

Phase II Environmental Site Assessment

**1535 Lone Oak Rod
Vista, California**

Prepared for:

Marker Investments, LLC

Prepared by:

Rincon Consultants, Inc.
November 7, 2013





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November 7, 2013
Project 13-01316

Marc R. Perlman
Marker Investments, LLC
427 S. Cedros Avenue, Suite 201
Solana Beach, CA 92075

**Phase II Environmental Site Assessment
1535 Lone Oak Road
Vista, California**

Dear Mr. Perlman:

This report presents the findings of the Phase II Environmental Site Assessment (ESA) completed by Rincon Consultants, Inc. for 1535 Lone Oak Road located in Vista, California. The Phase II ESA was performed in general conformance with our master contract dated September 17, 2013, and our proposal dated October 16, 2013.

The accompanying report presents our findings and provides an opinion regarding the potential presence of contaminants in soil on the subject property. Thank you for selecting Rincon for this project. If you have any questions, or if we can be of any future assistance, please contact us.

Sincerely,
RINCON CONSULTANTS, INC.

A handwritten signature in blue ink, appearing to read "CGC", written over a horizontal line.

Carly Gagen-Cheaney
Environmental Engineer

A handwritten signature in blue ink, appearing to read "Walt", written over a horizontal line.

Walt Hamann, PG, CEG, CHG
Vice President



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1535 LONE OAK ROAD
VISTA, CALIFORNIA 92084

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EXECUTIVE SUMMARY

This report presents the results of a Phase II Environmental Site Assessment (ESA) conducted for the property (subject property) located at 1535 Lone Oak Road in Vista, California (Figures 1 and 2). The subject property is currently developed with a residence and a warehouse used for the storage of Tupperware, boat and car parts, and landscaping and maintenance equipment. The subject property is located in an area that is primarily comprised of residential and undeveloped land uses. Properties in the vicinity of the subject property include single-family homes and areas of vacant, undeveloped land to the northeast and southwest of the subject property.

Based on the information obtained during the completion of a draft Phase I ESA dated October 4, 2013, the following potential recognized environmental condition (REC) was identified for the subject property: historic agricultural land use. The Rincon 2013 Phase I ESA indicated the presence of orchards and row crops on the subject property from around 1939 to 1980 and an herb garden/herb farm from 1976 to 1995. The purpose of this Phase II ESA was to obtain soil samples to determine if the historic agricultural land use adversely affected the subject property with contamination from organochlorine pesticides (OCPs).

On October 25, 2013, Rincon oversaw collection of 14 soil samples from 7 soil borings located throughout the subject property. The 7 shallow soil samples were collected at a depth of 0.5 feet below grade and were analyzed for OCPs by United States Environmental Protection Agency (EPA) Method 8081A. The deeper soil samples collected at depths ranging from 1 to 2 feet below grade were held at the laboratory pending results of the shallow soil samples.

Based on the soil sampling results, DDD, DDE, and DDT were the only OCPs detected above the laboratory detection limit and were only detected in a few of the 7 soil samples. The detected concentrations of OCPs did not exceed their respective California Human Health Screening Levels (CHHSLs) for residential soils. The rest of the samples did not have OCPs detected above the laboratory reporting limit.

Based on the results of this sampling, there is no evidence of recognized environmental conditions in connection with the subject property. Therefore, Rincon does not recommend further soil assessment on the subject property.

INTRODUCTION

This report presents the results of a Phase II Environmental Site Assessment (ESA) conducted for the subject property located at 1535 Lone Oak Road in Vista, California (Figures 1 and 2).

The following sections describe the purpose and scope of the project, the physical setting, sampling and analytical methodologies, provide the results of the sampling and analytical program, and provide conclusions and recommendations.

Based on our completion of a draft Phase I ESA dated October 4, 2013, the following potential recognized environmental condition (REC) was identified for the subject property: historic agricultural land use. The Rincon 2013 Phase I ESA indicated the presence of orchards and row crops on the subject property from around 1939 to 1980 and an herb garden/herb farm from 1976 to 1995. Because of the pesticides routinely used in agricultural production, the historical use of the subject property for agricultural purposes is considered a potential REC. The purpose of this



Phase II ESA was to obtain soil samples to determine if the historic agricultural land use has adversely affected the subject property with contamination from OCPs.

Our scope of work included the following:

- **Health and Safety Plan.** Rincon prepared a Health and Safety Plan to minimize the potential for health and safety hazards during the course of work performed at the subject property.
- **Utility Notification.** Rincon pre-marked boring locations and contacted Underground Service Alert (USA) to mark areas where underground utilities might be located on the subject property.
- **Soil Sampling.** Using a hand auger, Rincon advanced 7 soil borings throughout the subject property and collected two soil samples from each soil boring for a total of 14 soil samples. One sample was collected at a depth of 0.5 feet below the ground surface and one sample was collected at 2 feet below the ground surface at each of the soil boring locations (Figure 2).
- **Laboratory Analysis.** The 7 shallow soil samples collected (SB-1-0.5' to SB-7-0.5') were analyzed for OCPs by EPA method 8081A. The deeper soil samples were held by the laboratory pending results from the shallow soil samples.
- **Reporting.** A summary of our findings is included in this report.

GEOLOGIC AND HYDROGEOLOGIC SETTING

Topography

The current USGS topographic map (San Marcos Quadrangle, 1996) indicates that the subject property is situated at an elevation of about 547 feet above mean sea level with topography sloping to the northwest.

Geology and Hydrogeology

The site is located within the Peninsular Ranges Geomorphic Province of California. The Peninsular Ranges are a series of ranges separated by northwest trending valleys, subparallel to faults branching from the San Andreas Fault. Rocks within the Peninsular Ranges Province were emplaced during Cretaceous orogenic events and uplifted into the present mountain ranges during the late Tertiary and Quaternary. Igneous, volcanic, metamorphic, and sedimentary rocks are all found within the Peninsular Ranges. The area is seismically active, with several known active faults crossing the Province. The Peninsular Ranges extend into lower California and are bound on the east by the Colorado Desert. The Los Angeles Basin and the island group (Santa Catalina, Santa Barbara, and the distinctly terraced San Clemente and San Nicolas islands), together with the surrounding continental shelf (cut by deep submarine fault troughs), are included in this province.

Site Geology

According to the USGS Geologic map (Oceanside Quadrangle, 2007), the subject property is underlain by alluvial flood-plain deposits and metasedimentary and metavolcanic rocks.



According to the California Department of Conservation, Division of Mines and Geology, Earthquake Fault Zones website (CA Department of Conservation, 2013), no Alquist-Priolo Fault Zones are located within one mile of the subject property.

Regional Groundwater Occurrence and Quality

According to the California Department of Water Resources Integrated Water Resources Information System website, the subject property is located within the San Marcos Valley Groundwater Basin of the western portion of the South Coast Hydrologic Region. This groundwater basin underlies San Marcos Valley in northwestern San Diego County. The basin is bounded by semi-permeable marine and nonmarine deposits, and impermeable granitic and metamorphic rocks.

Based on information obtained from the online State of California Regional Water Quality Control Board's (RWQCB's) Geotracker database, there are no listed sites on the subject property or adjacent properties. According to the *Arco Quarterly Groundwater Monitoring Report, 625 Sycamore Avenue, Vista, California* prepared by Secor International Incorporated and dated January 14, 2005; groundwater is generally encountered at depths ranging from 6.5 to 8.7 feet below grade, and flows to the southwest. This property is located approximately 1.36 miles to the southwest of the subject property.

METHODOLOGY

Soil Sampling

On October 25, 2013, 7 soil borings were advanced using a hand auger on the subject property. Each soil boring was advanced to a depth of 2 feet below the ground surface or until refusal. The deeper samples at each boring location ranged in depths from 1 to 2 feet below grade due to soil conditions on the subject property. The borings were located throughout the subject property, but focused on the areas historically associated with agricultural activity (Figure 2).

All sampling was performed under the oversight of a California Professional Geologist. The soil samples were collected in 8-ounce glass jars, labeled, and stored in a cooler with ice.

Upon completion of the soil sampling program, all soil borings were backfilled with the soil cuttings. The hand auger was decontaminated in between use at each boring by washing it with Alconox detergent.

Laboratory Analysis

The soil samples were transported to CalScience Laboratories under chain-of-custody documentation. The seven samples collected at a depth of 0.5 feet below ground surface (SB-1-0.5' to SB-7-0.5') were analyzed for OCPs using United States Environmental Protection Agency (EPA) Method 8081A. The deeper soil samples were held at the lab pending the resulting concentrations of pesticides detected in the shallow samples.

RESULTS AND DISCUSSION

A summary of the analytical results are included in Table 1. A copy of the laboratory analytical report is included in Appendix 1. The results of the OCPs analyses were compared to the



California Human Health Screening Levels (CHHSLs) for residential Soil Human Health Screening Levels.

The CHHSLs are concentrations of hazardous chemicals in soil or soil gas that the California Environmental Protection Agency (Cal/EPA) considers to be below thresholds of concern for risks to human health. The CHHSLs were developed by the Office of Environmental Health Hazard Assessment (OEHHA) on behalf of Cal/EPA. The thresholds of concern used to develop the CHHSLs are an excess lifetime cancer risk of one-in-a-million and a hazard quotient of 1 for non-cancer health effects. The CHHSLs were developed using standard exposure assumptions and chemical toxicity values published by the United States EPA and Cal/EPA.

Table 1 - Soil Analytical Summary for OCPs

Sample ID	4,4'-DDD	4,4'-DDT	4,4'-DDE
	(µg/kg)	(µg/kg)	(µg/kg)
SB-1-0.5'	11	10	120*
SB-2-0.5'	ND	ND	13
SB-3-0.5'	ND	ND	26
SB-4-0.5'	ND	21	170**
SB-5-0.5'	ND	ND	ND
SB-6-0.5'	ND	ND	ND
SB-7-0.5'	ND	ND	ND
Detection Limit	5.0	5.0	5.0
Residential Soil CHSSL	2,300	1,600	1,600

µg/kg - micrograms per kilogram
 OCPs - organochlorine pesticides
 ND - non detect

*the detection limit was 25 due to a dilution factor of 5

**the detection limit was 50 due to a dilution factor of 10

Soil samples obtained October 25, 2013

All soil samples obtained at 0.5 feet below surface grade

OCPs analyzed by Environmental Protection Agency (EPA) Method 8081A

CHHSLs - California Human Health Screening Levels

1. Organochlorine pesticides (OCPs) by EPA Method 8081A

As shown in Table 1, none of the concentrations of OCPs detected were above the residential CHHSL in soil. Only samples SB-1-05' to SB-4-0.5' had detectable concentrations of OCPs. All of these concentrations are well below their respective CHHSLs; 2,300 µg/kg for DDD, 1,600 µg/kg for DDE, and 1,600 µg/kg for DDT. Because the results were well below the threshold of their respective CHHSLs, the deeper samples collected at the subject property were not analyzed for OCPs.

CONCLUSIONS

Based on the soil sampling results, DDD, DDE, and DDT were the only OCPs detected above the laboratory detection limit and were only detected in a few of the 7 soil samples. The detected



concentrations of OCPs did not exceed their respective CHHSLs for residential soils. The rest of the samples did not have OCPs detected above the laboratory reporting limit.

Based on the results of this sampling, there is no evidence of recognized environmental conditions in connection with the subject property. Therefore, Rincon does not recommend further soil assessment on the subject property.

Additionally, based on information obtained from interviews and review of historic resources, the current structures were constructed in approximately 1975. Due to the age of these structures, lead-based paint and asbestos containing building materials may be present. Therefore, if the onsite structures will be renovated or demolished in the future, a lead based paint and asbestos survey should be conducted.

LIMITATIONS

This report has been prepared for and is intended for the exclusive use of Marker Company, Inc. (Marker Investments). The contents of this report should not be relied upon by any other party without the written consent of Rincon Consultants, Inc.

Our conclusions regarding the subject property are based on the results of a limited subsurface sampling program. The results of this evaluation are qualified by the fact that only limited sampling and analytical testing was conducted during this assessment.

This scope was not intended to completely establish the quantities and distribution of contaminants present at the subject property or to determine the cost to remediate the subject property. The concentrations of contaminants measured at any given location may not be representative of conditions at other locations. Further, conditions may change at any particular location as a function of time in response to natural conditions, chemical reactions and other events. Conclusions regarding the condition of the subject property do not represent a warranty that all areas within the subject property are similar to those sampled.



REFERENCES

California Environmental Protection Agency (Cal/EPA), *Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties*, January 2005

RWQCB online database (GeoTracker). <http://geotracker.waterboards.ca.gov/default.asp>

USGS topographic map (1996, San Marcos Quadrangle)

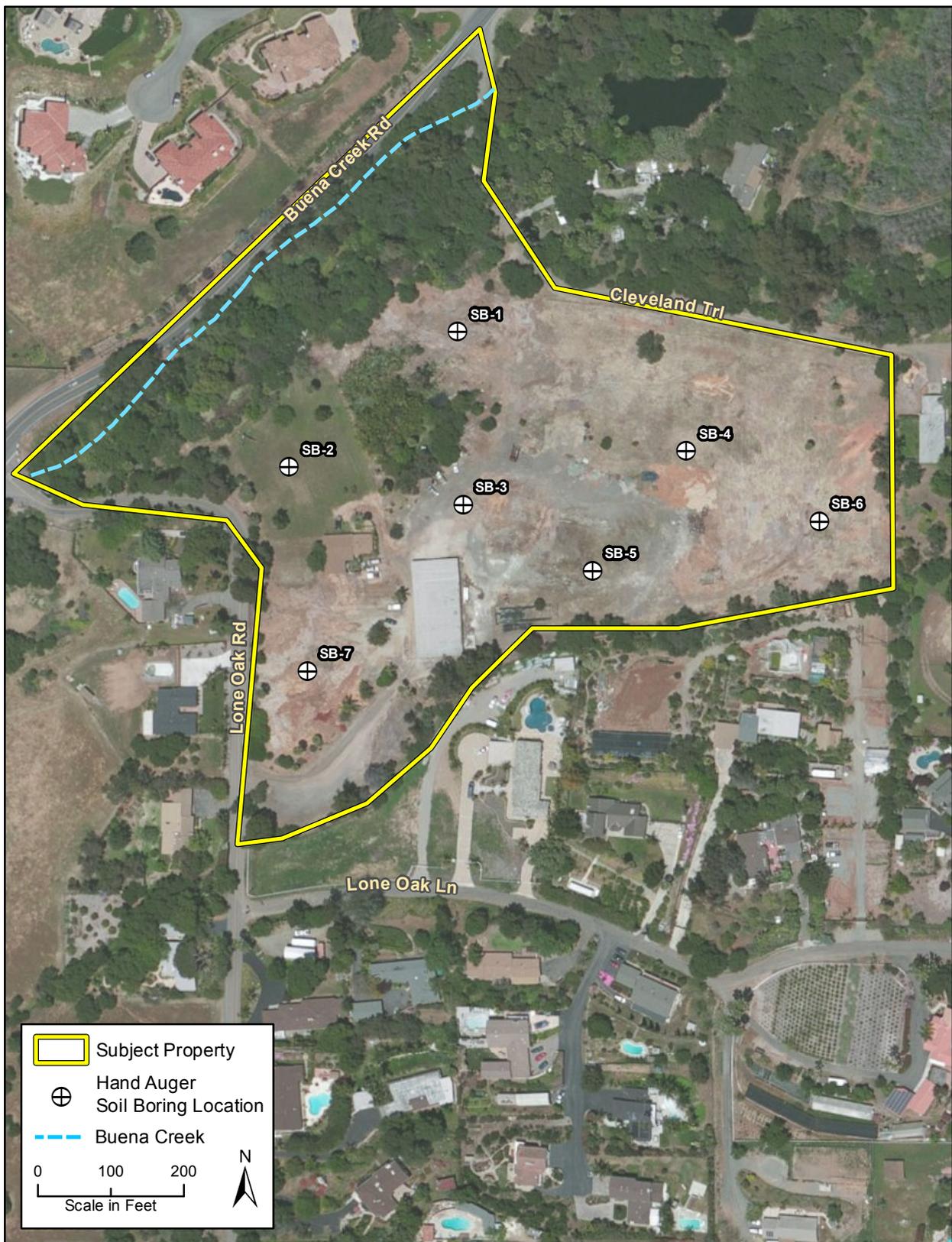
USGS Geologic Map (2007, Oceanside Quadrangle)

Kennedy, M.P. et al. Geologic Map of the Oceanside 30' X 60' Quadrangle, California, California Department of Conservation, California Geological Survey, 2005.

California Department of Conservation, Division of Mines and Geology, Earthquake Fault Zones http://www.conservation.ca.gov/cgs/rghm/ap/Pages/official_release.aspx, October 29, 2013.

Department of Toxic Substances Control (DTSC), *Interim Guidelines for Sampling Agricultural Properties (Third Revision)*, August 7, 2008.





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Soil Sampling Location Map

Figure 2

Rincon Consultants, Inc.



CALSCIENCE

WORK ORDER NUMBER: 13-10-1934

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Rincon Consultants

Client Project Name: 13-01316, Lone Oak Rd

Attention: Carly Gagen Cheeney
5135 Avenida Encinas, Suite A
Carlsbad, CA 92008-9999

Ranjit K. Clarke

Approved for release on 11/04/2013 by:
Ranjit Clarke
Project Manager

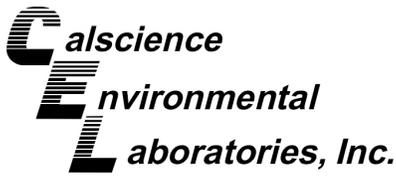
ResultLink ▶

Email your PM ▶



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.





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Work Order Number: 13-10-1934

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Work Order Narrative

Work Order: 13-10-1934

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Condition Upon Receipt:

Samples were received under Chain of Custody (COC) on 10/25/13. They were assigned to Work Order 13-10-1934.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of ≤ 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

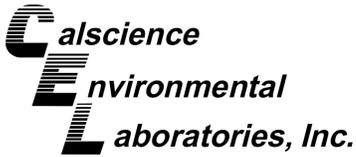
All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Additional Comments:

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.



Analytical Report

Rincon Consultants
5135 Avenida Encinas, Suite A
Carlsbad, CA 92008-9999

Date Received: 10/25/13
Work Order: 13-10-1934
Preparation: EPA 3545
Method: EPA 8081A
Units: ug/kg

Project: 13-01316, Lone Oak Rd

Page 1 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SB-1-0.5'	13-10-1934-1-A	10/25/13 08:03	Solid	GC 51	10/26/13	11/01/13 14:48	131026L01

Parameter	Result	RL	DF	Qualifiers
Aldrin	ND	5.0	1	
Alpha-BHC	ND	5.0	1	
Beta-BHC	ND	5.0	1	
Chlordane	ND	50	1	
4,4'-DDD	11	5.0	1	
4,4'-DDT	10	5.0	1	
Delta-BHC	ND	5.0	1	
Dieldrin	ND	5.0	1	
Endosulfan I	ND	5.0	1	
Endosulfan II	ND	5.0	1	
Endosulfan Sulfate	ND	5.0	1	
Endrin	ND	5.0	1	
Endrin Aldehyde	ND	5.0	1	
Endrin Ketone	ND	5.0	1	
Gamma-BHC	ND	5.0	1	
Heptachlor	ND	5.0	1	
Heptachlor Epoxide	ND	5.0	1	
Methoxychlor	ND	5.0	1	
Toxaphene	ND	100	1	

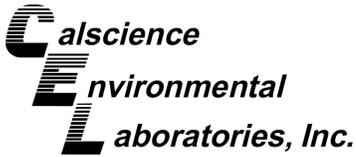
Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	92	50-135	
2,4,5,6-Tetrachloro-m-Xylene	154	50-135	2,7

SB-1-0.5'	13-10-1934-1-A	10/25/13 08:03	Solid	GC 51	10/26/13	11/01/13 17:44	131026L01
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Parameter	Result	RL	DF	Qualifiers
4,4'-DDE	120	25	5	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	100	50-135	
2,4,5,6-Tetrachloro-m-Xylene	139	50-135	1,2,7

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Analytical Report

Rincon Consultants
5135 Avenida Encinas, Suite A
Carlsbad, CA 92008-9999

Date Received: 10/25/13
Work Order: 13-10-1934
Preparation: EPA 3545
Method: EPA 8081A
Units: ug/kg

Project: 13-01316, Lone Oak Rd

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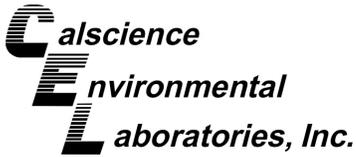
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SB-2-0.5'	13-10-1934-2-A	10/25/13 08:38	Solid	GC 51	10/26/13	11/01/13 15:02	131026L01

Parameter	Result	RL	DF	Qualifiers
Aldrin	ND	5.0	1	
Alpha-BHC	ND	5.0	1	
Beta-BHC	ND	5.0	1	
Chlordane	ND	50	1	
4,4'-DDD	ND	5.0	1	
4,4'-DDE	13	5.0	1	
4,4'-DDT	ND	5.0	1	
Delta-BHC	ND	5.0	1	
Dieldrin	ND	5.0	1	
Endosulfan I	ND	5.0	1	
Endosulfan II	ND	5.0	1	
Endosulfan Sulfate	ND	5.0	1	
Endrin	ND	5.0	1	
Endrin Aldehyde	ND	5.0	1	
Endrin Ketone	ND	5.0	1	
Gamma-BHC	ND	5.0	1	
Heptachlor	ND	5.0	1	
Heptachlor Epoxide	ND	5.0	1	
Methoxychlor	ND	5.0	1	
Toxaphene	ND	100	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	72	50-135	
2,4,5,6-Tetrachloro-m-Xylene	81	50-135	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Analytical Report

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5135 Avenida Encinas, Suite A
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Date Received: 10/25/13
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Preparation: EPA 3545
Method: EPA 8081A
Units: ug/kg

Project: 13-01316, Lone Oak Rd

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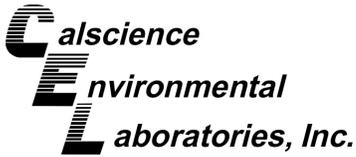
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SB-3-0.5'	13-10-1934-3-A	10/25/13 09:05	Solid	GC 51	10/26/13	11/01/13 15:16	131026L01

Parameter	Result	RL	DF	Qualifiers
Aldrin	ND	5.0	1	
Alpha-BHC	ND	5.0	1	
Beta-BHC	ND	5.0	1	
Chlordane	ND	50	1	
4,4'-DDD	ND	5.0	1	
4,4'-DDE	26	5.0	1	
4,4'-DDT	ND	5.0	1	
Delta-BHC	ND	5.0	1	
Dieldrin	ND	5.0	1	
Endosulfan I	ND	5.0	1	
Endosulfan II	ND	5.0	1	
Endosulfan Sulfate	ND	5.0	1	
Endrin	ND	5.0	1	
Endrin Aldehyde	ND	5.0	1	
Endrin Ketone	ND	5.0	1	
Gamma-BHC	ND	5.0	1	
Heptachlor	ND	5.0	1	
Heptachlor Epoxide	ND	5.0	1	
Methoxychlor	ND	5.0	1	
Toxaphene	ND	100	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	72	50-135	
2,4,5,6-Tetrachloro-m-Xylene	88	50-135	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Analytical Report

Rincon Consultants
5135 Avenida Encinas, Suite A
Carlsbad, CA 92008-9999

Date Received: 10/25/13
Work Order: 13-10-1934
Preparation: EPA 3545
Method: EPA 8081A
Units: ug/kg

Project: 13-01316, Lone Oak Rd

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SB-4-0.5'	13-10-1934-4-A	10/25/13 09:30	Solid	GC 51	10/26/13	11/01/13 16:45	131026L01

Parameter	Result	RL	DF	Qualifiers
Aldrin	ND	5.0	1	
Alpha-BHC	ND	5.0	1	
Beta-BHC	ND	5.0	1	
Chlordane	ND	50	1	
4,4'-DDD	ND	5.0	1	
4,4'-DDT	21	5.0	1	
Delta-BHC	ND	5.0	1	
Dieldrin	ND	5.0	1	
Endosulfan I	ND	5.0	1	
Endosulfan II	ND	5.0	1	
Endosulfan Sulfate	ND	5.0	1	
Endrin	ND	5.0	1	
Endrin Aldehyde	ND	5.0	1	
Endrin Ketone	ND	5.0	1	
Gamma-BHC	ND	5.0	1	
Heptachlor	ND	5.0	1	
Heptachlor Epoxide	ND	5.0	1	
Methoxychlor	ND	5.0	1	
Toxaphene	ND	100	1	

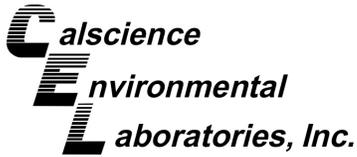
Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	82	50-135	
2,4,5,6-Tetrachloro-m-Xylene	111	50-135	

SB-4-0.5'	13-10-1934-4-A	10/25/13 09:30	Solid	GC 51	10/26/13	11/01/13 17:59	131026L01
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Parameter	Result	RL	DF	Qualifiers
4,4'-DDE	170	50	10	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	85	50-135	
2,4,5,6-Tetrachloro-m-Xylene	103	50-135	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Analytical Report

Rincon Consultants
5135 Avenida Encinas, Suite A
Carlsbad, CA 92008-9999

Date Received: 10/25/13
Work Order: 13-10-1934
Preparation: EPA 3545
Method: EPA 8081A
Units: ug/kg

Project: 13-01316, Lone Oak Rd

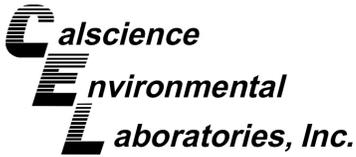
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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SB-5-0.5'	13-10-1934-5-A	10/25/13 10:10	Solid	GC 51	10/26/13	11/01/13 17:00	131026L01

Parameter	Result	RL	DF	Qualifiers
Aldrin	ND	5.0	1	
Alpha-BHC	ND	5.0	1	
Beta-BHC	ND	5.0	1	
Chlordane	ND	50	1	
4,4'-DDD	ND	5.0	1	
4,4'-DDE	ND	5.0	1	
4,4'-DDT	ND	5.0	1	
Delta-BHC	ND	5.0	1	
Dieldrin	ND	5.0	1	
Endosulfan I	ND	5.0	1	
Endosulfan II	ND	5.0	1	
Endosulfan Sulfate	ND	5.0	1	
Endrin	ND	5.0	1	
Endrin Aldehyde	ND	5.0	1	
Endrin Ketone	ND	5.0	1	
Gamma-BHC	ND	5.0	1	
Heptachlor	ND	5.0	1	
Heptachlor Epoxide	ND	5.0	1	
Methoxychlor	ND	5.0	1	
Toxaphene	ND	100	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	85	50-135	
2,4,5,6-Tetrachloro-m-Xylene	89	50-135	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Analytical Report

Rincon Consultants
5135 Avenida Encinas, Suite A
Carlsbad, CA 92008-9999

Date Received: 10/25/13
Work Order: 13-10-1934
Preparation: EPA 3545
Method: EPA 8081A
Units: ug/kg

Project: 13-01316, Lone Oak Rd

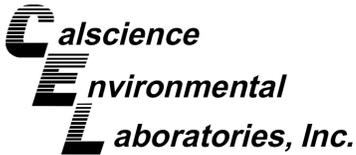
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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SB-6-0.5'	13-10-1934-6-A	10/25/13 09:50	Solid	GC 51	10/26/13	11/02/13 10:42	131026L01

Parameter	Result	RL	DF	Qualifiers
Aldrin	ND	5.0	1	
Alpha-BHC	ND	5.0	1	
Beta-BHC	ND	5.0	1	
Chlordane	ND	50	1	
4,4'-DDD	ND	5.0	1	
4,4'-DDE	ND	5.0	1	
4,4'-DDT	ND	5.0	1	
Delta-BHC	ND	5.0	1	
Dieldrin	ND	5.0	1	
Endosulfan I	ND	5.0	1	
Endosulfan II	ND	5.0	1	
Endosulfan Sulfate	ND	5.0	1	
Endrin	ND	5.0	1	
Endrin Aldehyde	ND	5.0	1	
Endrin Ketone	ND	5.0	1	
Gamma-BHC	ND	5.0	1	
Heptachlor	ND	5.0	1	
Heptachlor Epoxide	ND	5.0	1	
Methoxychlor	ND	5.0	1	
Toxaphene	ND	100	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	105	50-135	
2,4,5,6-Tetrachloro-m-Xylene	61	50-135	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Analytical Report

Rincon Consultants
5135 Avenida Encinas, Suite A
Carlsbad, CA 92008-9999

Date Received: 10/25/13
Work Order: 13-10-1934
Preparation: EPA 3545
Method: EPA 8081A
Units: ug/kg

Project: 13-01316, Lone Oak Rd

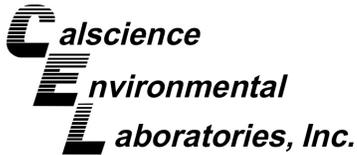
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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SB-7-0.5'	13-10-1934-7-A	10/25/13 10:45	Solid	GC 51	10/26/13	11/01/13 17:30	131026L01

Parameter	Result	RL	DF	Qualifiers
Aldrin	ND	5.0	1	
Alpha-BHC	ND	5.0	1	
Beta-BHC	ND	5.0	1	
Chlordane	ND	50	1	
4,4'-DDD	ND	5.0	1	
4,4'-DDE	ND	5.0	1	
4,4'-DDT	ND	5.0	1	
Delta-BHC	ND	5.0	1	
Dieldrin	ND	5.0	1	
Endosulfan I	ND	5.0	1	
Endosulfan II	ND	5.0	1	
Endosulfan Sulfate	ND	5.0	1	
Endrin	ND	5.0	1	
Endrin Aldehyde	ND	5.0	1	
Endrin Ketone	ND	5.0	1	
Gamma-BHC	ND	5.0	1	
Heptachlor	ND	5.0	1	
Heptachlor Epoxide	ND	5.0	1	
Methoxychlor	ND	5.0	1	
Toxaphene	ND	100	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	87	50-135	
2,4,5,6-Tetrachloro-m-Xylene	80	50-135	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Analytical Report

Rincon Consultants
5135 Avenida Encinas, Suite A
Carlsbad, CA 92008-9999

Date Received: 10/25/13
Work Order: 13-10-1934
Preparation: EPA 3545
Method: EPA 8081A
Units: ug/kg

Project: 13-01316, Lone Oak Rd

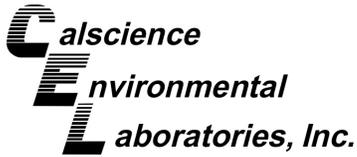
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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-537-1517	N/A	Solid	GC 51	10/26/13	10/31/13 22:29	131026L01

Parameter	Result	RL	DF	Qualifiers
Aldrin	ND	5.0	1	
Alpha-BHC	ND	5.0	1	
Beta-BHC	ND	5.0	1	
Chlordane	ND	50	1	
4,4'-DDD	ND	5.0	1	
4,4'-DDE	ND	5.0	1	
4,4'-DDT	ND	5.0	1	
Delta-BHC	ND	5.0	1	
Dieldrin	ND	5.0	1	
Endosulfan I	ND	5.0	1	
Endosulfan II	ND	5.0	1	
Endosulfan Sulfate	ND	5.0	1	
Endrin	ND	5.0	1	
Endrin Aldehyde	ND	5.0	1	
Endrin Ketone	ND	5.0	1	
Gamma-BHC	ND	5.0	1	
Heptachlor	ND	5.0	1	
Heptachlor Epoxide	ND	5.0	1	
Methoxychlor	ND	5.0	1	
Toxaphene	ND	100	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	104	50-135	
2,4,5,6-Tetrachloro-m-Xylene	95	50-135	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Quality Control - Spike/Spike Duplicate

Rincon Consultants
5135 Avenida Encinas, Suite A
Carlsbad, CA 92008-9999

Date Received: 10/25/13
Work Order: 13-10-1934
Preparation: EPA 3545
Method: EPA 8081A

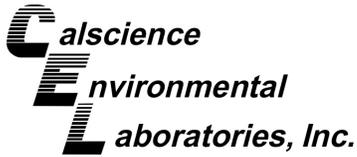
Project: 13-01316, Lone Oak Rd

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Quality Control Sample ID	Matrix		Instrument		Date Prepared		Date Analyzed		MS/MSD Batch Number	
SB-2-0.5'	Solid		GC 51		10/26/13		11/01/13 13:51		131026S01	
Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aldrin	ND	25.00	18.15	73	18.30	73	50-135	1	0-25	
Alpha-BHC	ND	25.00	19.08	76	19.24	77	50-135	1	0-25	
Beta-BHC	ND	25.00	18.89	76	18.88	76	50-135	0	0-25	
4,4'-DDD	ND	25.00	21.55	86	23.41	94	50-135	8	0-25	
4,4'-DDE	13.33	25.00	32.84	78	33.26	80	50-135	1	0-25	
4,4'-DDT	ND	25.00	17.44	70	14.10	56	50-135	21	0-25	
Delta-BHC	ND	25.00	18.29	73	18.33	73	50-135	0	0-25	
Dieldrin	ND	25.00	22.54	90	22.75	91	50-135	1	0-25	
Endosulfan I	ND	25.00	18.72	75	18.86	75	50-135	1	0-25	
Endosulfan II	ND	25.00	18.95	76	18.92	76	50-135	0	0-25	
Endosulfan Sulfate	ND	25.00	18.29	73	18.07	72	50-135	1	0-25	
Endrin	ND	25.00	18.79	75	18.37	73	50-135	2	0-25	
Endrin Aldehyde	ND	25.00	19.57	78	19.00	76	50-135	3	0-25	
Gamma-BHC	ND	25.00	20.34	81	20.44	82	50-135	0	0-25	
Heptachlor	ND	25.00	17.79	71	16.96	68	50-135	5	0-25	
Heptachlor Epoxide	ND	25.00	17.46	70	17.54	70	50-135	0	0-25	
Methoxychlor	ND	25.00	13.75	55	9.966	40	50-135	32	0-25	3,4

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RPD: Relative Percent Difference. CL: Control Limits



Quality Control - LCS

Rincon Consultants
5135 Avenida Encinas, Suite A
Carlsbad, CA 92008-9999

Date Received: 10/25/13
Work Order: 13-10-1934
Preparation: EPA 3545
Method: EPA 8081A

Project: 13-01316, Lone Oak Rd

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Quality Control Sample ID	Matrix	Instrument	Date Analyzed	LCS Batch Number		
099-12-537-1517	Solid	GC 51	10/31/13 22:44	131026L01		
Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Aldrin	25.00	22.40	90	50-135	36-149	
Alpha-BHC	25.00	22.23	89	50-135	36-149	
Beta-BHC	25.00	23.18	93	50-135	36-149	
4,4'-DDD	25.00	21.35	85	50-135	36-149	
4,4'-DDE	25.00	21.61	86	50-135	36-149	
4,4'-DDT	25.00	20.99	84	50-135	36-149	
Delta-BHC	25.00	21.51	86	50-135	36-149	
Dieldrin	25.00	22.81	91	50-135	36-149	
Endosulfan I	25.00	23.54	94	50-135	36-149	
Endosulfan II	25.00	21.77	87	50-135	36-149	
Endosulfan Sulfate	25.00	21.13	85	50-135	36-149	
Endrin	25.00	20.96	84	50-135	36-149	
Endrin Aldehyde	25.00	20.38	82	50-135	36-149	
Gamma-BHC	25.00	21.92	88	50-135	36-149	
Heptachlor	25.00	22.50	90	50-135	36-149	
Heptachlor Epoxide	25.00	21.00	84	50-135	36-149	
Methoxychlor	25.00	20.28	81	50-135	36-149	

Total number of LCS compounds: 17

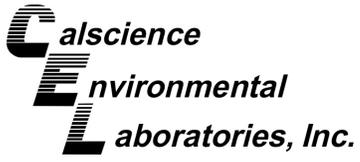
Total number of ME compounds: 0

Total number of ME compounds allowed: 1

LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits



Sample Analysis Summary Report

Work Order: 13-10-1934

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<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
EPA 8081A	EPA 3545	500	GC 51	1


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Location 1: 7440 Lincoln Way, Garden Grove, CA 92841

Glossary of Terms and Qualifiers

Work Order: 13-10-1934

Page 1 of 1

<u>Qualifiers</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of ≤ 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

WORK ORDER #: **13-10-11934**

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: Rincon Consultants

DATE: 10/25/13

TEMPERATURE: Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)

Temperature 3.1 °C - 0.2 °C (CF) = 2.9 °C Blank Sample

Sample(s) outside temperature criteria (PM/APM contacted by: _____).

Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

Received at ambient temperature, placed on ice for transport by Courier.

Ambient Temperature: Air Filter Checked by: 659

CUSTODY SEALS INTACT:

Cooler _____ No (Not Intact) Not Present N/A Checked by: 659

Sample _____ No (Not Intact) Not Present Checked by: 895

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
<input type="checkbox"/> No analysis requested. <input type="checkbox"/> Not relinquished. <input type="checkbox"/> No date/time relinquished.			
Sampler's name indicated on COC.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers and sufficient volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aqueous samples received within 15-minute holding time			
<input type="checkbox"/> pH <input type="checkbox"/> Residual Chlorine <input type="checkbox"/> Dissolved Sulfides <input type="checkbox"/> Dissolved Oxygen.....			
Proper preservation noted on COC or sample container.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:

Solid: 4ozCGJ 8ozCGJ 16ozCGJ Sleeve (____) EnCores® TerraCores® _____

Aqueous: VOA VOAh VOAna₂ 125AGB 125AGBh 125AGBp 1AGB 1AGBna₂ 1AGBs

500AGB 500AGJ 500AGJs 250AGB 250CGB 250CGBs 1PB 1PBna 500PB

250PB 250PBn 125PB 125PBz_{na} 100PJ 100PJna₂ _____ _____ _____

Air: Tedlar® Canister Other: _____ Trip Blank Lot#: _____ Labeled/Checked by: 895

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: 778

Preservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure z_{na}: ZnAc₂+NaOH f: Filtered Scanned by: 778

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