**		0.15	0.50	1	10/23/2020 09:31
Silver	**0.20**	J	0.12	0.50	1	10/23/2020 09:31
Thallium	**0.14**	J	0.067	0.50	1	10/23/2020 09:31
Vanadium	**47**		0.13	0.50	1	10/23/2020 09:31
Zinc	**140**		3.0	5.0	1	10/23/2020 09:31

Surrogates	REC (%)	Limits	
Terbium	92	70-130	10/23/2020 09:31

Analyst(s): WV

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Analytical Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Received:	10/21/2020 12:35	**Extraction Method:**	SW3050B
Date Prepared:	10/22/2020-10/23/2020	**Analytical Method:**	SW6020
Project:	0034.017.0001; Merritt College Ag Sampling	**Unit:**	mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Ag-6	**2010B37-006A**	**Soil**	**10/21/2020 10:30**	**ICP-MS5 175SMPL.d**	**207851**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Antimony	**0.36**	J	0.16	0.50	1	10/23/2020 13:05
Arsenic	**9.7**		0.15	0.50	1	10/23/2020 13:05
Barium	**250**		0.57	5.0	1	10/23/2020 13:05
Beryllium	**0.51**		0.073	0.50	1	10/23/2020 13:05
Cadmium	**0.28**	JB	0.061	0.50	1	10/23/2020 13:05
Chromium	**33**		0.13	0.50	1	10/23/2020 13:05
Cobalt	**15**		0.052	0.50	1	10/23/2020 13:05
Copper	**85**		0.18	0.50	1	10/23/2020 13:05
Lead	**20**		0.14	0.50	1	10/23/2020 13:05
Mercury	**0.37**		0.032	0.050	1	10/23/2020 13:05
Molybdenum	**0.76**		0.16	0.50	1	10/23/2020 13:05
Nickel	**48**		0.17	0.50	1	10/23/2020 13:05
Selenium	**1.1**		0.15	0.50	1	10/23/2020 13:05
Silver	ND		0.12	0.50	1	10/23/2020 13:05
Thallium	**0.15**	J	0.067	0.50	1	10/23/2020 13:05
Vanadium	**56**		0.13	0.50	1	10/23/2020 13:05
Zinc	**150**		3.0	5.0	1	10/23/2020 13:05

Surrogates	REC (%)	Limits	
Terbium	114	70-130	10/23/2020 13:05

Analyst(s): WV

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Analytical Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Received:	10/21/2020 12:35	**Extraction Method:**	SW3050B
Date Prepared:	10/22/2020-10/23/2020	**Analytical Method:**	SW6020
Project:	0034.017.0001; Merritt College Ag Sampling	**Unit:**	mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Ag-7	**2010B37-007A**	**Soil**	**10/21/2020 10:34**	**ICP-MS5 170SMPL.d**	**207851**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Antimony	ND		1.6	5.0	10	10/23/2020 12:01
Arsenic	**9.3**		1.5	5.0	10	10/23/2020 12:01
Barium	**500**		5.7	50	10	10/23/2020 12:01
Beryllium	**0.78**	J	0.73	5.0	10	10/23/2020 12:01
Cadmium	ND		0.61	5.0	10	10/23/2020 12:01
Chromium	**40**		1.3	5.0	10	10/23/2020 12:01
Cobalt	**17**		0.52	5.0	10	10/23/2020 12:01
Copper	**91**		1.8	5.0	10	10/23/2020 12:01
Lead	**24**		1.4	5.0	10	10/23/2020 12:01
Mercury	ND		0.32	0.50	10	10/23/2020 12:01
Molybdenum	ND		1.6	5.0	10	10/23/2020 12:01
Nickel	**56**		1.7	5.0	10	10/23/2020 12:01
Selenium	ND		1.5	5.0	10	10/23/2020 12:01
Silver	ND		1.2	5.0	10	10/23/2020 12:01
Thallium	ND		0.67	5.0	10	10/23/2020 12:01
Vanadium	**78**		1.3	5.0	10	10/23/2020 12:01
Zinc	**210**		30	50	10	10/23/2020 12:01

Surrogates	REC (%)	Limits	
Terbium	105	70-130	10/23/2020 12:01

Analyst(s): WV

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Analytical Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Received:	10/21/2020 12:35	**Extraction Method:**	SW3050B
Date Prepared:	10/22/2020-10/23/2020	**Analytical Method:**	SW6020
Project:	0034.017.0001; Merritt College Ag Sampling	**Unit:**	mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Ag-8	**2010B37-008A**	**Soil**	**10/21/2020 10:38**	**ICP-MS4 330SMPL.d**	**207969**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Antimony	**0.62**		0.16	0.50	1	10/23/2020 23:02
Arsenic	**9.4**		0.15	0.50	1	10/23/2020 23:02
Barium	**300**		0.57	5.0	1	10/23/2020 23:02
Beryllium	**0.59**		0.073	0.50	1	10/23/2020 23:02
Cadmium	**0.18**	J	0.061	0.50	1	10/23/2020 23:02
Chromium	**58**		0.13	0.50	1	10/23/2020 23:02
Cobalt	**18**		0.052	0.50	1	10/23/2020 23:02
Copper	**56**		0.18	0.50	1	10/23/2020 23:02
Lead	**22**		0.14	0.50	1	10/23/2020 23:02
Mercury	**0.24**		0.032	0.050	1	10/23/2020 23:02
Molybdenum	**0.61**		0.16	0.50	1	10/23/2020 23:02
Nickel	**77**		0.17	0.50	1	10/23/2020 23:02
Selenium	**1.2**		0.15	0.50	1	10/23/2020 23:02
Silver	**0.12**	J	0.12	0.50	1	10/23/2020 23:02
Thallium	**0.12**	J	0.067	0.50	1	10/23/2020 23:02
Vanadium	**64**	B	0.13	0.50	1	10/23/2020 23:02
Zinc	**120**	B	3.0	5.0	1	10/23/2020 23:02

Surrogates	REC (%)	Limits	
Terbium	92	70-130	10/23/2020 23:02

Analyst(s): DB

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Analytical Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Received:	10/21/2020 12:35	**Extraction Method:**	SW3050B
Date Prepared:	10/22/2020-10/23/2020	**Analytical Method:**	SW6020
Project:	0034.017.0001; Merritt College Ag Sampling	**Unit:**	mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DUP-1	**2010B37-009A**	**Soil**	**10/21/2020 10:44**	**ICP-MS4 331SMPL.d**	**207969**

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Antimony	**0.42**	J	0.16	0.50	1	10/23/2020 23:06
Arsenic	**5.8**		0.15	0.50	1	10/23/2020 23:06
Barium	**130**		0.57	5.0	1	10/23/2020 23:06
Beryllium	**0.38**	J	0.073	0.50	1	10/23/2020 23:06
Cadmium	**0.13**	J	0.061	0.50	1	10/23/2020 23:06
Chromium	**28**		0.13	0.50	1	10/23/2020 23:06
Cobalt	**8.4**		0.052	0.50	1	10/23/2020 23:06
Copper	**41**		0.18	0.50	1	10/23/2020 23:06
Lead	**19**		0.14	0.50	1	10/23/2020 23:06
Mercury	**0.078**		0.032	0.050	1	10/23/2020 23:06
Molybdenum	**0.64**		0.16	0.50	1	10/23/2020 23:06
Nickel	**31**		0.17	0.50	1	10/23/2020 23:06
Selenium	**0.58**		0.15	0.50	1	10/23/2020 23:06
Silver	ND		0.12	0.50	1	10/23/2020 23:06
Thallium	**0.089**	J	0.067	0.50	1	10/23/2020 23:06
Vanadium	**44**	B	0.13	0.50	1	10/23/2020 23:06
Zinc	**140**	B	3.0	5.0	1	10/23/2020 23:06

Surrogates	REC (%)	Limits	
Terbium	91	70-130	10/23/2020 23:06

Analyst(s): DB

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Quality Control Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Prepared:	10/22/2020	**BatchID:**	207878
Date Analyzed:	10/22/2020 - 10/23/2020	**Extraction Method:**	SW3550B
Instrument:	GC23, GC40	**Analytical Method:**	SW8081A
Matrix:	Soil	**Unit:**	mg/kg
Project:	0034.017.0001; Merritt College Ag Sampling	**Sample ID:**	MB/LCS/LCSD-207878 2010B37-001AMS/MSD

QC Summary Report for SW8081A

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Aldrin	ND	0.000120	0.00100	-	-	-
a-BHC	ND	0.000270	0.00100	-	-	-
b-BHC	ND	0.0000920	0.00100	-	-	-
d-BHC	ND	0.000150	0.00100	-	-	-
g-BHC	ND	0.000140	0.00100	-	-	-
Chlordane (Technical)	ND	0.00250	0.0250	-	-	-
a-Chlordane	ND	0.000120	0.00100	-	-	-
g-Chlordane	ND	0.0000990	0.00100	-	-	-
p,p-DDD	ND	0.000150	0.00100	-	-	-
p,p-DDE	ND	0.000140	0.00100	-	-	-
p,p-DDT	ND	0.000200	0.00100	-	-	-
Dieldrin	ND	0.000120	0.00100	-	-	-
Endosulfan I	ND	0.000130	0.00100	-	-	-
Endosulfan II	ND	0.000130	0.00100	-	-	-
Endosulfan sulfate	ND	0.000130	0.00100	-	-	-
Endrin	ND	0.000100	0.00100	-	-	-
Endrin aldehyde	ND	0.000110	0.00100	-	-	-
Endrin ketone	ND	0.000140	0.00100	-	-	-
Heptachlor	ND	0.000170	0.00100	-	-	-
Heptachlor epoxide	ND	0.000110	0.00100	-	-	-
Hexachlorobenzene	ND	0.000290	0.0100	-	-	-
Hexachlorocyclopentadiene	ND	0.000360	0.0200	-	-	-
Methoxychlor	ND	0.000310	0.00100	-	-	-
Toxaphene	ND	0.0120	0.0500	-	-	-
Surrogate Recovery						
Decachlorobiphenyl	0.0464			0.05	93	75-136

(Cont.)

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Quality Control Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Prepared:	10/22/2020	**BatchID:**	207878
Date Analyzed:	10/22/2020 - 10/23/2020	**Extraction Method:**	SW3550B
Instrument:	GC23, GC40	**Analytical Method:**	SW8081A
Matrix:	Soil	**Unit:**	mg/kg
Project:	0034.017.0001; Merritt College Ag Sampling	**Sample ID:**	MB/LCS/LCSD-207878 2010B37-001AMS/MSD

QC Summary Report for SW8081A

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aldrin	0.0566	0.0572	0.050	113	114	92-133	1.04	20
a-BHC	0.0462	0.0463	0.050	92,F2	93,F2	96-140	0.324	20
b-BHC	0.0558	0.0564	0.050	112	113	77-137	1.09	20
d-BHC	0.0572	0.0577	0.050	114	115	89-145	0.843	20
g-BHC	0.0543	0.0547	0.050	109	109	92-134	0.680	20
a-Chlordane	0.0560	0.0571	0.050	112	114	72-134	1.79	20
g-Chlordane	0.0532	0.0542	0.050	106	108	86-132	1.91	20
p,p-DDD	0.0474	0.0484	0.050	95	97	35-140	2.06	20
p,p-DDE	0.0566	0.0576	0.050	113	115	83-138	1.72	20
p,p-DDT	0.0451	0.0478	0.050	90	96	70-137	5.83	20
Dieldrin	0.0550	0.0558	0.050	110	112	99-141	1.47	20
Endosulfan I	0.0503	0.0510	0.050	101	102	93-121	1.56	20
Endosulfan II	0.0482	0.0496	0.050	96	99	74-125	2.86	20
Endosulfan sulfate	0.0468	0.0480	0.050	93	96	66-138	2.67	20
Endrin	0.0487	0.0500	0.050	97	100	92-137	2.53	20
Endrin aldehyde	0.0624	0.0638	0.050	125	128	77-135	2.32	20
Endrin ketone	0.0478	0.0490	0.050	96	98	72-126	2.48	20
Heptachlor	0.0565	0.0574	0.050	113	115	89-136	1.65	20
Heptachlor epoxide	0.0526	0.0533	0.050	105	107	85-121	1.29	20
Hexachlorobenzene	0.0513	0.0516	0.050	103	103	87-127	0.496	20
Hexachlorocyclopentadiene	0.0427	0.0440	0.050	85	88	41-145	2.98	20
Methoxychlor	0.0411	0.0436	0.050	82	87	82-142	5.94	20
Surrogate Recovery								
Decachlorobiphenyl	0.0450	0.0479	0.050	90	96	75-136	6.19	20

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aldrin	5	0.0949	0.0974	0.10	ND<0.010	95	97	59-143	2.55	20
a-BHC	5	0.0846	0.0874	0.10	ND<0.010	85	87	42-159	3.28	20
b-BHC	5	0.0858	0.0831	0.10	ND<0.010	86	83	67-141	3.26	20
d-BHC	5	0.0907	0.0935	0.10	ND<0.010	91	93	38-164	3.03	20
g-BHC	5	0.0678	0.0782	0.10	ND<0.010	68	78	51-148	14.3	20
a-Chlordane	5	0.103	0.105	0.10	ND<0.010	103	105	70-130	1.70	20
g-Chlordane	5	0.100	0.0837	0.10	ND<0.010	100	84	61-146	17.9	20
p,p-DDD	5	0.0989	0.107	0.10	ND<0.010	99	107	10-158	7.53	20
p,p-DDE	5	0.0917	0.0962	0.10	ND<0.010	92	96	52-151	4.76	20

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Quality Control Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Prepared:	10/22/2020	**BatchID:**	207878
Date Analyzed:	10/22/2020 - 10/23/2020	**Extraction Method:**	SW3550B
Instrument:	GC23, GC40	**Analytical Method:**	SW8081A
Matrix:	Soil	**Unit:**	mg/kg
Project:	0034.017.0001; Merritt College Ag Sampling	**Sample ID:**	MB/LCS/LCSD-207878 2010B37-001AMS/MSD

QC Summary Report for SW8081A

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
p,p-DDT	5	0.0999	0.108	0.10	ND<0.010	100	108	53-137	7.74	20
Dieldrin	5	0.106	0.0967	0.10	ND<0.010	106	97	58-163	9.46	20
Endosulfan I	5	0.0937	0.0926	0.10	ND<0.010	94	93	64-136	1.14	20
Endosulfan II	5	0.0883	0.101	0.10	ND<0.010	88	101	46-141	13.6	20
Endosulfan sulfate	5	0.0910	0.106	0.10	ND<0.010	91	106	45-144	14.8	20
Endrin	5	0.141	0.103	0.10	ND<0.010	141	103	56-153	31.3,F1	20
Endrin aldehyde	5	0.0549	0.0588	0.10	ND<0.010	55,F1	59,F1	63-134	6.98	20
Endrin ketone	5	0.0865	0.0915	0.10	ND<0.010	86	91	53-130	5.63	20
Heptachlor	5	0.0943	0.0939	0.10	ND<0.010	94	94	55-147	0.474	20
Heptachlor epoxide	5	0.0775	0.0813	0.10	ND<0.010	77	81	63-128	4.75	20
Hexachlorobenzene	5	0.102	0.0938	0.10	ND<0.10	102	94	71-132	8.68	20
Hexachlorocyclopentadiene	5	0.0510	0.0582	0.10	ND<0.20	51	58	12-144	13.3	20
Methoxychlor	5	0.109	0.102	0.10	ND<0.010	109	102	70-150	6.23	20
Surrogate Recovery										
Decachlorobiphenyl	5	0.112	0.129	0.10		113	129	69-143	13.7	20

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Quality Control Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Prepared:	10/22/2020	**BatchID:**	207851
Date Analyzed:	10/22/2020	**Extraction Method:**	SW3050B
Instrument:	ICP-MS5	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/kg
Project:	0034.017.0001; Merritt College Ag Sampling	**Sample ID:**	MB/LCS/LCSD-207851

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Antimony	ND	0.160	0.500	-	-	-
Arsenic	ND	0.150	0.500	-	-	-
Barium	ND	0.570	5.00	-	-	-
Beryllium	ND	0.0730	0.500	-	-	-
Cadmium	0.0710,J	0.0610	0.500	-	-	-
Chromium	ND	0.130	0.500	-	-	-
Cobalt	ND	0.0520	0.500	-	-	-
Copper	ND	0.180	0.500	-	-	-
Lead	ND	0.140	0.500	-	-	-
Mercury	ND	0.0320	0.0500	-	-	-
Molybdenum	ND	0.160	0.500	-	-	-
Nickel	ND	0.170	0.500	-	-	-
Selenium	ND	0.150	0.500	-	-	-
Silver	ND	0.120	0.500	-	-	-
Thallium	ND	0.0670	0.500	-	-	-
Vanadium	ND	0.130	0.500	-	-	-
Zinc	ND	3.00	5.00	-	-	-
Surrogate Recovery						
Terbium	491			500	98	70-130

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Quality Control Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Prepared:	10/22/2020	**BatchID:**	207851
Date Analyzed:	10/22/2020	**Extraction Method:**	SW3050B
Instrument:	ICP-MS5	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/kg
Project:	0034.017.0001; Merritt College Ag Sampling	**Sample ID:**	MB/LCS/LCSD-207851

QC Summary Report for Metals

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Antimony	50.5	53.2	50	101	106	75-125	5.25	20
Arsenic	49.3	53.0	50	99	106	75-125	7.17	20
Barium	473	506	500	95	101	75-125	6.72	20
Beryllium	47.2	51.8	50	94	103	75-125	9.14	20
Cadmium	48.5	52.7	50	97	105	75-125	8.36	20
Chromium	49.5	52.1	50	99	104	75-125	5.14	20
Cobalt	48.5	52.2	50	97	104	75-125	7.34	20
Copper	47.8	52.1	50	96	104	75-125	8.58	20
Lead	49.3	52.5	50	99	105	75-125	6.29	20
Mercury	1.22	1.29	1.25	98	104	75-125	5.89	20
Molybdenum	49.5	52.0	50	99	104	75-125	4.81	20
Nickel	48.7	52.1	50	97	104	75-125	6.78	20
Selenium	48.3	52.0	50	97	104	75-125	7.45	20
Silver	48.2	51.9	50	96	104	75-125	7.53	20
Thallium	50.0	53.0	50	100	106	75-125	5.84	20
Vanadium	49.7	52.7	50	99	105	75-125	5.87	20
Zinc	486	519	500	97	104	75-125	6.65	20
Surrogate Recovery								
Terbium	489	516	500	98	103	70-130	5.46	20

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Quality Control Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Prepared:	10/23/2020	**BatchID:**	207969
Date Analyzed:	10/23/2020	**Extraction Method:**	SW3050B
Instrument:	ICP-MS4	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/kg
Project:	0034.017.0001; Merritt College Ag Sampling	**Sample ID:**	MB/LCS/LCSD-207969

QC Summary Report for Metals

Analyte	MB Result	MDL	RL	SPK Val	MB SS %REC	MB SS Limits
Antimony	ND	0.160	0.500	-	-	-
Arsenic	ND	0.150	0.500	-	-	-
Barium	ND	0.570	5.00	-	-	-
Beryllium	ND	0.0730	0.500	-	-	-
Cadmium	ND	0.0610	0.500	-	-	-
Chromium	ND	0.130	0.500	-	-	-
Cobalt	ND	0.0520	0.500	-	-	-
Copper	ND	0.180	0.500	-	-	-
Lead	ND	0.140	0.500	-	-	-
Mercury	ND	0.0320	0.0500	-	-	-
Molybdenum	ND	0.160	0.500	-	-	-
Nickel	ND	0.170	0.500	-	-	-
Selenium	ND	0.150	0.500	-	-	-
Silver	ND	0.120	0.500	-	-	-
Thallium	ND	0.0670	0.500	-	-	-
Vanadium	0.209,J	0.130	0.500	-	-	-
Zinc	4.02,J	3.00	5.00	-	-	-
Surrogate Recovery						
Terbium	499			500	100	70-130

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Quality Control Report

Client:	Terraphase Engineering Inc.	**WorkOrder:**	2010B37
Date Prepared:	10/23/2020	**BatchID:**	207969
Date Analyzed:	10/23/2020	**Extraction Method:**	SW3050B
Instrument:	ICP-MS4	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/kg
Project:	0034.017.0001; Merritt College Ag Sampling	**Sample ID:**	MB/LCS/LCSD-207969

QC Summary Report for Metals

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Antimony	49.8	50.0	50	100	100	75-125	0.519	20
Arsenic	48.0	49.7	50	96	99	75-125	3.39	20
Barium	478	486	500	96	97	75-125	1.75	20
Beryllium	48.6	50.7	50	97	101	75-125	4.17	20
Cadmium	47.7	50.0	50	95	100	75-125	4.65	20
Chromium	47.9	49.8	50	96	99	75-125	3.71	20
Cobalt	47.0	49.9	50	94	100	75-125	5.99	20
Copper	47.9	50.1	50	96	100	75-125	4.37	20
Lead	44.5	45.8	50	89	92	75-125	2.69	20
Mercury	1.08	1.17	1.25	87	94	75-125	7.89	20
Molybdenum	48.3	48.2	50	97	96	75-125	0.243	20
Nickel	46.9	49.8	50	94	100	75-125	5.91	20
Selenium	47.0	49.6	50	94	99	75-125	5.48	20
Silver	46.7	47.6	50	93	95	75-125	1.75	20
Thallium	46.4	47.0	50	93	94	75-125	1.17	20
Vanadium	48.1	50.4	50	96	101	75-125	4.51	20
Zinc	483	509	500	97	102	75-125	5.24	20
Surrogate Recovery								
Terbium	479	479	500	96	96	70-130	0.0497	20

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 2010B37 **ClientCode: TEOC**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ EQuIS ☐ Dry-Weight ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag
☑ Detection Summary ☑ Excel [FormatA]

Report to:
Jeff Raines
Terraphase Engineering Inc.
1404 Franklin Street, Ste. 600
Oakland, CA 94612
(510) 645-1858 FAX: (510) 380-6304

Email: jeff.raines@terraphase.com
cc/3rd Party:
PO:
Project: 0034.017.0001; Merritt College Ag Sampling

Bill to:
Accounts Payable
Terraphase Engineering Inc.
1404 Franklin Street, Ste. 600
Oakland, CA 94612
ap@terraphase.com

Requested TAT: **5 days;**

Date Received: **10/21/2020**
Date Logged: **10/22/2020**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
2010B37-001	Ag-1	Soil	10/21/2020 09:53	☐	A	A	A									
2010B37-002	Ag-2	Soil	10/21/2020 10:08	☐	A	A	A									
2010B37-003	Ag-3	Soil	10/21/2020 10:12	☐	A	A	A									
2010B37-004	Ag-4	Soil	10/21/2020 10:17	☐	A	A	A									
2010B37-005	Ag-5	Soil	10/21/2020 10:24	☐	A	A	A									
2010B37-006	Ag-6	Soil	10/21/2020 10:30	☐	A	A	A									
2010B37-007	Ag-7	Soil	10/21/2020 10:34	☐	A	A	A									
2010B37-008	Ag-8	Soil	10/21/2020 10:38	☐	A	A	A									
2010B37-009	DUP-1	Soil	10/21/2020 10:44	☐	A	A	A									

Test Legend:

1	8081_S	2	CAM17MS_TTLC_S	3	PRDisposal Fee	4	
5		6		7		8	
9		10		11		12	

Project Manager: Rosa Venegas

Prepared by: Tina Perez

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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WORK ORDER SUMMARY

Client Name: TERRAPHASE ENGINEERING INC. **Project:** 0034.017.0001; Merritt College Ag Sampling **Work Order:** 2010B37
Client Contact: Jeff Raines **QC Level:** LEVEL 2
Contact's Email: jeff.raines@terraphase.com **Comments** **Date Logged:** 10/22/2020

☐ WaterTrax ☐ WriteOn ☐ EDF ☑ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	DryWeight	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
2010B37-001A	Ag-1	Soil	SW6020 (CAM 17)	1	8OZ GJ, Unpres	☐	10/21/2020 9:53	5 days		☐	
			SW8081A (OC Pesticides)			☐		5 days		☐	
2010B37-002A	Ag-2	Soil	SW6020 (CAM 17)	1	8OZ GJ, Unpres	☐	10/21/2020 10:08	5 days		☐	
			SW8081A (OC Pesticides)			☐		5 days		☐	
2010B37-003A	Ag-3	Soil	SW6020 (CAM 17)	1	8OZ GJ, Unpres	☐	10/21/2020 10:12	5 days		☐	
			SW8081A (OC Pesticides)			☐		5 days		☐	
2010B37-004A	Ag-4	Soil	SW6020 (CAM 17)	1	8OZ GJ, Unpres	☐	10/21/2020 10:17	5 days		☐	
			SW8081A (OC Pesticides)			☐		5 days		☐	
2010B37-005A	Ag-5	Soil	SW6020 (CAM 17)	1	8OZ GJ, Unpres	☐	10/21/2020 10:24	5 days		☐	
			SW8081A (OC Pesticides)			☐		5 days		☐	
2010B37-006A	Ag-6	Soil	SW6020 (CAM 17)	1	8OZ GJ, Unpres	☐	10/21/2020 10:30	5 days		☐	
			SW8081A (OC Pesticides)			☐		5 days		☐	
2010B37-007A	Ag-7	Soil	SW6020 (CAM 17)	1	8OZ GJ, Unpres	☐	10/21/2020 10:34	5 days		☐	
			SW8081A (OC Pesticides)			☐		5 days		☐	
2010B37-008A	Ag-8	Soil	SW6020 (CAM 17)	1	8OZ GJ, Unpres	☐	10/21/2020 10:38	5 days		☐	
			SW8081A (OC Pesticides)			☐		5 days		☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: TERRAPHASE ENGINEERING INC.
Client Contact: Jeff Raines
Contact's Email: jeff.raines@terraphase.com

Project: 0034.017.0001; Merritt College Ag Sampling
Comments

Work Order: 2010B37
QC Level: LEVEL 2
Date Logged: 10/22/2020

☐ WaterTrax ☐ WriteOn ☐ EDF ☑ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	DryWeight	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
2010B37-009A	DUP-1	Soil	SW6020 (CAM 17)	1	8OZ GJ, Unpres	☐	10/21/2020 10:44	5 days		☐	
			SW8081A (OC Pesticides)			☐		5 days		☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

General COC

MAI Work Order # 2010B37

McCAMPBELL ANALYTICAL, INC.

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CHAIN OF CUSTODY RECORD

Turn Around Time: 1 Day Rush | 2 Day Rush | 3 Day Rush | STD ● | Quote #
J-Flag / MDL | ESL | Cleanup Approved | Dry Weight | Bottle Order #
Delivery Format: PDF ● | GeoTracker EDF | EDD | Write On (DW) | Detect Summary

Report To: jeff raines | Bill To: Terraphase Engineering
Company: Terraphase Engineering Inc.
Address: 1404 Franklin Street, Sixth Floor, Oakland, California 94612
Email: jeff.raines@terraphase.com | Tele: 510.645.1853
Project Name: Merritt College Ag Sampling | Project #: 0034.017.0001
Project Location: Merritt College Horticulture | PO #
Sampler Signature:

Analysis Requested

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Multi Range as Gas, Diesel, and Motor Oil (8021/8015)	BTEX & TPH as Gas (8021/ 8015) MTBE	TPH as Diesel (8015) + Motor Oil Without Silica Gel	TPH as Diesel (8015) + Motor Oil With Silca Gel	Total Oil & Grease (1664 / 9071) Without Silica Gel	Total Petroleum Hydrocarbons - Oil & Grease (1664 / 9071) With Silica Gel	Total Petroleum Hydrocarbons (418.1) With Silica Gel	EPA ~~505/ 608~~ 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ; Aroclors only	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.8 / 6020)*	Metals (200.8 / 6020)*	Baylands Requirements	Lab to filter sample for dissolved metals analysis			
Ag-1	10/21/20	0953	1	Soil	None								●					●						
Ag-2	10/21/20	1008	1	Soil	None								●					●						
Ag-3	10/21/20	1012	1	Soil	None								●					●						
Ag-4	10/21/20	1017	1	Soil	None								●					●						
Ag-5	10/21/20	1024	1	Soil	None								●					●						
Ag-6	10/21/20	1030	1	Soil	None								●					●						
Ag-7	10/21/20	1034	1	Soil	None								●					●						
Ag-8	10/21/20	1038	1	Soil	None								●					●						
DUP-1	10/21/20	1044	1	Soil	None								●					●						

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Comments / Instructions

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
Sal Mendoza / TEI	10/21/20	1100	CAP/MAI	10/21/20	1100
CAP/MAI	10/4/20	1235		10.21.20	12:35

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other
Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp 0.8 °C wet Initials TP

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Sample Receipt Checklist

Client Name: **Terraphase Engineering Inc.**
Project: **0034.017.0001; Merritt College Ag Sampling**

WorkOrder №: **2010B37** Matrix: Soil
Carrier: Lorenzo Perez (MAI Courier)

Date and Time Received: **10/21/2020 12:35**
Date Logged: **10/22/2020**
Received by: Tina Perez
Logged by: Tina Perez

Chain of Custody (COC) Information

Chain of custody present?	Yes	☑	No	☐		
Chain of custody signed when relinquished and received?	Yes	☑	No	☐		
Chain of custody agrees with sample labels?	Yes	☑	No	☐		
Sample IDs noted by Client on COC?	Yes	☑	No	☐		
Date and Time of collection noted by Client on COC?	Yes	☑	No	☐		
Sampler's name noted on COC?	Yes	☐	No	☑		
COC agrees with Quote?	Yes	☐	No	☐	NA	☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes	☐	No	☐	NA	☑
Shipping container/cooler in good condition?	Yes	☑	No	☐		
Samples in proper containers/bottles?	Yes	☑	No	☐		
Sample containers intact?	Yes	☑	No	☐		
Sufficient sample volume for indicated test?	Yes	☑	No	☐		

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes	☑	No	☐	NA	☐
Samples Received on Ice?	Yes	☑	No	☐		
(Ice Type: WET ICE)						
Sample/Temp Blank temperature	Temp: 0.8°C				NA	☐
Water - VOA vials have zero headspace / no bubbles?	Yes	☐	No	☐	NA	☑
Sample labels checked for correct preservation?	Yes	☑	No	☐		
pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)?	Yes	☐	No	☐	NA	☑
UCMR Samples:						
pH tested and acceptable upon receipt (200.8: ≤2; 525.3: ≤4; 530: ≤7; 541: <3; 544: <6.5 & 7.5)?	Yes	☐	No	☐	NA	☑
Free Chlorine tested and acceptable upon receipt (<0.1mg/L)?	Yes	☐	No	☐	NA	☑

Comments:

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