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January 19, 2018

Mr. Samuel Unger  
Executive Officer  
State Regional Water Quality Board  
Los Angeles Region  
320 West 4<sup>th</sup> Street, Suite 200  
Los Angeles, CA 90013

Subject: Nursery Growers Association  
Los Angeles County Irrigated Lands Group  
Conditional Waiver for Irrigated Lands  
**ANNUAL MONITORING REPORT-YEAR ONE UNDER ORDER  
# R4-2016-0143 (THROUGH DECEMBER 31, 2017)**

Dear Mr. Unger:

Pacific Ridgeline prepared this *Annual Monitoring Report* on behalf of Nursery Growers Association, Los Angeles County Irrigated Lands Group (LAILG). Monitoring and reporting was conducted in accordance with the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (CWIL; Order # R4-2016-0143) under the Quality Assurance Project Plan and Monitoring and Reporting Plan submitted by LAILG for the previous CWIL.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

Respectfully submitted,

Los Angeles Irrigated Lands Group

Anna Felcyn  
Director of Member Relations



**ANNUAL MONITORING REPORT-  
YEAR TWO UNDER ORDER # R4-2016-0143  
(THROUGH OCTOBER 15, 2017)**

**NURSERY GROWERS ASSOCIATION  
LOS ANGELES COUNTY  
IRRIGATED LANDS GROUP**

January 19, 2018



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## ACRONYMS

ABC	Aquatic Bioassay and Consulting Laboratories
ALB	Aquatic Life Benchmark
AMR	Annual Monitoring Report
BMP	Best Management Practice
COC	Chain of Custody
CWIL	Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands
EPA	United States Environmental Protection Agency
GPS	Global Positioning System
LAILG	Los Angeles Irrigated Lands Group
LARWQCB	Los Angeles Regional Water Quality Control Board
MDL	Method Detection Limit
MRP	Monitoring and Reporting Plan
NGA	Nursery Growers Association
OC	Organochlorinated Pesticides
OP	Organophosphate Pesticides
PacRL	Pacific Ridgeline
PP	Pyrethroid Pesticides
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
RPD	Relative Percent Difference
TDS	Total Dissolved Solids
TIE	Toxicity Identification Evaluation
TUc	Toxicity concentration in toxicity units
WMA	Watershed Management Area
WQBs	Water Quality Benchmarks
WQMP	Water Quality Management Plan

**ANNUAL MONITORING REPORT-YEAR FOUR UNDER  
ORDER # R4-2016-0143 (THROUGH DECEMBER 31, 2017)**

**NURSERY GROWERS ASSOCIATION  
LOS ANGELES COUNTY IRRIGATED LANDS GROUP**

**1.0 INTRODUCTION**

The NGA is a non-profit association chartered in the late 1950s. The purpose of NGA is to foster and encourage the growth and development of quality nursery stock and to promote all matters that pertain to the best interests of the wholesale nursery growers. NGA developed the LAILG for compliance with the CWIL, which currently consists of Order #R4-2016-0143. PacRL was contracted by NGA to manage the technical aspect of the LAILG.

The LARWQCB is a State of California Agency that regulates water quality within the coastal watershed of Ventura and Los Angeles Counties under the authorities of the Federal Clean Water Act and State Porter Cologne Water Quality Control Act. The area under the jurisdiction of the LARWQCB is known as the Los Angeles Region.

The LAILG has members within the Dominguez Channel LA/Long Beach Harbors WMA, the Los Angeles River Watershed, the San Gabriel River Watershed, the Santa Monica Bay WMA, and the eastern portion of the Santa Clara River Watershed. All five Watersheds and WMAs have impacted waterbodies that appear on the Federal 303(d) list, and listed contaminants include constituents that could be related to agricultural uses.

Water quality impacts associated with agriculture can be primarily traced to discharges resulting from irrigation or stormwater. These discharges may contain pollutants that have been imported or introduced into the irrigation or stormwater; in addition, irrigation practices can mobilize and or concentrate some pollutants. In order to mitigate these potentially polluted discharges from impacting the beneficial uses of water bodies within the Los Angeles Region, the LARWQCB adopted a CWIL (Order No. R4-2005-0080) on November 3, 2005, as mandated by state law and policy. AMRs submitted by the LAILG during the original CWIL term reported runoff water quality that exceeded established water quality benchmarks.

On October 7, 2010, the LARWQCB adopted a second CWIL for the Los Angeles Region (Order No. R4-2010-0186). Order R4-2010-0186 was extended for an additional year under Order R4-2015-0202. Order R4-2016-0134, adopted on May 19, 2016, slightly revised the program and extended water quality monitoring throughout the Los Angeles Region for an additional four years. Exceedances are to be dealt with by implementing a WQMP that establishes procedures to reduce or eliminate pollutant loading into receiving waters. The goal of this program is to protect and improve water quality and to assist in attaining water quality objectives in the receiving water bodies.

The objective of this AMR is to evaluate compliance with water quality benchmarks established the CWIL and various other water quality programs, and to report findings to the LARWQCB. This AMR describes the monitoring efforts and results that have been undertaken by the NGA for compliance with the CWIL through October 15, 2017, along with presenting historical data collected throughout the life of the program.

## 2.0 BACKGROUND AND SAMPLING METHODOLOGY

As of December 2017, the LAILG is comprised of 291 sites and an estimated 1,997 irrigated acres. A complete list of current group members enrolled in LAILG is included in Appendix A, and a discussion of current enrollment and group status is discussed in Section 7.0.

LAILG has continued to operate under the basic parameters of the MRP and WQMP developed for Order R4-2010-0186, with the goal of gathering enough information to properly apply the WQMP methodology to develop a new MRP for Order R4-2016-0134. During this interim sampling period, LAILG is focusing sampling efforts to address locations where previous samples have been collected and WQO exceedances have been observed, along with newer facilities enrolled in the program. Sampling sites that were chosen for this interim period are presented on Table 1. A running log of all locations sampled since the inception of the program, along with sampling dates and site status is included in Appendix B. Maps presenting currently enrolled members and sampling locations are presented as Figures 1.0-1.5.

*Table 1 - Interim Sampling Locations*

NAME	SITE #	APPROXIMATE GPS LOCATION	ADDRESS	ACRES IRRIGATED	CROP TYPE
ABC Nursery, Inc.	4	N 33° 52' 55.7" W 118° 16' 06.0"	424 E. Gardena Boulevard Gardina, CA	11.51	General Ornamentals
Boething Treeland Farms, Inc.	19	N 34° 09' 51.1" W 118° 38' 20.7"	23475 Long Valley Road Woodland Hills, CA	14.68	General Ornamentals
Norman's Nursery	125	N 34° 05' 42.3" W 118° 04' 53.5"	8550 E Broadway San Gabriel, CA	7.00	General Ornamentals
Colorama Wholesale Nursery	150	N 34° 08' 27.5" W 117° 55' 35.9"	1025 N. Todd Ave. Azusa, CA	15.30	Color Plants
Sakaida Nursery, Inc.	158	N 34° 06' 49.0" W 118° 04' 54.8"	8538-8601 Longden Ave San Gabriel, CA	6.89	General Ornamentals
SY Nursery Inc.	168	N 33° 50' 59.2" W 118° 04' 36.0"	19900 S Pioneer Blvd Cerritos, CA	4.75	General Ornamentals
T-Y Nursery	176	N 33° 51' 18.7" W 118° 23' 10.9"	Between Flagler/Paulina Redondo Beach, CA	7.50	General Ornamentals
Ultra Greens Nursery	178	N 34° 17' 57.4" W 118° 25' 06.5"	13102 Maclay Street Sylmar, CA	8.50	General Ornamentals
Valley Sod Farms, Inc.	184	N 34° 13' 23.1" W 118° 29' 34.5"	16405 Chase Street North Hills, CA	36.00	Sod
El Nativo Growers	202	N 34° 06' 38.2" W 117° 56' 26.4"	200 S. Peckham Azusa, CA	7.00	General Ornamentals

### **3.0 SAMPLING EVENTS**

During the wet season of this reporting period, which lasted from October 15, 2016 through May 14, 2017, interim sampling sites listed in Table 1 were divided into groups and visited on January 20, 2017 and February 17, 2017. On January 20, 2017, a total of three of the five sites had sufficient runoff to conduct sampling, and on February 17, 2017, all five sites were sampled.

During the dry season of this reporting period, which lasted from May 15, 2017 through October 14, 2017, all interim sampling sites listed in Table 1 were visited on September 28 and October 6, 2017. All sites were visited during normal operating hours with visits lasting for one hour or for a complete watering cycle, whichever was greater. During the visits, irrigation watering practices were observed and noted. Inspections included communicating with site operators regarding recently implemented BMPs at each site and verifying BMPs that had been implemented in the past. Irrigation runoff was not observed and samples were not collected at any of the selected sites visited during the dry season. Photographs were taken at each site, and each site visited is discussed in Section 5.

A total of 82 samples have been collected by LAILG during the life of the program. Over half of the samples were collected during the first two years of the program, prior to the suspension of the monitoring group. Collected samples have historically been from storm water runoff during the wet season; irrigated runoff from the dry season has not been encountered since 2008. This is in part due to a concerted effort by LAILG to educate growers on field conditions that were observed during sampling events, to eliminate dry season runoff. A summarized history of collected samples is presented on Table 2. A complete history of collected samples is presented in Appendix B.



*Table 2 – Historical Sampling Timeline*

	CWIL Order # R4-2005-0080												Total
	YEAR 1 <sup>1</sup>				YEAR 2 <sup>2</sup>				YEAR 3		YEAR 4		
	Dry Season		Wet Season		Dry Season		Wet Season		Dry Season	Wet Season	Dry Season	Wet Season	
	Event #1	Event #2	Event #1	Event #2	Event #1	Event #2	Event #1	Event #2	Event #1	Event #1	Event #1	Event #1	
Samples Collected	5	3	14	8	2	1	8	11	0	ns*	0	ns*	52
Sites Visited	16	16	16	16	14	14	18	18	18	N/A	18	N/A	164

**1** Wet Season sampling events took place over five storms due to localized rain patterns and a general lack of uniform storm intensity and duration.

**2** Wet Season sampling events took place during two storm days where all sites were visited.

	CWIL Order # R4-2010-0186																Total					
	Interim Sampling Event <sup>3</sup>	YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5				
		Dry Season		Wet Season		Dry Season		Wet Season		Dry Season		Wet Season		Dry Season		Wet Season		Dry Season		Wet Season		
		Event #1	Event #2	Event #1	Event #2	Event #1	Event #2	Event #1	Event #2	Event #1	Event #2	Event #1	Event #2	Event #1	Event #2	Event #1		Event #2	Event #1	Event #2	Event #1	Event #2
March 2011	4	0	0	4	4	0	0	0	0	0	0	5	0	0	0	2	1	0	0	2	0	22
Sites Visited	4	5	5	5	5	5	5	na	na	5	5	5	na	5	5	5	5	5	5	5	na	84

**3** The previous CWIL (Order R4-2005-0080) was replaced on October 7, 2010 with the adoption of a new Waiver (Order R4-2010-0186). As a good faith measure, the LAILG conducted a sampling event during the wet season between the execution of the new CWIL and the required submittal date of an MRP on April 7, 2011.

	CWIL Order # R4-2016-0143						Total
	YEAR 1 <sup>4</sup>				YEAR 2 <sup>4</sup>		
	Dry Season		Wet Season		Dry Season		
	Event #1	Event #2	Event #1	Event #2	Event #1	Event #2	
Samples Collected	0	0	3	5	0	0	8
Sites Visited	5	5	5	5	5	5	30

**4** Sites were sampled in the interim based on the MRP from CWIL Order R4-2010-0186.

#### 4.0 WATER QUALITY BENCHMARKS

Samples were collected and analyzed as presented in the MRP and QAPP developed for Order R4-2010-0186. Table 3 presents the list of constituents analyzed during this reporting period.

Table 3 - List of Constituents for Testing

CONSTITUENT	UNITS	FIELD/LABORATORY TEST
Flow	Cubic feet per second	Field
pH	pH units	Field
Temperature	°F	Field
Dissolved Oxygen	mg/L	Field
Turbidity	NTU	Field
Total Dissolved Solids	mg/L	Laboratory
Total Suspended Solids	mg/L	Laboratory
Hardness (as CaCO <sub>3</sub> )	mg/L	Laboratory
Chloride	mg/L	Laboratory
Ammonia	mg/L	Laboratory
Nitrate-Nitrogen	mg/L	Laboratory
Phosphate	mg/L	Laboratory
Sulfate	mg/L	Laboratory
Total Copper	ng/L	Laboratory
Organophosphate Suite <sup>1</sup>	ng/L	Laboratory
Organochlorines Suite <sup>2</sup>	ng/L	Laboratory
Toxaphene	ng/L	Laboratory
Pyrethroids	ng/L	Laboratory
Toxicity	TU <sub>c</sub> <sup>3</sup>	Laboratory
Trash	Observations	Field

<sup>1</sup> Organophosphate Suite: Bolstar, Chlorpyrifos, Demeton, Diazinon, Dichlorvos, Dimethoate, Disulfoton, Ethoprop, Fenchlorophos, Fensulfothion, Fenthion, Malathion, Merphos, Methyl Parathion, Mevinphos, Phorate, Tetrachlorvinphos, Tokuthion, Trichloronate.

<sup>2</sup> Organochlorine Suite: 2,4' - DDD, 2,4' - DDE, 2,4' DDT, 4,4' -DDD, 4,4' -DDE, 4,4' -DDT, Aldrin, BHC-alpha, BHC-beta, BHC-delta, BHC-gamma, Chlordane-alpha, Chlordane-gamma, Dieldrin, Endosulfan sulfate, Endosulfan-I, Endosulfan-II, Endrin, Endrin Aldehyde, Endrin Ketone.

<sup>3</sup> Chronic Toxic Unit is the reciprocal of the sample concentration that caused no observable effect on the test organism by the end of a chronic toxicity test.

mg/l            milligrams per liter  
 ng/L            nanograms per liter  
 °F                degrees Fahrenheit  
 TU<sub>c</sub>            chronic toxic unit  
 NTU              nephelitic turbidity units

#### 4.1 Water Quality Benchmarks

The following tables present water quality benchmarks that apply to this program. They are derived from language included in Appendix 4 of the current Waiver, along with the Water Quality Control Plan Los Angeles Region (Basin Plan) objectives, California Toxics Rule benchmarks, USEPA ALB guidelines, and CCR Title 22 maximum contamination levels for municipal water (organic chemicals).

For the purpose of analysis, benchmarks are broken into four general groups: general chemistry (including nutrients), pesticides, toxicity, and field monitoring results.

##### General Chemistry

General Chemistry water quality objectives for each site were obtained from the *Water Quality Control Plan, Los Angeles Region*. To choose the most appropriate water quality objectives for each site, all sites were assumed to drain through storm drains that ran perpendicularly to the closest blue line stream. The most relevant stream reach and related water quality objectives were chosen for each site using this assumption. Table 4 outlines the site-specific water quality objectives and associated fixed sampling sites used to evaluate general chemistry results for this report.

Table 4 - Water Quality Benchmarks, General Chemistry

Watershed/stream reach	NGA Site #	Ammonia	TDS	Sulfate	Chloride	Nitrogen	TSS	Copper (µg/L)	Phosphate
<b>Los Angeles River:</b>									
Above Figueroa St.	19, 184	a)	950	300	150	8	—	$CCC=0.960e^{[(0.8545(\text{in hardness}))+(-1.702)]}$	—
Rio Hondo above Santa Ana Freeway	125, 158	a)	750	300	150	8	—	$CCC=0.960e^{[(0.8545(\text{in hardness}))+(-1.702)]}$	—
Pacoima Wash above Pacoima spreading grounds	178	a)	250	30	10	MUN	—	$CCC=0.960e^{[(0.8545(\text{in hardness}))+(-1.702)]}$	—
<b>San Gabriel River:</b>									
Between Firestone Blvd. and San Gabriel River Estuary	168	a)	MUN				—	$CCC=0.960e^{[(0.8545(\text{in hardness}))+(-1.702)]}$	—
Between Morris Dam and Ramona Blvd.	150, 202	a)	450	100	100	8	—	$CCC=0.960e^{[(0.8545(\text{in hardness}))+(-1.702)]}$	—
Dominguez Channel	4	a)	MUN				—	$CCC=0.960e^{[(0.8545(\text{in hardness}))+(-1.702)]}$	—
Santa Monica Bay	176	a)	MUN				—	$CCC=0.960e^{[(0.8545(\text{in hardness}))+(-1.702)]}$	—
<b>USEPA Municipal Drinking Water Standards</b>		a)	500	250	400	10	—	1.3 (mg/L)	—

\* All limits are recorded for milligrams per liter (mg/L)

a) Limit varies, see Water Quality Control Plan, Los Angeles Region

MUN No site specific objectives have been established. Objectives are based on USEPA guidelines for municipal drinking water standards.

— No numeric benchmarks, water quality benchmarks shall be based on the surface water and groundwater basin objectives currently contained in the Water Quality Control Plan Los Angeles Region (Basin Plan) or other applicable water quality standards established for the Los Angeles Region.

*Pesticides*

Pesticide water quality objectives were taken from the Waiver, USEPA ALB guidelines, and the California Toxics Rule. Table 5 presents pesticide benchmarks outlined in the Waiver. Table 6 presents OC pesticide benchmarks outlined by the California Toxics Rule.

*Table 5 - Water Quality Benchmarks, Pesticides, CWIL*

CONSTITUENT	UNITS	WATER QUALITY BENCHMARK
Chlordane	µg/L	0.00059
4,4' - DDT	µg/L	0.00059
4,4' - DDD	µg/L	0.00084
DDE	µg/L	0.00059
Dieldrin	µg/L	0.00014
Toxaphene	µg/L	0.00075
Chlorpyrifos	µg/L	0.025
Diazinon	µg/L	0.10
µg/L	micrograms per liter	

*Table 6 - Additional Water Quality Benchmarks, Pesticides, California Toxics Rule*

CONSTITUENT	UNITS	WATER QUALITY BENCHMARK
		Human Health (30-day Average) Drinking Water Sources (consumption of water and aquatic organisms)
Aldrin	ug/L	0.00013
alpha-BHC	ug/L	0.0039
beta-BHC	ug/L	0.014
gamma-BHC (Lindane)	ug/L	0.019
Endosulfan and derivatives	ug/L	110
Endrin	ug/L	0.76
Endrin aldehyde	ug/L	0.76
Heptachlor	ug/L	0.00021
Heptachlor epoxide	ug/L	0.0001

Table 7 presents ALB benchmarks for OP and pyrethroid pesticides. Any pesticide that exceeded the value reported for acute invertebrates were considered a water quality exceedance for LAILG evaluation purposes. The guidelines for acute invertebrates were chosen because historically the most sensitive species in toxicity testing was *Ceriodaphna dubia*, a species of water flea. The CWIL does not directly cover benchmarks for these constituents, and does not specifically require ALB benchmarks to be considered as WQBs.

Table 7 - Water Quality Benchmarks, Pesticides, Aquatic Life Benchmarks

Pesticides	Footnote	CAS Number	Fish		Invertebrates		Nonvascular Plants	Vascular Plants	Office of Water Aquatic Life Criteria	
			Acute 1	Chronic 2	Acute 3	Chronic 4	Acute 5	Acute 6	Maximum Concentration (CMC)	Continuous Concentration (CCC)
<b>OP Pesticides</b>										
Azinphos Methyl	9	86-50-0	0.18	0.055	0.08	0.036	—	—	—	—
Coumaphos	10	56-72-4	140	11.7	0.037	0.0337	—	—	—	—
Dichlovos (DDVP)		62-73-7	91.50	5.200	0.035	0.0058	14,000	—	—	—
Dimethoate	9	60-51-5	3100	430	21.5	0.5	84	—	—	—
Disulfoton	9	298-04-4	19.5	4	1.95	0.01	—	—	—	—
Ethoprop		13194-48-4	150	24	22	0.8	8,400	—	—	—
Fenthion	8	55-38-9	415	7.5	2.6	0.013	400	> 2,800	—	—
Malathion		121-75-5	16.5	8.6	0.295	0.035	2,400	>9,630	—	0.1
Methyl Parathion	13	298-00-0	925	< 10	0.485	0.25	15,000	18,000	—	—
Naled		300-76-5	46	2.9	0.07	0.045	25	> 1,800	—	—
Phorate	8	298-02-2	1.175	0.34	0.3	0.21	> 1,300	—	—	—
<b>Pyrethroid Pesticides</b>										
Allethrin		584-79-2	9.5	—	1.05	—	—	—	—	—
Bifenthrin		82657-04-3	0.075	0.04	0.8	0.0013	—	—	—	—
Cyfluthrin		68359-37-5	0.034	0.01	0.0125	0.0074	<181	—	—	—
Cypermethrin		52315-07-8	0.195	0.14	0.21	0.069	—	—	—	—
Fenpropathrin (Danitol)		64257-84-7	1.1	0.091	0.265	0.064	—	—	—	—
Deltamethrin		52918-63-5	0.29	0.017	0.055	0.0041	—	—	—	—
Esfenvalerate	9	66230-04-4	0.035	0.035	0.025	0.017	—	—	—	—
Lambda-cyhalothrin		91465-08-6	0.105	0.031	0.0035	0.002	> 310	—	—	—
Pendimethalin		40487-42-1	69	6.3	140	14.5	5.2	12.5	—	—
Permethrin	16	52645-53-1	0.395	0.0515	0.0106	0.0014	68	—	—	—
Prallethrin		23031-36-9	6	3	3.1	0.65	—	—	—	—
Sumithrin		26002-80-2	7.9	1.1	2.2	0.47	—	—	—	—
Telfluthrin		79538-32-2	0.03	0.004	0.035	0.008	—	—	—	—

**Limits Reported in ug/L**

<sup>8</sup> Because the underlying toxicity value is a "greater-than" value (such as >265,000), this benchmark may overestimate toxicity.

<sup>9</sup> The chronic benchmark is based on the acute toxicity value (which was lower than the lowest available chronic toxicity value), and therefore may underestimate chronic

<sup>10</sup> Although the underlying acute toxicity value is greater than or equal to the chronic toxicity value, the acute benchmark is lower than the chronic benchmark because acute and chronic toxicity values were multiplied by LOC values of 0.5 and 1, respectively.

<sup>13</sup> Because the underlying toxicity value is a "less-than" value (such as <1,500), this benchmark may underestimate toxicity.

<sup>16</sup> Toxicity values and benchmarks apply to permethrin. If monitoring data represent only the *cis* isomer of permethrin in water, comparison with benchmarks may underestimate potential toxicity.

### *Toxicity*

Toxicity water quality objectives were determined as outlined in the MRP and QAPP, and through communications with ABC laboratory. Because tests are run on 100% concentration of samples (no dilution water), numerical values of TUC cannot be accurately determined. Due to the lack of TUC values, a TIE was generally run on samples that exhibited a high mortality. Chronic toxicity testing was conducted for *Pimephales promelas* (fathead minnow), *Ceriodaphnia* (water flea), and *Selenastrum capricornutum* (green algae).

Adequate sample volume was collected during sampling events so that TIE procedures could be initiated as soon as possible after toxicity was observed. TIE testing was only initiated if initial testing indicated the presence of significant toxicity in the sample. For the purpose of triggering TIE procedures, significant toxicity was defined as at least 50 percent mortality or a 50 percent reduction in growth. The 50 percent threshold is consistent with the approach recommended in guidance published by the EPA for conducting TIEs, which recommends a minimum threshold of 50 percent mortality because the probability of completing a successful TIE decreases rapidly for samples with less than this level of toxicity.

### *Field Monitoring*

For field monitoring results, the Basin Plan for the Los Angeles Region contains narrative objectives for certain chemicals, most notably: biostimulatory substances, temperature, pH, turbidity, and Total Suspended Solids. Table 8 presents field monitoring and toxicity benchmarks, as outlined in the Los Angeles Basin Plan. These narrative objectives contain verbiage stating that the natural or ambient conditions of receiving waters are not to be altered by discharges, including some of the constituents listed above. This is problematic, as natural or ambient conditions have not been established in many receiving waters, and discharges from growing operations in the urban Los Angeles Region drain primarily to storm drains. The ultimate endpoint of these storm drains are not well mapped or established, and are comingled with discharges from a number of land use types. Due to the difficulty in ascertaining the impacts to receiving waters, it is assumed in this report that discharges do not affect the receiving water bodies in a large enough magnitude to alter natural or ambient conditions.

*Table 8 - Water Quality Benchmarks, Field Monitoring and Toxicity*

<b>Constituent</b>	<b>Narrative Objective</b>	<b>Applicable Benchmarks</b>
<b>pH</b>	The pH of inland surface water shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharges. Ambient pH levels shall not be changed by more than 0.5 pH units from natural conditions as a result of waste discharges.	6.5 ≤ pH ≤ 8.5 Changes to ambient receiving water conditions are not assessed; "ambient" or "natural" conditions have not been established
<b>Temperature</b>	For water designated WARM, water temperature shall not be altered by more than 5°F above natural temperature. At no time shall WARM-designated waters be raised above 80°F as a result of water discharge	WARM: ≤ 80°F Changes to ambient receiving water conditions are not assessed; "ambient" or "natural" conditions have not been established
	For waters designated as COLD, water temperature shall not be altered by more than 5°F above the natural temperature.	COLD: No numeric benchmark. Changes to ambient receiving water conditions are not assessed; "ambient" or "natural" conditions have not been established.
<b>Dissolved Oxygen</b>	No single dissolved oxygen determination shall be less than 5 mg/L, except when natural conditions cause lesser concentrations.	≥ 5 mg/L
	The dissolved oxygen content of all surface waters designated as WARM shall not be depressed below 5 mg/L as a result of waste discharge.	WARM: ≥ 5 mg/L
	The dissolved oxygen content of all surface waters designated as COLD and SPWN shall not be depressed below 7 mg/L as a result of waste discharge.	COLD, SPWN: ≥ 7 mg/L
<b>Turbidity</b>	Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in natural turbidity attribute to controllable water quality factors shall not exceed the following limits:  Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20%.  Where natural turbidity is greater than 50 NTU, increases shall not exceed 10%.	No Numeric benchmarks. Changes to ambient receiving water conditions are not assessed; "ambient" or "natural" conditions have not been established.
<b>Toxicity</b>	All waters shall be free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal or aquatic life. There shall be no chronic toxicity in ambient waters outside mixing zones.	≤ 1.0 Tuc <sup>[3]</sup>
<b>Biostimulatory Substances</b>	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affect beneficial uses.	No Numeric benchmarks. Nutrients listed on Table X.
<b>Total Suspended Solids (TSS)</b>	Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.	No numeric benchmarks.

## **5.0 INDIVIDUAL SAMPLING SITE RESULTS**

This section presents current and historical sampling events on a site by site basis for sampling sites sampled during this sampling year. Information includes: a summary of detected constituents from water quality sampling, photographs from visits conducted during the most recent site visits and sampling, site maps, and basic site information. All current interim sampling sites are included in this section. Samples collected from sampling sites that are no longer operating or are from previous sampling sites not included as part of the interim sampling protocol are included in the evaluation presented in Section 7 and in Appendix B, but are not presented in this section.

A complete tabulated summary of results from this sampling year, along with historical sampling results, is presented in Appendix B. Laboratory analytical results for samples collected during this sampling year are included in Appendix C.



## 5.1 Interim Sampling Locations

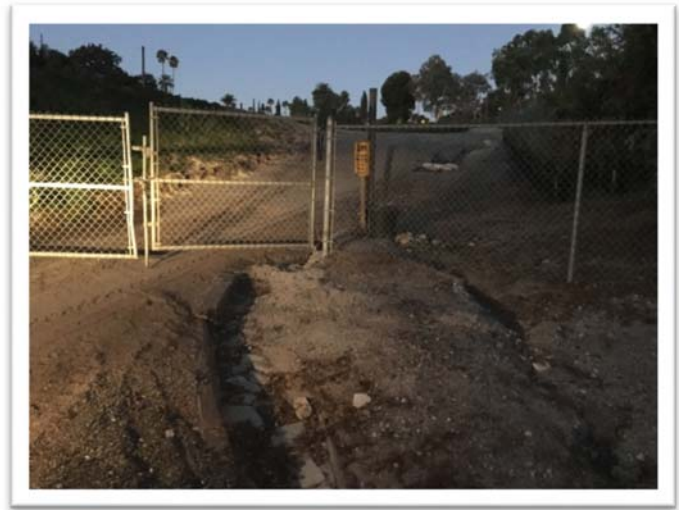
### NGA SITE #19

Previous Sampling Group: Group 1  
Previous Sampling Frequency - Fixed  
Total / Irrigated Acres: 32.0/14.7 Acres  
Sample site GPS location: N 34° 09' 51.1" W 118° 38' 2.07"

*January 20, 2017, wet season, sample collected*



*October 6, 2017, dry season, no sample collected*



**Site Drainage** - The main area of the site drains eastward onto Valley Circle Boulevard. Based on site topography, the eastern edge of the site along Valley Circle Boulevard was chosen as the sampling location.

**Sampling** - Eight samples collected to date. This site was visited during the first wet season sampling event and the second dry season sampling event during this sampling year, and a sample was collected on January 20, 2017.

Historical sampling results for this site are presented in Table 9.

Aerial photography of the site is presented on Figure 2.

Table 9 - Summary of samples collected, NGA #19

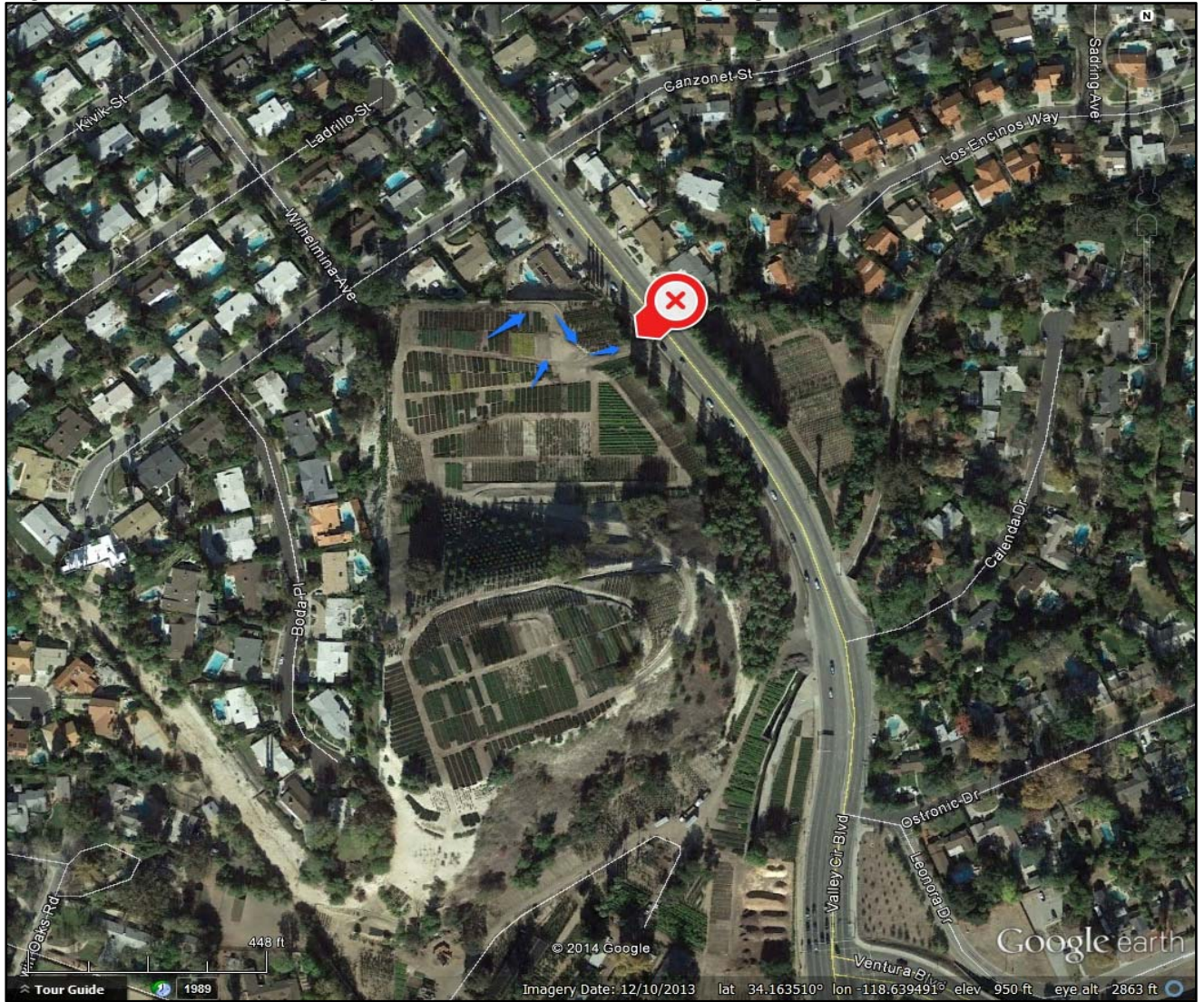
Site	Sample #	Date	General Chemistry (mg/L)												
			Ammonia	Chloride	Diss Ortho	Nitrate	Sulfate	Total Diss Phos	TDS	Total Ortho	Total Phos	TSS	CA Hardness, as CaCO3	Ca	Cu
NGA #19	NGA-#19-LAILG-1	8/13/07	1	108.57	2.2882	<b>10.84</b>	118.85	2.68	772	4.62	5.09	568	na	na	na
NGA #19	LAILG-NGA#19-2	12/18/07	1.4	<b>162.66</b>	11.2352	<b>86.7</b>	290.99	2.13	<b>1,292</b>	4.01	5.544	684	na	na	na
NGA #19	LAILG-NGA19-3	1/5/08	0.12	<b>157.52</b>	0.2125	0.44	<b>451.78</b>	0.96	<b>1,030</b>	1.26	1.173	84	na	na	na
NGA #19	LAILG-NGA 19-4	8/12/08	0.03	104.03	1.1877	<b>12.65</b>	107.33	1.75	834	1.86	15.494	213	na	na	na
NGA #19	LAILG-NGA 19-5	11/26/08	0.96	115.72	1.507	<b>26.94</b>	126.35	1.356	748	4.69	4.884	995	na	na	na
NGA #19	LAILG-NGA 19-6	3/23/11	0.54	110	0.86	<b>55</b>	250	1.1	<b>1,200</b>	0.860	3.4	550	440	180	0.090
NGA #19	LAILG-NGA 19-7	2/28/14	1.4	120	2.40	<b>53</b>	160	2.8	<b>1,000</b>	2.40	4.7	650	319	128	0.056
NGA #19	LAILG-NGA-19-8	1/20/17	0.31	42	0.780	<b>25</b>	61	0.82	700	0.78	2.7	430	163	65.2	0.047

Site	Sample #	Date	OC Pesticides (ng/L)		OP Pesticides (ng/L)			Pyd Pesticides (ng/L)
			Total DDT and Derivatives	Total Chlordane	Chlorpyrifos	Diazinon	Malathion	Total sum of all detected Pyrethroids
NGA #19	NGA-#19-LAILG-1	8/13/07	nd	nd	nd	nd	nd	0
NGA #19	LAILG-NGA#19-2	12/18/07	nd	<b>2.4</b>	nd	15	2,291.3	1,814
NGA #19	LAILG-NGA19-3	1/5/08	<b>5.6</b>	<b>14</b>	nd	nd	nd	6.8
NGA #19	LAILG-NGA 19-4	8/12/08	nd	<b>1.3</b>	nd	nd	nd	91.8
NGA #19	LAILG-NGA 19-5	11/26/08	<b>24.7</b>	<b>6.6</b>	<b>130.1</b>	32.6	nd	2,236.2
NGA #19	LAILG-NGA 19-6	3/23/11	nd	nd	<b>25</b>	nd	nd	29
NGA #19	LAILG-NGA 19-7	2/28/14	nd	nd	<b>22</b>	nd	nd	30
NGA #19	LAILG-NGA-19-8	1/20/17	nd	nd	nd	nd	nd	64

Results above CWIL Limits are presented in **BOLD**.

- mg/L milligrams per liter
- ng/L nanograms per liter
- OC Organochlorinated Pesticide
- OP Organophosphorus Pesticide
- Pyd Pyrethroid Pesticide
- na Constituent not analyzed
- nd Constituent not detected

Figure 2 – Aerial Photograph of NGA #19 and General Sampling Location



General Sampling Location



General Surface Flow to Sampling Location



NGA SITE #124/125

Previous Sampling Group: Group 1  
Previous Sampling Frequency - Fixed  
Total/Irrigated Acres: 10.4/8.3 Acres  
Sample site GPS location: N 34° 05' 56.9" W 118° 04' 56.0"

*February 17, 2017, wet season, sample collected*



*September 28, 2017, dry season, no sample collected*



**Site Drainage** - The site drains southward into a gravel bed along the southern border of the property, near the railroad tracks. Based on drainage and runoff indicators, the south/southwest edge of the property was chosen as the sampling location.

**Sampling** - Eight samples collected to date. This site was visited during the second wet season sampling event and first dry season sampling event during this sampling year, and a sample was collected on February 17, 2017.

Historical sampling results for this site are presented in Table 10.

Aerial photography of the site is presented on Figure 3.

Table 10 - Summary of samples collected, NGA #124

Site	Sample #	Date	General Chemistry (mg/L)												
			Ammonia	Chloride	Diss Ortho	Nitrate	Sulfate	Total Diss Phos	TDS	Total Ortho	Total Phos	TSS	CA Hardness, as CaCO3	Ca	Cu
NGA #124	NGA-#124-LAILG-1	8/13/07	9.8	69.23	3.5006	<b>72.48</b>	206.25	4.31	<b>1,002</b>	3.96	4.627	99.5	na	na	na
NGA #124	NGA-#124-LAILG-2	12/7/07	4.6	33.03	3.9247	<b>45.41</b>	59.24	2.9	550	2.76	3.168	90	na	na	na
NGA #124	LAILG-NGA#124-3	1/5/08	15.5	28.3	0.9814	<b>28.34</b>	57.68	1.66	378	1.66	2.228	40	na	na	na
NGA #124	LAILG-NGA#124-4	11/26/08	0.48	37.78	2.595	<b>28.36</b>	84.22	2.975	568	2.53	3.297	117	na	na	na
NGA #124	LAILG-NGA 124-5	12/15/08	1.68	26.51	24.4087	<b>40.43</b>	45.28	21.115	424	3.66	2.706	115.5	na	na	na
NGA #124	LAILG-NGA 124-6	3/21/11	0.36	9.4	1.8	6.7	24	1.8	240	1.800	2.7	620	61	24	0.045
NGA #124	LAILG-NGA 124-7	2/28/14	4.5	21	1.200**	<b>13</b>	100	1.5	420	1.2	2.2	160	125	50.2	0.049
NGA #124	LAILG-NGA-124-8	2/17/17	0.50	7.6	0.77**	3.8	70	0.73*	270	0.76**	3.9	740	120	48.1	0.120

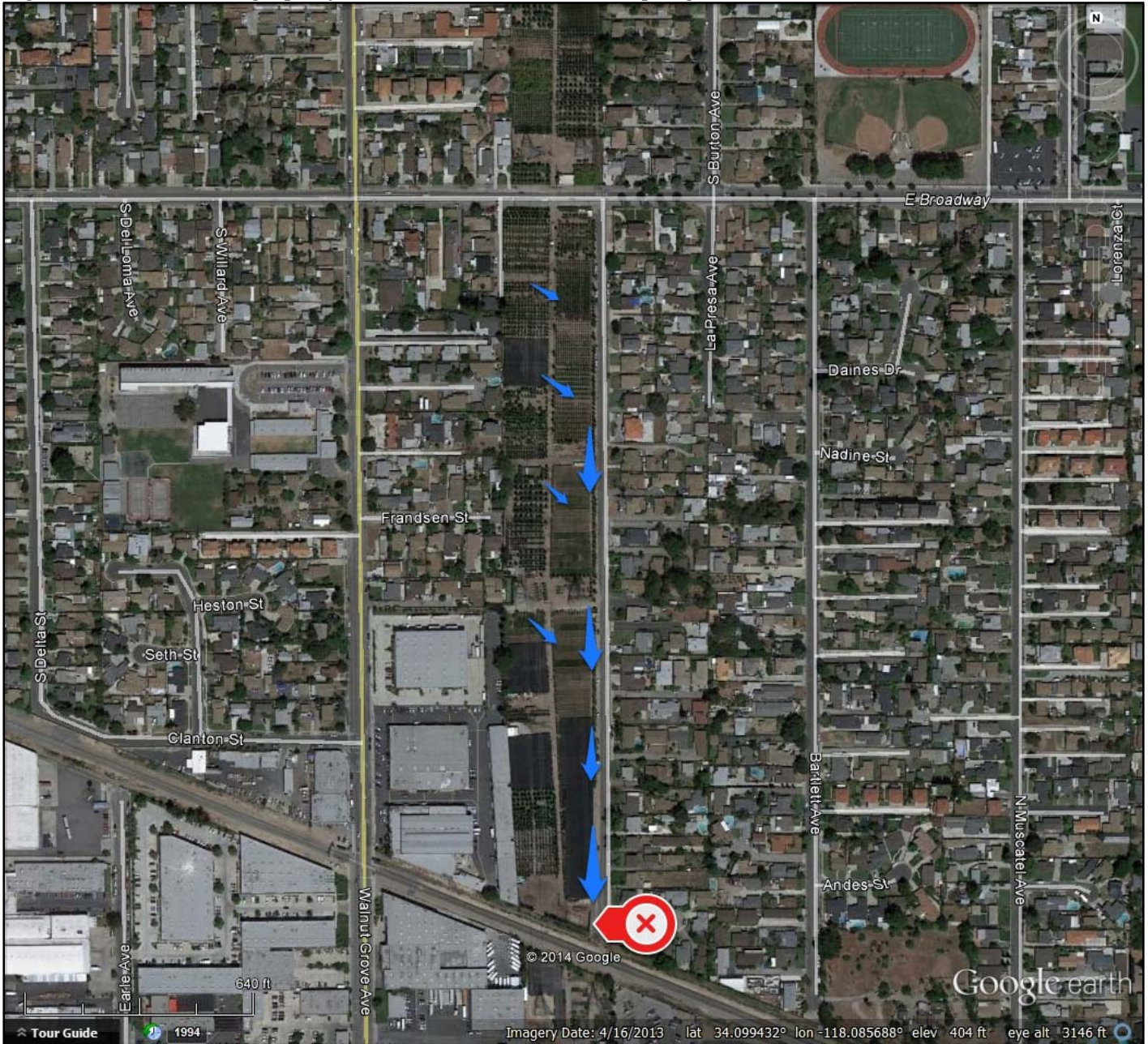
Site	Sample #	Date	OC Pesticides (ng/L)			OP Pesticides (ng/L)		Pyd Pesticides (ng/L)
			Total DDT and Derivatives	Dieldrin	Total Chlordane	Chlorpyrifos	Malathion	Total sum of all detected Pyrethroids
NGA #124	NGA-#124-LAILG-1	8/13/07	<b>51.5</b>	na	<b>34</b>	nd	nd	136.9
NGA #124	NGA-#124-LAILG-2	12/7/07	<b>37.4</b>	na	<b>11.4</b>	nd	nd	3,704.3
NGA #124	LAILG-NGA#124-3	1/5/08	nd	na	<b>17.1</b>	nd	nd	1,898.6
NGA #124	LAILG-NGA#124-4	11/26/08	<b>19.3</b>	na	<b>8.2</b>	nd	nd	7,536.1
NGA #124	LAILG-NGA 124-5	12/15/08	<b>10.4</b>	na	<b>13.6</b>	nd	85.3	19,281.3
NGA #124	LAILG-NGA 124-6	3/21/11	nd	<b>33</b>	nd	10	nd	169.8
NGA #124	LAILG-NGA 124-7	2/28/14	nd	nd	nd	17	13	3,916
NGA #124	LAILG-NGA-124-8	2/17/17	nd	nd	nd	nd	nd	4,890

Results above CWIL Limits are presented in **BOLD**.

mg/L milligrams per liter  
 ng/L nanograms per liter  
 OC Organochlorinated Pesticide  
 OP Organophosphorus Pesticide  
 Pyd Pyrethroid Pesticide  
 na Constituent not analyzed  
 nd Constituent not detected



Figure 3 – Aerial Photograph of NGA #124 and General Sampling Location



General Sampling Location

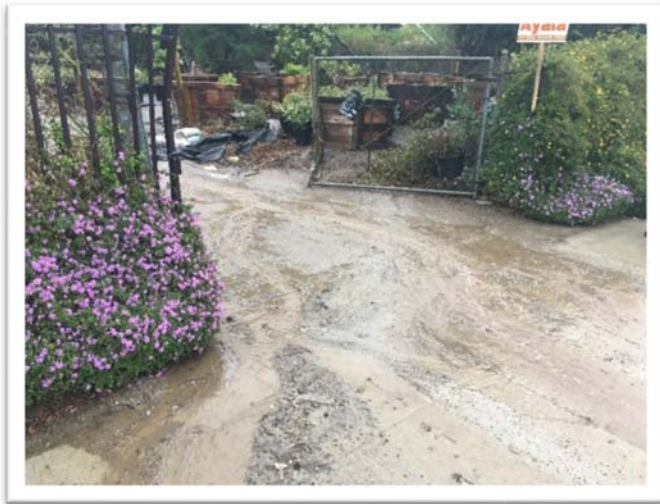


General Surface Flow to Sampling Location

NGA SITE #178

Previous Sampling Group: Group 1  
Previous Sampling Frequency - Fixed  
Total/Irrigated Area: 10.0/8.5 Acres  
Sample site GPS location: N 34° 17' 57.42" W 118° 25' 06.46"

*February 17, 2017, wet season, sample collected*



*September 28, 2017, dry season, no sample collected*



**Site Drainage** - The drainage gradient flows to the south, through a channel that crosses the property. Based on drainage properties, the end of the channel was identified as the anticipated sampling location.

**Sampling** - Three samples collected to date. This site was visited during the second wet season sampling event and the first dry season sampling event during this sampling year, and a sample was collected on February 17, 2017.

Historical sampling results for this site are presented in Table 11.

Aerial photography of the site is presented on Figure 4.

Table 11 - Summary of samples collected, NGA #178

Site	Sample #	Date	General Chemistry (mg/L)												
			Ammonia	Chloride	Diss Ortho	Nitrate	Sulfate	Total Diss Phos	TDS	Total Ortho	Total Phos	TSS	CA Hardness, as CaCO3	Ca	Cu
NGA #178	LAILG-NGA 178-1	12/15/08	0.81	<b>85.04</b>	2.4077	<b>12.99</b>	<b>148.27</b>	2.648	<b>462</b>	2.64	2.934	72.7	na	na	na
NGA #178	LAILG-NGA 178-2	2/28/14	0.87	<b>120</b>	2.2	<b>10</b>	<b>370</b>	2.4	<b>940</b>	2.2	3.6	270	324	130	0.030
NGA #178	LAILG-NGA-178-3	2/17/17	0.58	<b>74</b>	1.3	0.55	<b>200</b>	1.3*	<b>720</b>	1.3	13	2900	431	173	0.37

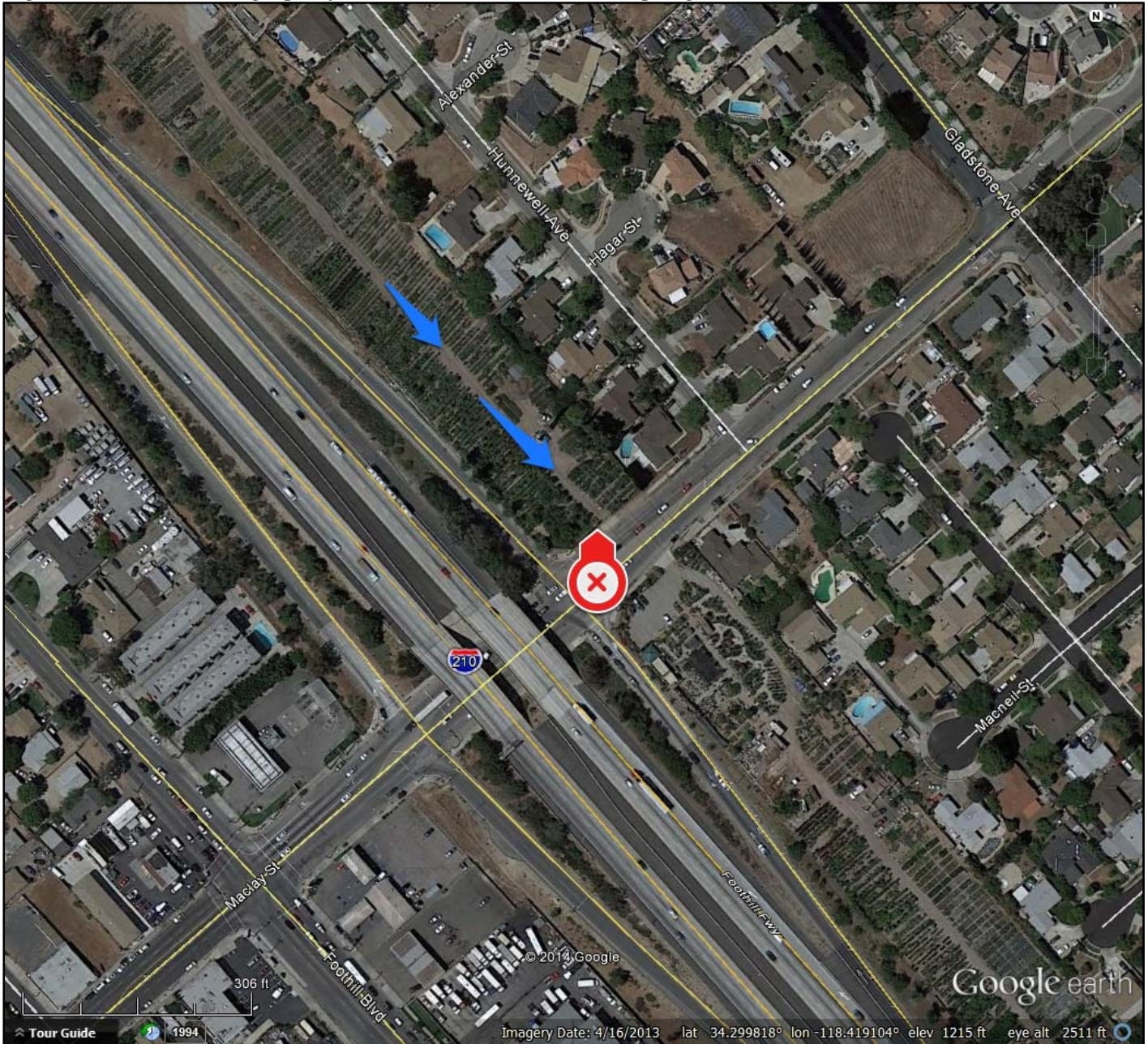
Site	Sample #	Date	OC Pesticides (ng/L)	OP Pesticides (ng/L)	Pyd Pesticides (ng/L)
			Total DDT and Derivatives	No OP Pesticides Detected	Total sum of all detected Pyrethroids
NGA # 178	LAILG-NGA 178-1	12/15/08	<b>25.3</b>	No OP Pesticides Detected	4.9
NGA # 178	LAILG-NGA 178-2	2/28/14	nd		40
NGA #178	LAILG-NGA-178-3	2/17/17	nd		20

Results above CWIL Limits are presented in **BOLD**.

- mg/L milligrams per liter
- ng/L nanograms per liter
- OC Organochlorinated Pesticide
- OP Organophosphorus Pesticide
- Pyd Pyrethroid Pesticide
- na Constituent not analyzed
- nd Constituent not detected



Figure 4 – Aerial Photograph of NGA #178 and General Sampling Location



General Sampling Location



General Surface Flow to Sampling Location

NGA SITE #184

Previous Sampling Group: Group 1  
Previous Sampling Frequency - Fixed  
Total/Irrigated Area: 36.0/36.0 Acres  
Sample site GPS location: N 34° 13' 29.41" W 118° 29' 22.83"

*September 28, 2017, dry season, no sample collected*



**Site Drainage** - The site is split into three lots, with the northern section selected as the sampling location based on site topology and drainage patterns. The northern section is a five-acre lot with a drainage gradient flowing to the north. Water flows into a drainage ditch along the eastern side of the property and flows south onto Chase Street. Based on drainage properties, the point of exit from the property onto Chase Street was identified as the anticipated sampling location.

**Sampling** - Three samples collected to date. This site was visited during the first dry season sampling event during this sampling year; no runoff was observed.

Historical sampling results for this site are presented in Table 12.

Aerial photography of the site is presented on Figure 5.



Table 12 - Summary of samples collected, NGA #184

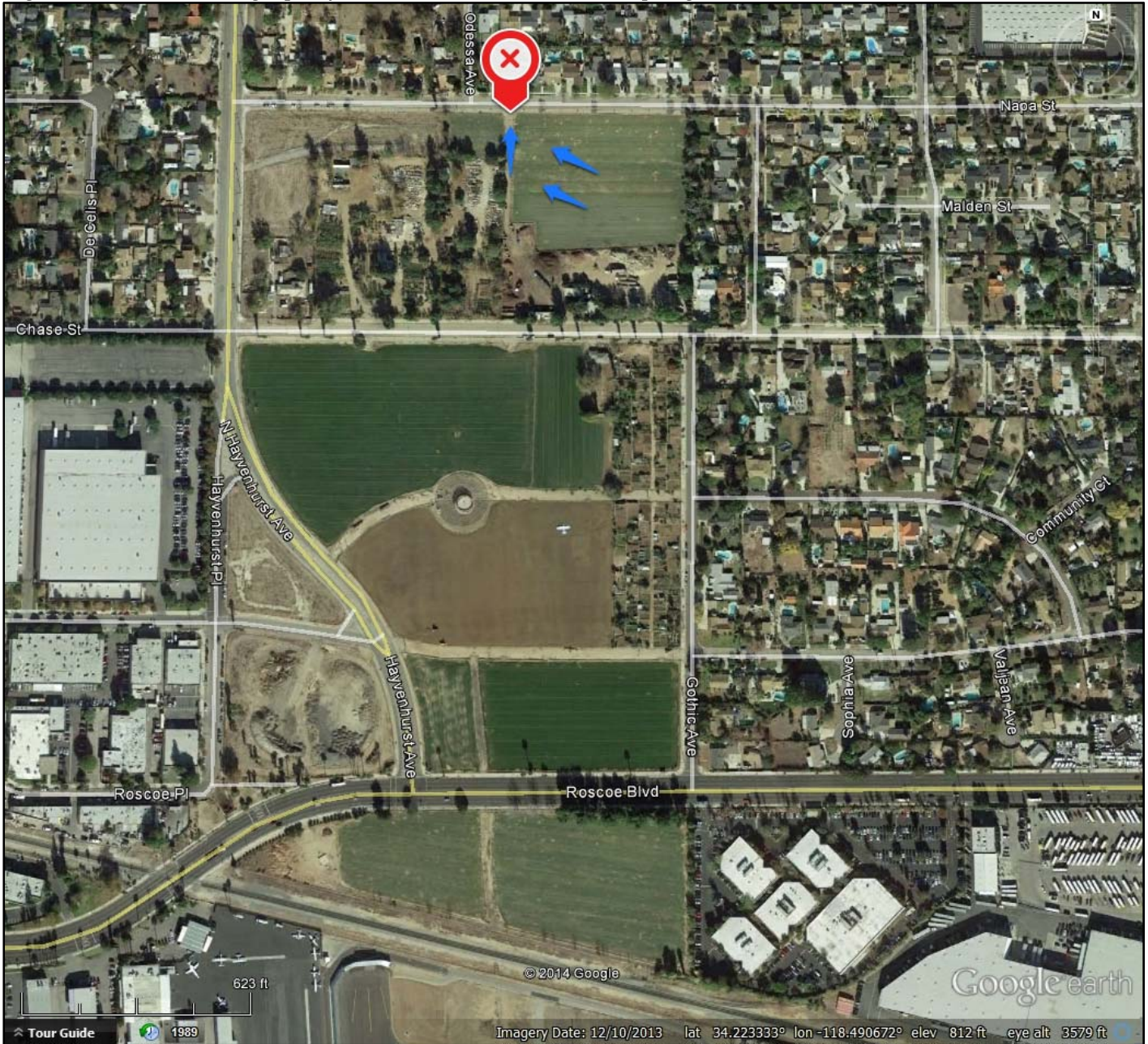
Site	Sample #	Date	General Chemistry (mg/L)												
			Ammonia	Chloride	Diss Ortho	Nitrate	Sulfate	Total Diss Phos	TDS	Total Ortho	Total Phos	TSS	CA Hardness, as CaCO3	Ca	Cu
NGA #184	LAILG-NGA 184-1	11/26/08	0.46	31.44	0.609	3.12	17.92	0.643	206	0.88	1.3	129.5	na	na	na
NGA #184	LAILG-NGA 184-2	12/15/08	0.64	27.46	0.7339	4.41	33.57	0.502	240	2.16	2.94	1,079	na	na	na
NGA #184	LAILG-NGA 184-3	2/28/14	0.23	2.5	0.33	0.4	1.6	0.44	41	0.33	0.72	160	13.8	5.54	0.0079

Site	Sample #	Date	OC Pesticides (ng/L)		OP Pesticides (ng/L)	Pyd Pesticides (ng/L)
			Total DDT and Derivatives	Total Chlordane	No OP Pesticides Detected	Total sum of all detected Pyrethroids
NGA #184	LAILG-NGA 184-1	11/26/08	nd	nd	No OP Pesticides Detected	3.1
NGA #184	LAILG-NGA 184-2	12/15/08	<b>22</b>	<b>4.2</b>		30.7
NGA #184	LAILG-NGA 184-3	2/28/14	nd	nd		2.5

Results above CWIL Limits are presented in **BOLD**.

mg/L milligrams per liter  
 ng/L nanograms per liter  
 OC Organochlorinated Pesticide  
 OP Organophosphorus Pesticide  
 Pyd Pyrethroid Pesticide  
 na Constituent not analyzed  
 nd Constituent not detected

Figure 5 – Aerial Photograph of NGA #184 and General Sampling Location



General Sampling Location



General Surface Flow to Sampling Location



NGA SITE #150

Previous Sampling Group: Group 2  
Previous Sampling Frequency - Fixed  
Total/Irrigated Acres: 26.0/15.3 Acres  
Sample site GPS location: N 34° 08' 27.3" W 117° 55' 33.8"

*February 17, 2017, wet season, sample collected*

*September 28, 2017, dry season, no sample collected*



**Site Drainage** – The majority of the growing areas of the site drain to the center, where there is a sump pump which catches and re-routes all the irrigation and storm runoff from the site into two collection ponds for reuse. The portion of the property that was formerly the sampling location has been sold to the neighbor, and no longer has any irrigated lands. Based on the new site layout, there are concrete gutters that drain the paved portions of the site where temporary plant storage is located for shipping. The end of the gutter was chosen as the sampling location, prior to comingling with the neighboring property and entering the storm drain.

**Sampling** - Seven samples collected to date. This site was visited during the second wet season sampling event and first dry season sampling event during this sampling year, and a sample was collected on February 17, 2017.

Historical sampling results for this site are presented in Table 13.

Updated aerial photography of the site is presented on Figure 6.

Table 13 - Summary of samples collected, NGA #150

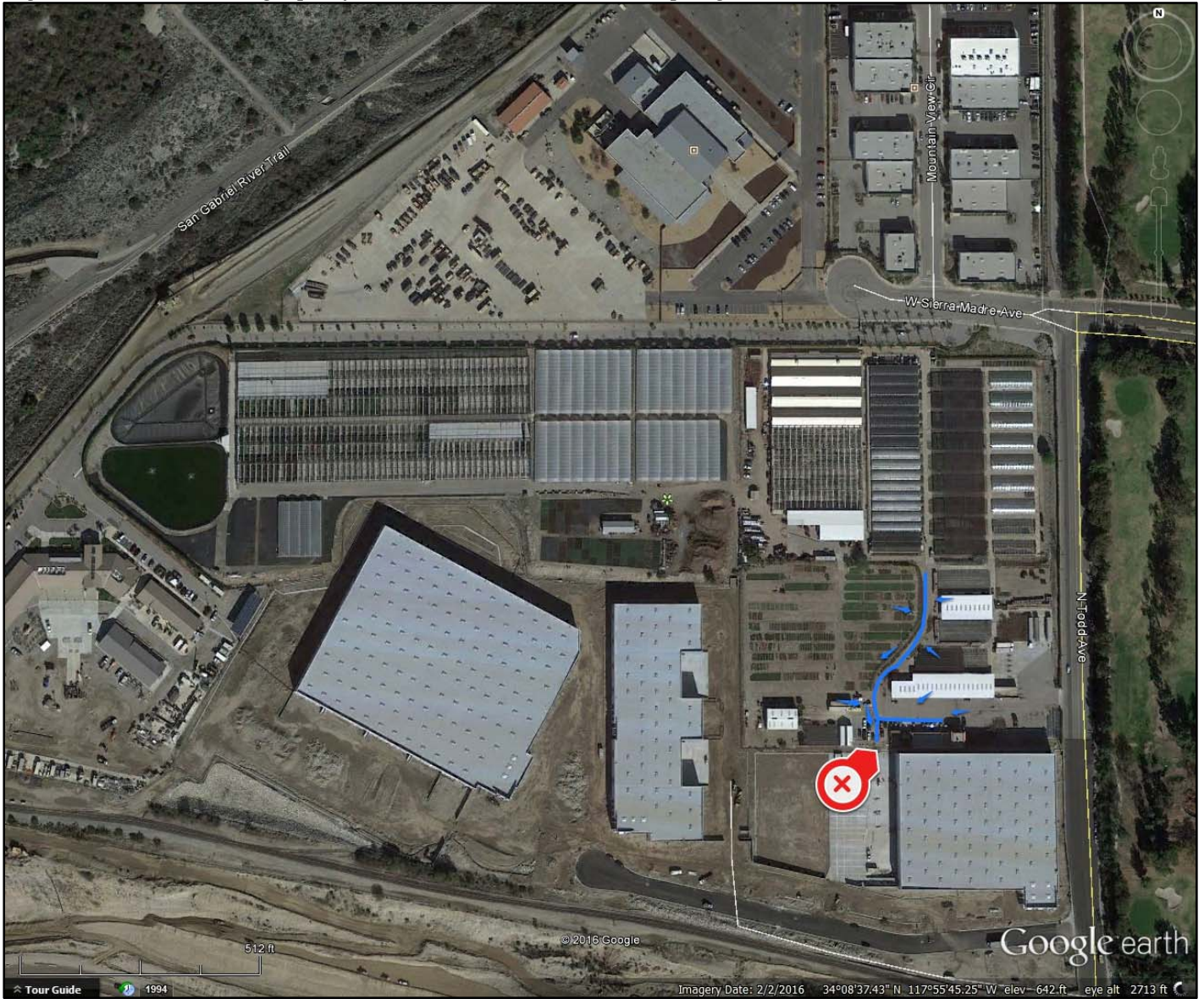
Site	Sample #	Date	General Chemistry (mg/L)												
			Ammonia	Chloride	Diss Ortho	Nitrate	Sulfate	Total Diss Phos	TDS	Total Ortho	Total Phos	TSS	CA Hardness, as CaCO3	Ca	Cu
NGA #150	NGA-#150-LAILG	9/25/07	<b>52.4</b>	95.9	26.84	<b>355.6</b>	87	22.5	<b>2279</b>	23	24	57	na	na	na
NGA #150	NGA #150-LAILG-2	12/7/07	2.9	27.34	14.0243	<b>80.89</b>	56.59	9.43	<b>780</b>	8.89	9.445	40	na	na	na
NGA # 150	LAILG-NGA 150-3	11/26/08	<b>32.2</b>	65.92	31.579	<b>114.76</b>	<b>258.65</b>	49.896	<b>2,446</b>	37.69	48.048	45.5	na	na	na
NGA # 150	LAILG-NGA 150-4	12/15/08	15.75	47.27	26.0911	<b>268.53</b>	<b>125.27</b>	24.935	<b>1,704</b>	2.94	24.75	333.5	na	na	na
NGA # 150	LAILG-NGA 150-5	3/21/11	3.7	28	12	<b>120</b>	60	32	<b>1,200</b>	12.00	32	110	300	120	0.031
NGA # 150	LAILG-NGA-150-6	12/2/14	0.41	60	2.4	<b>13</b>	<b>130</b>	2.6	<b>530</b>	2.5	3.7	240	179	71.8	0.095
NGA #150	LAILG-NGA-150-7	2/17/17	1.4	10	3.3	<b>11</b>	54	3.3*	300	3.3	4.0	180	73.8	29.6	0.057

Site	Sample #	Date	OC Pesticides (ng/L)			OP Pesticides (ng/L)		Pyd Pesticides (ng/L)
			Total DDT and Derivatives	Aldrin	Total Chlordane	Chlorpyrifos	Malathion	Total sum of all detected Pyrethroids
NGA #150	NGA-#150-LAILG	9/25/07	nd	nd	nd	nd	nd	41,733.0
NGA #150	NGA #150-LAILG-2	12/7/07	nd	<b>35.2</b>	nd	nd	nd	40,296.5
NGA # 150	LAILG-NGA 150-3	11/26/08	nd	nd	nd	nd	nd	42,355.2
NGA # 150	LAILG-NGA 150-4	12/15/08	nd	nd	nd	<b>90.2</b>	nd	41,952.4
NGA # 150	LAILG-NGA 150-5	3/21/11	nd	nd	nd	<b>33</b>	nd	528
NGA # 150	LAILG-NGA-150-6	12/2/14	nd	nd	nd	nd	nd	5,370
NGA #150	LAILG-NGA-150-7	2/17/17	nd	nd	nd	nd	nd	6470

Results above CWIL Limits are presented in **BOLD**.

- mg/L milligrams per liter
- ng/L nanograms per liter
- OC Organochlorinated Pesticide
- OP Organophosphorus Pesticide
- Pyd Pyrethroid Pesticide
- na Constituent not analyzed
- nd Constituent not detected

Figure 6 – Aerial Photograph of NGA #150 and General Sampling Location



General Sampling Location



General Surface Flow to Sampling Location



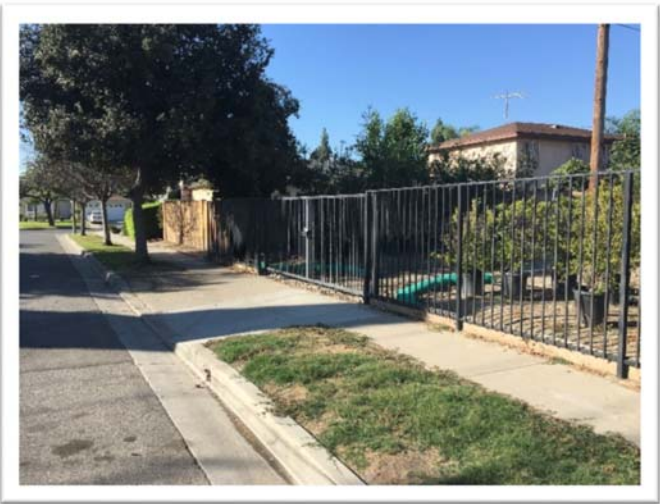
NGA SITE #168

Previous Sampling Group: Group 3  
Previous Sampling Frequency - Fixed  
Total/Irrigated Acres: 6.0/4.75 Acres  
Sample site GPS location: N 33° 51' 3.2" W 118° 4' 55.2"

*January 20, 2017, wet season, no sample collected*



*October 6, 2017, dry season, no sample collected*



**Site Drainage** -The site drains to the east of the property through drainage ditches and runs into Jacob Avenue. Based on drainage properties, the eastern edge of the property by the drainage ditches was chosen as the sampling location.

**Sampling** - Eight samples collected to date. This site was visited during the first wet season sampling event and second dry season sampling event during this sampling year; no samples were collected.

Historical sampling results for this site are presented in Table 14.

Aerial photography of the site is presented on Figure 7.



Table 14 - Summary of samples collected, NGA #168

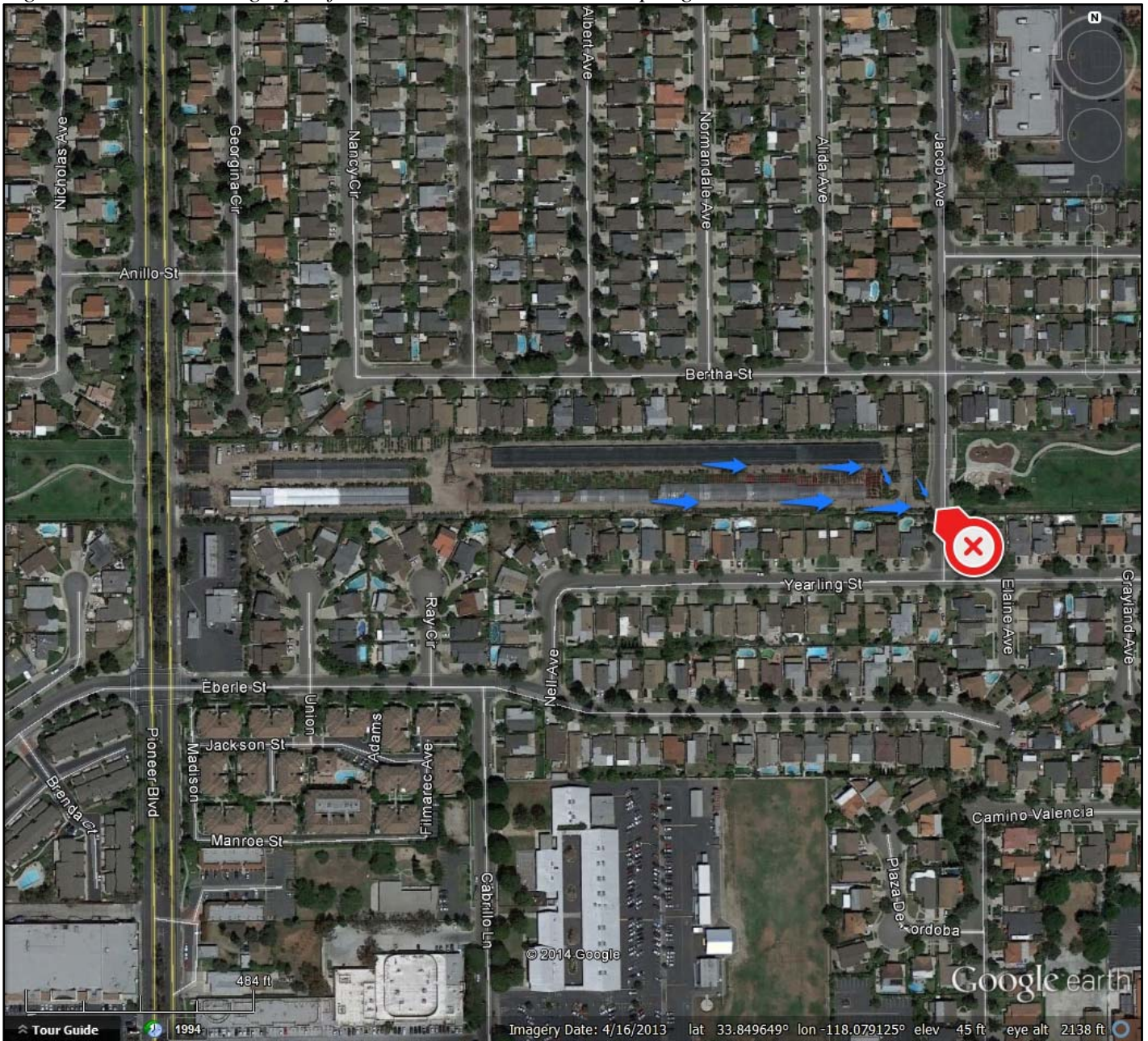
Site	Sample #	Date	General Chemistry (mg/L)												
			Ammonia	Chloride	Diss Ortho	Nitrate	Sulfate	Total Diss Phos	TDS	Total Ortho	Total Phos	TSS	CA Hardness, as CaCO3	Ca	Cu
NGA #168	NGA-#168-LAILG-1	8/13/07	0.4	81.85	1.977	4.93	131.16	2.28	<b>664</b>	2.13	3.243	122	na	na	na
NGA #168	ILGNGA-#168-2	9/28/07	2.2	172.52	1.582	8.91	340.14	2.15	<b>1,297</b>	3.51	5.379	504	na	na	na
NGA #168	NGA-#168-LAILG-3	11/30/07	0.48	101.43	2.1635	<b>30.81</b>	245.04	2.67	<b>951</b>	3.13	3.548	nd	na	na	na
NGA #168	LAILG-NGA-168-4	1/25/08	0.38	65.9	3.053	<b>14.58</b>	117.44	3.07	<b>592</b>	5.45	2.363	1126.7	na	na	na
NGA #168	LAILG-NGA-168-5	12/15/08	0.25	53.4	1.4434	<b>15.33</b>	130.75	1.568	492	2.24	2.386	236	na	na	na
NGA #168	LAILG-NGA-168-6	3/17/12	0.89	82	1.1	<b>35</b>	<b>470</b>	1.7	<b>1,100</b>	1.1	8.4	1200	500	200	0.110
NGA #168	LAILG-NGA-168-7	5/15/15	0.18	57	0.36	<b>11</b>	120	0.44	400	0.36	0.74	91	134	53.7	0.036
NGA #168	LAILG-NGA-168-8	1/5/16	0.36	41	0.32	<b>15</b>	160	0.45	410	0.32	0.80	140	162	64.9	0.036

Site	Sample #	Date	OC Pesticides (ng/L)		OP Pesticides (ng/L)	Pyd Pesticides (ng/L)
			Total DDT and Derivatives	Total Chlordane	Malathion	Total sum of all detected Pyrethroids
NGA #168	NGA-#168-LAILG-1	8/13/07	nd	nd	nd	1,379.1
NGA #168	ILGNGA-#168-2	9/28/07	118	nd	nd	964.0
NGA #168	NGA-#168-LAILG-3	11/30/07	2.7	2.8	8.9	466.1
NGA #168	LAILG-NGA-168-4	1/25/08	19.2	nd	nd	187.9
NGA #168	LAILG-NGA-168-5	12/15/08	11.8	nd	38.9	1,375.9
NGA #168	LAILG-NGA-168-6	3/17/12	nd	nd	nd	72
NGA #168	LAILG-NGA-168-7	5/15/15	nd	nd	nd	484.3
NGA #168	LAILG-NGA-168-8	1/5/16	nd	nd	nd	379

Results above CWIL Limits are presented in **BOLD**.

- mg/L milligrams per liter
- ng/L nanograms per liter
- OC Organochlorinated Pesticide
- OP Organophosphorus Pesticide
- Pyd Pyrethroid Pesticide
- na Constituent not analyzed
- nd Constituent not detected

Figure 7 – Aerial Photograph of NGA #168 and General Sampling Location



General Sampling Location



General Surface Flow to Sampling Location



NGA SITE #4

Previous Sampling Group: Group 4  
Previous Sampling Frequency - Fixed  
Total / Irrigated Acres: 19.2 / 11.5  
Sample site GPS location: N 33° 52' 55.5" W 118° 16' 06.1"

*January 20, 2017, wet season, sample collected*



*October 6, 2017, dry season, no sample collected*



**Site Drainage** - The northern half of the site drains northward into two storm drains located on the property boundary along Gardena Boulevard. The southern half of the site drains to the south, where the majority appears to percolate into the soil. Another storm drain is located on the southwest corner of the property. Based on drainage properties, one of the northern storm drains on the edge of the site was chosen as the sampling location.

**Sampling** – Seven samples collected to date. This site was visited during the first wet season sampling event and the second dry season sampling event during this sampling year, and a sample was collected on January 20, 2017.

Historical sampling results for this site are presented in Table 15.

Aerial photography of the site is presented on Figure 8.

Table 2 - Summary of samples collected, NGA #4

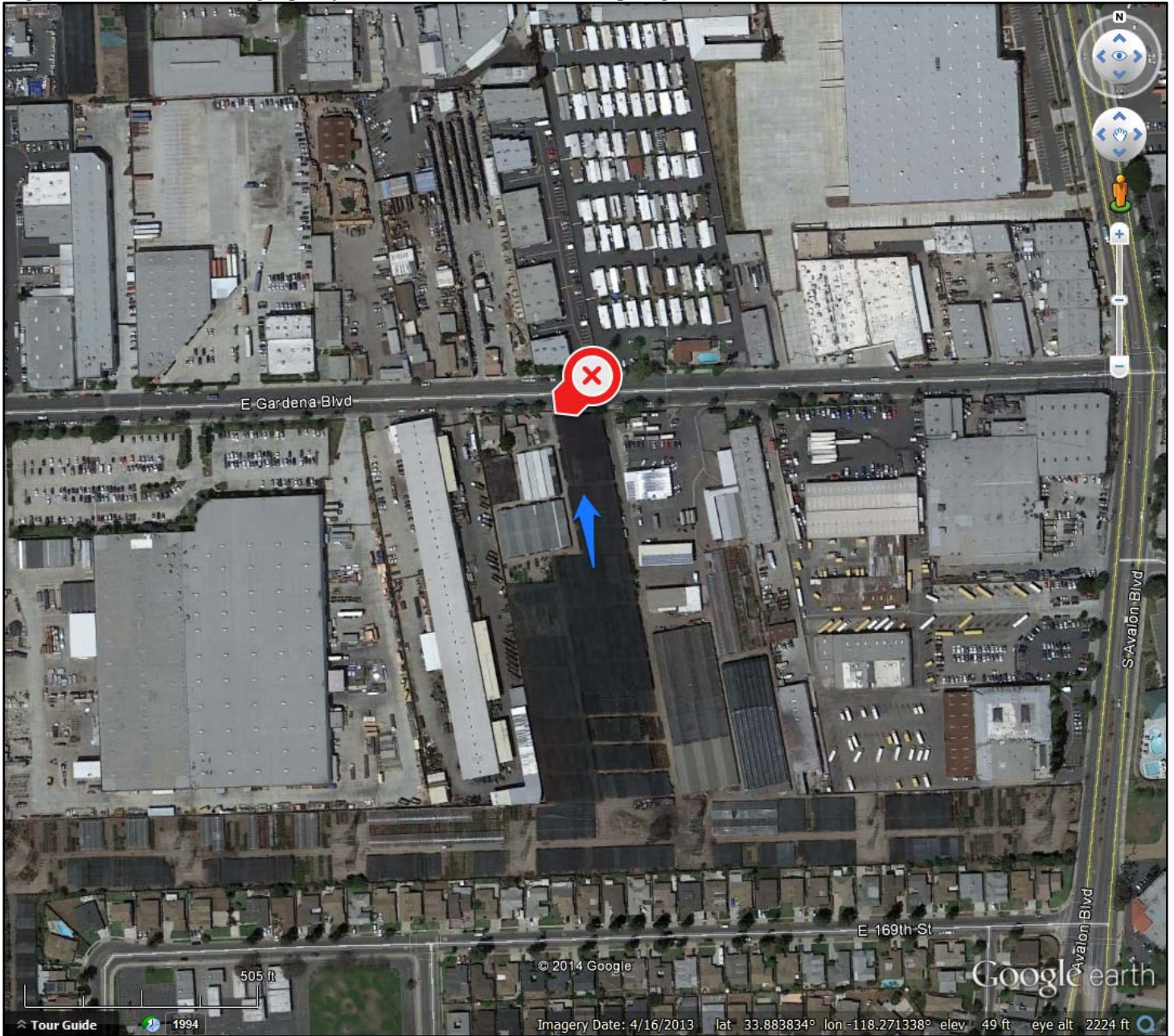
Site	Sample #	Date	General Chemistry (mg/L)												
			Ammonia	Chloride	Diss Ortho	Nitrate	Sulfate	Total Diss Phos	TDS	Total Ortho	Total Phos	TSS	CA Hardness, as CaCO <sub>3</sub>	Ca	Cu
NGA #4	NGA #4-LAILG-1	12/7/07	0.48	20.64	1.1355	4.03	20.39	0.8	186	0.77	0.829	58	na	na	na
NGA #4	LAILG-NGA4-2	1/23/08	0.24	1.45	0.1891	0.6	3.87	0.15	145	0.26	1.848	27	na	na	na
NGA # 4	LAILG-NGA 4-3	8/13/08	0.68	350.11	11.5262	<b>200.18</b>	219.52	69.7	<b>2,238</b>	13.05	31.713	371	na	na	na
NGA # 4	LAILG-NGA 4-4	12/15/08	0.52	8.67	1.0382	2.7	15.23	0.158	238	2.33	2.231	295	na	na	na
NGA # 4	LAILG-NGA 4-5	3/21/11	0.69	10	0.31	1.5	8.3	0.52	110	0.310	2.6	810	62	25	0.230
NGA # 4	LAILG-NGA 4-6	3/25/12	na	69	1.1	<b>17</b>	52	1.0	320	1.1	1.4	34	100	42	0.051
NGA #4	LAILG-NGA-4-8	1/20/17	0.33	3.3	0.082	0.76	2.4	0.080	46	0.082	0.12	15	7.58	3.04	0.0045

Site	Sample #	Date	OC Pesticides (ng/L)			OP Pesticides (ng/L)				Pyd Pesticides (ng/L)
			Dicofol	Total DDT and Derivatives	Total Chlordane	Chlorpyrifos	Diazinon	Dichlorvos	Malathion	Total sum of all detected Pyrethroids
NGA #4	NGA #4-LAILG-1	12/7/07	nd	nd	nd	<b>1,122.6</b>	<b>175.2</b>	11.3	nd	2,107.5
NGA #4	LAILG-NGA4-2	1/23/08	nd	nd	nd	<b>153.8</b>	<b>2,212.1</b>	nd	<b>15,453.2</b>	1,389.4
NGA # 4	LAILG-NGA 4-3	8/13/08	485.7	nd	<b>38.8</b>	nd	<b>6,058.9</b>	nd	<b>1,148,630</b>	26,753.7
NGA # 4	LAILG-NGA 4-4	12/15/08	nd	nd	<b>99.5</b>	<b>590.9</b>	<b>859</b>	nd	<b>102,357.2</b>	96,588.0
NGA # 4	LAILG-NGA 4-5	3/21/11	na	<b>38</b>	<b>39.6</b>	<b>11,000</b>	<b>1,000</b>	nd	<b>7,300</b>	1,625.3
NGA # 4	LAILG-NGA 4-6	3/25/12	nd	nd	nd	<b>44,000</b>	nd	nd	<b>2,100</b>	109.7
NGA #4	LAILG-NGA-4-8	1/20/17	nd	nd	nd	<b>11</b>	17	nd	<b>30</b>	nd

Results above CWIL Limits are presented in **BOLD**.

- mg/L milligrams per liter
- ng/L nanograms per liter
- OC Organochlorinated Pesticide
- OP Organophosphorus Pesticide
- Pyd Pyrethroid Pesticide
- na Constituent not analyzed
- nd Constituent not detected

Figure 8 – Aerial Photograph of NGA #4 and General Sampling Location



General Sampling Location



General Surface Flow to Sampling Location



NGA SITE #176

Previous Sampling Group: Group 4  
Previous Sampling Frequency - Fixed  
Total/Irrigated Acres: 12.0/7.5 Acres  
Sample site GPS location: N 33° 51' 24.4" W 118° 22' 51.6"

*January 20, 2017, wet season, sample collected*



*October 6, 2017, dry season, no sample collected*



**Site Drainage** - The site drains to the center, and they currently have a catch basin in the center to catch site runoff. During heavy rains, runoff from the site is reported to occur, and appears that it would run off to the southeast corner of the site.

**Sampling** – Three samples collected to date. This site was visited during the first wet season sampling event and the second dry season sampling event during this sampling year, and a sample was collected on January 20, 2017.

Historical sampling results for this site are presented in Table 16.

Aerial photography of the site is presented on Figure 9.

Table 3 - Summary of samples collected, NGA #176

Site	Sample #	Date	General Chemistry (mg/L)												
			Ammonia	Chloride	Diss Ortho	Nitrate	Sulfate	Total Diss Phos	TDS	Total Ortho	Total Phos	TSS	CA Hardness, as CaCO3	Ca	Cu
NGA #176	NGA-#176-LAILG-1	12/18/07	5.5	56.82	0.7145	3.85	<b>293.12</b>	0.54	<b>680</b>	12.21	3.447	6,168	na	na	na
NGA #176	LAILG-NGA-176-2	3/25/12	0.30	29	0.99	8.7	43	0.99	220	0.99	2.2	550	80	32	0.066
NGA #176	LAILG-NGA-176-3	1/20/17	<0.10	3.9	0.28**	0.70	3.6	0.32	97	0.28**	0.70	360	13.4	5.38	0.029

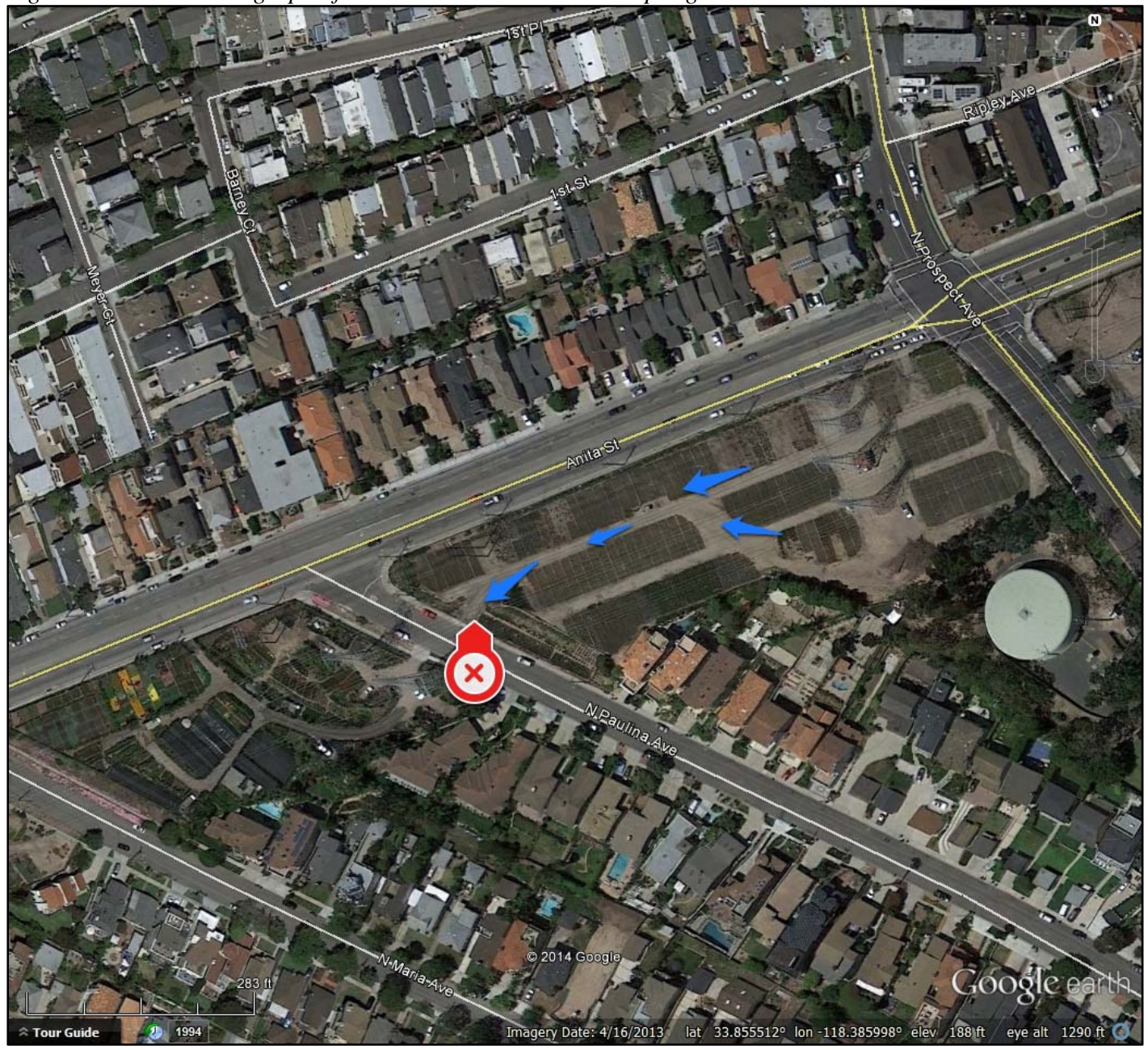
Site	Sample #	Date	OC Pesticides (ng/L)	OP Pesticides (ng/L)	Pyd Pesticides (ng/L)
			No Detected DDT and Derivatives	No Detected OP Pesticides Detected	Total sum of all detected Pyrethroids
NGA #176	NGA-#176-LAILG-1	12/18/07	No Detected DDT and Derivatives	No Detected OP Pesticides Detected	873.9
NGA #176	LAILG-NGA-176-2	3/25/12			305
NGA #176	LAILG-NGA-176-3	1/20/17			nd

Results above CWIL Limits are presented in **BOLD**.

- mg/L milligrams per liter
- ng/L nanograms per liter
- OC Organochlorinated Pesticide
- OP Organophosphorus Pesticide
- Pyd Pyrethroid Pesticide
- na Constituent not analyzed
- nd Constituent not detected



Figure 9 – Aerial Photograph of NGA #176 and General Sampling Location



General Sampling Location



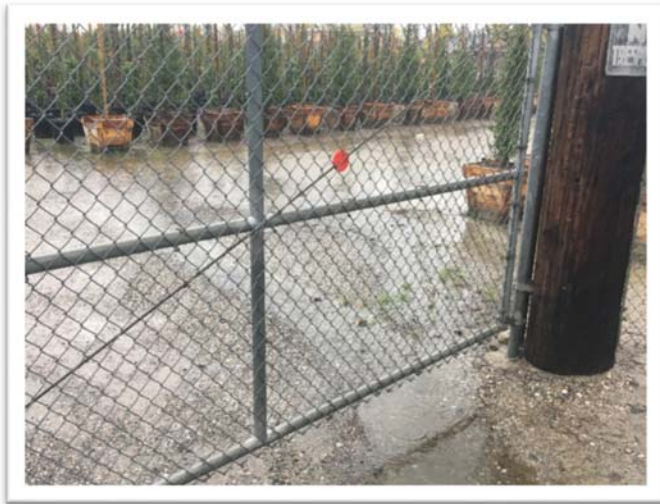
General Surface Flow to Sampling Location



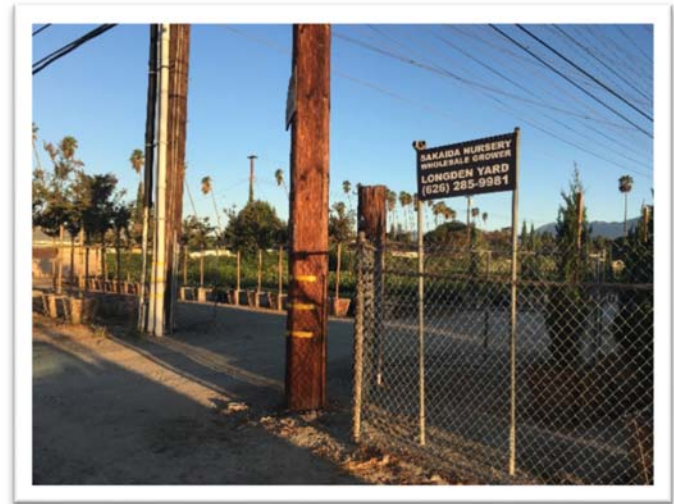
NGA SITE # 158

Previous Sampling Group: Group 1  
Previous Sampling Frequency - Rotating  
Total / Irrigated Acres: 7.00 / 6.89  
Sample site GPS location: N 34° 06' 49.0" W 118° 04' 55.9"

*February 17, 2017, wet season, sample collected*



*September 28, 2017, dry season, no sample collected*



**Site Drainage** – The topography is relatively flat, and drains as surface flow. Based on drainage properties and site access, the southwestern corner of property to the north of Longden Avenue was chosen as the sampling location.

**Sampling** – One sample collected to date. This site was visited during the second wet season sampling event and the first season dry season sampling event during this sampling year, and a sample was collected on February 17, 2017.

Historical sampling results for this site are presented in Table 17.

Aerial photography of the site is presented on Figure 10.

Table 4 - Summary of samples collected, NGA #158

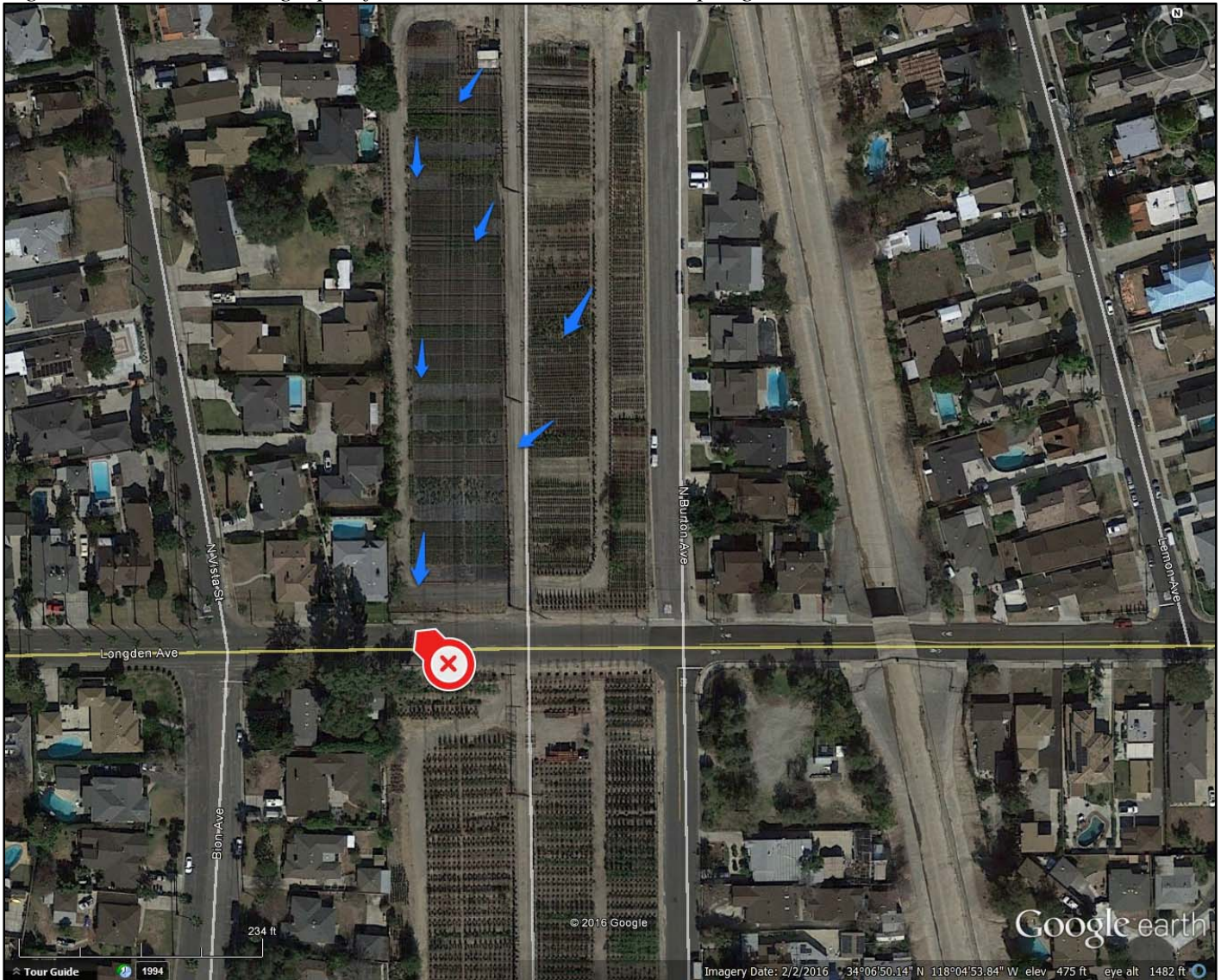
Site	Sample #	Date	General Chemistry (mg/L)												
			Ammonia	Chloride	Diss Ortho	Nitrate	Sulfate	Total Diss Phos	TDS	Total Ortho	Total Phos	TSS	CA Hardness, as CaCO3	Ca	Cu
NGA #158	LAILG-NGA-158-1	2/17/17	0.18	1.9	0.19	0.55	20	0.29	38	0.19	0.60	110	29.5	11.8	0.039

Site	Sample #	Date	OC Pesticides (ng/L)		OP Pesticides (ng/L)	Pyd Pesticides (ng/L)
			No Detected DDT and Derivatives	No Detected Chlordanes	No OP Pesticides Detected	Total sum of all detected Pyrethroids
NGA #158	LAILG-NGA-158-1	2/17/17				54

Results above CWIL Limits are presented in **BOLD**.

- mg/L        milligrams per liter
- ng/L        nanograms per liter
- OC         Organochlorinated Pesticide
- OP         Organophosphorus Pesticide
- Pyd        Pyrethroid Pesticide
- na         Constituent not analyzed
- nd         Constituent not detected

Figure 10 – Aerial Photograph of NGA #158 and General Sampling Location



General Sampling Location



General Surface Flow to Sampling Location



NGA SITE # 202

Previous Sampling Group: Group 2  
Previous Sampling Frequency - Rotating  
Total / Irrigated Acres: 9.00 / 7.00  
Sample site GPS location: N 34° 06' 37.6" W 117° 56' 28.0"

*February 17, 2017, wet season, sample collected*



*October 6, 2017, dry season, no sample collected*



**Site Drainage** – The site lies in a valley, with the surrounding area a couple feet above grade. Natural grade drains from north to south. The estimated discharge will be the southern-most access gate on the property.

**Sampling** – One sample collected to date. This site was visited during the second wet season sampling event and the second dry season sampling event during this sampling year, and a sample was collected on February 17, 2017.

Historical sampling results for this site are presented in Table 18.

Aerial photography of the site is presented on Figure 11.

Table 5 - Summary of samples collected, NGA #202

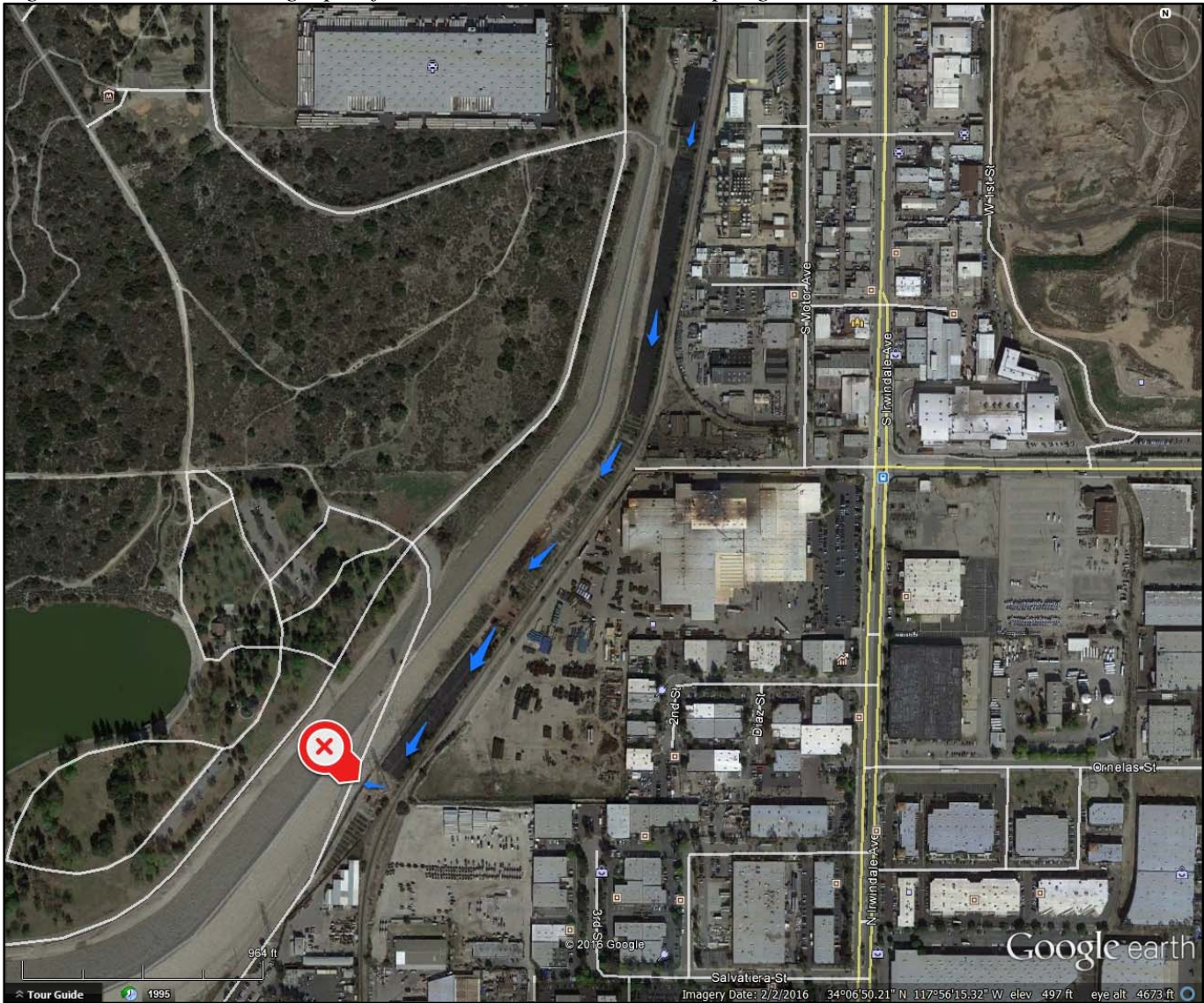
Site	Sample #	Date	General Chemistry (mg/L)												
			Ammonia	Chloride	Diss Ortho	Nitrate	Sulfate	Total Diss Phos	TDS	Total Ortho	Total Phos	TSS	CA Hardness, as CaCO3	Ca	Cu
NGA #202	LAILG-NGA-202-1	2/17/17	0.11	6.5	0.45	1.8	18	0.47*	140	0.46	0.81	130	39.7	15.9	0.038

Site	Sample #	Date	OC Pesticides (ng/L)		OP Pesticides (ng/L)	Pyd Pesticides (ng/L)
			No Detected DDT and Derivatives	No Detected Chlordanes	No OP Pesticides Detected	Total sum of all detected Pyrethroids
NGA #202	LAILG-NGA-202-1	2/17/17				96

Results above CWIL Limits are presented in **BOLD**.

- mg/L milligrams per liter
- ng/L nanograms per liter
- OC Organochlorinated Pesticide
- OP Organophosphorus Pesticide
- Pyd Pyrethroid Pesticide
- na Constituent not analyzed
- nd Constituent not detected

Figure 11 – Aerial Photograph of NGA #202 and General Sampling Location



General Sampling Location



General Surface Flow to Sampling Location

## **6.0 SUMMARY OF SAMPLING SITE RESULTS**

### **6.1 WATER QUALITY BENCHMARK EXCEEDANCES**

A total of 82 samples have been collected since the inception of the program. During this sampling year, a total of eight samples were collected over two sampling events.

For or the purpose of analysis, benchmarks are broken into four general groups: general chemistry (including nutrients), pesticides, toxicity, and field monitoring. Water quality benchmarks for each group are presented in Section 4. A summary of WQBs exceeded during this sampling year, and throughout the life of the program, is presented below. Numerical values for each constituent are presented on the tables included in Appendix B, and laboratory analytical results are presented in Appendix C. A discussion of the exceedances follows.

#### **6.1.1 General Chemistry**

Based on laboratory analytical results, WQBs were exceeded for five general chemistry constituents in samples collected at three of the eight sites sampled during this sampling year. Table 19 summarizes general chemistry exceedances for individual constituents reported during this sampling year and throughout the life of the program. A complete summary of analytical results for general chemistry constituents is included in Appendix B.

##### *Total Dissolved Solids*

Laboratory results reported TDS exceedances in one of the eight samples collected during this sampling period, and 28 of the 82 total samples (34.1 %) collected throughout the life of the program have reported exceedances of TDS.

##### *Chloride*

Laboratory results reported Chloride exceedances in one of the eight samples collected during this sampling period, and seven of the 82 total samples (8.54 %) collected throughout the life of the program have reported exceedances of Chloride.

##### *Sulfate*

Laboratory results reported Sulfate exceedances in one of the eight samples collected during this sampling period, and 11 of the 82 total samples (13.4 %) collected throughout the life of the program have reported exceedances of Sulfate.

*Nutrients (Nitrate/Ammonia/Phosphorus)*

Laboratory results reported Nitrogen as Nitrate exceedances in two of the eight samples during this sampling period, and 43 of the 82 total samples (52.4 %) collected throughout the life of the program. Laboratory results did not report Nitrogen as Ammonia exceedances in any samples collected during this sampling period. Four of the 82 total samples (4.88 %) collected throughout the life of the program have reported exceedances of Ammonia. WQBs for Phosphate have not been established.

*Table 19 - Summary of Water Quality Exceedances, General Chemistry*

Constituent	CWIL Order # R4-2005-0080												Total	% of samples
	YEAR 1				YEAR 2				YEAR 3		YEAR 4			
	Dry Season		Wet Season		Dry Season		Wet Season		Dry Season	Wet Season	Dry Season	Wet Season		
	Event #1	Event #2	Event #1	Event #2	Event #1	Event #2	Event #1	Event #2	Event #1	Event #1	Event #1	Event #1		
Ammonia	1	1	0	1	0	0	1	0	ns	ns	ns	ns	4	7.7%
TDS	4	3	5	2	1	0	2	2	ns	ns	ns	ns	19	36.5%
Sulfate	0	0	1	1	0	0	2	2	ns	ns	ns	ns	6	11.5%
Chloride	1	0	2	1	0	0	0	1	ns	ns	ns	ns	5	9.6%
Nitrogen	3	3	7	2	2	1	4	8	ns	ns	ns	ns	30	57.7%
Total Number of Exceedances	9	7	15	7	3	1	9	13	ns	ns	ns	ns	64	
Average # of Exceedances per sample	1.80	2.33	1.07	0.88	1.50	1.00	1.13	1.18	ns	ns	ns	ns	1.23	
Number of Samples Collected	5	3	14	8	2	1	8	11	ns	ns	ns	ns	52	

ns Program suspended, no sample collected

Constituents	CWIL Order # R4-2010-0186																Total	% of samples		
	Interim Sampling	YEAR 1				YEAR 2			YEAR 3			YEAR 4		YEAR 5						
		Dry Season		Wet Season		Dry Season		Wet Season	Dry Season		Wet Season	Dry Season		Wet Season	Dry Season				Wet Season	
		Event #1	Event #2	Event #1	Event #2	Event #1	Event #2	Event #1	Event #1	Event #2	Event #1	Event #1	Event #2	Event #1	Event #2	Event #1			Event #1	
Ammonia	0			0	0						0			0	0			0	0	0.0%
TDS	3			1	1						2			1	0			0	8	36.4%
Sulfate	0			1	1						1			1	0			0	4	18.2%
Chloride	0			0	0						1			0	0			0	1	4.5%
Nitrogen	2			2	1						3			1	1			1	11	50.0%
Total Number of Exceedances	5	0	0	4	3	0	0	0	0	0	7	0	0	3	1	0	0	1	24	
Average # of Exceedances per sample	1.25	--	--	1.00	0.75	--	--	--	--	--	1.40	--	--	1.50	1.00	--	--	0.50	1.09	
Number of Samples Collected	4	0	0	4	4	0	0	0	0	0	5	0	0	2	1	0	0	2	22	



Table 19, cont. - Summary of Water Quality Exceedances, General Chemistry

Constituents	CWIL Order # R4-2016-0143						Total	% of samples
	YEAR 1, Interim				YEAR 2, Interim			
	Dry Season		Wet Season		Dry Season			
	Event #1	Event #2	Event #1	Event #2	Event #1	Event #2		
Ammonia			0	0			0	0.0%
TDS			0	1			1	12.5%
Sulfate			0	1			1	12.5%
Chloride			0	1			1	12.5%
Nitrogen			1	1			2	25.0%
Total Number of Exceedances	0	0	1	4	0	0	5	
Average # of Exceedances per sample	--	--	0.33	0.80	--	--	0.63	
<b>Number of Samples Collected</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>8</b>	

Constituents	Totals, all Orders		Total	% of samples
	Dry Season	Wet Season		
Ammonia	2	2	4	4.9%
TDS	8	20	28	34.1%
Sulfate	0	11	11	13.4%
Chloride	1	6	7	8.5%
Nitrogen	9	34	43	52.4%
Total Number of Exceedances	<b>20.00</b>	<b>73.00</b>	<b>93</b>	
Average # of Exceedances per sample	1.82	1.03	1.13	
<b>Number of Samples Collected</b>	<b>11</b>	<b>71</b>	<b>82</b>	

### **6.1.2 Pesticides**

Based on laboratory analytical results, WQBs were exceeded for five pesticide constituents in samples collected at two of the eight sites during this sampling year. Table 20 summarizes pesticide exceedances for individual constituents reported throughout the life of the program. A complete summary of analytical results for the analyzed pesticide constituents is included in Appendix B.

#### *OC Pesticides*

Laboratory results did not report OC Pesticide exceedances in the eight samples collected this sampling year. There have been 58 individual constituent exceedances in the 82 total samples collected throughout the life of the program.

Chlordane and 4,4' DDE have been the most prevalent OC pesticides detected, accounting for 39 of the 58 total exceedances. Exceedances were more prevalent during the original waiver period (CWIL Order #R4-2005-0080).

#### *OP Pesticides*

Laboratory results did not report OP Pesticide exceedances in the eight samples collected this sampling year. There have been 25 individual constituent exceedances in the 82 total samples collected throughout the life of the program.

OP pesticides detected over WQBs throughout both waiver periods have been Chlorpyrifos, Diazinon, and Malathion.

#### *Pyrethroids*

Laboratory results reported Pyrethroid Pesticide exceedances in the two of the eight samples collected this sampling year. There have been 96 individual constituent exceedances in the 82 total samples collected throughout the life of the program.

Table 20 - Summary of Water Quality Exceedances, Pesticides

Constituent	CWIL Order # R4-2005-0080													Total	% of samples
	YEAR 1				YEAR 2				YEAR 3		YEAR 4				
	Dry Season		Wet Season		Dry Season		Wet Season		Dry Season	Wet Season	Dry Season	Wet Season			
	Event #1	Event #2	Event #1	Event #2	Event #1	Event #2	Event #1	Event #2	Event #1	Event #1	Event #1	Event #1			
<b>Waiver Limitations</b>															
<b>OC Pesticides</b>															
Clordane	1	0	6	1	2	1	4	3	ns	ns	ns	ns	18	34.62%	
4,4' DDT	2	2	2	1	0	0	0	0	ns	ns	ns	ns	7	13.46%	
4,4' DDD	2	2	2	1	0	0	0	2	ns	ns	ns	ns	9	17.31%	
4,4' DDE	2	1	5	2	0	1	2	4	ns	ns	ns	ns	17	32.69%	
Dieldrin	0	0	0	0	0	0	0	0	ns	ns	ns	ns	0	0.00%	
Toxaphene	0	0	0	0	0	0	0	1	ns	ns	ns	ns	1	1.92%	
Waiver, OC Pesticide # of Exceedances	7	5	15	5	2	2	6	10	0	0	0	0	52		
<b>OP Pesticides</b>															
Chlorpyrifos	0	0	2	1	0	0	1	3	ns	ns	ns	ns	7	13.46%	
Diazinon	0	0	2	1	1	0	0	1	ns	ns	ns	ns	5	9.62%	
Waiver, OP Pesticide # of Exceedances	0	0	4	2	1	0	1	4	0	0	0	0	12		
<b>Aquatic Life Guidelines</b>															
<b>OP Pesticides</b>															
Malathion	0	0	1	1	1	0	0	2	ns	ns	ns	ns	5	9.62%	
ALB, OP Pesticide # of Exceedances	0	0	1	1	1	0	0	2	0	0	0	0	5		
<b>Pyrethroid Pesticides</b>															
Bifenthrin	1	2	4	0	0	0	2	3	ns	ns	ns	ns	12	23.08%	
Cyfluthrin	2	1	4	2	0	0	5	4	ns	ns	ns	ns	18	34.62%	
Fenpropathrin (Danitol)	1	0	3	2	1	0	2	2	ns	ns	ns	ns	11	21.15%	
Fluvalinate	0	1	0	0	1	0	2	3	ns	ns	ns	ns	7	13.46%	
Deltamethrin	0	0	2	2	1	0	0	2	ns	ns	ns	ns	7	13.46%	
Lambda-cyhalothrin	1	0	1	1	1	0	6	2	ns	ns	ns	ns	12	23.08%	
Permethrin	1	1	4	0	1	0	3	4	ns	ns	ns	ns	14	26.92%	
ALB, Pyrethroid Pesticide # of Exceedances	6	5	18	7	5	0	20	20	0	0	0	0	81		
Total Number of Exceedances	13	10	38	15	9	2	27	36	ns	ns	ns	ns	150		
Average # of Exceedances per sample	2.60	3.33	2.71	1.88	4.50	2.00	3.38	3.27	ns	ns	ns	ns	2.88		
<b>Number of Samples Collected</b>	<b>5</b>	<b>3</b>	<b>14</b>	<b>8</b>	<b>2</b>	<b>1</b>	<b>8</b>	<b>11</b>	<b>ns</b>	<b>ns</b>	<b>ns</b>	<b>ns</b>	<b>52</b>		

ns Program suspended, no sample collected

Table 20 cont.- Summary of Water Quality Exceedances, Pesticides

Constituents	CWIL Order # R4-2010-0186																	Total	% of samples	
	Interim Sampling	YEAR 1				YEAR 2			YEAR 3			YEAR 4				YEAR 5				
		Dry Season		Wet Season		Dry Season	Wet Season		Dry Season	Wet Season		Dry Season		Wet Season		Dry Season	Wet Season			
		March 2011	Event #1	Event #2	Event #1	Event #2	Event #1	Event #2	Event #1	Event #1	Event #2	Event #1	Event #1	Event #2	Event #1	Event #2	Event #1			Event #2
<b>Waiver Limitations</b>																				
<b>OC Pesticides</b>																				
Clordane	1			0	0						0			0	0			0	1	4.55%
4,4' DDT	1			0	0						0			0	0			0	1	4.55%
4,4' DDD	0			0	0						0			0	0			0	0	0.00%
4,4' DDE	1			1	1						0			0	0			0	3	13.64%
Dieldrin	1			0	0						0			0	0			0	1	4.55%
Toxaphene	0			0	0						0			0	0			0	0	0.00%
Waiver, OC Pesticide # of Exceedances	4	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	
<b>OP Pesticides</b>																				
Chlorpyrifos	3			0	1						1			0	0			0	5	22.73%
Diazinon	1			0	0						0			0	0			0	1	4.55%
Waiver, OP Pesticide # of Exceedances	4	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	6	
<b>Aquatic Life Guidelines</b>																				
<b>OP Pesticides</b>																				
Malathion	1			0	1						0			0	0			0	2	9.09%
ALB, OP Pesticide # of Exceedances	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
<b>Pyrethroid Pesticides</b>																				
Bifenthrin	0			0	0						1			1	0			0	2	9.09%
Cyfluthrin	0			0	0						1			0	0			0	1	4.55%
Cypermethrin	0			0	0						0			0	0			0	0	0.00%
Fenpropathrin (Danitol)											0			1	0			0	1	4.55%
Deltamethrin	0			1	0						0			0	0			0	1	4.55%
Lambda-cyhalothrin	0			0	0						0			0	0			0	0	0.00%
Permethrin	2			0	1						1			1	0			0	5	22.73%
ALB, Pyrethroid Pesticide # of Exceedances	2	0	0	1	1	0	0	0	0	0	3	0	0	3	0	0	0	0	10	
Total # of Exceedances	11	0	0	2	4	0	0	0	0	0	4	0	0	3	0	0	0	0	24	
Average # of Exceedances per sample	2.75	--	--	0.50	1.00	--	--	--	--	--	0.80	--	--	1.50	0.00	--	--	0.00	1.09	
Number of Samples Collected	4	0	0	4	4	0	0	0	0	0	5	0	0	2	1	0	0	2	22	

Table 20 cont. - Summary of Water Quality Exceedances, Pesticides

Constituents	CWIL Order # R4-2016-0143						Total	% of samples	Constituents	Totals, all Orders		Total	% of samples
	YEAR 1, Interim			YEAR 2, Interim						Dry Season	Wet Season		
	Dry Season		Wet Season		Dry Season								
	Event #1	Event #2	Event #1	Event #2	Event #1	Event #2				Event #1	Event #2		
<b>Waiver Limitations</b>								<b>Waiver Limitations</b>					
<b>OC Pesticides</b>								<b>OC Pesticides</b>					
Clordane			0	0			0	0.00%	Clordane	4	15	19	23.17%
4,4' DDT			0	0			0	0.00%	4,4' DDT	4	4	8	9.76%
4,4' DDD			0	0			0	0.00%	4,4' DDD	4	5	9	10.98%
4,4' DDE			0	0			0	0.00%	4,4' DDE	4	16	20	24.39%
Dieldrin			0	0			0	0.00%	Dieldrin	0	1	1	1.22%
Toxaphene			0	0			0	0.00%	Toxaphene	0	1	1	1.22%
Waiver, OC Pesticide # of Exceedances	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		Waiver, OC Pesticide # of Exceedances	<b>16</b>	<b>42</b>	<b>58</b>	
<b>OP Pesticides</b>								<b>OP Pesticides</b>					
Chlorpyrifos			0	0			0	0.00%	Chlorpyrifos	0	12	12	14.63%
Diazinon			0	0			0	0.00%	Diazinon	1	5	6	7.32%
Waiver, OP Pesticide # of Exceedances	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		Waiver, OP Pesticide # of Exceedances	<b>1</b>	<b>17</b>	<b>18</b>	
<b>Aquatic Life Guidelines</b>								<b>Aquatic Life Guidelines</b>					
<b>OP Pesticides</b>								<b>OP Pesticides</b>					
Malathion			0	0			0	0.00%	Malathion	1	6	7	8.54%
ALB, OP Pesticide # of Exceedances	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		ALB, OP Pesticide # of Exceedances	<b>1</b>	<b>6</b>	<b>7</b>	
<b>Pyrethroid Pesticides</b>								<b>Pyrethroid Pesticides</b>					
Bifenthrin			0	2			2	25.00%	Bifenthrin	3	13	16	19.51%
Cyfluthrin			0	1			1	12.50%	Cyfluthrin	3	17	20	24.39%
Cypermethrin			0	0			0	0.00%	Cypermethrin	2	9	11	13.41%
Fenpropathrin (Danitol)			0	1			1	12.50%	Fenpropathrin (Danitol)	2	7	9	10.98%
Deltamethrin			0	0			0	0.00%	Deltamethrin	1	7	8	9.76%
Lambda-cyhalothrin			0	0			0	0.00%	Lambda-cyhalothrin	2	10	12	14.63%
Permethrin			0	1			1	12.50%	Permethrin	3	17	20	24.39%
ALB, Pyrethroid Pesticide # of Exceedances	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>5</b>		ALB, Pyrethroid Pesticide # of Exceedances	<b>16</b>	<b>80</b>	<b>96</b>	
<b>Total # of Exceedances</b>								<b>Total # of Exceedances</b>					
<b>Average # of Exceedances per sample</b>								<b>Average # of Exceedances per sample</b>					
<b>Number of Samples Collected</b>								<b>Number of Samples Collected</b>					
<b>0</b>								<b>34</b>					
<b>0.00</b>								<b>2.04</b>					
<b>3</b>								<b>71</b>					
<b>5</b>								<b>179</b>					
<b>1.00</b>								<b>2.18</b>					
<b>5</b>								<b>82</b>					

### **6.1.3 Toxicity**

Based on laboratory analytical results, toxicity was significant enough to initiate a TIE in one of the eight samples collected during this sampling year. A total of 16 TIEs have been conducted throughout the life of the program. Seven of the TIEs did not show a significant observed toxicity effect in follow up testing.

TIE results from this sampling period indicated Suspended solids or Particle Bound Toxicants as the source of toxicity. Historical TIE results indicated a variety of reasons for toxicity, including non-polar organic compounds, particulate-bound toxicants, volatile compounds, organophosphates, particulate bound toxicants, metals, and a combination of the previously listed toxicants. A historical summary of analytical results for toxicity testing is included for each site in Appendix B.

### **6.1.4 Field Monitoring Results**

Field Monitoring Water Quality Benchmarks are based on the surface water and groundwater basin objectives currently contained in the Basin Plan or other applicable water quality standards established for the Los Angeles Region. Field monitoring readings have not exceeded Basin Plan objectives at any sites sampled during the entire program. A historical summary of results for field measurements is included for each site in Appendix B. Hard copies of field data sheets and field reports are kept on file at PacRL, and are available upon request.

## **6.2 QUALITY ASSURANCE AND QUALITY CONTROL**

QA/QC of data collected this sampling year fell within acceptable control limits established by the analyzing laboratories, and are included in the tables in Appendix B and laboratory analytical documentation included in Appendix C. All field monitoring equipment was calibrated prior to each monitoring event, and verified after calibration with mid-range standards. Calibration logs are kept on-file at PacRL.

Field duplicates and laboratory duplicates are used to check the precision of samples. The precision of field duplicates deemed sample LAILG-NGA-19-8 to be estimated for some general chemistry constituents due to large discrepancies. Lab duplicates, blank spike duplicates, laboratory control spike duplicates, and matrix spike duplicates were all accepted by the laboratory and did not cause any data to be estimated, as discussed in the laboratory analytical report.

Percent recoveries for bank spike samples, laboratory control samples, and matrix spike samples are used to check the accuracy of samples. Some of these values fell outside the QAQC limits set in the QAPP, however, data was considered valid due to varying reasons, as discussed in the laboratory analytical report included in Appendix C.

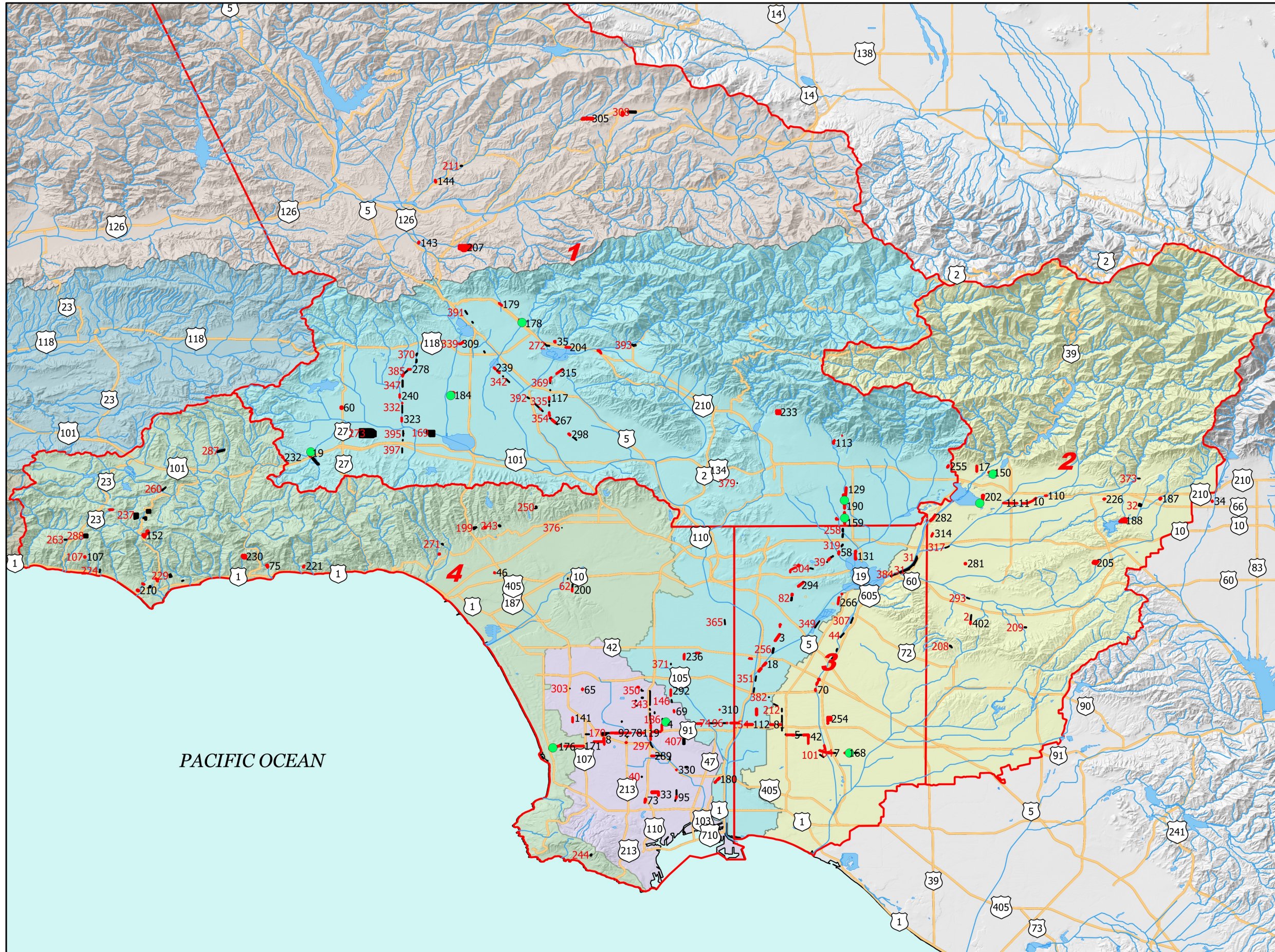
## **7.0 CURRENT WQMP STATUS**

The LAILG is continuing to press toward the goal of achieving an 80% response rate for the General Questionnaire and the BMP Questionnaire for all enrolled growers. As discussed in the most recent WQMP dated May 10, 2017, the 80% threshold will be utilized to trigger the generation of a new MRP and WQMP that divides growers into groups based on various operational parameters. The general hypothesis of the LAILG is that larger operations, based on sales, total company size, and shipping patterns, will show more intense fertilizer and pesticide use patterns, corresponding to an increased risk of contaminants leaving the property. Growers will be divided into the following groups: large operation, medium operation, small operation, and micro operation. A separate vineyard category may be added in the future.

The number of enrolled growers has increased from 259 to 293 since the date of the most recent WQMP. The WQMP (2017) had approximately 39.8% of the growers (103 out of 259) and 40.6% of the irrigated land area enrolled in the program responded thoroughly enough to be grouped. At the time of this report, the number of growers that have completely responded has increased to approximately 50.9% of the growers (149 out of 293) and 60.2% of the irrigated land enrolled in the program. LAILG is continuing outreach program to increase compliance with the WQMP, including facility visits, to raise member response to an acceptable level to implement the WQMP.



**FIGURE 1** Los Angeles County Irrigated Lands Group  
Los Angeles Regional Watersheds



**Legend**

- Enrolled Grower and Number
- Non-Compliant Grower and Number
- Sampling Region and Number
- Sampling Locations
- CA State Roads and Number
- Streams

**Watersheds**

- Ventura River
- Santa Monica Bay
- Santa Clara River
- San Gabriel River
- Misc. Ventura Coastal Stream
- Los Angeles River
- Dominguez Channel LA LB Harbor
- Callegus Creek



Scale: 1 Inch = 5 Miles

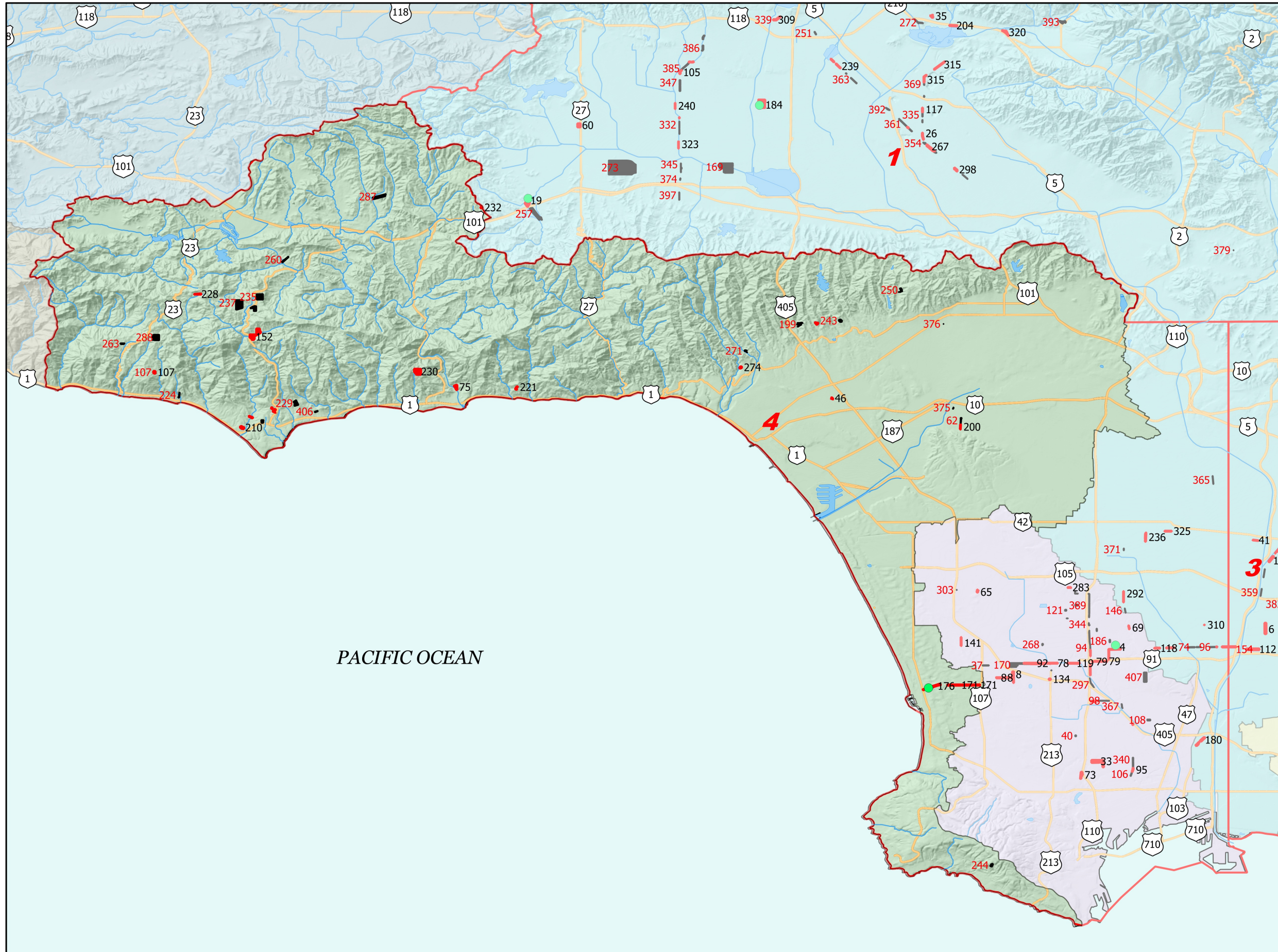
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**FIGURE 1.1** Los Angeles County Irrigated Lands Group  
Santa Monica Bay WMA



**Legend**

- Enrolled Grower and Number
- Non-Compliant Grower and Number
- Sampling Region and Number
- Sampling Locations
- CA State Roads and Number
- Streams

**Watersheds**

- Ventura River
- Santa Monica Bay
- Santa Clara River
- San Gabriel River
- Misc. Ventura Coastal Stream
- Los Angeles River
- Dominguez Channel LA LB Harbor
- Callegus Creek



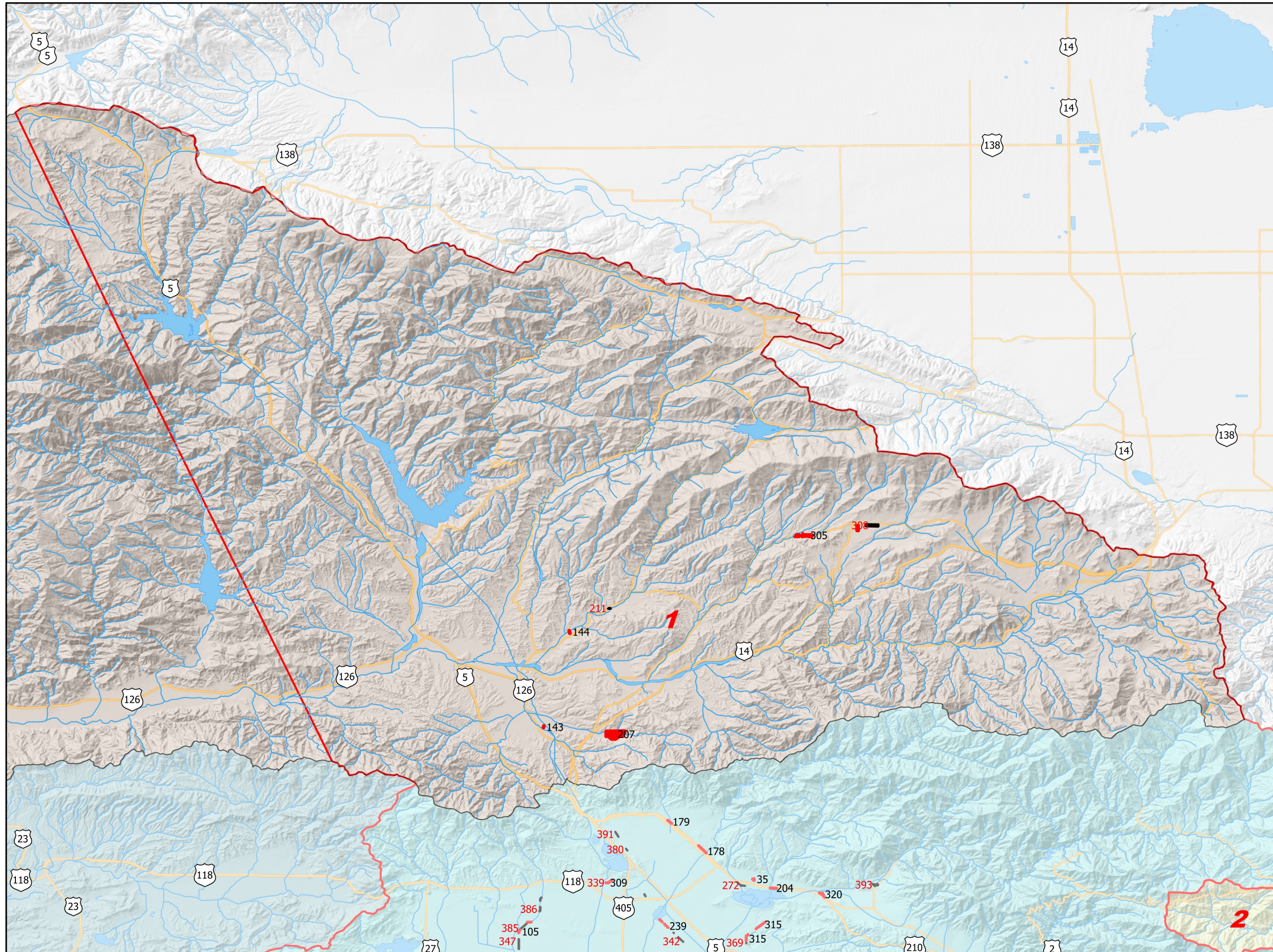
Scale: 1 Inch = 4 Miles



Prepared by:  
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**FIGURE 1.2** Los Angeles County Irrigated Lands Group  
Santa Clara River Watershed



**Legend**

- Enrolled Grower and Number
- Non-Compliant Grower and Number
- Sampling Region and Number
- CA State Roads and Number
- Streams

**Watersheds**

- Ventura River
- Santa Monica Bay
- Santa Clara River
- San Gabriel River
- Misc. Ventura Coastal Stream
- Los Angeles River
- Dominguez Channel LA LB Harbor
- Callegus Creek



Scale: 1 Inch = 4 Miles

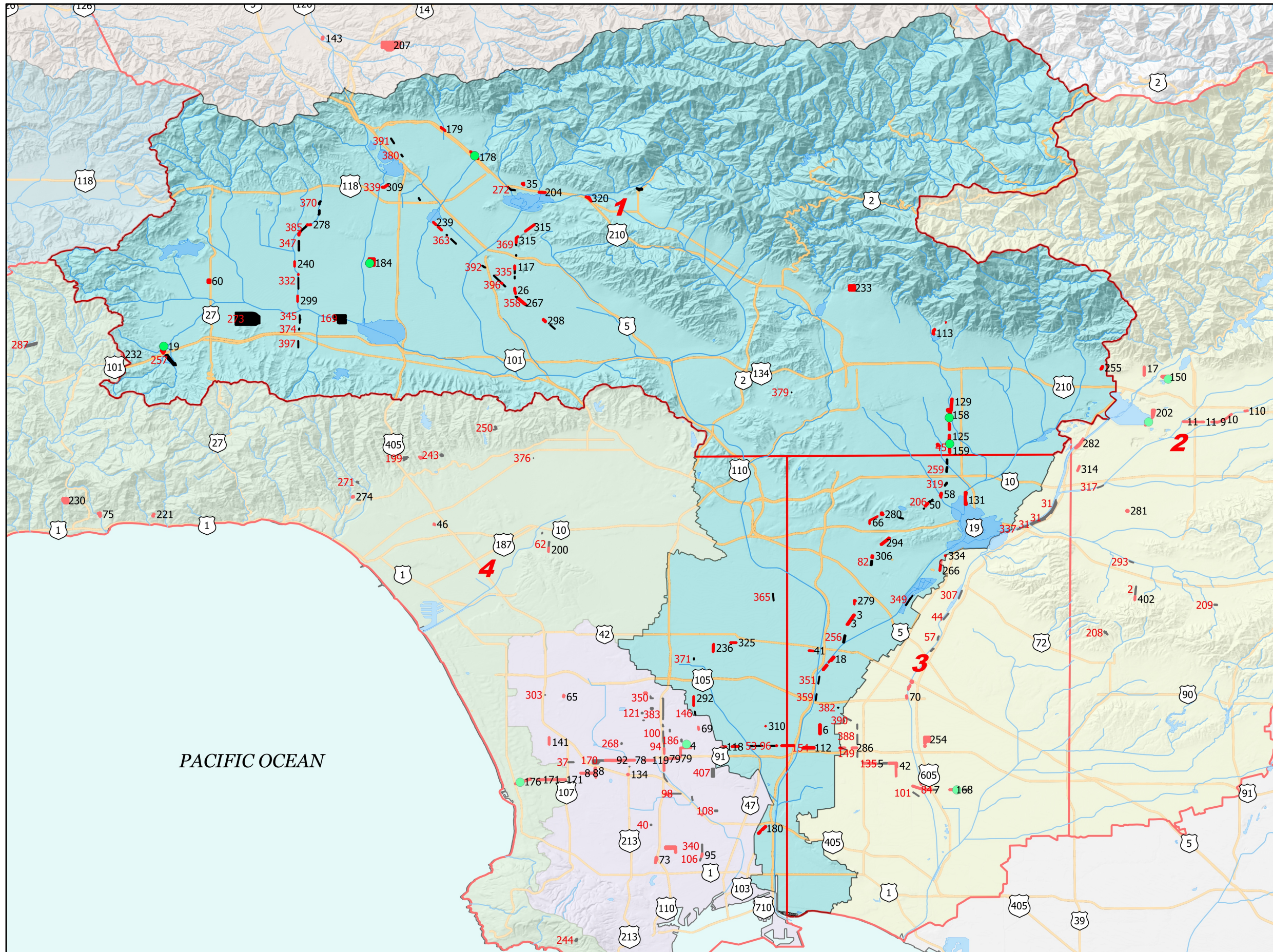
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**FIGURE 1.3** Los Angeles County Irrigated Lands Group  
Los Angeles River Watershed



**Legend**

- Enrolled Grower and Number
- Non-Compliant Grower and Number
- Sampling Region and Number
- Sampling Locations
- CA State Roads and Number
- Streams

**Watersheds**

- Ventura River
- Santa Monica Bay
- Santa Clara River
- San Gabriel River
- Misc. Ventura Coastal Stream
- Los Angeles River
- Dominguez Channel LA LB Harbor
- Callegus Creek



Scale: 1 Inch = 4 Miles

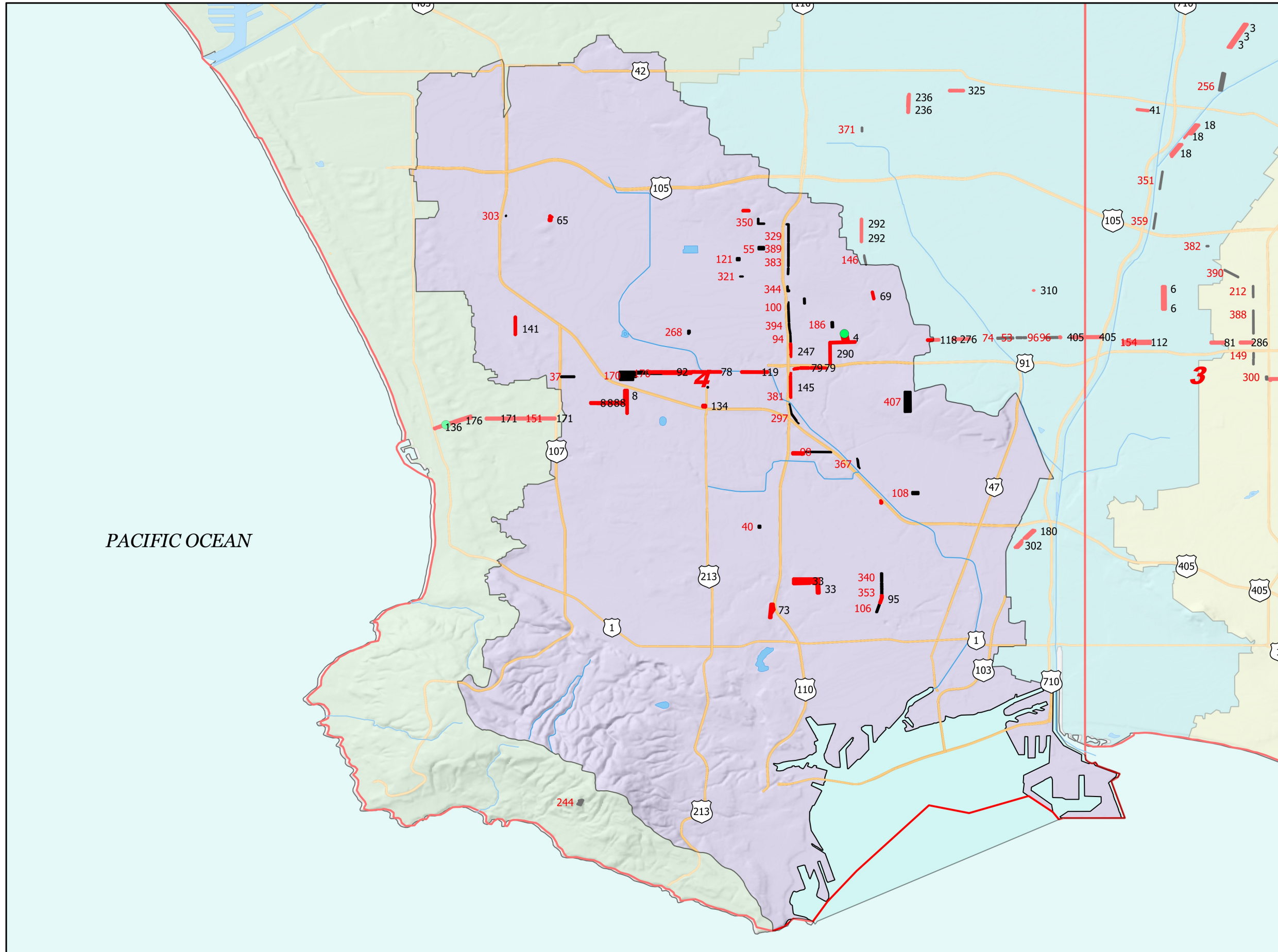
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**FIGURE 1.4** Los Angeles County Irrigated Lands Group  
 Dominguez Channel LA/Long Beach Harbors WMA



**Legend**

- █ Enrolled Grower and Number
- █ Non-Compliant Grower and Number
- Sampling Region and Number
- Sampling Locations
- CA State Roads and Number
- Streams

**Watersheds**

- Ventura River
- Santa Monica Bay
- Santa Clara River
- San Gabriel River
- Misc. Ventura Coastal Stream
- Los Angeles River
- Dominguez Channel LA LB Harbor
- Callegus Creek

PACIFIC OCEAN



Scale: 1 Inch = 2 Miles

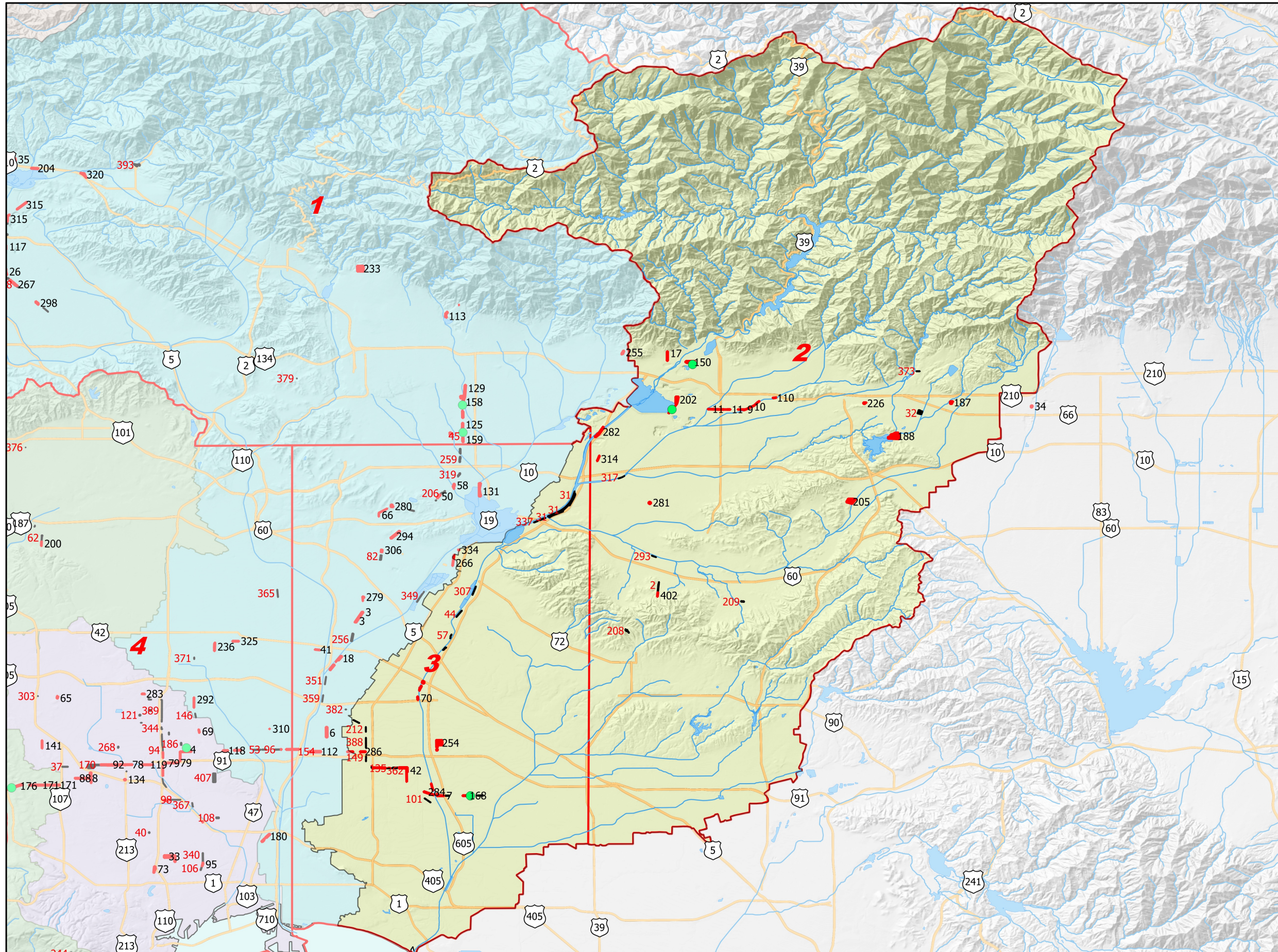
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**FIGURE 1.5** Los Angeles County Irrigated Lands Group  
San Gabriel Watershed



**Legend**

- Enrolled Grower and Number
- Non-Compliant Grower and Number
- Sampling Region and Number
- Sampling Location
- CA State Roads and Number
- Streams

**Watersheds**

- Ventura River
- Santa Monica Bay
- Santa Clara River
- San Gabriel River
- Misc. Ventura Coastal Stream
- Los Angeles River
- Dominguez Channel LA LB Harbor
- Callegus Creek



Scale: 1 Inch = 4 Miles

Prepared by:



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**APPENDIX A**

**UPDATED LIST OF LOS ANGELES COUNTY IRRIGATED LANDS  
GROUP, AS OF DECEMBER 31, 2017**

NGA #	OWNER/ TENANT	OPERATOR/ CONTACT	PARCEL				MAILING				CROP TYPE	Watershed	ACREAGE	
			APN	ADDRESS	CITY	DWP	ADDRESS	CITY	STATE	ZIP			TOTAL	IRRIGATED
3	ABC Nursery Inc.	Eric Yonemura	6329001800 6329001801 6330019801 6330019800	6800 Darwell Avenue	Bell Gardens		424 East Gardena Blvd.	Gardena	CA	90248	GO	LA	22.21	10.20
4	ABC Nursery Inc.	Eric Yonemura	6126011028 6126011029 6126011035 6126011036 6126011800	424 E. Gardena Boulevard	Gardena		424 East Gardena Blvd.	Gardena	CA	90248	GO	D	19.19	11.51
5	ABC Nursery Inc.	Eric Yonemura	7168034801 7168034281 7168034285 7168034270 7168034289 7168034276 7168034278 7168034272 7168034280 7168034273 7168034274	6221 Clark Avenue	Lakewood	X	424 East Gardena Blvd.	Gardena	CA	90248	GO	SG	6.40	2.70
6	ABC Nursery Inc.	Eric Yonemura	6240008800 6240008801 6240008802	7132 Somerset Boulevard	Paramount		424 East Gardena Blvd.	Gardena	CA	90248	GO	LA	9.52	4.87
7	ABC Nursery Inc.	Eric Yonemura	7049021800 7049021801 7049021802 7049021803 7049021802 7049021800	20200 Studebaker	Cerritos		424 East Gardena Blvd.	Gardena	CA	90248	GO	LA	13.84	8.30
8	ABC Nursery Inc.	Eric Yonemura	4089016802 4089016800 4089011801 4089011800 4089010800 4089009800 4089010800 4089011800 4089011801 4089017800 4089016802 4089016800	18601 Yukon Avenue	Torrance		424 East Gardena Blvd.	Gardena	CA	90248	GO	D	21.97	10.20
9	Acosta Growers Inc.	Eddie Acosta / Carlos Acosta	8622022270 8622012271 8622013270 8622022006	5359 Citrus Ave	Azusa	X	18012 E. Alford St.	Azusa	CA	91702	GO	SG	3.00	2.25
10	Acosta Growers Inc.	Eddie Acosta / Carlos Acosta	8630008274 8629002270	1050 E Gladstone St	Azusa	X	18012 E. Alford St.	Azusa	CA	91702	GO	SG	7.00	5.25

NGA #	OWNER/ TENANT	OPERATOR/ CONTACT	PARCEL				MAILING				CROP TYPE	Waters hed	ACREAGE	
			APN	ADDRESS	CITY	DWP	ADDRESS	CITY	STATE	ZIP			TOTAL	IRRIGATED
11	Acosta Growers Inc.	Eddie Acosta / Carlos Acosta	8620015270 8620015272 8620005271 8620024273 8620024272 8621025271 8621025270 8621015270 8621016272 8620015270 8620015272 8620022270 8620024272	669 S Azusa Ave	Azusa	X	18012 E. Alford St.	Azusa	CA	91702	GO	SG	10.00	7.50
17	Arbor Nursery Plus	Tony Rodriquez	8610001800 8602011801 8602011800 8602010800 6233005805	2865 Royal Oaks Dr	Duarte		P O Box 398	Azusa	CA	91702	GO	SG	8.00	6.00
18	AY Nursery Inc.	Hugo Ayon	6233003802 6233003800 6232016801 6232016800 6232016802 6232017804 6232017803 2047001004	10115 South Garfield Ave	South Gate		P. O. Box 4115	Riverside	CA	92514	GO	LA	4.5	3.50
19	Boething Treeland Farms Inc.	Bruce Pherson	2047001001 2047001005 2047001002 2044020022 2047001001 2047001002 2047001004 2047001005	23475 Long Valley Road	Woodland Hills		23475 Long Valley Road	Woodland Hills	CA	91367	GO	LA	32.00	14.68
24	Calscape Growers	Chester (Dan) Robinson	5860004004	2103 Villa Heights Rd	Pasadena		2103 Villa Heights Rd	Pasadena	CA	91104	GO	LA	0.25	0.20
26	Canyon Way Nursery	Mark Wurzel	2317019900 2317018900 2317017900 2317018900 2317019900	11745 Sherman Way	North Hollywood	X	3214 Oakdell Road	Studio City	CA	91604	GO	LA	4.98	4.25
27	Certified Plant Growers Inc.	Tom Miesen	8021020800 8021008806 8021008802 8021008801 8021008902	10400 Downey/Norwalk Rd	Norwalk		P.O. Box 1696	Temecula	CA	92593	C	SG	10.00	6.50
28	Certified Plant Growers Inc.	Tom Miesen	8021005915 8021004801 8021004800 8021004805 8021004804	10524 E Firestone Blvd	Norwalk		P.O. Box 1696	Temecula	CA	92593	C	SG	2.50	1.50

NGA #	OWNER/ TENANT	OPERATOR/ CONTACT	PARCEL				MAILING				CROP TYPE	Waters hed	ACREAGE	
			APN	ADDRESS	CITY	DWP	ADDRESS	CITY	STATE	ZIP			TOTAL	IRRIGATED
33	Color Spot Nurseries Inc.	Dixon Suzuki	7330008902 7330009901 7330009904 7406026913 7330009909 7330009910 7330009908 7330009907 7330009905 7330009903 7330009911	321 W. Sepulveda Blvd	Carson		321 W Sepulveda Blvd.	Carson	CA	90745	C	D	31.55	18.50
34	Corey Nursery Co.	Jeff Corey	8307002032	1650 Monte Vista Avenue	Claremont		P. O. Box 609	Claremont	CA	91711	GO	SA	6.80	3.00
35	Cyclamen Growers Inc.(dba C Grows)	Tomoko Copon	2530003017 2530003018	11545 Kagel Canyon St	Sylmar		11545 Kagel Canyon St.	Sylmar	CA	91342	GO	LA	3.54	2.60
41	Esequiel Nursery	Esequiel Hernandez/ Perla Hernandez	6222005273	9000 Atlantic Ave	South Gate	X	9000 Atlantic Ave.	South Gate	CA	90280	GO	LA	2.5	1.50
42	Fausto's Nursery	Fausto Garcia / Eduardo Garcia	7165020270 7165020800	5759 Allington St	Lakewood		15317 McRae St.	Norwalk	CA	90650	GO	SG	5.00	4.00
46	F K Nursery Inc.	Eric Kageyama	4261037001 4261037005 4261037006 4261037007 4261037004 4261037008	2027 Colby Ave	Los Angeles		2027 Colby Avenue	Los Angeles	CA	90025	GO	SM	1.46	0.92
50	Carreon Nursery	Guadalupe Carreon / Adriana Carreon	5277023802 5277023803 5277023804 5277023805	7900 La Merced Road	Rosemead		472 Giano Avenue	La Puente	CA	91744	GO	LA	6.16	6.00
55	Moneta Nursery, Inc.	Gary Ishii	6115019043 6115019044 6115019045 6115019042	13633 South Vermont Avenue	Gardena		13633 S. Vermont Avenue	Gardena	CA	90247	M	D	4.75	3.00
56	Ricardo's Nursery	Ricardo Arrivillaga	7116016802 7116016801	6850 Atlantic Ave	Long Beach		6850 Atlantic Ave	Long Beach	CA	90805	GO	LA	9.00	7.00
58	GM Nursery	Juan Diaz	5283015806 5283016804	2563 Angelus Ave	Rosemead		2563 Angelus Ave	Rosemead	CA	91770	GO	LA	4.00	3.00
60	Green Thumb Nursery	Frank Soriano	2012022012 2012022015 2012022011 2012022010 2012022014 2012022007	7659 Topanga Canyon Blvd	Canoga Park		7659 Topanga Cyn Blvd	Canoga Park	CA	91305	GO	LA	19	10.00
61	My Hoa Farm	Han Luong	7165012282 7165013274	5760 Allington Street	Lakewood		5726 Candor St.	Lakewood	CA	90713	R	SG	5.25	2.50
64	H & H Nursery	Robert Reyes	7168033800 7168033801 7168033274 7168033289 7168033285	6220 Lakewood Boulevard	Lakewood		6220 Lakewood Blvd.	Lakewood	CA	90712	M	SG	5.50	2.50

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65	Hawthorne Nursery Inc.	Kei Nakai	4041013016 4041013017 4041013018 4041013019 4041013014 4041013013 4042031010 4042031009 4042031008 4042031007 4042031006 4042031005	4519 W. El Segundo Bl	Hawthorne		4519 W. El Segundo Blvd.	Hawthorne	CA	90250	GO	D	2.87	2.50
66	Hill Grove Nursery	Raul Mejia	5266018801 5266017802 5266017800 5262028800 5263029800	450 West Almora	Monterey Park		PO Box 92966	City of Industry	CA	91715	GO	IP	3.50	2.00
69	Humedo Nursery	Martin Torres	6139004271 6139004273	860 East Redondo Beach Boulevard	Compton	X	P.O. Box 40299	Long Beach	CA	90804	GO	D	2.00	1.39
68	Hoyt Family Vineyards	Carol & Steven Hoyt	4467018025	5929 Kanan Dume Rd	Malibu		5929 Kanan Dume Road	Malibu	CA	90265	V	SM	1.50	0.80
70	Humedo Nursery	Martin Torres	6283024801	10040 Imperial Highway	Downey		P.O. Box 40299	Long Beach	CA	90804	GO	SG	3.00	2.20
73	International Plant Growers Inc.	Peter Landowski / Jeff Nakasone	7409020009	24500 Vermont Ave	Harbor City		24500 Vermont Avenue	Harbor City	CA	90710	C	D	7	4.00
75	Bridgeman Ranch	Alexandre Bridgeman / Bob Tobias (Main contact)	4452014006	3415 Cross Creek Rd	Malibu		3415 Crosscreek Rd.	Malibu	CA	90265	O	SM	5.00	3.00
78	Centeno's Nursery & Landscaping	Jose Centeno / Rene Centeno	6106013800	17600 S. Western Ave	Gardena		17514 S. Figueroa St.	Gardena	CA	90248	GO	D	4.39	3.00
79	Centeno's Nursery & Landscaping	Jose Centeno / Rene Centeno	7339006800 7339002803 7339003801 7339003800 7339007802	17514 S. Figueroa Street	Gardena		17514 S. Figueroa St.	Gardena	CA	90248	GO	D	7.70	6.00
81	Centeno's Nursery & Landscaping	Jose Centeno / Rene Centeno	7113014800	6850 N. Paramount Blvd	Long Beach		17514 S. Figueroa St.	Gardena	CA	90248	GO	SG	4.70	3.00
84	Cerritos Growers	Jose de Jesus Gallo / Maria Silva	7050005800 7050005801	19805 Gridley Rd	Cerritos		4943 Buffington Rd	El Monte	CA	91732	GO	SG	3.5	3.00
91	Kobata Growers Inc.	Jack Mayesh	4096005800 4096005801 4096005802	17622 Van Ness Avenue	Torrance	X	17622 Van Ness	Torrance	CA	90504	GO	D	8.00	6.50
92	Kobata Growers Inc.	Jack Mayesh	4095001800 4095001802	17629 Van Ness Avenue	Torrance		17622 Van Ness	Torrance	CA	90504	C	D	6.50	6.50
95	Wilmington Nursery	Rodrigo Ramirez (New Owner)	7404034900	898 Deloras Drive	Wilmington	X	898 E Deloras Drive	Carson	CA	90745	GO	D	3.50	2.50
105	Live Art Landscapes Inc.	Larry Tabeling	2763001904 2763030900	18809 Plummer St	Northridge		3351 La Cienega Place	Los Angeles	CA	90016	GH	LA	3.66	1.80
107	Riverview Farm/Dolphinhead Vineyard Associates	Marty Cable	4472028022	3640 Noranda Lane	Malibu		3640 Noranda Ln	Malibu	CA	90265	V	SM	1.80	0.75
110	Glendora Gardens	Melina Serrandino	8641001274 8641001273	1135 S Grand Avenue	Glendora	X	1132 S. Grand Avenue	Glendora	CA	91740	M	SG	4.36	3.75



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112	Mezcala Nursery	Sergio Vargas	7116001800	6901 Orange Ave	Long Beach		7016 Sherman Way	Bell	CA	90201	GO	LA	3.00	2.00
113	Magic Growers Inc.	Bob & Leilani Underwood	5751022801 5860013800 5857035901	2795 Eaton Canyon Drive	Pasadena		2795 Eaton Canyon Drive	Pasadena	CA	91107	GO	LA	8.00	8.00
114	Mariposa Garden	Ron Hill	7049014904 2310006900	6664 South Street	Lakewood		6664 South Street	Lakewood	CA	90713	GO	SG	4.00	3.61
117	Nick's Nursery	Nicolas Alvarado	2310007900	11800 Roscoe Blvd.	Sun Valley	X	11800 Roscoe Blvd	Sun Valley	CA	91352	GO	LA	3.25	2.25
118	C Stars Nursery Inc.	Armida Torres or Norma Gonzales	7319002806	1400 West Greenleaf Boulevard	Compton		P O Box 342	Gardena	CA	90247	C	D	4.50	2.50
119	C Stars Nursery Inc.	Armida Torres or Norma Gonzales	6111023800	17654 South Normandie Avenue	Gardena		P O Box 342	Gardena	CA	90247	C	D	8.00	4.00
120	Cerritos Nursery, LLC	Ken Zhang/Bailey Yang	7056013800	19820 Norwalk Blvd	Cerritos		19820 Norwalk Blvd.	Cerritos	CA	90703	GO	SG	4.50	4.50
125	Norman's Nursery Inc.	Nancy Norman	5387037800 5388036800 5388036801 5388038802 5388038803 5388038800 5388038801	1150 E Broadway	San Gabriel		8665 E. Duarte Rd.	San Gabriel	CA	91775	GO	LA	10.40	7.00
129	Norman's Nursery Inc.	Nancy Norman	5376008800 5376008801 5376008802	8633 Duarte Rd North	San Gabriel		8665 E. Duarte Rd.	San Gabriel	CA	91775	GO	LA	12.49	9.73
131	Norman's Nursery Inc.	Nancy Norman	5282031901 5282031900 5282028904 5282028902 5282028903	1601 Loma Ave	El Monte		8665 E. Duarte Rd.	San Gabriel	CA	91775	GO	SG	9.13	7.30
132	Norman's Nursery Inc.	Nancy Norman	5381009815 5381009814 5381009816 5381009817 5381015805	8624 Duarte Rd South	San Gabriel		8665 E. Duarte Rd.	San Gabriel	CA	91775	GO	LA	8.63	6.50
134	Sempervirens Botanical Company	John Low	4096001054 7502006802	18715 S Western Ave	Gardena		18715 S Western Ave	Gardena	CA	90248	C	D	2.00	0.50
136	Peter's Garden Center Inc.	Peter Serrato / Teresa Serrato	7502006803 7502004806 7502004807 7502001803 7502001804 7502001802	814 N. Pacific Coast Hwy	Redondo Beach		814 N. Pacific Coast Hwy.	Redondo Beach	CA	90277	M	SM	2.50	1.00
141	Performance Nursery Inc.	Tom Lucas	4151012800 4151013800	2501 Manhattan Beach Boulevard	Redondo Beach		6001 E Los Angeles Avenue	Somis	CA	93066	GO	D	4.78	3.00
142	Sunflower Farms	Ron Akiyama	4096005007 4096005800	17609 S. Western Ave.	Gardena		17609 S Western Avenue	Gardena	CA	90247	F	D	4.00	3.50
143	Green Landscape Nursery	Richard Green	2833001087 2833004097	22216 1/2 Placerita Canyon Rd	Santa Clarita		26191 Bouquet Canyon Rd.	Saugus	CA	91350	GO	SC	4.00	3.75
144	Green Landscape Nursery	Richard Green	2809003270	25235 Orchard Village Rd.	Valencia		26191 Bouquet Canyon Rd.	Saugus	CA	91350	GO	SC	3.00	2.00
145	Centeno's Nursery & Landscaping	Jose Centeno / Rene Centeno	7339008913 7339008911 7339007901	565 W. 189th Street	Gardena	X	17514 S. Figueroa St.	Gardena	CA	90248	GO	D	4.67	3.60

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151	Rainforest Flora Inc.	Jerry Robinson	7522006800	19121 Hawthorne Blvd	Torrance		19121 Hawthorne Blvd.	Torrance	CA	90503	GH	D	5.00	1.00
152	Rancho Escondido Vineyard	George Rosenthal	4464027018 4464027013	Newton Cyn & Kanan Rd	Malibu		Raleigh Enterprises 100 Wilshire Blvd. 8th Floor	Santa Monica	CA	90401	V	SM	25.00	25.00
158	Sakaida Nursery Inc.	Mike Gutierrez	5381015802 5381015806 5381015807 5381015808 5381015809	8538-8601 Longden Ave	San Gabriel		8626 E. Grand Ave.	Rosemead	CA	91770	GO	LA	7.00	6.50
159	Sakaida Nursery Inc.	Mike Gutierrez	5389005800 5389005803	8626 E Grand Ave	Rosemead		8626 E. Grand Ave.	Rosemead	CA	91770	GO	LA	4.50	4.00
160	Sakaida Nursery Inc.	Mike Gutierrez	5381011011	6544 N. Vista Street	San Gabriel		8626 E. Grand Ave.	Rosemead	CA	91770	GO	LA	4.00	3.00
161	Salco Growers	Frank Spina	7165001011 7165001271 7165001275 7165001272 7165019270 7165001801 7165001800 7165019800 7165019801 7165019805 7165019804	6236 Bellflower Rd	Lakewood	X	6236 Bellflower Blvd	Lakewood	CA	90713	C	SG	4.00	2.00
162	San Gabriel Nursery & Florist	Fred Yoshimura/ Mary Swanton	5276018003	2015 Potrero Grande	Monterey Park		632 South San Gabriel Blvd.	San Gabriel	CA	91776	General Ornamental	LA	10.00	6.00

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164	San Gabriel Nursery & Florist	Fred Yoshimura / Mary Swanton	5373028024 5373028025 5373028026 5373028027 5373028028 5373028029 5373028036 5373028009 5373028010 5373028011 5373028012 5373028013 5373028014 5373028015 5373028016 5373028017 5373028018 5373028019 5373028020	632 S San Gabriel Blvd	San Gabriel		632 South San Gabriel Blvd.	San Gabriel	CA	91776	M	LA	2.00	1.00
403	San Gabriel Nursery & Florist	Fred Yoshimura / Mary Swanton	IP	714 S. Gladys Ave.	San Gabriel		632 South San Gabriel Blvd.	San Gabriel	CA	91776	IP	IP	0.75	0.39
168	S Y Nursery Inc.	Patty Yasutake	7055008800	19900 S Pioneer Blvd	Cerritos		19900 S. Pioneer Blvd.	Cerritos	CA	90703	GO	SG	6.00	4.75
171	T-Y Nursery Inc.	Terry Yasutake	7521012800 7521001802 7522006800 7520009801	Between Firmona Ave. / N. Beryl St.	Torrance		5221 Arvada Street	Torrance	CA	90503	GO	SM	21.25	13.50
176	T-Y Nursery Inc.	Terry Yasutake	7502012800 7502008804 7502008802 7502008805 7502008800 7502013800	Between Flagler Ln. / N. Paulina Ave.	Redondo Beach		5221 Arvada Street	Torrance	CA	90503	GO	SM	12.00	7.50
178	Ultra Greens Nursery	Michael Lentz	2525001802 2525001801 2525001800	13102 Maclay Street	Sylmar		P O Box 922259	Sylmar	CA	91392	GO	LA	10.00	8.50
179	Ultra Greens Nursery	Michael Lentz	2504009800	14025 Polk Street	Sylmar		P O Box 922259	Sylmar	CA	91392	GO	LA	1.50	1.23
180	Gomez Growers (United Plant Growers/Gomez Growers)	Jose Gomez	7311013800 7311017800	3698 Caspian Avenue	Long Beach		3698 Caspian Avenue	Long Beach	CA	90810	C	LA	7.30	5.80
184	Valley Sod Farm Inc.	Dan Gibson	2689002910 2689002909	16405 Chase Street	North Hills		16405 Chase Street	North Hills	CA	91343	S	LA	36.00	36.00
187	West Covina Wholesale Nursery	Dave Zylstra / Mark Barrios / Olegario Gonzalez	8666021902 8666021904	2820 Amherst Ave	La Verne		P. O. Box 8046	La Verne	CA	91750	GO	SG	5.00	4.50
188	West Covina Wholesale Nursery	Dave Zylstra / Mark Barrios / Olegario Gonzalez	8378022910	West end of Puddingstone West off of Fairplex at Bracket Field / 1420 Puddingstone Dr.	La Verne		P. O. Box 8046	La Verne	CA	91750	GO	SG	20.00	15.25

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190	West Covina Wholesale Nursery	Dave Zylstra / Mark Barrios / Olegario Gonzalez	5386015800 5386015801 5386015802 5386015803 5387004801 5387004800 5387004802 5387004803	5820 Burton Ave.	San Gabriel		P. O. Box 8046	La Verne	CA	91750	GO	LA	15.00	15.00
199	Moraga Vineyards	Scott Rich	4368005025 4368006007 4368024020 4368024025	1070 Moraga Dr.	Los Angeles		650 N. Sepulveda Blvd	Los Angeles	CA	90049	V	LA	8.00	7.00
200	C & S Nursery Inc.	Santiago Rosales II	5025006900	3615 Hauser Bl	Los Angeles	X	P.O. Box 642179	Los Angeles	CA	90064	GO	LA	2.50	2.00
202	El Nativo Growers Inc.	James Campbell	8533010909 8619002903 8533012908	200 S. Peckham	Azusa		200 South Peckham Rd.	Azusa	CA	91702	GO	SG	13.00	10.00
204	Worldwide Exotics Inc.	Michelle Jennings	2528025800	11157 Orcas Avenue	Lake View Terrace		10260 Arnwood Rd.	Lake View Terrace	CA	91342	GO	LA	6.80	2.00
205	California State Polytechnic University	Duncan McKee/Dave Matias	8709023908 8709023907 8709023910	3801 W. Temple	Pomona		3801 W. Temple Ave.	Pomona	CA	91768	M	SG	1,200.00	336.00
207	Golden Oak Ranch	Steve Sligh	2848010020	19802 Placerita Canyon Rd	Newhall		19802 Placerita Canyon Rd	Newhall	CA	91321	M	SC	890.00	200.00
210	Hevadu	Megan Cunha	4469021032	6415 Busch Drive	Malibu		6415 Busch Drive	Malibu	CA	90265	V	LA	8.00	2.75
221	The Malibu Vineyard	Michael McCarty	4451016022 4451016050	3222 Rambla Pacifico	Malibu		3222 Rambla Pacifico	Malibu	CA	90265	V	LA	2.00	2.00
225	Valdez Vineyard /Caro's Ridge	Deborah Valdez	4467018038	28885 Via Venezia	Malibu		28885 Via Venezia	Malibu	CA	90265	V	LA	1.00	1.00
226	Choji Matsushita	Richard Matsushita	8392014036 8392014035	724 N. Cataract Avenue	San Dimas		724 N. Cataract Ave	San Dimas	CA	91773	F	SG	3.80	1.70
228	El Corazon En Las Nubes	Bob Tobias / David Gomez	2058014014	32720 Mulholland Hwy	Malibu		P.O. Box 577	Agoura Hills	CA	91376	V	LA	5.00	0.90
230	Rancho Mar LLC	Bob Tobias	4457004048	2800 Malibu Canyon Road	Malibu		1250 4th Street	Santa Monica	CA	90401	M	LA	40.00	5.00
232	Wish Vineyard LLC	Susan Hayes	2049006031	25045 Jim Bridger Rd	Hidden Hills		25045 Jim Bridger Rd	Hidden Hills	CA	93102	V	LA	0.66	0.66
233	Nuccio's Nursery Inc.	Julius Tom & Jim Nuccio	5830018003 6049008278 6049009282 6049018292	3555 Chaney Trail	Altadena		3555 Chaney Trail	Altadena	CA	91001	GO	LA	78.00	5.00
236	Amigos Nursery LLC	Sergio Vasquez	6049009285	1420 E. 92nd Street	Los Angeles	X	P.O. Box 927	Downey	CA	90241	GO	LA	9.00	7.00
238	Zuma Canyon Orchids	George Vasquez	4467024003	5949 Bonsall Drive	Malibu		5949 Bonsall Dr.	Malibu	CA	90265	GH	LA	3.89	0.20
239	California Nurseries	Jose Gutierrez	2644002905 2644002904 2644002900 2644004900 2644004902 2644004903 2644004901 2647025902 2647025901 2647025900	14301 Van Nuys Blvd	Arleta	X	P.O. Box 2778	North Hills	CA	91393	GO	LA	7.50	7.50
240	California Nurseries	Jose Gutierrez	2784009902	18955 Roscoe Blvd	Northridge	X	P.O. Box 2778	North Hills	CA	91393	GO	LA	1.50	1.50



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246	Dolin Malibu Estates	Elliott Dolin	4467018045	5970 Cavalleri Rd	Malibu		5970 Cavalleri Rd	Malibu	CA	90265	V	SM	1.80	0.80
247	Fuku Bonsai Nursery	Juan Duran	6121003902 6121002901	560 W. 168th St.	Gardena	X	11862 Balboa Blvd PMB 164	Grenada Hills	CA	91344	GO	D	2.20	1.75
249	Hotchkis Vineyard	Frances Lacey	4369028005	10939 Chalon Rd	Los Angeles		10939 Chalon Rd	Los Angeles	CA	90077	Vineyard	SM	1.70	0.40
253	Landscape Warehouse Nursery & Supply	Jose Robles/Edaena Pano	8610001800	2800 Royal Oaks Dr	Duarte		1673 E. Walnut St.	Pasadena	CA	91106	GO	SG	2.00	1.25
254	Manassero Farms	Dan Manassero	7016007906	North East corner of 166th & Studebaker Rd.	Cerritos		9925 Via La Granja	Yorba Linda	CA	92886	R	SG	4.00	3.00
255	Organicado	Farid Shalabi and Sahar Shalabi	8527025022	460 Old Ranch Rd	Bradbury		13985 Live Oak Ave	Irwindale	CA	91706	O	LA	5.00	1.00
256	Pro Growers, Inc.	Sal Mora/Juan Perez	6230023801 6230023800	8303 S. Scout Ave	Bell Gardens		8303 S. Scout Ave	Bell Gardens	CA	90201	GO	LA	13.00	8.00
266	Girasol Nursery	Angela Montoya	6573016270 6373017272 6373021270 6373016906 5272031274 5272032271 5272005271 5272005273	8555 Spruce St	Pico Rivera		PO Box 6862	Pico Rivera	CA	90661	GO	LA	3.00	2.50
267	Jackson Shrub Supply Inc.	Gary Jackson	2320001902 2320008904 2320009902 2320006907 2320005904 2320005903	11505 Vanowen St	North Hollywood	X	11505 Vanowen St	North Hollywood	CA	91605	GO	LA	9.00	5.00
274	SAM Trust- Amalfi Vineyard	Andrea Spencer	4425005032	1515 Amalfi Dr	Pacific Palisades		Breslauer Rutman and Anderson 11400 Olympic Blvd Ste 550	Los Angeles	CA	90064	V	SM	5.00	1.00
276	AJ Nursery Inc.	Juan Ramos / Augustin Cazarez	7318001802 7318001801	1600 S. Wilmington Ave	Compton		1600 S. Wilmington Ave	Compton	CA	90220	GO	D	6.50	5.00
278	Bertha's Gardens/Western Gardens	Paul Diehl	2731024901 2729024901	18451 Lassen St.	Northridge	X	18451 Lassen St.	Northridge	CA	91325	GO	LA	2.50	2.50
279	Castaneda Nursery	Salud Castaneda	6332018818 6332018815 6332018809 6332018811	6270 Slauson Ave	Commerce	X	11500 Blanding St.	Whittier	CA	90606	GO	LA	8.50	5.00
280	Castaneda Nursery	Salud Castaneda	5263037804 5263037801 5263037802 5263037805	1690 Isabella Ave.	Monterey Park		11500 Blanding St.	Whittier	CA	90606	GO	LA	5.00	4.00
281	Fairgrove Nursery	Reuben Martinez / Liz Martinez	8471002804 8471002805	14855 Fairgrove Ave	La Puente		14826 Fairgrove Ave	La Puente	CA	91744	GO	SG	2.50	2.00
282	Garden View Inc.	Julie Meahl	8535020902 8535020801 8535020800	12901 Lower Azusa Rd	Irwindale		114 E. Railroad Ave	Monrovia	CA	91016	GO	IP	10.00	5.00
283	Gardena Hills Nursery	Gilberto Lopez	6089023282	12597 S Budlong Ave	Los Angeles	X	2579 E. 219 St.	Long Beach	CA	90810	GO	IP	1.75	1.25
284	House of Bonsai	Victoria Lee	7048012800 7048012801 7048012802	5214 Palo Verde Avenue	Lakewood		5214 Palo Verde Avenue	Lakewood	CA	90713	GO	IP	5.00	4.00

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285	Rusack Vineyard/Kangaru Enterprises LLC	Steven Gerbac	7480043020	1 El Rancho Escondido Rd.	Avalon			1825 Ballard Canyon Rd.	Solvang	CA	93463	V	IP	6.40	6.00
286	LB Palm Growers/Moon Valley	Cipriano Martinez	7107004800	17020 Downey Rd.	Bellflower			19820 N. 7th St. Suite 260	Phoenix	AZ	85024	GO	LA	4.50	4.00
289	MB Landscaping and Nursery	Maria Martinez	7336004010	20300 S. Figueroa St	Carson	X		20300 S. Figueroa St.	Carson	CA	90745	GO	D	2.50	1.50
290	MB Landscaping and Nursery	Maria Martinez	6126009802	201 E Walnut Street	Carson			20300 S. Figueroa St.	Carson	CA	90745	GO	D	6.20	5.00
292	MB Landscaping and Nursery	Maria Martinez	6134008270 6134001271 6134001270	700 135th St.	Los Angeles	X		20300 S. Figueroa St.	Carson	CA	90745	GO	D	6.20	4.00
294	Premium Trees LLC / Moon Valley	Cipriano Martinez	5268005801 5268005802	2600 W Lincoln Ave	Montebello			19820 N. 7th St. Suite 260	Phoenix	AZ	85024	GO	SG	16.50	7.00
296	Gomez Growers (United Plant Growers/Gomez Growers)	Jose Gomez	7048015801 7048015802	5150 Knoxville Ave	Lakewood			3698 Caspian Avenue	Long Beach	CA	90810	C	SG	3.50	3.00
298	Vineland Growers Nursery	Fidel Montenegro/ Gaby Ruiz	2414003902 2414003901	6200 Vineland Ave	North Hollywood			6200 Vineland Ave	North Hollywood	CA	91606	GO	IP	5.00	2.00
299	V & N Nursery	Jose Uribe	2126014900 2126015902	18841 Hart St	Reseda			3948 Sepulveda Blvd.	Culver City	CA	90230	GO	LA	3.00	1.50
302	Ramirez Strawberry Ranch	Rigoberto Ramirez	7317015805 7317015806	3511 Santa Fe Ave.	Long Beach			2710 Delta Ave	Long Beach	CA	90810	R	IP	2.50	2.00
305	Alonso Vineyard	Juan Alonso	3214043017 3214043027 3214020064 3214020044	12625 Sierra Hwy	Santa Clarita			9124 E. Gallatin Rd.	Pico Rivera	CA	90660	V	IP	39.00	6.50
306	Mimosa Nursery LA	Colette Guyenne	6351035804 6351035803 6351035807	6270 Allston Street	Los Angeles			6270 Allston Street	Los Angeles	CA	90022	GO	LA	3.30	2.20
309	Alvarez Nursery	Elias Alvarez	2666003901	11362 Woodley Ave.	Granada Hills	X		IP	IP	CA	91344	GO	LA	6.19	3.00
310	Green Touch Nursery	Oscar Vargas	IP	202 S. Mayo Ave.	Compton			202 S. Mayo Ave.	Compton	CA	90221	GO	IP	5.00	3.00
312	Martinez Nursery	Angel Martinez	7165019803	5761 Ashworth St	Lakewood			PO Box 1665	Bellflower	CA	90707	GO	SG	2.00	1.50
314	Plascencia Nursery	Maria Silva	8551011270 8551011271 8556099272	12920 Ramona Blvd	Baldwin Park	X		PO Box 1952	Temple City	CA	91760	GO	SG	5.00	4.00
316	Saticoy Nursery	Armando Orozco Torres	IP	IP	North Hollywood	X		11321 Runnymede St.	Sun Valley	CA	91352	GO	LA	5.00	4.00
320	Valley Crest Tree Company	Robert Crudup	2548001011	9500 Foothill Blvd	Sunland			3200 West Telegraph Rd.	Fillmore	CA	93015	GO	LA	1.00	0.50
322	Reyes Winery	Robert Reyes	3213016029	10262 Sierra Hwy	Santa Clarita			1227 Buena Vista #C	Duarte	CA	91010	V	SC	16.00	14.00
323	3 Pinos Nursery	Bartolo Lopez S.	2126001901 2126014900	Sherman Way and Wilbur Ave.	Reseda	X		8427 Shirley Ave.	Reseda	CA	91324	IP	IP	1.8	1.8
325	Juan Aguirre Farming	Juan Gregorio Aguirre	6045019270 6045015271 6045015270 6045015272 6045015273	North of 92nd St between Fir Ave and Minder St. & North of 92nd St between Miner St and Juniper St.	Los Angeles	X		9806 Anzac Ave.	Los Angeles	CA	90002	IP	LA	2.75	2.00
326	American Growers Plus Inc.	Nick A. Gomez	2103012901	18830 Strathem St.	Reseda	X		18436 E. Section Center St.	Covina	CA	91722	IP	LA	3.00	2.50
330	Amy's Garden	Amy Gonzales	7337005273	South of the 405 Fwy & North of Carson St.	Carson	X		3650 Pine Ave.	Long Beach	CA	90807	IP	D	1.19	1.19

NGA #	OWNER/ TENANT	OPERATOR/ CONTACT	PARCEL				MAILING				CROP TYPE	Watershed	ACREAGE	
			APN	ADDRESS	CITY	DWP	ADDRESS	CITY	STATE	ZIP			TOTAL	IRRIGATED
334	Bird of Paradise Nursery	Rogelio Garhlo	5272009277	4112 Paramount Blvd.	Pico Rivera	X	4112 Paramount Blvd.	Pico Rivera	CA	90660	IP	LA	0.70	0.70
362	Oscar Hernandez Nursery	Oscar Hernandez	7165020270	East of Eastbrook Ave. between Ashworth St. and Allington St. Lakewood	Lakewood	X	10639 Lakefront Dr.	Norwalk	CA	90650	IP	SG	1.84	1.84
373	Juarez Nursery	Rolando E. Juarez	8664019270	6375 Wheeler Ave.	La Verne	X	8019 S. Hoover St.	Los Angeles	CA	90044	IP	SG	1.30	1.30
387	Aguilar Products	Pascual Aguilar	IP	West of Stanford Ave between Alondra and Flower Ave.	Los Angeles	X	149 E. 78th St.	Los Angeles	CA	90003	IP	LA	1.18	1.18
399	Saticoy Nursery	Armando Orozco Torres	2307015900 2307015903	West of Laurel Canyon Blvd. between Lull Ave. and Saticoy St.	Los Angeles	X	11321 Runnymede St.	Sun Valley	CA	91352	IP	LA	1.20	1.20
402	Fantasy Nursery	Apolonio Diaz	IP	16526 Circle Hill Ln.	Hacienda Heights		16526 Circle Hill Ln.	Hacienda Heights	CA	91745	GO	SG	3.00	2.00
405	Jesus Ayon Nursery	Jesus Ayon Adriana Ayon	IP	7044 Long Beach Blvd.	Long Beach		PO Box 91922	City of Industry	CA	91715			16.00	14.00

**TOTALS**

149

3191.85

1202.35

IP In Progress - still gathering information

**Watersheds:**

D	Dominguez Channel LA/Long Beach Harbors WMA	25	112.14
LA	Los Angeles River Watershed	62	295.7
SC	Santa Clara River Watershed	4	219.75
SG	San Gabriel River Watershed	34	469.15
SM	Santa Monica WMA	11	54.67
SA	Santa Anna River Watershed (Located in the Santa Ana Region)	1	3
IP	In Progress	11	33.94

**# Operations**

**Irrigated Acres**

**Crop Type:**

**# Operations**

**Irrigated Acres**

F	Cutflower	2	5.2
GO	Ornamental	92	435.94
C	Color Plants	11	54.8
V	Vineyard	14	69.16
GH	Greenhouse	3	3
O	Orchard	2	4
S	Sod	1	36
M	Multiple	8	552.25
R	Row Crop	3	7.5
IP	In Progress	10	14.1

NGA #	OWNER/ TENANT	OPERATOR/ CONTACT	PARCEL			DWP	MAILING				CROP TYPE	Waters hed	ACREAGE		GROUP REQUIREMENTS				
			APN	ADDRESS	CITY		ADDRESS	CITY	STATE	ZIP			TOTAL	IRRIGATED	NOI	General Q	BMP Q	Education	Group Dues
X = COMPLIANT																			
2	Ayon Nursery	Adriana Ayon - Jesus Ayon	8207019801 8207019802	16448 Haliburton Rd	Hacienda Heights		16448 Haliburton Rd	Hacienda Heights	CA	91745	GO	SG	6.00	5.00	X	X	X	X	
			8110029910 8110029904 8110029905 8110029906 8110029907 8110029908 8115002908 8115002907 8115002906 8115002800 8115002905 8115002904 8115002801 8115001801 8115001908 8115001800																
31	Coiner Nursery	James Coiner	8115001909	285 San Fidel	La Puente		3000 B Street	La Verne	CA	91750	GO	SG	62.00	48.00					
32	Coiner Nursery	James Coiner	8381009014 8381009002	3000 B Street	La Verne		3000 B Street	La Verne	CA	91750	GO	SG	15.00	15.00					
37	Lucky Plants Nursery	Steven Chu	4085026800	17715 Amie Ave.	Torrance		1062 Aviation Blvd.	Hermosa Beach	CA	90254	IP	D	3.75	2.50					
39	Dave's Four Seasons Wholesale Nursery Growers	Dave Martinez	5277028802 5277023807	7701 Mooney Drive	Rosemead		7701 Mooney Drive	S. San Gabriel	CA	91770	GO	SG	1.00	0.57					
40	Mikamo Nursery	Edith Mikamo	7344007038 7344007039	1029 W. 223 Street	Torrance		1029 W. 223 Rd St.	Torrance	CA	90502	F	D	1.00	0.75					
			8177001802 8177001801 8177001800 8177001805																
44	Green Leaf Nursery	Fermin Gutierrez	8177001804	10490 Washington Blvd	Whittier		PO Box 2215	Pico Rivera	CA	90660	GO	LA	5.20	3.00	X	X	X		
45	Shima Nursery	Frank Tsushima / Roger Tsushima	5389006807	8625 Grand Ave	Rosemead		8625 E. Grand Ave	Rosemead	CA	91770	GO	LA	2.90	1.30		X	X		
53	New West Growers, Inc.	Grace Hernandez	7318004803	1601 S. Santa Fe Ave	Compton		1413 Kenneth Rd. #227	Glendale	CA	91201	GO	LA	3.50	1.70	X				X
54	New West Growers, Inc.	Grace Hernandez	na	110 West Greenleaf	Compton		1413 Kenneth Rd. #227	Glendale	CA	91201	GO	LA	3.00	1.00	X				X
			6385005800 6385005801 6385016800												X	X	X		
57	Specialized Growers	Reuben Valdez	6385016801	8406 Pico Vista Dr.	Pico Rivera		8406 Pico Vista Dr.	Pico Rivera	CA	90660	GO	SG	2.70	1.50					
62	Hernandez Nursery	Eric Hernandez	5047014902	5501 Rodeo Rd	Los Angeles	X	5501 Rodeo Rd	Los Angeles	CA	90016	GO	SM	3.00	2.70					
			7318003809 7318003808 7318003811																
74	Jorge's Nursery	Jorge Alcaraz	7318003807	100 E Greenleaf Blvd	Compton		4867 Daisy Ave	Long Beach	CA	90805	GO	LA	6.50	5.00	X	X	X		
			6351036800 6351036801 6351036802 6351036803																
82	Damas Nursery	Julian Damas / Yuniva Pierce	6351036804 6351036805	6265 E. Hereford Dr.	E. Los Angeles		8210 Passons Blvd	Pico Rivera	CA	90660	GO	LA	7.00	5.00					
94	Gardena Nursery & Landscape Maintenance	Janet Mercado	6121004901	551 W. 168th Street	Gardena	X	551 W. 168th St.	Gardena	CA	90248	GO	D	1.60	1.60					X

NGA #	OWNER/ TENANT	OPERATOR/ CONTACT	PARCEL				MAILING				CROP TYPE	Waters hed	ACREAGE		GROUP REQUIREMENTS				
			APN	ADDRESS	CITY	DWP	ADDRESS	CITY	STATE	ZIP			TOTAL	IRRIGATED	NOI	General Q	BMP Q	Education	Group Dues
X = COMPLIANT																			
			7304024802 7304024801 7304024800 7304012803 7304012804 7304012805 7304012806 7304012807 7304012808 7304012809	7045 N. Long Beach Blvd	Long Beach		7045 N. Long Beach Blvd	Long Beach	CA	90805	GO	LA	4.16	2.00					
96	Ruiz Nursery	Jose Ruiz	7318006801																
98	Jauregui Nursery, LLC	Filiberto Jauregui	7336009271	20300 Main	Carson	X	4185 Paseo de Oro	Cypress	CA	90630	GO	D	4.80	1.50					X
			6120025900 6120024900 6120026902 6120027901	551 West Alondra	Gardena	X	4185 Paseo de Oro	Cypress	CA	90630	GO	D	4.00	3.00					X
100	Jauregui Nursery, LLC	Filiberto Jauregui																	
			7048021271 7061008270 7061008275 7061008276	6741 Del Amo	Lakewood	X	4185 Paseo de Oro	Cypress	CA	90630	GO	SG	3.10	2.00					X
101	Jauregui Nursery, LLC	Filiberto Jauregui																	
106	Lomita Plant Growers	Mercedes Sanabria	7404030900	835 E Lomita Blvd	Wilmington		835 East Lomita Blvd.	Wilmington	CA	90744	GO	D	3.02	2.50					
108	Marcelino Contreras	Marcelino Contreras	7326019800	Vera and E 213th St.	Carson		1702 E 213th St.	Carson	CA	90745	R	D	1.00	1.00	X				X
			6115013007 6115013008 6115013009 6115013010 6115013011	1341 W. 141st Street	Gardena		1341 W 141st Street	Gardena	CA	90247	GO	D	0.75	0.75					
121	Lloyd's Nursery / Nakayama Nursery Inc.	Lloyd Nakayama																	
			7167034270 7167034801 7167034800 7167033270	6239 Bellflower Blvd	Lakewood	X	18715 S Western Ave	Gardena	CA	90248	GO	SG	8.00	6.00					
135	Okada Nursery, Inc.	Herb Okada																	
146	Estanfor Nursery	Rafael Rangel	6134039270	1130 Stanford Ave	Compton	X	1017 E. 150th Street	Compton	CA	90220	GO	D	1.90	1.25					
149	Vargas Nursery	Oscar Vargas/ Reuben Vargas	7162001274	17020 Passage Ave	Bellflower		3925 E. Elizabeth St	Compton	CA	90221	GO	SG	1.75	1.75	X				X
154	Rolling Hills Nursery	Esteban Villafana / Koji Shimohara	7116001800	6944 Orange Ave	Long Beach		PO Box 789	Paramount	CA	90723	GO	LA	8.00	6.00					
169	Tapia Bros., Inc.	Tom Tapia	2229033900	Sepulveda Flood Control Basin	Van Nuys		6908 De Celis Place	Van Nuys	CA	91406	R	LA	60.00	40.00	X				X
			4095001801 4095001803 4091010800 4091010801 4091010802 4091025800	17585 Crenshaw Blvd	Torrance		17585 Crenshaw Blvd	Torrance	CA	90504	C	D	17.00	15.78					
170	Toro Nursery Inc.	Salvador Sanchez																	
186	I.T. Nursery Inc	Wayne Tagawa	6125014003	256 East Alondra	Gardena		256 E Alondra Blvd	Gardena	CA	90248	GO	D	2.76	1.75	X				X
206	A & R Nursery, Inc.	Adrian Lopez	5284023801	7950 Graves Ave	Rosemead		7950 Graves Ave	Rosemead	CA	91770	GO	LA	2.50	0.80	X	X	X	X	
208	1940 Las Palomas, LLC	Raul Alvarado (Julia)	8237010012	1940 Las Palomas Drive	La Habra Heights		1940 Las Palomas Drive	La Habra Heights	CA	90631	O	SM	4.00	3.50					
209	Greenhower Nursery	Sid Lao	8272003003 8272003004	2040 Desire Avenue	Rowland Heights		2040 Desire Avenue	Rowland Heights	CA	91748	GO	SM	2.60	2.00					
211	Barranquilla Nursery	Rosealina Malta	2812005016	28920 Bouquet Canyon Road	Saugus		28920 Boquet Canyon Road	Saugus	CA	91390	GO	SC	2.50	2.00					X
212	Lam Farms	Nhi Lam	6268017270 6268017274 6268017275	8600 Jefferson St.	Paramount		6319 California Ave	Long Beach	CA	90805	R	LA	3.00	1.00					



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X = COMPLIANT																			
218	Cielo Farms Vineyard	Richard Hirsh	4464008045 4464008019 4464008044 4464008032	31424 Mulholland Highway	Malibu		31424 Mulholland Highway	Malibu	CA	90265	V	LA	18.00	3.00					
224	Schoelkopf Vineyard	Juergen Schoelkopf	4470009058	31499 Pacific Coast Hwy	Malibu		31499 Pacific Coast Highway	Malibu	CA	90265	V	LA	1.00	0.80					
229	Katharina Hahn Vineyard (Schetter Malibu)	Katharina Hahn/Jaime Page	4467003023	5825 Murphy Way	Malibu		5825 Murphy Way	Malibu	CA	90265	V	LA	0.80	0.50					
235	Malibu Rocky Oaks Vineyard	Howard Leight	2058017025	340 Kanan Road	Malibu		3200 Airport Ave. Suite 16	Santa Monica	CA	90405	V	LA	35.00	7.00					
237	Saddlerock Ranch / The Semler Companies Malibu	Ronald H. Semler/Lillie Manescala	2058016008 2058016022	31727 Mulholland Hwy	Malibu		32111 Mulholland Hwy	Malibu	CA	90265	M	LA	90.00	38.00	X	X	X	X	
243	Chartwell Estate Vineyard	Scott Rich Jim Burrows	4362016008	750 Bel Air Rd	Los Angeles		750 Bel Air Rd	Los Angeles	CA	90077	V	SM	1.50	1.00					
244	Clark Vineyard	Chris Shaver / Dave Clark	7567010026	11 Packsaddle Rd East	Rolling Hills		220 Avenue I East	Redondo Beach	CA	90274	V	SM	0.90	0.50					
250	Greene - Lania Vineyard	Jeff Greene	4387028008	9505 Lania Ln.	Beverly Hills		95 N. County Rd.	Palm Beach	FL	33480	V	SM	5.00	3.00					
251	Kenyon Landscape	Kenny Unger	2615010901	14899 Chatsworth Dr.	North Hills	X	9816 Burnet Ave	Woodland Hills	CA	91343	GO	LA	2.00	1.50					
257	Scarborough Farms	Ann Stein	2068001003	23302 Mulholand Dr	Woodland Hills		PO Box 1267	Oxnard	CA	93032	R	LA	7.00	6.00	X				
258	Shima Nursery	Frank Tsushima / Roger Tsushima	5372020804 5372020801	8521 Valley Blvd.	Rosemead		8625 E. Grand Ave	Rosemead	CA	91770	GO	LA	7.80	5.00		X	X		
259	Shima Nursery	Frank Tsushima / Roger Tsushima	5371010802	8524 E. Marshall	Rosemead		8625 E. Grand Ave	Rosemead	CA	91770	GO	LA	8.60	6.50		X	X		
260	Triunfo Canyon Vineyards	Steve/Laura Gilbard	2063002092	3030 Triunfo Canyon Rd	Agoura		3030 Triunfo Canyon Rd	Agoura	CA	91301	V	SM	9.00	3.50	X				X
263	Malibu Vineyards	James Palmer	4472019030	33169 Decker School Rd	Malibu		22631 Pacific Coast Highway, Suite 900	Malibu	CA	90265	V	SM	4.20	3.00					
264	Ben K Bonsai	Young Min / Edward Min	5284020801	2301 Kelburn Ave	Rosemead		2301 Kelburn Ave	Rosemead	CA	91770	GO	LA	1.60	0.75	X	X	X		
265	Chikugo-En Bonsai Nursery	Gary Ishii	6106019064 6106019063 6106019062	18110 S Western Ave	Gardena		18110 S Western Ave	Gardena	CA	90248	M	D	1.00	0.75					
268	K. Yuge Nursery	Steve Yuge	4066016054	2027 W 164th St	Torrance		2027 W 164th St	Torrance	CA	90504	GH	D	1.50	0.75					
269	K. Yuge Nursery	Steve Yuge	6129004024	336 W Redondo Beach Blvd	Gardena		2027 W 164th St	Torrance	CA	90504	GH	D	2.00	1.50					
270	Lucky Plants	Javier Lopez	7404001278	West of Bonita St. Between Sepulveda and Lincoln	Carson	X	902 Sepulveda Blvd	Carson	CA	90745	GO	D	1.00	0.82	X				X
271	Melhill Vineyard	Tish Lehew / Jeff Lotman	4432011045	1805 Melhill Way	Los Angeles		1805 Melhill Way	Los Angeles	CA	90049	V	SM	0.30	0.30	X				
272	Paramount Nursery	Cecilio Cabral / Magaly Cabral	2531016801 2530006800	11944 Terra Bella St	Lake View Terrace		9848 Ramona Ave	North Hills	CA	91343	GO	LA	7.00	5.00					X
273	Pierce College	Paul Nieman	2149007902	6201 Winnetka Ave	Woodland Hills		6201 Winnetka Ave	Woodland Hills	CA	91371	M	LA	430.00	200.00					
277	Abeja Nursery	Marlene / Dimas Carbajal Abeja	4089016802	18601 Ermanita Ave.	Torrance		18601 Ermanita Ave.	Torrance	CA	90504	GO	D	4.00	3.00					
287	Maggie's Farm	Nate Pietso / Casey Kramer	2055001032	6500 Chesboro Rd	Agoura Hillas		918 11th St #9	Santa Monica	CA	90403	R	IP	4.00	4.00					
288	Malibu Organic Lemon	Mike Zacha	4472010023	1872 Encinal Canyon	Malibu		1700 Decker Canyon Rd	Malibu	CA	90265	O	LA	220.00	15.00	X				X
293	N.K. Nursery	Kaz Kitajima	8242016810	780 S. Stimson Ave	City of Industry		780 S. Stimson Ave	City of Industry	CA	91745	GO	IP	2.00	1.00	X				X
295	Torrance Wholesale Nursery	Margaret Edelman	4089016802	18901 Ermanita Ave	Torrance		18901 Ermanita Ave.	Torrance	CA	90504	GO	D	2.00	1.87					
297	UVA Nursery	Alberto Gomez / Ariana Gutierrez	7339009901 7339009272	19033 Anelo Ave	Gardena		17516 Scudder Ct.	Carson	CA	90746	GO	D	2.00	1.50					

Enrolled- Out of Compliance

NGA #	OWNER/ TENANT	OPERATOR/ CONTACT	PARCEL				MAILING				CROP TYPE	Waters hed	ACREAGE		GROUP REQUIREMENTS					
			APN	ADDRESS	CITY	DWP	ADDRESS	CITY	STATE	ZIP			TOTAL	IRRIGATED	NOI	General Q	BMP Q	Education	Group Dues	
X = COMPLIANT																				
300	Garibaldo's Nursery	Filemon Garibaldo	7160003801 7160003800 7162007800 7162007801	8834 Rose St.	Bellflower		8834 Rose St.	Bellflower	CA	90706	GO	LA	1.80	1	X					X
301	Horizon Nursery	Rafael Rosalez	8007001906 8007001800	9919 Cedardale Dr.	Santa Fe Springs		9919 Cedardale Dr.	Santa Fe Springs	CA	90706	GO		3.50	2.00						
303	Western Plants and Trees	Alberto Reyes	4142011803	12703 Bart Ave.	Hawthorne		13712 Milton Ave	Westminster	CA	92863	GO		0.68	0.50						
304	Chuy's Nursery	Jesus Martinez	5265001808	1996 S. Orange Ave	Monterey Park		9124 E. Gallatin Rd.	Pico Rivera	CA	90660	GO	LA	3.00	2.00						
307	Hana Star Farms, Inc	Hidehiko Kasahara	8174013800 8174004800	6509 Pioneer Blvd	Whittier		20646 Markham St.	Perris	CA	92570	R	IP	5.90	2.80						
308	Agua Dulce Winery	Judy Kajama	3213014051	9640 sierra highway	Agua Dulce		9640 Sierra Hwy	Agua Dulce	CA	91390	V	SC	75.00	62.00						
311	LA Sanchez Nursery	Eusebio Sanchez	8294030800	16525 Circle Hill Ln	Hacienda Heights		11159 1/2 Kauffman St.	El Monte	CA	91731	GO	SG	1.50	1.00						
313	Pacific View Nursery	Erik Munoz	4467021002 4467021001	29081 Pacific Coast Hwy	Malibu		29081 Pacific Coast Hwy	Malibu	CA	90265	GO	SM	4.76	4.00						
315	San Antonio Nursery Corp	Rafael Macias	2538002900 2538003900 2538021901 2538022901 2538023902	11753 Wicks St.	Sun Valley	X	11753 Wicks St.	Sun Valley	CA	91352	GO	IP	16.10	14.00	X					X
317	Starline Nursery Company	David Mejia	8558023800 8558023801 8558023802	1233 Vineland Ave	La Puente		PO Box 1000	La Puente	CA	91747	GO	SG	4.00	3.50						
318	Starline Nursery Company	David Mejia	IP	16505 Colima Rd	Hacienda Heights		PO Box 1000	La Puente	CA	91747	GO	SG	2.50	2.00						
319	Sunshine Food & Nursery	Kevin Wong	5288003801 5288003802 5288003800	8500 Dorothy St.	Rosemead		8500 Dorothy St.	Rosemead	CA	91770	GO	SG	6.50	5.00	X					X
321	Lucky Plants Nursery	Steven Chu	IP	14515 S. Raymond Ave. Gardena, CA 90247	Gardena		1062 Aviation Blvd.	Hermosa Beach	CA	90254	IP	D	3.00	2.50						
324	90-90 Nursery	Jose Salazar	IP	14667 Tupper St.	Panorama City		14667 Tupper St.	Panorama City	CA	91402	IP	IP	1	0.86						
327	American Sprinkler & Cardanali Nursery	IP	IP	23429 Erwin St.	Woodland Hills	X	23429 Erwin St.	Woodland Hills	CA	91367	IP	LA	2.05	2.05						X
329	Arnulfo Hernandez Nursery	Lucilla Gil	6132003900 6132004900	East of the 110 Freeway, between 130th Stand 135th St, Los Angeles	Los Angeles	X	PO Box 609	Lawndale	CA	90260	IP	LA	4.60	4.60						X
331	Lorenzo Sanchez Nursery	Lorenzo Sanchez	2642001900	14001 Garber St.	Arleta	X	14001 Garber St.	Arleta	CA	91331	IP	LA	0.81	0.81						X
332	Ben-Chetrit, Shimon/Ramy's Nursery	IP	2103015903	East of Wilbur Ave. between Blythe St. and Elkwood St.	IP	X	5926 Calvin Ave.	Tarzana	CA	91356	IP	IP	3.60	3.60						
333	Billy Lee Nursery	Billy Lee	IP	13213 Essex Pl.	Cerritos	X	6319 California St.	Long Beach	CA	90805	IP	LA	2.84	2.84						X
335	Carlos Mejia Nursery C&Y Nursery	Carlos Mejia	2310008900	11811 Strathern St.	North Hollywood	X	11811 Strathern St.	North Hollywood	CA	91605	IP	LA	3.00	3.00						X
337	Gonzalez Nursery Arturo Carbajal Nursery	Arturo Carbajal	8125001901	Southeast of the 60 Fwy and North of Pellisier Rd.	Whittier	X	1215 N. Stimson Ave.	La Puente	CA	91744	IP	SG	2.40	2.40						X
338	Classic Landscaping & Nursery	Sam Mozes	2127014006 ?	18756 Erwin St.	Tarzana	X	18756 Erwin St.	Tarzana	CA	91335	IP	LA	6.88	6.88						X
339	Daniel Velazquez Nursery	Daniel Velazquez	2666003901	11263 Woodley Ave.	Granada Hills	X	11208 Degarmo Ave.	Pacoima	CA	91331	IP	LA	1.64	1.64						X
340	David's Nursery	David Martinez	7315037271	909 E. Sepulveda Blvd.	Carson 90745	X	503 Pacific St.	Carson	CA	90745	IP	D	3.10	3.10						X
341	Eden Nursery	Trinidad Alcaraz		11600 Berendo Ave.	Gardena	X	11612 Culver Blvd.	Los Angeles	CA	90066	IP	D	1.40	1.40						X
342	El Bajio Nursery	Benancio Queme	2642022902 2625025900	13760 Sunburst St. Areleta	Arleta	X	9314 Woodman Ave.	Arleta	CA	91331	IP	LA	1.64	1.64						X
343	El Castillo Nursery	Juan Aguilar	6119006900	555 W. 146th St.	Gardena	X	8009 Rose St.	Paramount	CA	90723	IP	D	1.55	1.55						X

NGA #	OWNER/ TENANT	OPERATOR/ CONTACT	PARCEL				MAILING				CROP TYPE	Waters hed	ACREAGE		GROUP REQUIREMENTS				
			APN	ADDRESS	CITY	DWP	ADDRESS	CITY	STATE	ZIP			TOTAL	IRRIGATED	NOI	General Q	BMP Q	Education	Group Dues
X = COMPLIANT																			
344	Environmental Arts	Peter Lee	IP	North Side of 152nd St.	Gardena	X	PO Box 157	Palos Verdes Estates	CA	90247	IP	D	1.10	1.10					X
345	Exotic Garden Nursery	Jimmy King	2127021900	18801 Victory Blvd.	Reseda	X	18801 Victory Blvd.	Reseda	CA	91335	IP	LA	2.35	2.35					X
346	F&A Nursery	Francisco Garcia	7162014270	8650 Artesia Blvd.	Bellflower 90706	X	13213 Curtis and King Rd.	Norwalk	CA	90650	IP	LA	1.32	1.32					X
347	Four Seasons Wholesale Nursery	Dan LaFleur	2763021900 2770001900	18840 Nordhoff St.	Northridge	X	1880 Sinaloa Rd.	Simi Valley	CA	93065	IP	LA	12.75	12.75					
348	Felix Garcia Nursery	Felix Garcia	2310023901	West of Morella Ave between Arminta St. and Stagg St. Los Angeles	Los Angeles	X	1314 S. Cliveden Ave.	Compton	CA	90020	IP	LA	1.68	1.68					X
349	Francisco Garcia Nursery	Francisco Garcia	6369003273 6369005900	East of Crider Ave, between Washington Blvd and the railroad tracks, Pico Rivera	Norwalk	X	13213 Curtis and King Rd.	Norwalk	CA	90650	IP	LA	2.40	2.40					X
350	Gil Hernandez Nursery	Gil Hernandez	6115039270	South of El Segundo Blvd and West of Vermont St, Gardena	Gardena	X	10607 San Antonio Ave.	South Gate	CA	90280	IP	D	2.60	2.6					X
351	Gomez Calderon Nursery	Gomez Calderon	6234011274	South of Imperial Hwy and North Gardendale St.	South Gate	X	9956 Downey and Sanford Bridge Rd.	Downey	CA	90240	IP	LA	3.80	3.80					X
352	Grace Farms	Myong H. Koches	7404003278	Intersection of Bonita St. and E. Pacific St.	Carson	X	912 W. 11th St. #1	San Pedro	CA	90731	IP	D	0.89	0.89					X
353	Grace Farms	Yung L. Lee	7404004273	Realty St. and Delores Dr. (intersecting Wilmington Ave.)	Carson	X	912 W. 11th St. #1	San Pedro	CA	90731	IP	D	1.62	1.62					X
354	Green Effects Inc.	IP	2321004901	North of Vose St. between Radford Ave. and Lankershim Blvd.	Los Angeles	X	4248 Hilburn Ct.	Moorepark	CA	93021	IP	LA	4.10	4.10					X
355	Green House Nurseries, Inc.	Mark Whitten	2642021900	9400 Canterbury Ave.	Arleta	X	9400 Canterbury Ave.	Arleta	CA	91331	IP	LA	3.48	3.48					X
356	Green Set, Inc.	Dan Needham	2320016903	11520 Vanowen St.	North Hollywood	X	11617 Dehougne St.	North Hollywood	CA	91605	IP	LA	0.90	0.90					X
357	Green Set, Inc.	Dan Needham	2320017901	6732 Camellia Ave.	North Hollywood	X	11617 Dehougne St.	North Hollywood	CA	91605	IP	LA	2.00	2.00					X
358	Green Set, Inc.	Dan Needham	2320009902 2320006907	11617 Dehougne St.	North Hollywood	X	11617 Dehougne St.	North Hollywood	CA	91605	IP	LA	2.00	2.00					X
359	Growing Nursery / La Escondida Nursery	Antonio Ayon	6236001270	East of the LA River, between Century Ave. and the 105 Fwy	Paramount	X	7306 Walnut Ave.	Paramount	CA	90723	IP	LA	3.84	3.84					X
360	El Dorado Nursery	Eugenia Torres	IP	Southwest of San Fernando Rd and North East of Telfair Ave.	San Fernando	X	PO Box 16926	North Hollywood	CA	91615	IP	LA	1.96	1.96					X
361	Green Spot Nursery	Hector Hernandez	2307008900 2307007900	West of Laurel Canyon Blvd, between Saticoy and Stagg St.	Los Angeles	X	PO Box 16926	North Hollywood	CA	91615	IP	LA	4.13	4.13					X
363	International Palm Growers	Henry Cespedes	2642021900	9312 Canterbury Ave.	Arleta	X	PO Box 4218	Panorama City	CA	91331	IP	LA	3.40	3.40					X
364	Isaac Ortega Nursery	Isaac Ortega	IP	11925 Bromont Ave.	Pacoima	X	12032 Wimberly Ave.	Sylmar	CA	91342	IP	LA	2.2	2.20					X
365	Isaias Gonzalez Nursery	Isaias Gonzalez	6310027274	East of Alcoa Avenue, between Slauson and Randolph	Vernon	X	1810 Cogswell Rd.	South El Monte	CA	91733	IP	LA	1.87	1.87					X
366	James T. Jung Nursery	James T. Jung	7404002278	East of Bonita Ave, between Lincoln St and Pacific St, Carson	Carson	X	6625 Montaire Pl.	La Palma	CA	90623	IP	D	0.83	0.83					X
367	Javier's Nursery	Javier Hernandez	7339018902 7339018271 7339018903	610 E. Carson Plaza Dr.	Carson	X	337 E. 237th St.	Carson	CA	90745	IP	D	5.76	5.76					

NGA #	OWNER/ TENANT	OPERATOR/ CONTACT	PARCEL				MAILING				CROP TYPE	Waters hed	ACREAGE		GROUP REQUIREMENTS				
			APN	ADDRESS	CITY	DWP	ADDRESS	CITY	STATE	ZIP			TOTAL	IRRIGATED	NOI	General Q	BMP Q	Education	Group Dues
X = COMPLIANT																			
368	Jesus & Juan Munoz Nursery	Jesus Munoz	2415013901 2415014900 2415015901	East of Whitnall Hwy, between Oxnard St and Cahuenga Blvd	North Hollywood	X	206 W. Maple St. #E	Glendale	CA	91204	IP	LA	3.04	3.04					
369	Jesus Macias Gonzalez Nursery	Jesus Macias Gonzalez	2538008900	West of Sutter Ave, between Wicks and San Fernando Rd.	Los Angeles	X	11064 Wicks St.	Sun Valley	CA	91352	IP	LA	1.60	1.60					
370	Jose Vasquez Nursery	Jose Vasquez	2715012903	East of Chimineas Ave, between Tribune St and Chatsworth St.	Los Angeles	X	PO Box 17714	Encino	CA	91416	IP	LA	5.00	5.00					
371	Juan Aguilar Nursery	Juan Aguilar	6051002900	10718 S. Stanford Ave, Los Angeles	Los Angeles	X	922 E. 42nd Pl.	Los Angeles	CA	90011	IP	LA	1.00	1.00					
372	Juan Otero/Junior's Nursery	Juan Otero/David Martinez	2118001901	18836 Saticoy	Reseda	X	6206 Burwood Ave.	Los Angeles	CA	90042	IP	LA	1.78	1.78					
374	Junior's Nursery	David Martinez	2156021903	West of Yolanda Ave. between Hatteras and Miranda Ave.	Los Angeles	X	240 Robinson Rd.	Pasadena	CA	91104	IP	LA	1.08	1.08					
375	Julio Deluis Espinoza Nursery	Julio Deluis Espinoza	IP	East of Fairfax Ave, between Adams and Clyde Ave.	Los Angeles	X	1452 S. Ridgley Dr.	Los Angeles 90016	CA	IP	IP	LA	1.88	1.88					
376	La Cienega Nursery	Cirilo Gutierrez	IP	8511 Sherwood Dr.	West Hollywood	X	PO Box 950825	Mission Hills	CA	91395	IP	LA	3.70	3.70					
377	Lopez Nursery	Francisco Lopez	2631011900	11763 Rialto St.	Sun Valley	X	8513 Tilden Ave.	Panorama City	CA	91402	IP	LA	1.51	1.51					
378	Los Pinos Nursery	Rodolfo Reynoso	2308024900	7860 Whisett Ave	North Hollywood	X	7860 Whisett Ave.	North Hollywood	CA	91605	IP	LA	3.15	3.15					
379	Rose Lane Farms	Lynne Vinkovic	IP	1217 Oak Grove Dr.	Los Angeles	X	1217 Oak Grove Dr.	Los Angeles	CA	90041	IP	LA	0.28	0.28	X				X
380	Macias Nursery	Ignacio Macias	2604041903	15594 Bledsoe St.	Sylmar	X	14506 Bledsoe St.	Sylmar	CA	91342	IP	LA	2.24	2.24					X
381	Raul Martinez Nursery	Raul Martinez	7339008913	565 189 St.	Gardena	X	565 189 St.	Gardena	CA	90248	IP	D	1.00	1.00					X
382	Victor Martinez Nursery	Victor Martinez	6242033006	13933 Paramount Blvd.	Paramount	X	13933 Paramount Blvd.	Paramount	CA	90723	IP	LA	1.88	1.88					X
383	Miyako Bonsai Nursery	Kenichiro Kawaguchi	6132006900	552 W. 140th St.	Gardena	X	552 W. 140th St.	Gardena	CA	90248	IP	D	2.18	2.18					X
384	Jose Munoz Nursery	Jose Munoz	8115001907 8115001905	Between the 60 and 605 Fwy	Whittier	X	12318 Kathleen St.	Whittier	CA	90601	IP	LA	4.00	4.00					X
385	New View Landscape, Inc./Green View Nursery	Michael Stell	2763002900 2763030901 2763001905	18590 Lassen St.	Northridge	X	24860 Calabasas Rd.	Calabasas	CA	91302	IP	LA	9.31	9.31					X
386	Green View Nursery/New View Landscape, Inc.	Michael Stell	2731012901	West of Lindley between San Jose and Devonshire	Northridge	X	17566 Chase St.	Northridge	CA	91325	IP	LA	5.10	5.10					X
388	Plantasia, Inc.	Alex Colovic	7107002900 7107002272 7107002271 7107001271 7107001270	West of Lakewood Blvd., between Alondra and Flower Ave.	IP	X	2550 Via Tejon Suite 3F	Palos Verdes	CA	90274	IP	IP	5.57	5.57					X
389	Ramirez Nursery	Guillermo Ramirez	6132005900	570 W. 135th St.	Gardena	X	570 W. 135th St.	Gardena	CA	90248	IP	D	2.96	2.96					X
390	Rio Verde Nursery	Antonio Garcia/Fidel Reyes	6241001270 6241001271	14809 Downey Ave.	Paramount	X	14809 Downey Ave.	Paramount	CA	90723	IP	LA	3.70	3.70					X
391	RJ's Demolition and Disposal	IP	2604002903	West of San Fernando Rd. between Telfair and Roxford St.	Los Angeles	X	1213 S. Fir Ave.	Inglewood	CA	90301	IP	LA	5.24	5.24					X
392	Roscoe Nursery	Gustavo Ramirez	2305003900 2305002018 2305001900	12741 Cantara St. North Hollywood, CA 91605	North Hollywood	X	12741 Cantara St. North Hollywood, CA 91605	North Hollywood	CA	91605	IP	LA	1.86	1.86					X
393	Sienna Arborscape Co.	IP	IP	South of Big Tujunga Canyon Rd. and North of Mt. Gleason Ave.	Los Angeles	X	3115 Foothill Blvd. Suite M140	La Crescenta	CA	91214	IP	LA	3.93	3.93					X
394	Soto Nursery	IP	6120023910 6120023908	600 W. Alondra Blvd.	Gardena 90248	X	1058 W. 204th St.	Torrance	CA	90502	IP	D	2.02	2.02					X

NGA #	OWNER/ TENANT	OPERATOR/ CONTACT	PARCEL				MAILING				CROP TYPE	Watershed	ACREAGE		GROUP REQUIREMENTS				
			APN	ADDRESS	CITY	DWP	ADDRESS	CITY	STATE	ZIP			TOTAL	IRRIGATED	NOI	General Q	BMP Q	Education	Group Dues
X = COMPLIANT																			
395	Tops Landscape Co.	Yun Kong	IP	18809 Calvert St.	Reseda	X	18809 Calvert St.	Reseda	CA	91335	IP	LA	5.64	5.64					X
396	Wendy's Nursery	Juan Ramirez	IP	West of Laurel Canyon Blvd. between Saticoy and Cohasset	Los Angeles	X	PO Box 4916	Panorama City	CA	91412	IP	LA	1.70	1.70					X
397	Nick Williams Nursery	Nick Williams	2161004907	West of Yoland Ave. between Linnet St. and Wells Dr.	Los Angeles	X	1061 Meadows End Dr.	Calabasas	CA	91302	IP	LA	0.69	0.69					X
398	David Garcia Nursery	David Garcia	IP	28367 San Canyon Rd. Spc 66	Canyon Country	X	28367 San Canyon Rd. Spc 66	Canyon Country	CA	91387	IP	IP	0.35	0.35					X
406	Gooch Vineyard	Patrice Gaburo	IP	27366 Winding Way	Malibu		27366 Winding Way	Malibu	CA	90265	V	LA	2.6	0.75	X	X	X	X	

**TOTALS**

142

1445.91 794.53

IP In Progress - still gathering information

<u>Watersheds:</u>			<u># Operations</u>	<u>Irrigated Acres</u>	<u>Crop Type:</u>			<u># Operations</u>	<u>Irrigated Acres</u>
D	Dominguez Channel LA/Long Beach Harbors WMA	32	72.08	F	Cutflower	1	0.75		
LA	Los Angeles River Watershed	62	506.55	GO	Ornamental	47	186.61		
SC	Santa Clara River Watershed	2	64	C	Color Plants	1	15.78		
SG	San Gabriel River Watershed	13	93.72	V	Vineyard	12	85.35		
SM	Santa Monica WMA	10	23.5	GH	Greenhouse	2	2.25		
SA	Santa Anna River Watershed (Located in the Santa Ana Region)	0	0	O	Orchard	2	18.5		
IP	In Progress	6	32.18	S	Sod	0	0		
				M	Multiple	3	238.75		
				R	Row Crop	6	54.8		
				IP	In Progress	68	191.74		
			125						
			792.03						
						142	794.53		



Closed or Out of Business

NGA #	OWNER/ TENANT	OPERATOR/ CONTACT	PARCEL			MAILING				CROP TYPE	Waters hed	ACREAGE		Comments
			APN	ADDRESS	CITY	ADDRESS	CITY	STATE	ZIP			TOTAL	IRRIGATED	
14	Acosta Growers Inc.	Eddie Acosta / Carlos Acosta	5283007271	2657 Delta Ave	Rosemead	18012 E. Alford St.	Azusa	CA	91702	General Ornamental	LA	1.50	1.13	NOT-Lot Not Released by owner
15	Acosta Growers Inc.	Eddie Acosta / Carlos Acosta	5283017270 5283017271 5283017271	2450 Charlotte Ave	Rosemead	18012 E. Alford St.	Azusa	CA	91702	General Ornamental	LA	2.50	1.88	NOT-Lot Not Released by owner
90	Kobata Growers, Inc.	Jack Mayesh	7336004277 7336004276	20300 Figueroa Street	Carson	17622 Van Ness	Torrance	CA	90504	Color	D	3.00	2.50	NOT on file
137	Pacific Nursery	Sharon/Glenn Tachibana	6114001007	14504 S Normandie Ave	Gardena	14504 S. Normandie Ave.	Gardena	CA	90247	General Ornamental	D	4.50	3.00	NOT-out of business
150	Colorama Wholesale Nursery	Richard Wilson	8617001029	1025 N. Todd Ave.	Azusa	1025 N Todd Avenue	Azusa	CA	91702	C	SG	26.00	15.30	
165	Sempervirens Botanical Company	John Low	5373028022 4091025800	3237 West 178th Street	Torrance	3237 West 178th Street	Torrance	CA	90504	General Ornamental	D	2.00	1.50	John Left his parcel and is now on parcel with NGA #134
189	West Covina Wholesale Nursery	Dave Zylstra	8391003911	3425 Damien Ave	La Verne	P. O. Box 8046	La Verne	CA	91750	General Ornamental	SG	1.50	1.25	Location Closed-NOT in process
223	Nijjar Vineyard	Sanjeet Nijjar	8527004025	29 Starlite Drive	Bradbury	29 Starlite Drive	Bradbury	CA	91010	Vineyard	LA	0.90	0.50	NOT
241	Bernard Abrams Vineyard	Bernard Abrams	8658019047	606 Gordon Highland Rd	Glendora	606 Gordon Highland Rd	Glendora	CA	91741	Vineyard	SG	1.90	0.50	NOT
252	Kolawa Properties, LLC	Adam Kolawa	8527007032	673 Deodar Ln	Bradbury	101 E, Huntington Dr., 2nd Floor	Monrovia	CA	91016	Vineyard	SG	4.00	1.00	NOT
261	ABC Rhubarb Farms	Sonia Chavez	6230022800	6208 Clara St	Bell Gardens	PO Box 39145	Downey	CA	90239	Row Crop	LA	5.83	5.00	NOT, No longer in growing in LA County
262	The Orchid Garden	James Weiss	4088019802 4088019803	3511 W. 182nd St.	Torrance	2506 Ardmore Ave.	Hermosa Beach	CA	90254	General Ornamental	D	1.25	0.20	NOT in process
291	MB Landscaping and Nursery	Maria Martinez	7339017014	19202 Main St.	Carson	20300 S. Figueroa St.	Carson	CA	90745	General Ornamental	D	6.00	1.50	NOT Yard Not Released
336	Cal-Tokyo Landscape Co.	Yoshiharu Kariya	Pending Questionnaire Responses	5531 Leeds St.	South Gate	15428 Cornuta Ave.	Bellflower	CA	90706	Pending Questionnaire Responses	LA	1.99	1.99	NOT in process
404	San Gabriel Nursery & Florist	Fred Yoshimura / Mary Swanton	IP	700-800 S. San Gabriel Blvd.	San Gabriel	632 South San Gabriel Blvd.	San Gabriel	CA	91776	IP	IP	6.25	4.13	NOT in process
	Grand Vista Geranium Gardens	Henry Andrade	IP			18307 S. Central Ave.	Carson	CA	90746					Producing but not enrolled

## **APPENDIX B**

### **TABULATED DATA, CURRENT AND HISTORICAL SAMPLING RESULTS**



**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 1**  
**GENERAL CHEMISTRY**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	General Chemistry												
			Ammonia	Chloride	Diss Ortho	Nitrate	Sulfate	Diss Phos	TDS	Total Ortho	Total Phos	TSS	CA Hardness, as CaCO <sub>3</sub>	Ca	Cu
NGA #4	LAILG-NGA4-5	3/21/11	0.69	10	0.31 <sup>EB</sup>	1.5	8.3	0.52	110	0.31 <sup>EB</sup>	2.6	810	62	25	0.230
NGA #124	LAILG-NGA124-6	3/21/11	0.36	9.7	1.8 <sup>EB</sup>	6.7	24	1.8	240	1.8 <sup>EB</sup>	2.7	620 <sup>FD</sup>	61	24	0.045
NGA # 150	LAILG-NGA 150-5	3/21/11	3.7	28	12 <sup>EB</sup>	<b>120</b>	60 <sup>MS-02</sup>	32	<b>1,200</b>	12 <sup>EB</sup>	32	110	300	120	0.031
NGA #19	LAILG-NGA19-6	3/23/11	0.54 <sup>MS-01</sup>	110	0.86 <sup>EB,MS-01</sup>	<b>55</b>	250	1.1	<b>1,200</b>	0.86 <sup>EB,MS-02</sup>	3.4	550	440	180	0.090
Duplicate	LAILG-NGA-DUP	3/21/11	0.35	9.7	1.7 <sup>EB</sup>	6.6	24	1.8	220	1.7 <sup>EB</sup>	2.3	82	57	23	0.035
Equip Blank	LAILG-NGA-EB	3/21/11	nd	nd	2.0	nd	nd	nd	nd	2.0	nd	nd	0.37	0.15	0.0028
Field Blank	LAILG-NGA- FB	3/21/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #168	LAILG-NGA168-6	3/17/12	0.89	82	1.1 <sup>O9</sup>	<b>35</b>	<b>470</b>	1.7	<b>1,100</b>	1.1 <sup>O9</sup>	8.4	1200	500	200	0.110
NGA #31	LAILG-NGA31-4	3/17/12	1.1	55	1.0 <sup>O9</sup>	<b>12</b>	160	0.90	520	1.0 <sup>O9</sup>	2.0	81	240	95	0.027
NGA #162	LAILG-NGA162-1	3/17/12	0.16	35	0.96 <sup>O9</sup>	5.9	120	0.95	350	0.96 <sup>O9</sup>	1.0	5	140	57	0.014
NGA #64	LAILG-NGA64-3	3/17/12	0.79 <sup>FD</sup>	5.8	0.28 <sup>O9</sup>	0.70 <sup>FD</sup>	8.4	0.32	57	0.28 <sup>O9</sup>	1.5 <sup>FD</sup>	500 <sup>FD</sup>	51	21	0.047
Duplicate	LAILG-NGA-DUP	3/17/12	0.60	5.4	0.25 <sup>O9</sup>	1.3	8.6	0.27	46	0.25 <sup>O9</sup>	1.1	380	44	18	0.049
Equip Blank	LAILG-NGA-EB	3/17/12	nd	nd	nd <sup>O9</sup>	nd	nd	nd	nd	nd <sup>O9</sup>	nd	nd	nd	nd	0.00073
Field Blank	LAILG-NGA- FB	3/17/12	nd	nd	nd <sup>O9</sup>	nd	nd	nd	nd	nd <sup>O9</sup>	nd	nd	nd	nd	0.00050
NGA #4	LAILG-NGA4-6	3/25/12	na*	69	1.1	<b>17</b>	52	1.0	320	1.1	1.4	34 <sup>FD</sup>	100 <sup>FD</sup>	42 <sup>FD</sup>	0.051
NGA #170	LAILG-NGA170-1	3/25/12	0.31	18	0.65	1.6	14	0.60	130	0.65	0.86	100	61	24	0.030
NGA #176	LAILG-NGA176-2	3/25/12	0.30	29	0.99	8.7	43	0.99	220	0.99	2.2	550	80	32	0.066
NGA #210	LAILG-NGA210-2	3/25/12	0.20	110	1.4	0.57	<b>250</b>	1.3	<b>700</b>	1.4	2.8 <sup>MS-02</sup>	86	270	110	0.0060
Duplicate	LAILG-NGA-DUP	3/25/12	2.2 <sup>P</sup>	55	1.1	<b>17</b>	44	1.1	290	1.1	1.3	21	61	25	0.051
Equip Blank	LAILG-NGA-EB	3/25/12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Field Blank	LAILG-NGA- FB	3/25/12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CWIL Limits			See Table 7												
MDL			0.048	0.10	0.00022	0.020	0.10	0.0014	4.0	0.00022	0.0014	5	0.039	0.016	0.00027
RL			0.10	0.50	0.002	0.11	0.50	0.010	10	0.002	0.010	5	0.25	0.10	0.00050

Concentrations are reported in milligrams per liter (mg/L). Results above CWIL Limits are presented in **BOLD**. Footnotes in **BOLD** indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estimated by the QA Officer.

CWIL Conditional waiver for irrigated lands  
EB Estimated concentration, constituent detected at greater than 10% in equipment blank  
FD Estimated concentration. Field Duplicate RPD >25%.  
FB Estimated concentration, constituent detected at greater than 10% in field blank  
na\* Ammonia not analyzed due to sample collection via peristaltic pump  
p Estimated concentration due to sample collection via peristaltic pump

O9 This sample was received with the EPA recommended holding time expired.  
MS-01 The spike recovery for this QC sample is outside of the established control limits possibly due to matrix interference.  
MS-02 The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.



**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 3**  
**GENERAL CHEMISTRY**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	General Chemistry												
			Ammonia	Chloride	Diss Ortho	Nitrate	Sulfate	Diss Phos	TDS	Total Ortho	Total Phos	TSS	CA Hardness, as CaCO <sub>3</sub>	Ca	Cu
NGA #19	LAILG-NGA19-7	2/28/14	1.4	120	2.400**	<b>53</b>	160	2.8	<b>1,000</b>	2.4**	4.7	650 <sup>FD</sup>	319	128	0.056
NGA #26	LAILG-NGA26-1	2/28/14	2.4	73	1.800**	6.4	180	2.1	590	1.8**	2.3	49	158	63.2	0.056
NGA #124	LAILG-NGA124-7	2/28/14	4.5	21	1.200**	<b>13</b>	100	1.5	420	1.2**	2.2	160	125	50.2	0.049
NGA #178	LAILG-NGA178-2	2/28/14	0.87	<b>120</b>	2.200**	<b>10</b>	<b>370</b>	2.4	<b>940</b>	2.2**	3.6	270	324	130	0.030
NGA #184	LAILG-NGA184-3	2/28/14	0.23	2.5	0.330**	0.40	1.6	0.44	41	0.33**	0.72	160	13.8	5.54	0.0079
Duplicate	LAILG-NGA-DUP	2/28/14	1.4	120	2.800**	<b>51</b>	170	3.1	<b>1100</b>	2.8**	5.4	470 <sup>FD</sup>	320	128	0.057
Equip Blank	LAILG-NGA-EB	2/28/14	<0.10	<0.50	<0.0020	<0.11	<0.50	<0.010	<10	<0.0020	<0.10	<5	<0.250	<0.100	<0.00050
Field Blank	LAILG-NGA-FB	2/28/14	<0.10	<0.50	<0.0020	<0.11	<0.50	<0.010	<10	<0.0020	<0.10	<5	<0.250	<0.100	<0.00050
CWIL Limits			See Table 7												
MRL			0.10	0.50	0.0020	0.11	0.50	0.010	10.0	0.0020	0.10	5	0.250	0.100	0.00050

Concentrations are reported in milligrams per liter (mg/L). Results above CWIL Limits are presented in **BOLD**. Footnotes in **BOLD** indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estimated by the QA Officer.

CWIL	Conditional waiver for irrigated lands	**	The recommended holding time for filtering is only 15 minutes. The sample was filtered as soon as possible but was filtered past holding time.
EB	Estimated concentration, constituent detected at greater than 10% in equipment blank		However, the sample was analyzed within holding time.
FD	Estimated concentration. Field Duplicate RPD >25%.	MRL	Method Reporting Limit
FB	Estimated concentration, constituent detected at greater than 10% in field blank		

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 4**  
**GENERAL CHEMISTRY**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	General Chemistry												
			Ammonia	Chloride	Diss Ortho	Nitrate	Sulfate	Diss Phos	TDS	Total Ortho	Total Phos	TSS	CA Hardness, as CaCO <sub>3</sub>	Ca	Cu
NGA #150	LAILG-NGA-150-6	12/2/14	0.41	60	2.4**	<b>13</b>	<b>130</b>	2.6	<b>530</b>	2.5**	3.7	240	179	71.8	0.095
NGA #188	LAILG-NGA-188-1	12/2/14	0.31	38	0.56**	4.4	110	0.80	330	0.56**	2.0 <sup>FD</sup>	2000 <sup>FD</sup>	141	56.3	0.036
Duplicate	LAILG-NGA-DUP	12/2/14	0.27	35	0.58**	4.4	92	0.64	290	0.60**	1.4	430	126	50.6	0.031
NGA #168	LAILG-NGA-168-7	5/15/15	0.18	57	0.36**	<b>11</b>	120	0.44	400	0.36**	0.74	91	134	53.7	0.036
Equip Blank	LAILG-NGA-EB	12/2/14	<0.10	2.0	<0.0020**	<0.100	<0.50	<0.010	10	<0.0020**	<0.010	<5	1.64	0.656	0.0011
Field Blank	LAILG-NGA- FB	12/2/14	<0.10	<0.50	<0.0020**	<0.100	<0.50	<0.010	<10.0	<0.0020**	<0.010	<5	<0.250	<0.100	<0.00050
CWIL Limits			See Table 7												
MRL			0.10	0.50	0.0020	0.100	0.50	0.010	10.0	0.0020	0.010	5	0.250	0.100	0.00050

Concentrations are reported in milligrams per liter (mg/L). Results above CWIL Limits are presented in **BOLD**. Footnotes in **BOLD** indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estimated by the QA Officer.

CWIL                      Conditional waiver for irrigated lands                      \*\*                      The recommended holding time for filtering is only 15 minutes. The sample was filtered as soon as possible but was filtered past holding time.

EB                        Estimated concentration, constituent detected at greater than 10% in equipment blank                      However, the sample was analyzed within holding time.

FD                        Estimated concentration. Field Duplicate RPD >25%.                      MRL                      Method Reporting Limit

FB                        Estimated concentration, constituent detected at greater than 10% in field blank

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 5 CONTINUATION**  
**GENERAL CHEMISTRY**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	General Chemistry												
			Ammonia	Chloride	Diss Ortho	Nitrate	Sulfate	Diss Phos	TDS	Total Ortho	Total Phos	TSS	CA Hardness, as CaCO <sub>3</sub>	Ca	Cu
NGA #64	LAILG-NGA-64-4	1/5/16	0.63	3.9	0.15**	0.70	7.2	0.17	45	0.16**	0.5	190	28.3	11.3	0.027
NGA #168	LAILG-NGA-168-8	1/5/16	0.36	41	0.32**	<b>15</b>	160	0.45	410	0.32**	0.80	140	162	64.9	0.036
Duplicate	LAILG-NGA-DUP	1/5/16	0.36	39	0.35**	<b>15</b>	160	0.5	410	0.35**	0.91	160	159	63.6	0.041
Equip Blank	LAILG-NGA-EB	1/5/16	<0.10	<0.50	<0.0020**	<0.100	<0.50	<0.010	<10.0	<0.0020**	<0.010	<5	<0.250	<0.100	<0.00050
Field Blank	LAILG-NGA- FB	1/5/16	<0.10	<0.50	<0.0020**	<0.100	<0.50	<0.010	<10.0	<0.0020**	<0.010	<5	<0.250	<0.100	<0.00050
CWIL Limits			See Table 7												
MRL			0.10	0.50	0.0020	0.100	0.50	0.010	10.0	0.0020	0.010	5	0.250	0.100	0.00050

Concentrations are reported in milligrams per liter (mg/L). Results above CWIL Limits are presented in **BOLD**. Footnotes in **BOLD** indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estimated by the QA Officer.

CWIL                      Conditional waiver for irrigated lands                      \*\*                      The recommended holding time for filtering is only 15 minutes. The sample was filtered as soon as possible but was filtered past holding time.

EB                         Estimated concentration, constituent detected at greater than 10% in equipment blank                      However, the sample was analyzed within holding time.

FD                         Estimated concentration. Field Duplicate RPD >25%.                      MRL                      Method Reporting Limit

FB                         Estimated concentration, constituent detected at greater than 10% in field blank

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2016-0143 YEAR 1 INTERIM**  
**GENERAL CHEMISTRY**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	General Chemistry												
			Ammonia	Chloride	Diss Ortho	Nitrate	Sulfate	Diss Phos	TDS	Total Ortho	Total Phos	TSS	CA Hardness, as CaCO <sub>3</sub>	Ca	Cu
NGA #4	LAILG-NGA-4-8	1/20/17	0.33	3.3	0.082**	0.76	2.4	0.080	46	0.082**	0.12	15	7.58	3.04	0.0045
NGA #19	LAILG-NGA-19-8	1/20/17	0.31	42 <sup>FD</sup>	0.78**	<b>25<sup>FD</sup></b>	61 <sup>FD</sup>	0.82	700 <sup>FD</sup>	0.78**	2.7 <sup>FD</sup>	430 <sup>FD</sup>	163	65.2	0.047 <sup>FD</sup>
NGA #176	LAILG-NGA-176-3	1/20/17	<0.10	3.9	0.28**	0.70	3.6	0.32	97	0.28**	0.70	360	13.4	5.38	0.029
Duplicate	LAILG-NGA-DUP	1/20/17	0.33	27	0.86**	<b>15</b>	42	0.85	400	0.86**	5.2	1000	180	72.2	0.095
NGA #124	LAILG-NGA-124-8	2/17/17	0.50	7.6	0.77**	3.8	70	0.73*	270	0.76**	3.9	740	120	48.1	0.120
NGA #150	LAILG-NGA-150-7	2/17/17	1.4	10	3.3**	<b>11</b>	54	3.3*	300	3.3**	4.0	180	73.8	29.6	0.057
NGA #158	LAILG-NGA-158-1	2/17/17	0.18	1.9	0.19**	0.55	20	0.29	38	0.19**	0.60	110	29.5	11.8	0.039
NGA #178	LAILG-NGA-178-3	2/17/17	0.58	<b>74</b>	1.3**	0.55	<b>200</b>	1.3*	<b>720</b>	1.3**	13*	2900	431	173	0.37
NGA #202	LAILG-NGA- 202-1	2/17/17	0.11	6.5	0.45**	1.8	18	0.47*	140	0.46**	0.81	130	39.7	15.9	0.038
CWIL Limits			See Table 7												
MRL			0.10	0.50	0.0020	0.100	0.50	0.010	10.0	0.0020	0.010	5	0.250	0.100	0.00050

Concentrations are reported in milligrams per liter (mg/L). Results above CWIL Limits are presented in **BOLD**. Footnotes in **BOLD** indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estimated by the QA Officer.

CWIL	Conditional waiver for irrigated lands	**	The recommended holding time for filtering is only 15 minutes. The sample was filtered as soon as possible but was filtered past holding time.
EB	Estimated concentration, constituent detected at greater than 10% in equipment blank		However, the sample was analyzed within holding time.
FD	Estimated concentration. Field Duplicate RPD >25%.	MRL	Method Reporting Limit
FB	Estimated concentration, constituent detected at greater than 10% in field blank	*	Due to the high concentration of analyte inherent in the sample, sample was diluted prior to analysis. The MDL and MRL were raised due to this dilution.



**SUMMARY OF HISTORICAL SAMPLES COLLECTED UNDER CWIL ORDER R4-2005-0080**

**GENERAL CHEMISTRY  
NURSERY GROWERS ASSOCIATION  
LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	General Chemistry									
			Ammonia	Chloride	Diss Ortho	Nitrate	Sulfate	Total Diss Phos	TDS	Total Ortho	Total Phos	TSS
NGA #130	NGA-#130-LAILG-1	8/6/07	2.5	58.34	2.2457	<b>50.44</b>	43.04	2.29	<b>1,170</b>	2.05	2.305	6.3
NGA #183	NGA-#183-LAILG-1	8/6/07	0.04 <sup>J</sup>	<b>209.97</b>	0.2336	0.13	177.83	0.23	223	0.23	0.264	11
NGA #19	NGA-#19-LAILG-1	8/13/07	1	108.57	2.2882	<b>10.84</b>	118.85	2.68	<b>772</b>	4.62	5.09	568
NGA #124	NGA-#124-LAILG-1	8/13/07	9.8	69.23	3.5006	<b>72.48</b>	206.25	4.31	<b>1,002</b>	3.96	4.627	99.5
NGA #168	NGA-#168-LAILG-1	8/13/07	0.4	81.85	1.977	4.93	131.16	2.28	<b>664</b>	2.13	3.243	122
NGA BLANK	NGA LAILG-BLANK-1	8/13/07	0.04 <sup>J</sup>	nd	nd	nd	nd	nd	32	nd	nd	nd
NGA FBLL	NGA-LAILG-FBLL	8/21/07	0.01 <sup>J</sup>	nd	nd	0.016 <sup>J</sup>	nd	nd	nd	nd	nd	nd
NGA EQBLL	NGA-LAILG-EQBLL	8/21/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #150	NGA-#150-LAILG	9/25/07	<b>52.4</b>	95.9	26.84	<b>355.6</b>	87	22.5	<b>2279</b>	23	24	57
NGA #183	ILG-#183	9/26/07	13.5 <sup>B</sup>	51.63	1.4457 <sup>B</sup>	<b>11.35<sup>B</sup></b>	57.38 <sup>B</sup>	1.64 <sup>B</sup>	317 <sup>B</sup>	2.24 <sup>B</sup>	0.858 <sup>B</sup>	28.7 <sup>B</sup>
GA #183-DU	ILGNGA-#Dup	9/26/07	29 <sup>B</sup>	55.3	4.193 <sup>B</sup>	<b>26.77<sup>B</sup></b>	89.17 <sup>B</sup>	4.29 <sup>B</sup>	434 <sup>B</sup>	5.66 <sup>B</sup>	4.488 <sup>B</sup>	20 <sup>B</sup>
NGA #EQUII	ILGNGA-#Equip	9/26/07	nd	nd	nd	nd	nd	nd	5	nd	nd	nd
NGA #FIELD	ILGNGA-#FIELD-2	9/28/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #168-2	ILGNGA-#168-2	9/28/07	2.2	172.52	1.582 <sup>C</sup>	8.91	340.14 <sup>E</sup>	2.15	<b>1,297</b>	3.51	5.379	504
NGA #168	NGA-#168-LAILG-3	11/30/07	0.48	101.43	2.1635	<b>30.81</b>	245.04 <sup>F</sup>	2.67	<b>951</b>	3.13	3.548	nd
NGA #182	NGA-#182-LAILG-1	12/7/07	0.4	<b>60.71</b>	1.7533	<b>19.85</b>	<b>159.87<sup>F</sup></b>	1.52	<b>456</b>	1.41	1.554	20.3
GA #182-DU	NGA-Duplicate	12/7/07	0.42	59.2	1.8269	<b>19.71</b>	118.48 <sup>F</sup>	1.51	<b>552</b>	1.56	1.523	20.7
NGA #4	NGA-#4-LAILG-1	12/7/07	0.48	20.64	1.1355	4.03	20.39 <sup>F</sup>	0.8	186	0.77	0.829	58
NGA #130	NGA-#130-LAILG-2	12/7/07	0.3	<b>162.95</b>	1.0247	<b>26.16</b>	190 <sup>F</sup>	0.91	<b>830</b>	0.74	0.94	51
NGA #150	NGA-#150-LAILG-2	12/7/07	2.9	27.34	14.0243	<b>80.89</b>	56.59 <sup>F</sup>	9.43	<b>780</b>	8.89	9.445	40
NGA #124	NGA-#124-LAILG-2	12/7/07	4.6	33.03	3.9247	<b>45.41</b>	59.24 <sup>F</sup>	2.9	<b>550</b>	2.76	3.168	90
NGA #EQUIII	NGA-equip blank	12/7/07	nd	nd	nd	nd	1.13	nd	nd	nd	nd	nd
NGA #FIELD	Field Blank-2	12/18/07	nd	nd	nd	nd	nd	nd	6	nd	nd	nd
NGA #176	NGA-#176-LAILG-1	12/18/07	5.5	56.82	0.7145	3.85	293.12	0.54	<b>680</b>	12.21	3.447	6,168
NGA #183	LAILG-NGA#183-3	12/18/07	1.95	28.41	2.344	<b>11.37</b>	41.11	2.78	292	3.14	3.561	92
NGA #19	LAILG-NGA#19-2	12/18/07	1.4	162.66	11.2352	<b>86.7</b>	290.99	2.13	<b>1,292</b>	4.01	5.544	684
NGA #13	LAILG-NGA#13-1	12/18/07	1.6	5.46	0.2033	1.72	32.27	0.49	32	1.44	2.878	944
NGA #53	LAILG-NGA#53-1	12/18/07	0.7	4.72	0.2973	0.49	12.51	0.57	132	0.75	1.188	124
CWIL Limits			See Table X									
MDL			0.01	0.01	0.0075	0.01	0.01	0.016	0.1	0.01	0.016	0.5
RL			0.05	0.05	0.01	0.05	0.05	0.05	5	0.01	0.05	5

Concentrations are reported in milligrams per liter (mg/L). Results above CWIL Limits are presented in **BOLD**. Footnotes in **BOLD** indicate estimated concentration. All other footnotes are for reference

- CWIL Conditional waiver for irrigated lands
- B** Estimated concentration, since RPD of duplicate is >25%
- C Procedural blank Matrix Spike recovery out of limits
- E ESTIMATED CONCENTRATION, matrix spike does not meet acceptance criteria
- F Sulfate detected in lab blank, at 1.09 mg/L.
- J Estimated concentrations, results above MDL but less than RL

**SUMMARY OF HISTORICAL SAMPLES COLLECTED UNDER CWIL ORDER R4-2005-0080**

**GENERAL CHEMISTRY  
NURSERY GROWERS ASSOCIATION  
LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	General Chemistry									
			Ammonia	Chloride	Diss Ortho	Nitrate	Sulfate	Total Diss Phos	TDS	Total Ortho	Total Phos	TSS
NGA #110	LAILG-NGA110-1	1/4/08	0.41	10.65	1.3052	2.36	18.22	1.74	162	1.81	2.033	24
NGA #189	LAILG-NGA189-1	1/4/08	0.59	7.29	0.6851	1.83	26.43	1.33	192	1.8	2.475	20
NGA #19	LAILG-NGA19-3	1/5/08	0.12	<b>157.52</b>	0.2125	0.44	<b>451.78</b>	0.96	<b>1,030</b>	1.26	1.173	84
NGA #124	LAILG-NGA124-3	1/5/08	15.5	28.3	0.9814	<b>28.34<sup>Q1</sup></b>	57.68	1.66	378	1.66	2.228	40
NGA #183	LAILG-NGA183-4	1/5/08	0.73	5.82	1.0874	1.4	6.36	0.23	106	1.29	1.729	510
NGA #4	LAILG-NGA4-2	1/23/08	0.24	1.45	0.1891	0.6	3.87	0.15	145	0.26	1.848	27
NGA #53	LAILG-NGA53-2	1/23/08	0.31	2.19	0.6425	0.76	14.92	0.82	nd	0.68	1.993	516
NGA #64	LAILG-NGA64-1	1/23/08	0.20	3.82	0.2818	3.83	101.1	0.3	nd	0.46	0.393	76
NGA #130	LAILG-NGA130-3	1/24/08	0.15	58.12	0.264	3.64	107.65	0.26	383	0.27	0.314	16
NGA #182	LAILG-NGA182-2	1/24/08	0.17 <sup>M4</sup>	7.39	0.6085	1.91 <sup>M4</sup>	14.22	0.76	218	0.81	0.825	64
NGA #168	LAILG-NGA168-4	1/25/08	0.38	65.9	3.053	<b>14.58</b>	117.44	3.07	<b>592</b>	5.45	2.363	1126.7
NGA #19	LAILG-NGA 19-4	8/12/08	0.03 <sup>FB</sup>	104.03	1.1877	<b>12.65</b>	107.33	1.75	834	1.86	15.494	213
NGA # 4	LAILG-NGA 4-3	8/13/08	0.68	350.11	11.5262	<b>200.18</b>	219.52	69.7 <sup>FD</sup>	<b>2,238</b>	13.05	31.713	371 <sup>FD</sup>
Duplicate	LAILG-NGA-DUP	8/13/08	0.71	397.47	9.0404	<b>212</b>	252.22	34.87 <sup>FD</sup>	<b>2,350</b>	12	26.483	787 <sup>FD</sup>
NGA # 31	LAILG-NGA 31-1	9/23/08	0.13 <sup>FD</sup>	82.13 <sup>EB,FB</sup>	1.562 <sup>H,FD</sup>	<b>17.3</b>	134.93	1.472 <sup>H</sup>	602	2.34 <sup>H</sup>	1.813 <sup>H,FD</sup>	162
Duplicate	LAILG-NGA-DUP	9/23/08	0.37 <sup>FD</sup>	82.37 <sup>EB,FB</sup>	2.629 <sup>H,FD</sup>	<b>19.64</b>	136.19 <sup>M4</sup>	1.84 <sup>H</sup>	626	2.10 <sup>H</sup>	0.883 <sup>HM3</sup>	127
NGA # 19	LAILG-NGA 19-5	11/26/08	0.96	115.72	1.507	<b>26.94</b>	126.35	1.356	748	4.69	4.884	995
NGA # 210	LAILG-NGA 210-1	11/26/08	0.11	155.92	1.892	0.92	<b>336.78</b>	2.185	<b>884</b>	3.23	3.722	542
NGA # 184	LAILG-NGA 184-1	11/26/08	0.46	31.44	0.609	3.12	17.92	0.643	206 <sup>FB</sup>	0.88	1.3	129.5
Duplicate	LAILG-NGA-DUP	11/26/08	0.48	32.51	0.616	3.1	18.68	0.65	214 <sup>FB</sup>	0.86	1.297	128
NGA # 124	LAILG-NGA 124-4	11/26/08	0.48	37.78	2.595	<b>28.36</b>	84.22	2.975	568	2.53	3.297	117
NGA # 31	LAILG-NGA 31-2	11/26/08	0.76	6.12	0.474	3.6	14.84	0.497	104 <sup>FB</sup>	1.63	1.94	353
NGA # 130	LAILG-NGA 130-4	11/26/08	0.68	95.81	0.228	<b>9.17</b>	183.82	0.652	616	0.8	1.046	97
NGA # 150	LAILG-NGA 150-3	11/26/08	<b>32.2</b>	65.92	31.579	<b>114.76</b>	<b>258.65</b>	49.896	<b>2,446</b>	37.69	48.048	45.5
NGA # 25	LAILG-NGA 25-1	11/26/08	0.85	21.99	1.1712	5.31	51.95	1.338	166 <sup>FB</sup>	1.38	1.641	168.5
NGA # 150	LAILG-NGA 150-4	12/15/08	15.75	47.27	26.0911	<b>268.53</b>	<b>125.27<sup>M4</sup></b>	24.935 <sup>M4</sup>	<b>1704<sup>EB</sup></b>	2.94	24.75 <sup>M4</sup>	333.5
NGA # 124	LAILG-NGA 124-5	12/15/08	1.68	26.51	24.4087	<b>40.43</b>	45.28	21.115	424 <sup>EB</sup>	3.66	2.706	115.5
NGA # 189	LAILG-NGA 189-2	12/15/08	0.54	31.28	0.6795	<b>9.87</b>	41.27	0.813	220 <sup>EB</sup>	0.99	1.261	111.3
NGA # 110	LAILG-NGA 110-2	12/15/08	0.31	28.59	1.186	<b>8.48</b>	50.87	1.469	328 <sup>EB</sup>	1.6	1.868	93
NGA # 31	LAILG-NGA 31-3	12/15/08	4.32	36.98	3.0228	<b>12.14</b>	57.58	2.148	364 <sup>EB</sup>	2.87	3.155	85.5
NGA # 184	LAILG-NGA 184-2	12/15/08	0.64	27.46	0.7339	4.41	33.57	0.502	240 <sup>EB</sup>	2.16	2.94	1,079
NGA # 130	LAILG-NGA 130-5	12/15/08	0.52	46.43	0.4392	<b>11.81</b>	67.8	0.481	258 <sup>EB</sup>	0.47	0.512	59.7
NGA # 178	LAILG-NGA 178-1	12/15/08	0.81	<b>85.04</b>	2.4077	<b>12.99</b>	<b>148.27</b>	2.648	<b>462<sup>EB</sup></b>	2.64	2.934	72.7 <sup>FD</sup>
Duplicate	LAILG-NGA-DUP	12/15/08	0.79	<b>102.32</b>	2.3169	<b>14.99</b>	<b>173.96</b>	2.604	<b>588</b>	2.62	2.944	49.3
NGA # 64	LAILG-NGA 64-2	12/15/08	1.15	12.38 <sup>EB</sup>	0.4307	5.39	35.34	0.49	232 <sup>EB</sup>	0.71	0.868	112
NGA # 168	LAILG-NGA 168-5	12/15/08	0.25	53.4	1.4434	<b>15.33</b>	130.75	1.568	492 <sup>EB</sup>	2.24	2.386	236
NGA # 4	LAILG-NGA 4-4	12/15/08	0.52	8.67 <sup>EB</sup>	1.0382	2.7	15.23	0.158	238 <sup>EB</sup>	2.33	2.231	295
CWIL Limits			See Table X									
MDL			0.01	0.01	0.0075	0.01	0.01	0.016	0	0.01	0.016	0.5
RL			0.05	0.05	0.01	0.05	0.05	0.05	5	0.01	0.05	5

Concentrations are reported in milligrams per liter (mg/L). Results above CWIL Limits are presented in **BOLD**. Footnotes in **BOLD** indicate estimated concentration. All other footnotes are for reference

CWIL Conditional waiver for irrigated lands M4 Spike or surrogate compound recovery was out of control due to matrix interference.

EB Estimated concentration, constituent detected at greater than 10% in equipment blank The associated method blank spike or surrogate compound was in control and therefore

FD Estimated concentration. Field Duplicate RPD >25%. the sample data was reported without further clarification.

FB Estimated concentration, constituent detected at greater than 10% in field blank

H Sample received and /or analyzed past the recommended holding time. Q1 Spike recovery and RPD control limits do not apply resulting from the parameter

M3 Detection of the analyte was difficult due to matrix interference. concentration in the sample exceeding the spike concentration.

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2016-0143 YEAR 1 INTERIM  
CHLORINATED PESTICIDES  
NURSERY GROWERS ASSOCIATION  
LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Chlorinated Pesticides																
			2,4'-DDD	2, 4'-DDE	2,4'-DDT	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	BHC-alpha	BHC-beta	BHC-delta	BHC-gamma	Chlordane-alpha	Chlordane-gamma	Dieldrin	Endosulfan Sulfate	Endosulphan-I	Endosulfan-II
NGA #4	LAILG-NGA-4-8	1/20/17	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
NGA #19	LAILG-NGA-19-8	1/20/17	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
NGA #176	LAILG-NGA-176-3	1/20/17	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
Duplicate	LAILG-NGA-DUP	1/20/17	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
NGA #124	LAILG-NGA-124-8	2/17/17	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
NGA #150	LAILG-NGA-150-7	2/17/17	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
NGA #158	LAILG-NGA-158-1	2/17/17	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
NGA #178	LAILG-NGA-178-3	2/17/17	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
NGA #202	LAILG-NGA- 202-1	2/17/17	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
WQB			nl	<b>0.59</b>	nl	<b>0.84</b>	<b>0.59</b>	<b>0.59</b>	<b>0.13</b>	<b>3.9</b>	<b>14</b>	nl	<b>19</b>	nl	nl	<b>0.14</b>	<b>110,000</b>	<b>110,000</b>	<b>110,000</b>
MRL			5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

Concentrations are reported in nanograms per liter (ng/L). **Results above WQB are presented in BOLD.** Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estimated

CWIL Conditional waiver for irrigated lands  
WQB Water Quality Benchmarks  
MRL Method Reporting Limits  
nl not listed

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 5 CONTINUATION**  
**CHLORINATED PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Chlorinated Pesticides																
			2,4'-DDD	2, 4'-DDE	2,4'-DDT	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	BHC-alpha	BHC-beta	BHC-delta	BHC-gamma	Chlordane-alpha	Chlordane-gamma	Dieldrin	Endosulfan Sulfate	Endosulphan-I	Endosulfan-II
NGA #64	LAILG-NGA-64-4	1/5/16	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
NGA #168	LAILG-NGA-168-8	1/5/16	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
Duplicate	LAILG-NGA-DUP	1/5/16	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
Equip Blank	LAILG-NGA-EB	1/5/16	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Field Blank	LAILG-NGA-FB	1/5/16	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
WQB			nl	<b>0.59</b>	nl	<b>0.84</b>	<b>0.59</b>	<b>0.59</b>	<b>0.13</b>	<b>3.9</b>	<b>14</b>	nl	<b>19</b>	nl	nl	<b>0.14</b>	<b>110,000</b>	<b>110,000</b>	<b>110,000</b>
MRL			5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

Concentrations are reported in nanograms per liter (ng/L). **Results above WQB are presented in BOLD.** Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estimated

CWIL	Conditional waiver for irrigated lands	M-04	Visual evaluation of the sample indicates the RPD or QC spike is above the control limit due to a non-homogeneous sample matrix
WQB	Water Quality Benchmarks		
MRL	Method Reporting Limits		
nl	not listed		



**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 4**  
**CHLORINATED PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Chlorinated Pesticides																	
			2,4'-DDD	2, 4'-DDE	2,4'-DDT	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	BHC-alpha	BHC-beta	BHC-delta	BHC-gamma	Chlordane-alpha	Chlordane-gamma	Dieldrin	Endosulfan Sulfate	Endosulphan-I	Endosulfan-II	
NGA #150	LAILG-NGA-150-6	12/2/14	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
NGA #188	LAILG-NGA-188-1	12/2/14	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Duplicate	LAILG-NGA-DUP	12/2/14	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
NGA #168	LAILG-NGA-168-7	5/15/15	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
Equip Blank	LAILG-NGA-EB	12/2/14	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Field Blank	LAILG-NGA- FB	12/2/14	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
WQB			nl	<b>0.59</b>	nl	<b>0.84</b>	<b>0.59</b>	<b>0.59</b>	<b>0.13</b>	<b>3.9</b>	<b>14</b>	nl	<b>19</b>	nl	nl	<b>0.14</b>	<b>110,000</b>	<b>110,000</b>	<b>110,000</b>	
MRL			5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

Concentrations are reported in nanograms per liter (ng/L). **Results above WQB are presented in BOLD.** Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estimated

CWIL	Conditional waiver for irrigated lands	M-04	Visual evaluation of the sample indicates the RPD or QC spike is above the control limit due to a non-homogeneous sample matrix
WQB	Water Quality Benchmarks		
MRL	Method Reporting Limits		
nl	not listed		

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 3**  
**CHLORINATED PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Chlorinated Pesticides																
			2,4'-DDD	2, 4'-DDE	2,4'-DDT	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	BHC-alpha	BHC-beta	BHC-delta	BHC-gamma	Chlordane-alpha	Chlordane-gamma	Dieldrin	Endosulfan Sulfate	Endosulphan-I	Endosulfan-II
NGA #19	LAILG-NGA19-7	2/28/14	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
NGA #26	LAILG-NGA26-1	2/28/14	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
NGA #124	LAILG-NGA124-7	2/28/14	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
NGA #178	LAILG-NGA178-2	2/28/14	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
NGA #184	LAILG-NGA184-3	2/28/14	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
Duplicate	LAILG-NGA-DUP	2/28/14	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
Equip Blank	LAILG-NGA-EB	2/28/14	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Field Blank	LAILG-NGA- FB	2/28/14	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
WQB			nl	<b>0.59</b>	nl	<b>0.84</b>	<b>0.59</b>	<b>0.59</b>	<b>0.13</b>	<b>3.9</b>	<b>14</b>	nl	<b>19</b>	nl	nl	<b>0.14</b>	<b>110,000</b>	<b>110,000</b>	<b>110,000</b>
MRL			5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

Concentrations are reported in nanograms per liter (ng/L). **Results above WQB are presented in BOLD.** Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estimated

CWIL	Conditional waiver for irrigated lands	M-04	Visual evaluation of the sample indicates the RPD or QC spike is above the control limit due to a non-homogeneous sample matrix
WQB	Water Quality Benchmarks		
MRL	Method Reporting Limits		
nl	not listed		

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 1**  
**CHLORINATED PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Chlorinated Pesticides																
			2,4'-DDD	2, 4'-DDE	2,4'-DDT	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	BHC-alpha	BHC-beta	BHC-delta	BHC-gamma	Chlordane-alpha	Chlordane-gamma	Dieldrin	Endosulfan Sulfate	Endosulphan-I	Endosulfan-II
NGA #4	LAILG-NGA4-5	3/21/11	nd	nd	nd	nd	<b>17</b>	<b>21</b>	nd	nd	nd	nd	nd	<b>13</b>	<b>18</b>	nd	nd	nd	nd
NGA #124	LAILG-NGA124-6	3/21/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	<b>33<sup>FD</sup></b>	nd	nd	nd
NGA # 150	LAILG-NGA 150-5	3/21/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #19	LAILG-NGA19-6	3/23/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Duplicate	LAILG-NGA-DUP	3/21/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	<b>22</b>	nd	nd	nd
Equip Blank	LAILG-NGA-EB	3/21/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Field Blank	LAILG-NGA- FB	3/21/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #168	LAILG-NGA168-6	3/17/12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>BSL</sup>	nd
NGA #31	LAILG-NGA31-4	3/17/12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>BSL</sup>	nd
NGA #162	LAILG-NGA162-1	3/17/12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>BSL</sup>	nd
NGA #64	LAILG-NGA64-3	3/17/12	nd	nd	nd	nd	<b>28<sup>FD</sup></b>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>BSL</sup>	nd
Duplicate	LAILG-NGA-DUP	3/17/12	nd	nd	nd	nd	<b>51</b>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>BSL</sup>	nd
Equip Blank	LAILG-NGA-EB	3/17/12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>BSL</sup>	nd
Field Blank	LAILG-NGA- FB	3/17/12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>BSL</sup>	nd
NGA #4	LAILG-NGA4-6	3/25/12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #170	LAILG-NGA170-1	3/25/12	nd	nd	nd	nd	<b>9.6</b>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #176	LAILG-NGA176-2	3/25/12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #210	LAILG-NGA210-2	3/25/12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Duplicate	LAILG-NGA-DUP	3/25/12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Equip Blank	LAILG-NGA-EB	3/25/12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Field Blank	LAILG-NGA- FB	3/25/12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CWIL Limits			nl	<b>0.59</b>	nl	<b>0.84</b>	<b>0.59</b>	<b>0.59</b>	nl	nl	nl	nl	nl	nl	nl	<b>0.14</b>	nl	nl	nl
MDL			5.0	5.0	5.0	5.0	2.5	3.1	1.5	1.8	3.1	2.5	2.1	5.0	5.0	2.1	5.0	1.7	1.9
RL			5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

Concentrations are reported in nanograms per liter (ng/L). **Results above CWIL Limits are presented in BOLD.** Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estim

CWIL	Conditional waiver for irrigated lands	S4	The surrogate recovery for this sample is outside of established control limits due to possible sample matrix effect.
FD	Estimated concentration. Field Duplicate RPD >25%.		
J	Estimated concentrations, results above MDL but less than RL	SGC	Surrogate recovery outside of control limits due to a possible matrix effect . The data was accepted based on valid recovery of the remaining surrogate.
MDL	Method Detection Limits		
RL	Reporting Limits	BS-L	The recovery of this analyte in the BS/LCS was below the control limit. Sample result is suspect.
nd	not detected		
nl	not listed		

**SUMMARY OF HISTORICAL SAMPLES COLLECTED UNDER CWIL ORDER R4-2005-0080**  
**CHLORINATED PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Chlorinated Pesticides																
			2,4'-DDD	2, 4'-DDE	2,4'-DDT	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	BHC-alpha	BHC-beta	BHC-delta	BHC-gamma	Chlordane-alpha	Chlordane-gamma	cis-Nonachlor	DCPA	Dicofol	Dieldrin
NGA #110	LAILG-NGA110-1	1/4/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #189	LAILG-NGA189-1	1/4/08	nd	nd	nd	nd	<b>22.5</b>	nd	nd	nd	nd	nd	nd	nd	6	nd	nd	nd	nd
NGA #19	LAILG-NGA19-3	1/5/08	nd	nd	nd	nd	nd	<b>5.6</b>	nd	nd	nd	nd	nd	2.3 <sup>J</sup>	nd	nd	nd	nd	nd
NGA #124	LAILG-NGA124-3	1/5/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #183	LAILG-NGA183-4	1/5/08	nd	nd	nd	<b>12</b>	<b>26.5</b>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #4	LAILG-NGA4-2	1/23/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #53	LAILG-NGA53-2	1/23/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #64	LAILG-NGA64-1	1/23/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #130	LAILG-NGA130-3	1/24/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #182	LAILG-NGA182-2	1/24/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #168	LAILG-NGA168-4	1/25/08	nd	nd	nd	nd	<b>19.2</b>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 19	LAILG-NGA19-4	8/12/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.0 <sup>J</sup>	2.1 <sup>J</sup>	nd	nd	nd	nd
NGA # 4	LAILG-NGA 4-3	8/13/08	nd	nd <sup>M4</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd	9.2 <sup>Q2,FD</sup>	9.8 <sup>M4,Q2,FD</sup>	12.7 <sup>Q2,FD</sup>	nd	485.7 <sup>Q1,Q2,FD</sup>	nd <sup>M4</sup>
Duplicate	LAILG-NGA-DUP	8/13/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	29.8 <sup>FD</sup>	41.3 <sup>FD</sup>	44.3 <sup>FD</sup>	nd	1064.3 <sup>FD</sup>	nd
NGA # 31	LAILG-NGA 31-1	9/23/08	nd	nd	nd	nd	<b>13.5</b>	nd	nd	nd	nd	nd	nd	nd	7.6 <sup>FD</sup>	nd	nd	nd	nd
Duplicate	LAILG-NGA-DUP	9/23/08	nd	nd	nd	nd	<b>13.6</b>	nd	nd	nd	nd	nd	nd	nd	11.6 <sup>FD</sup>	nd	nd	nd	nd
NGA # 19	LAILG-NGA 19-5	11/26/08	nd	nd	nd	nd	<b>24.7<sup>Q6</sup></b>	nd	nd	nd	nd	nd	nd	7.5 <sup>J,Q3</sup>	6.1	nd	nd	nd	nd
NGA # 210	LAILG-NGA 210-1	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 184	LAILG-NGA 184-1	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Duplicate	LAILG-NGA-DUP	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 124	LAILG-NGA 124-4	11/26/08	nd	nd	nd	nd	<b>19.3</b>	nd	nd	nd	nd	nd	nd	3.7 <sup>J</sup>	2.8 <sup>J</sup>	nd	nd	nd	nd
NGA # 31	LAILG-NGA 31-2	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	7.8	6.3	nd	nd	nd	nd
NGA # 130	LAILG-NGA 130-4	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	6.7 <sup>J</sup>	nd	nd
NGA # 150	LAILG-NGA 150-3	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 25	LAILG-NGA 25-1	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	5.6	4.9 <sup>J</sup>	1.0 <sup>J</sup>	nd	nd	nd
NGA # 150	LAILG-NGA 150-4	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 124	LAILG-NGA 124-5	12/15/08	nd	nd	nd	<b>10.4</b>	nd	nd	nd	nd	nd	nd	nd	5.5	4.2 <sup>J</sup>	nd	6.3 <sup>J</sup>	nd	nd
NGA # 189	LAILG-NGA 189-2	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 110	LAILG-NGA 110-2	12/15/08	nd	nd	nd	<b>6.2</b>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 31	LAILG-NGA 31-3	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 184	LAILG-NGA 184-2	12/15/08	nd	nd	nd	nd	<b>22</b>	nd	nd	nd	nd	nd	nd	nd	4.2 <sup>J</sup>	nd	nd	nd	nd
NGA # 130	LAILG-NGA 130-5	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 178	LAILG-NGA 178-1	12/15/08	nd	nd <sup>M4</sup>	nd <sup>M4</sup>	nd <sup>M4</sup>	<b>25.3<sup>FD</sup></b>	nd <sup>M4</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Duplicate	LAILG-NGA-DUP	12/15/08	nd	nd	nd	nd	nd <sup>FD</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 64	LAILG-NGA 64-2	12/15/08	nd	nd	nd	nd	<b>43.3</b>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 168	LAILG-NGA 168-5	12/15/08	nd	nd	nd	nd	<b>11.8</b>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 4	LAILG-NGA 4-4	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	35.1	34.2	6.5	nd	nd	nd
CWIL Limits			nl	nl	nl	<b>0.59</b>	<b>0.59</b>	<b>0.83</b>	<b>0.13</b>	<b>3.9</b>	<b>14</b>	nl	<b>19</b>	<b>a)</b>	<b>a)</b>	<b>a)</b>	nl	nl	<b>0.14</b>
MDL			1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	50	1
RL			5	5	5	5	5	5	5	5	5	5	5	5	5	5	10	100	5

Concentrations are reported in nanograms per liter (ng/L). **Results above CWIL Limits are presented in BOLD.** Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estim

CWIL	Conditional waiver for irrigated lands	M4	Spike or surrogate compound recovery was out of control due to matrix interference. The associated method blank spike or surrogate compound was in control and therefore the sample data was reported without further clarification.	Q3	RPD values are not accurate and not applicable because the results for R1 and/or R2 are lower than ten times the MDL.
FD	Estimated concentration. Field Duplicate RPD >25%.				
J	Estimated concentrations, results above MDL but less than RL				
MDL	Method Detection Limits				
RL	Reporting Limits	Q1	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration.	Q6	CRG's Quality Assurance Program Document allows for 5% of the target compounds greater than ten times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and cannot be attributed to a spe
nd	not detected				
nl	not listed	Q2	The sample RPD was out of control. Sample is heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices.		



**SUMMARY OF HISTORICAL SAMPLES COLLECTED UNDER CWIL ORDER R4-2005-0080**  
**CHLORINATED PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Chlorinated Pesticides																
			2,4'-DDD	2, 4'-DDE	2,4'-DDT	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	BHC-alpha	BHC-beta	BHC-delta	BHC-gamma	Chlordane-alpha	Chlordane-gamma	cis-Nonachlor	DCPA	Dicofol	Dieldrin
NGA #130	NGA-#130-LAILG-1	8/6/07	nd	nd	nd	<b>22.8</b>	<b>34.7</b>	<b>16.1</b>	nd	nd	nd	nd	nd	nd	nd	nd	nd	68.3 <sup>J</sup>	nd
NGA #183	NGA-#183-LAILG-1	8/6/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #19	NGA-#19-LAILG-1	8/13/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #124	NGA-#124-LAILG-1	8/13/07	nd	nd	nd	<b>22.5</b>	<b>15.3</b>	<b>13.7</b>	nd	nd	nd	nd	nd	nd	nd	12.1	nd	nd	nd
NGA #168	NGA-#168-LAILG-1	8/13/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA BLANK	NGA LAILG-BLANK-1	8/13/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA FBLL	NGA-LAILG-FBLL	8/21/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA EQBLL	NGA-LAILG-EQBLL	8/21/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #150	NGA-#150-LAILG	9/25/07	nd	nd	nd	nd	nd	nd <sup>D</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #183	ILG-#183	9/26/07	25 <sup>B</sup>	nd	31.8 <sup>B</sup>	<b>90.3<sup>B</sup></b>	<b>113.8<sup>B</sup></b>	<b>51.1<sup>B,D</sup></b>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #183-DUP	ILGNGA-#Dup	9/26/07	nd <sup>B</sup>	nd	nd <sup>B</sup>	<b>64.5<sup>B</sup></b>	<b>70.2<sup>B</sup></b>	nd <sup>B,D</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #EQUIP	ILGNGA-#Equip	9/26/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #FIELD	ILGNGA-#FIELD-2	9/28/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #168-2	ILGNGA-#168-2	9/28/07	nd	nd	17.3	<b>16.7</b>	nd	<b>84<sup>D</sup></b>	nd	nd	nd	nd	nd	nd	nd	nd	nd	52 <sup>J</sup>	nd
NGA #168	NGA-#168-LAILG-3	11/30/07	nd	nd	nd	nd	<b>2.7<sup>J</sup></b>	nd <sup>C</sup>	nd	nd	nd	nd	nd	1.4 <sup>J</sup>	1.4 <sup>J</sup>	1.1 <sup>J</sup>	nd	nd	nd
NGA #182	NGA #182-LAILG-1	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #182-DUP	NGA-Duplicate	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #4	NGA #4-LAILG-1	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #130	NGA #130-LAILG-2	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #150	NGA #150-LAILG-2	12/7/07	nd	nd	nd	nd	nd	nd	<b>35.2</b>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #124	NGA-#124-LAILG-2	12/7/07	nd	nd	nd	<b>6.0</b>	<b>22.1</b>	<b>9.3</b>	nd	nd	nd	nd	nd	1.1 <sup>J</sup>	3.0 <sup>J</sup>	nd	nd	63.7 <sup>J</sup>	nd
NGA #EQUIP	NGA-equip blank	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #FIELD	Field Blank-2	12/18/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #176	LAILG-NGA#176-1	12/18/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #183	LAILG-NGA#183-3	12/18/07	36.8	5.7	20.6	<b>224.8</b>	<b>344.4</b>	<b>73.5</b>	nd	nd	nd	nd	nd	nd	nd	nd	nd	51.5 <sup>J</sup>	nd
NGA #19	LAILG-NGA#19-2	12/18/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #13	LAILG-NGA#13-1	12/18/07	nd	nd	nd	nd	<b>32.7</b>	nd	nd	nd	nd	nd	nd	18	19.2	19.6	nd	nd	nd
NGA #53	LAILG-NGA#53-1	12/18/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CWIL Limits			nl	nl	nl	<b>0.59</b>	<b>0.59</b>	<b>0.83</b>	<b>0.13</b>	<b>3.9</b>	<b>14</b>	nl	<b>19</b>	<b>a)</b>	<b>a)</b>	<b>a)</b>	nl	nl	<b>0.14</b>
MDL			1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	50	1
RL			5	5	5	5	5	5	5	5	5	5	5	5	5	5	10	100	5

Concentrations are reported in nanograms per liter (ng/L). Results above CWIL Limits are presented in **BOLD**. Footnotes in **BOLD** indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estim

CWIL Conditional waiver for irrigated lands  
A Component of total chlordane, see total chlordane for CWIL limitations  
**B Estimated concentration, RPD of duplicate sample >25%**  
C Procedural blank Matrix Spike recovery out of limit  
D Procedural blank Matrix Spike Duplicate RPD out of limit  
J Estimated concentrations, results above MDL but less than RL

MDL Method Detection Limits  
RL Reporting Limits  
nd not detected  
nl not listed  
na not analyzed

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2016-0143 YEAR 1 INTERIM  
CHLORINATED PESTICIDES  
NURSERY GROWERS ASSOCIATION  
LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Chlorinated Pesticides											Sample Notes		
			Aroclor XXXX, Sum of	Endrin	Endrin Aldehyde	Chlordane (tech)	Heptachlor	Heptachlor Epoxide	Methoxychlor	Mirex	Toxaphene	trans-Nonachlor	cis-Nonachlor		Total Chlordane	
NGA #4	LAILG-NGA-4-8	1/20/17	<500	<25	<25	<500	<25	<25	<25	<25	<25	<2500	<25	<25	<25	M-04
NGA #19	LAILG-NGA-19-8	1/20/17	<500	<25	<25	<500	<25	<25	<25	<25	<25	<2500	<25	<25	<25	M-04
NGA #176	LAILG-NGA-176-3	1/20/17	<500	<25	<25	<500	<25	<25	<25	<25	<25	<2500	<25	<25	<25	M-04
Duplicate	LAILG-NGA-DUP	1/20/17	<500	<25	<25	<500	<25	<25	<25	<25	<25	<2500	<25	<25	<25	M-04
NGA #124	LAILG-NGA-124-8	2/17/17	<500	<25	<25	<500	<25	<25	<25	<25	<25	<2500	<25	<25	<25	M-04
NGA #150	LAILG-NGA-150-7	2/17/17	<500	<25	<25	<500	<25	<25	<25	<25	<25	<2500	<25	<25	<25	M-04
NGA #158	LAILG-NGA-158-1	2/17/17	<500	<25	<25	<500	<25	<25	<25	<25	<25	<2500	<25	<25	<25	M-04
NGA #178	LAILG-NGA-178-3	2/17/17	<500	<25	<25	<500	<25	<25	<25	<25	<25	<2500	<25	<25	<25	M-04
NGA #202	LAILG-NGA- 202-1	2/17/17	<500	<25	<25	<500	<25	<25	<25	<25	<25	<2500	<25	<25	<25	M-04
WQB			nl	<b>760</b>	<b>760</b>	nl	<b>0.21</b>	<b>0.1</b>	nl	nl	<b>0.75</b>	nl	nl	<b>0.59</b>		
MRL			100	5.0	5.0	100	5.0	5.0	5.0	5.0	500	5	5.0	5.0		

Concentrations are reported in nanograms per liter (ng/L). Results above WQB are presented in BOLD. Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estimated

CWIL  
WQB  
MRL  
nl

Conditional waiver for irrigated land  
Water Quality Benchmarks  
Method Reporting Limits  
not listed

M-04

Due to the nature of matrix interferences, sample extract was diluted prior to analysis. The MDL and MRL were raised due to the dilution.

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 5 CONTINUATION**  
**CHLORINATED PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Chlorinated Pesticides											Sample Notes	
			Aroclor XXXX, Sum of	Endrin	Endrin Aldehyde	Chlordane (tech)	Heptachlor	Heptachlor Epoxide	Methoxychlor	Mirex	Toxaphene	trans-Nonachlor	cis-Nonachlor		Total Chlordane
NGA #64	LAILG-NGA-64-6	1/5/16	<500	<25	<25	<500	<25	<25	<25	<25	<2500	<25	<25	<25	M-04
NGA #168	LAILG-NGA-168-1	1/5/16	<500	<25	<25	<500	<25	<25	<25	<25	<2500	<25	<25	<25	M-04
Duplicate	LAILG-NGA-DUP	1/5/16	<500	<25	<25	<500	<25	<25	<25	<25	<2500	<25	<25	<25	M-04
Equip Blank	LAILG-NGA-EB	1/5/16	<100	<5.0	<5.0	<100	<b>68</b>	<5.0	<5.0	<5.0	<500	<5.0	<5.0	<5.0	
Field Blank	LAILG-NGA-FB	1/5/16	<100	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<500	<5.0	<5.0	<5.0	
WQB			nl	<b>760</b>	<b>760</b>	nl	<b>0.21</b>	<b>0.1</b>	nl	nl	<b>0.75</b>	nl	nl	<b>0.59</b>	
MRL			100	5.0	5.0	100	5.0	5.0	5.0	5.0	500	5	5.0	5.0	

Concentrations are reported in nanograms per liter (ng/L). Results above WQB are presented in BOLD. Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estimated

CWIL Conditional waiver for irrigated lands  
WQB Water Quality Benchmarks  
MRL Method Reporting Limits  
nl not listed

M-04 Due to the nature of matrix interferences, sample extract was diluted prior to analysis. The MDL and MRL were raised due to the dilution.

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 4**  
**CHLORINATED PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Chlorinated Pesticides											Sample Notes	
			Aroclor XXXX, Sum of	Endrin	Endrin Aldehyde	Chlordane (tech)	Heptachlor	Heptachlor Epoxide	Methoxychlor	Mirex	Toxaphene	trans-Nonachlor	cis-Nonachlor		Total Chlordane
NGA #150	LAILG-NGA-150-6	12/2/14	<1000	<50	<50	<1000	<50	<50	<50	<50	<5000	<50	<50	<50	M-04
NGA #188	LAILG-NGA-188-1	12/2/14	<100	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<500	<5.0	<5.0	<5.0	
Duplicate	LAILG-NGA-DUP	12/2/14	<100	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<500	<5.0	<5.0	<5.0	
NGA #168	LAILG-NGA-168-7	5/15/15	<500	<25	<25	<500	<25	<25	<25	<25	<2500	<25	<25	<25	M-04
Equip Blank	LAILG-NGA-EB	12/2/14	<100	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<500	<5.0	<5.0	<5.0	
Field Blank	LAILG-NGA- FB	12/2/14	<100	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<500	<5.0	<5.0	<5.0	
WQB			nl	<b>760</b>	<b>760</b>	nl	<b>0.21</b>	<b>0.1</b>	nl	nl	<b>0.75</b>	nl	nl	<b>0.59</b>	
MRL			100	5.0	5.0	100	5.0	5.0	5.0	5.0	500	5	5.0	5.0	

Concentrations are reported in nanograms per liter (ng/L). **Results above WQB are presented in BOLD.** Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estimated

CWIL Conditional waiver for irrigated lands  
WQB Water Quality Benchmarks  
MRL Method Reporting Limits  
nl not listed

M-04 Due to the nature of matrix interferences, sample extract was diluted prior to analysis. The MDL and MRL were raised due to the dilution.



**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 3**  
**CHLORINATED PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Chlorinated Pesticides											Sample Notes		
			Aroclor XXXX, Sum of	Endrin	Endrin Aldehyde	Chlordane (tech)	Heptachlor	Heptachlor Epoxide	Methoxychlor	Mirex	Toxaphene	trans-Nonachlor	cis-Nonachlor		Total Chlordane	
NGA #19	LAILG-NGA19-7	2/28/14	<500	<25	<25	<500	<25	<25	<25	<25	<25	<2500	<25	<25	<25	M-04
NGA #26	LAILG-NGA26-1	2/28/14	<500	<25	<25	<500	<25	<25	<25	<25	<25	<2500	<25	<25	<25	M-04
NGA #124	LAILG-NGA124-7	2/28/14	<500	<25	<25	<500	<25	<25	<25	<25	<25	<2500	<25	<25	<25	M-04
NGA #178	LAILG-NGA178-2	2/28/14	<500	<25	<25	<500	<25	<25	<25	<25	<25	<2500	<25	<25	<25	M-04
NGA #184	LAILG-NGA184-3	2/28/14	<500	<25	<25	<500	<25	<25	<25	<25	<25	<2500	<25	<25	<25	M-04
Duplicate	LAILG-NGA-DUP	2/28/14	<500	<25	<25	<500	<25	<25	<25	<25	<25	<2500	<25	<25	<25	M-04
Equip Blank	LAILG-NGA-EB	2/28/14	<100	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<500	<5.0	<5.0	<5.0	
Field Blank	LAILG-NGA- FB	2/28/14	<100	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<500	<5.0	<5.0	<5.0	
WQB			nl	<b>760</b>	<b>760</b>	nl	<b>0.21</b>	<b>0.1</b>	nl	nl	<b>0.75</b>	nl	nl	<b>0.59</b>		
MRL			100	5.0	5.0	100	5.0	5.0	5.0	5.0	500	5	5.0	5.0		

Concentrations are reported in nanograms per liter (ng/L). Results above WQB are presented in BOLD. Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estimated

CWIL	Conditional waiver for irrigated lands	M-04	Visual evaluation of the sample indicates the RPD or QC spike is above the control limit due to a non-homogeneous sample matrix
WQB	Water Quality Benchmarks		
MRL	Method Reporting Limits		
nl	not listed		

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 1**  
**CHLORINATED PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Chlorinated Pesticides										Total Chlordane	
			Aroclor XXXX, Sum of	Endrin	Endrin Aldehyde	Endrin Ketone	Heptachlor	Heptachlor Epoxide	Methoxychlor	Mirex	Toxaphene	trans-Nonachlor		
NGA #4	LAILG-NGA#4-2	3/21/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	8.6	<b>39.6</b>
NGA #124	LAILG-NGA#124-3	3/21/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 150	LAILG-NGA 150-3	3/21/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #19	LAILG-NGA#19-2	3/23/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Duplicate	LAILG-NGA-DUP	3/21/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Equip Blank	LAILG-NGA-EB	3/21/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Field Blank	LAILG-NGA- FB	3/21/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #168	LAILG-NGA168-6	3/17/12	nd	nd	nd	nd <sup>S4</sup>	nd	nd	nd	nd	nd	nd	nd	nd
NGA #31	LAILG-NGA31-4	3/17/12	nd	nd	nd	nd <sup>S4</sup>	nd	nd	nd	nd	nd	nd	nd	nd
NGA #162	LAILG-NGA162-1	3/17/12	nd	nd	nd	nd <sup>S4</sup>	nd	nd	nd	nd	nd	nd	nd	nd
NGA #64	LAILG-NGA64-3	3/17/12	nd	nd	nd	nd <sup>S4</sup>	nd	nd	nd	nd	nd	nd	nd	nd
Duplicate	LAILG-NGA-DUP	3/17/12	nd	nd	nd	nd <sup>S4</sup>	nd	nd	nd	nd	nd	nd	nd	nd
Equip Blank	LAILG-NGA-EB	3/17/12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Field Blank	LAILG-NGA- FB	3/17/12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #4	LAILG-NGA4-6	3/25/12	nd	nd	nd	nd <sup>SGC</sup>	nd	nd	nd	nd	nd	nd	nd	nd
NGA #170	LAILG-NGA170-1	3/25/12	nd	nd	nd	nd <sup>SGC</sup>	nd	nd	nd	nd	nd	nd	nd	nd
NGA #176	LAILG-NGA176-2	3/25/12	nd	nd	nd	nd <sup>SGC</sup>	nd	nd	nd	nd	nd	nd	nd	nd
NGA #210	LAILG-NGA210-2	3/25/12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Duplicate	LAILG-NGA-DUP	3/25/12	nd	nd	nd	nd <sup>S4</sup>	nd	nd	nd	nd	nd	nd	nd	nd
Equip Blank	LAILG-NGA-EB	3/25/12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Field Blank	LAILG-NGA- FB	3/25/12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
CWIL Limits			nl	nl	nl	nl	nl	nl	nl	nl	nl	<b>0.75</b>	nl	<b>0.59</b>
MDL			40	2.8	3.0	2.0	1.7	1.9	5.0	5.0	120	5.0	5.0	5.0
RL			100	5.0	5.0	20.0	5.0	5.0	5.0	5.0	500	5.0	5.0	5.0

Concentrations are reported in nanograms per liter (ng/L). Results above CWIL Limits are presented in BOLD. Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estim

CWIL	Conditional waiver for irrigated lands	S4	The surrogate recovery for this sample is outside of established control limits due to possible sample matrix effect.
MDL	Method Detection Limits		
J	Estimated concentrations, results above MDL but less than RL	SGC	Surrogate recovery outside of control limits due to a possible matrix effect . The data was accepted based on valid recovery of the remaining surrogate.
RL	Reporting Limits		
nd	not detected	BS-L	The recovery of this analyte in the BS/LCS was below the control limit. Sample result is suspect.
nl	not listed		
FD	Estimated concentration. Field Duplicate RPD >25%.		

**SUMMARY OF HISTORICAL SAMPLES COLLECTED UNDER CWIL ORDER R4-2005-0080**  
**CHLORINATED PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Endosulfan Sulfate	Endosulphan-I	Endosulfan-II	Endrin	Endrin Aldehyde	Endrin Ketone	Heptachlor	Heptachlor Epoxide	Methoxychlor	Kepone	Mirex	Oxychlorthane	Perthane	Toxaphene	trans-Nonachlor	Total Chlordane	
NGA #110	LAILG-NGA#110-1	1/4/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #189	LAILG-NGA#189-1	1/4/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	8.9	<b>14.9</b>
NGA #19	LAILG-NGA#19-2	1/5/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	14	<b>16.3</b>
NGA #124	LAILG-NGA#124-3	1/5/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	17.1	<b>17.1</b>
NGA #183	LAILG-NGA#183-4	1/5/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #4	LAILG-NGA#4-2	1/23/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #53	LAILG-NGA#53-2	1/23/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #64	LAILG-NGA#64-1	1/23/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #130	LAILG-NGA#130-3	1/24/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #182	LAILG-NGA#182-2	1/24/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #168	LAILG-NGA#168-4	1/25/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 19	LAILG-NGA19-4	8/12/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.3 <sup>J</sup>	<b>4.4<sup>J</sup></b>
NGA # 4	LAILG-NGA 4-3	8/13/08	nd <sup>M4</sup>	nd <sup>M4</sup>	nd <sup>M4</sup>	nd <sup>M4</sup>	nd <sup>M4</sup>	nd <sup>M4</sup>	nd	nd <sup>M4</sup>	nd	nd	nd	nd <sup>M4</sup>	nd <sup>M4</sup>	nd	7.1 <sup>M4,Q2,FD</sup>	<b>38.8</b>	
Duplicate	LAILG-NGA-DUP	8/13/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	27 <sup>FD</sup>	<b>124.4</b>	
NGA # 31	LAILG-NGA 31-1	9/23/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	7.6	<b>15.2</b>	
Duplicate	LAILG-NGA-DUP	9/23/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	8.5	<b>20.1</b>	
NGA # 19	LAILG-NGA 19-5	11/26/08	nd	nd	nd	nd	nd	339.4 <sup>Q3</sup>	nd	nd	nd	nd	nd	nd	nd	nd	6.6 <sup>J,Q3</sup>	<b>20.2<sup>J</sup></b>	
NGA # 210	LAILG-NGA 210-1	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 184	LAILG-NGA 184-1	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Duplicate	LAILG-NGA-DUP	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 124	LAILG-NGA 124-4	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.7 <sup>J</sup>	<b>8.2<sup>J</sup></b>
NGA # 31	LAILG-NGA 31-2	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	3.8 <sup>J</sup>	<b>17.9<sup>J</sup></b>
NGA # 130	LAILG-NGA 130-4	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 150	LAILG-NGA 150-3	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 25	LAILG-NGA 25-1	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>Q6</sup>	nd	nd	nd	nd	nd	nd	4.7 <sup>J</sup>	<b>16.2<sup>J</sup></b>
NGA # 150	LAILG-NGA 150-4	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 124	LAILG-NGA 124-5	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	3.9 <sup>J</sup>	<b>13.6<sup>J</sup></b>
NGA # 189	LAILG-NGA 189-2	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 110	LAILG-NGA 110-2	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 31	LAILG-NGA 31-3	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 184	LAILG-NGA 184-2	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	<b>4.2<sup>J</sup></b>
NGA # 130	LAILG-NGA 130-5	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 178	LAILG-NGA 178-1	12/15/08	nd	nd <sup>M4</sup>	nd <sup>M4</sup>	nd	nd	nd	nd	nd	nd <sup>M4</sup>	nd	nd	nd	nd	nd	nd	nd	nd
Duplicate	LAILG-NGA-DUP	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 64	LAILG-NGA 64-2	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	<b>666</b>	nd	nd
NGA # 168	LAILG-NGA 168-5	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 4	LAILG-NGA 4-4	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	23.7	<b>99.5</b>
CWIL Limits			nl	<b>5.6</b>	<b>5.6</b>	<b>36</b>	nl	nl	<b>0.21</b>	<b>0.1</b>	nl	nl	nl	<b>a)</b>	nl	<b>25</b>	<b>a)</b>	<b>0.57</b>	
MDL			1	1	1	1	1	1	1	1	1	1	1	1	5	10	1	1	
RL			5	5	5	5	5	5	5	5	5	5	5	5	10	50	5	5	

Concentrations are reported in nanograms per liter (ng/L). Results above CWIL Limits are presented in BOLD. Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estim

CWIL	Conditional waiver for irrigated lands	M4	Spike or surrogate compound recovery was out of control due to matrix interference. The associated method blank spike or surrogate compound was in control and therefore the sample data was reported without further clarification.	Q3	RPD values are not accurate and not applicable because the results for R1 and/or R2 are lower than ten times the MDL.
MDL	Method Detection Limits				
J	Estimated concentrations, results above MDL but less than RL				
RL	Reporting Limits			Q6	CRG's Quality Assurance Program Document allows for 5% of the target compounds greater than ten times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and cannot be attributed to a spe
nd	not detected	Q2	The sample RPD was out of control. Sample is heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices.		
nl	not listed				
FD	Estimated concentration. Field Duplicate RPD >25%.				

**SUMMARY OF HISTORICAL SAMPLES COLLECTED UNDER CWIL ORDER R4-2005-0080**  
**CHLORINATED PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Endosulfan Sulfate	Endosulphan-I	Endosulfan-II	Endrin	Endrin Aldehyde	Endrin Ketone	Heptachlor	Heptachlor Epoxide	Methoxychlor	Kepone	Mirex	Oxychlorane	Perthane	Toxaphene	trans-Nonachlor	Total Chlordane
NGA #130	NGA-#130-LAILG-1	8/6/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	nd	nd	nd	nd	nd	nd
NGA #183	NGA-#183-LAILG-1	8/6/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	nd	nd	nd	nd	nd	nd
NGA #19	NGA-#19-LAILG-1	8/13/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	nd	nd	nd	nd	nd	nd
NGA #124	NGA-#124-LAILG-1	8/13/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	nd	nd	nd	nd	21.9	<b>34</b>
NGA #168	NGA-#168-LAILG-1	8/13/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	nd	nd	nd	nd	nd	nd
NGA BLANK	NGA LAILG-BLANK-1	8/13/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA FBLL	NGA-LAILG-FBLL	8/21/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA EQBLL	NGA-LAILG-EQBLL	8/21/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #150	NGA-#150-LAILG	9/25/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	nd	nd <sup>D</sup>	nd	nd	nd	nd
NGA #183	ILG-#183	9/26/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	nd	nd <sup>D</sup>	nd	nd	nd	nd
NGA #183-DUP	ILGNGA-#Dup	9/26/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	nd	nd <sup>D</sup>	nd	nd	nd	nd
NGA #EQUIP	ILGNGA-#Equip	9/26/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #FIELD	ILGNGA-#FIELD-2	9/28/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #168-2	ILGNGA-#168-2	9/28/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	na	nd	nd <sup>D</sup>	nd	nd	nd	nd
NGA #168	NGA-#168-LAILG-3	11/30/07	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>C</sup>	nd	nd	nd	nd	nd	1.7 <sup>J</sup>	<b>5.6<sup>J</sup></b>
NGA #182	NGA #182-LAILG-1	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #182-DUP	NGA-Duplicate	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #4	NGA #4-LAILG-1	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #130	NGA #130-LAILG-2	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #150	NGA #150-LAILG-2	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #124	NGA-#124-LAILG-2	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	7.3	<b>11.4</b>
NGA #EQUIP	NGA-equip blank	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #FIELD	Field Blank-2	12/18/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #176	LAILG-NGA#176-1	12/18/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>C</sup>	nd	nd	nd	nd	nd	nd
NGA #183	LAILG-NGA#183-3	12/18/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>C</sup>	nd	nd	nd	nd	nd	nd
NGA #19	LAILG-NGA#19-2	12/18/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>C</sup>	nd	nd	nd	nd	2.4 <sup>J</sup>	<b>2.4<sup>J</sup></b>
NGA #13	LAILG-NGA#13-1	12/18/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>C</sup>	nd	nd	nd	nd	54.1	<b>110.9</b>
NGA #53	LAILG-NGA#53-1	12/18/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>C</sup>	nd	nd	nd	nd	nd	nd
CWIL Limits			nl	<b>5.6</b>	<b>5.6</b>	<b>36</b>	nl	nl	<b>0.21</b>	<b>0.1</b>	nl	nl	nl	<b>a)</b>	nl	<b>25</b>	<b>a)</b>	<b>0.57</b>
MDL			1	1	1	1	1	1	1	1	1	1	1	1	5	10	1	1
RL			5	5	5	5	5	5	5	5	5	5	5	5	10	50	5	5

Concentrations are reported in nanograms per liter (ng/L). Results above CWIL Limits are presented in **BOLD**. Footnotes in **BOLD** indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estim

CWIL Conditional waiver for irrigated lands  
A Component of total chlordane, see total chlordane for CWIL limitations  
**B Estimated concentration, RPD of duplicate sample >25%**  
C Procedural blank Matrix Spike recovery out of limits  
D Procedural blank Matrix Spike Duplicate RPD out of limits  
J Estimated concentrations, results above MDL but less than RL

MDL Method Detection Limits  
RL Reporting Limits  
nd not detected  
nl not listed  
na not analyzed

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2016-0143 YEAR 1 INTERIM  
ORGANOPHOSPHORUS PESTICIDES  
NURSERY GROWERS ASSOCIATION  
LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Organophosphorus Pesticides																							Sample Notes	
			Azinphos methyl	Bolstar	Chlorpyrifos	Coumaphos	Demeton-o	Demeton-s	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethoprop	Ethyl parathion	Fensulfthion	Fenthion	Malathion	Merphos	Methyl Parathion	Mevinphos	Naled	Phorate	Ronnel	Stirophos	Tokuthion		Trichloronate
NGA #4	LAILG-NGA-4-8	1/20/17	<10	<10	11	<10	<10	<10	17	<10	<10	<10	<10	<10	<10	30	<10	<10	<10	<10	<10	<10	<10	<10	<10		
NGA #19	LAILG-NGA-19-8	1/20/17	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		
NGA #176	LAILG-NGA-176-3	1/20/17	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		
Duplicate	LAILG-NGA-DUP	1/20/17	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		
NGA #124	LAILG-NGA-124-8	2/17/17	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	M-02	
NGA #150	LAILG-NGA-150-7	2/17/17	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	M-02
NGA #158	LAILG-NGA-158-1	2/17/17	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	M-02
NGA #178	LAILG-NGA-178-3	2/17/17	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	M-02
NGA #202	LAILG-NGA- 202-1	2/17/17	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	M-02
WQB			<b>80</b>	nl	<b>25</b>	<b>37</b>	nl	nl	<b>100</b>	<b>35</b>	<b>21,500</b>	<b>1,950</b>	<b>22,000</b>	nl	nl	<b>2,600</b>	<b>295</b>	nl	<b>485</b>	nl	70	<b>300</b>	nl	nl	nl	nl	
MRL			10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10.0	10	10	10	10	

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CWIL Conditional waiver for irrigated lands, order #R4-2005-0080  
MRL Method Detection Limits  
WQB Water Quality Benchmarks  
! Estimated concentration. Field Duplicate RPD >25%.  
nl not listed  
nd not detected  
M-02 Due to the nature of matrix interferences, sample was diluted prior to preparation. The MDL and MRL were raised due to the dilution.



**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 5 CONTINUATION**  
**ORGANOPHOSPHORUS PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Organophosphorus Pesticides																							Sample Notes
			Azinphos methyl	Bolstar	Chlorpyrifos	Coumaphos	Demeton-o	Demeton-s	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethoprop	Ethyl parathion	Fensulfotion	Fenthion	Malathion	Merphos	Methyl Parathion	Mevinphos	Naled	Phorate	Ronnel	Stirophos	Tokuthion	
NGA #64	LAILG-NGA-64-4	1/5/16	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
NGA #168	LAILG-NGA-168-8	1/5/16	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Duplicate	LAILG-NGA-DUP	1/5/16	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Equip Blank	LAILG-NGA-EB	1/5/16	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Field Blank	LAILG-NGA-FB	1/5/16	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
WQB			<b>80</b>	nl	<b>25</b>	<b>37</b>	nl	nl	<b>100</b>	<b>35</b>	<b>21,500</b>	<b>1,950</b>	<b>22,000</b>	nl	nl	<b>2,600</b>	<b>295</b>	nl	<b>485</b>	nl	70	<b>300</b>	nl	nl	nl	
MRL			10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10.0	10	10	10	10

Concentrations are reported in nanograms per liter (ng/L). Results above CWIL Limits or ALB guidelines are presented in BOLD. Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be

CWIL Conditional waiver for irrigated lands, order #R4-2005-0080  
MRL Method Detection Limits  
WQB Water Quality Benchmarks  
! Estimated concentration. Field Duplicate RPD >25%.  
nl not listed  
nd not detected

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 4**  
**ORGANOPHOSPHORUS PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Organophosphorus Pesticides																							Sample Notes		
			Azinphos methyl	Bolstar	Chlorpyrifos	Coumaphos	Demeton-o	Demeton-s	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethoprop	Ethyl parathion	Fensulfothion	Fenthion	Malathion	Merphos	Methyl Parathion	Mevinphos	Naled	Phorate	Ronnel	Stirophos	Tokuthion		Trichloronate	
NGA #150	LAILG-NGA-150-6	12/2/14	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		
NGA #188	LAILG-NGA-188-1	12/2/14	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Duplicate	LAILG-NGA-DUP	12/2/14	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
NGA #168	LAILG-NGA-168-7	5/15/15	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Equip Blank	LAILG-NGA-EB	12/2/14	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Field Blank	LAILG-NGA- FB	12/2/14	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
WQB			<b>80</b>	nl	<b>25</b>	<b>37</b>	nl	nl	<b>100</b>	<b>35</b>	<b>21,500</b>	<b>1,950</b>	<b>22,000</b>	nl	nl	<b>2,600</b>	<b>295</b>	nl	<b>485</b>	nl	70	<b>300</b>	nl	nl	nl	nl	nl	
MRL			10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10.0	10	10	10	10	10	10

Concentrations are reported in nanograms per liter (ng/L). Results above CWIL Limits or ALB guidelines are presented in BOLD. Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be

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MRL Method Detection Limits  
WQB Water Quality Benchmarks  
! Estimated concentration. Field Duplicate RPD >25%.  
nl not listed  
nd not detected

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 3**  
**ORGANOPHOSPHORUS PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Organophosphorus Pesticides																							Sample Notes	
			Azinphos methyl	Bolstar	Chlorpyrifos	Coumaphos	Demeton-o	Demeton-s	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethoprop	Ethyl parathion	Fensulfothion	Fenthion	Malathion	Merphos	Methyl Parathion	Mevinphos	Naled	Phorate	Ronnel	Stirophos	Tokuthion		Trichloronate
NGA #19	LAILG-NGA19-7	2/28/14	<10	<10	22!	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
NGA #26	LAILG-NGA26-1	2/28/14	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	23	<10	<10	<10	<10	<10	<10	<10	<10	
NGA #124	LAILG-NGA124-7	2/28/14	<10	<10	17	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	13	<10	<10	<10	<10	<10	<10	<10	<10	
NGA #178	LAILG-NGA178-2	2/28/14	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
NGA #184	LAILG-NGA184-3	2/28/14	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Duplicate	LAILG-NGA-DUP	2/28/14	<10	<10	31!	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Equip Blank	LAILG-NGA-EB	2/28/14	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Field Blank	LAILG-NGA- FB	2/28/14	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
WQB			<b>80</b>	nl	<b>25</b>	<b>37</b>	nl	nl	<b>100</b>	<b>35</b>	<b>21,500</b>	<b>1,950</b>	<b>22,000</b>	nl	nl	<b>2,600</b>	<b>295</b>	nl	<b>485</b>	nl	70	<b>300</b>	nl	nl	nl	nl	
MRL			10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10.0	10	10	10	10

Concentrations are reported in nanograms per liter (ng/L). Results above CWIL Limits or ALB guidelines are presented in BOLD. Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be

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MRL Method Detection Limits  
WQB Water Quality Benchmarks  
! Estimated concentration. Field Duplicate RPD >25%.  
nl not listed  
nd not detected

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 1**  
**ORGANOPHOSPHORUS PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Organophosphorus Pesticides																							Sample Notes				
			Azinphos methyl	Bolstar	Chlorpyrifos	Coumaphos	Demeton-o	Demeton-s	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethoprop	Ethyl parathion	Fensulfothion	Fenthion	Malathion	Merphos	Methyl Parathion	Mevinphos	Naled	Phorate	Ronnel	Stirophos	Tokuthion		Trichloronate			
NGA #4	LAILG-NGA4-5	3/21/11	nd	nd	<b>11000</b> <sup>E1</sup>	nd	nd <sup>Q-02</sup>	nd <sup>Q-02</sup>	<b>1000</b> <sup>E1</sup>	nd	nd	nd <sup>MS-05</sup>	nd <sup>Q-02</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	S4			
NGA #124	LAILG-NGA124-6	3/21/11	nd	nd	10	nd	nd <sup>Q-02</sup>	nd <sup>Q-02</sup>	nd	nd	nd	nd <sup>MS-05</sup>	nd <sup>Q-02</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd				
NGA # 150	LAILG-NGA 150-5	3/21/11	nd	nd	<b>33</b>	nd	nd <sup>Q-02</sup>	nd <sup>Q-02</sup>	nd	nd	nd	nd <sup>MS-05</sup>	nd <sup>Q-02</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd				
NGA #19	LAILG-NGA19-6	3/23/11	nd <sup>MS-05,BS-L</sup>	nd <sup>MS-05</sup>	25	nd	nd	nd	nd	nd	nd	nd <sup>MS-05</sup>	nd <sup>BS-03</sup>	nd	nd	nd <sup>MS-05</sup>	nd <sup>BS-03</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd				
Duplicate	LAILG-NGA-DUP	3/21/11	nd	nd	11	nd	nd <sup>Q-02</sup>	nd <sup>Q-02</sup>	nd	nd	nd	nd <sup>MS-05</sup>	nd <sup>Q-02</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd				
Equip Blank	LAILG-NGA-EB	3/21/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd				
Field Blank	LAILG-NGA- FB	3/21/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd				
NGA #168	LAILG-NGA168-6	3/17/12	nd <sup>BS-03</sup>	nd	nd	nd <sup>Q-08,A-01</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>Q-08</sup>	nd <sup>Q-08</sup>	nd	nd	nd <sup>Q-08</sup>	nd <sup>Q-08</sup>	nd	nd	nd	nd	nd	nd				
NGA #31	LAILG-NGA31-4	3/17/12	nd <sup>BS-03</sup>	nd	nd	nd <sup>Q-08,A-01</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>Q-08</sup>	nd <sup>Q-08</sup>	nd	nd	nd <sup>Q-08</sup>	nd <sup>Q-08</sup>	nd	nd	nd	nd	nd	nd				
NGA #162	LAILG-NGA162-1	3/17/12	nd <sup>BS-03</sup>	nd	nd	nd <sup>Q-08,A-01</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>Q-08</sup>	nd <sup>Q-08</sup>	nd	nd	nd <sup>Q-08</sup>	nd <sup>Q-08</sup>	nd	nd	nd	nd	nd	nd				
NGA #64	LAILG-NGA64-3	3/17/12	nd <sup>BS-03</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>MS-05</sup>	nd	nd	nd	nd <sup>MS-05</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd				
Duplicate	LAILG-NGA-DUP	3/17/12	nd <sup>BS-03</sup>	nd	nd	nd <sup>Q-08,A-01</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>Q-08</sup>	nd <sup>Q-08</sup>	nd	nd	nd <sup>Q-08</sup>	nd <sup>Q-08</sup>	nd	nd	nd	nd	nd	nd				
Equip Blank	LAILG-NGA-EB	3/17/12	nd <sup>BS-03</sup>	nd	nd	nd <sup>Q-08,A-01</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>Q-08</sup>	nd <sup>Q-08</sup>	nd	nd	nd <sup>Q-08</sup>	nd <sup>Q-08</sup>	nd	nd	nd	nd	nd	nd				
Field Blank	LAILG-NGA- FB	3/17/12	nd <sup>BS-03</sup>	nd	nd	nd <sup>Q-08,A-01</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>Q-08</sup>	nd <sup>Q-08</sup>	nd	nd	nd <sup>Q-08</sup>	nd <sup>Q-08</sup>	nd	nd	nd	nd	nd	nd				
NGA #4	LAILG-NGA4-6	3/25/12	nd <sup>BS-03</sup>	nd	<b>44,000</b>	nd <sup>BS-03</sup>	nd <sup>BS-03</sup>	nd <sup>BS-03</sup>	nd <sup>Q-12</sup>	nd	nd	nd <sup>MS-05</sup>	nd	nd	nd	nd <sup>Q-08,BS-03</sup>	nd	<b>2,100</b> <sup>Q-08,A-01a</sup>	nd <sup>Q-08</sup>	nd <sup>BS-03</sup>	nd	nd	nd <sup>BS-03</sup>	nd	nd	nd				
NGA #170	LAILG-NGA170-1	3/25/12	nd <sup>MS-05,BS-L</sup>	nd	nd	nd <sup>BS-03</sup>	nd	nd	nd	nd	nd	nd <sup>MS-05</sup>	nd	nd	nd	nd <sup>MS-05</sup>	nd <sup>Q-08</sup>	nd	nd	nd <sup>Q-08</sup>	nd <sup>MS-05</sup>	nd	nd	nd <sup>Q-08,A-01</sup>	nd	nd	14 <sup>BS-03</sup>	nd	nd	
NGA #176	LAILG-NGA176-2	3/25/12	nd <sup>MS-05,BS-L</sup>	nd	nd	nd <sup>BS-03</sup>	nd	nd	nd	nd	nd	nd <sup>MS-05</sup>	nd	nd	nd	nd <sup>MS-05</sup>	nd <sup>Q-08</sup>	nd	nd	nd <sup>Q-08</sup>	nd <sup>MS-05</sup>	nd	nd	nd <sup>Q-08,A-01</sup>	nd	nd	nd	nd	nd	
NGA #210	LAILG-NGA210-2	3/25/12	nd <sup>MS-05,BS-L</sup>	nd	nd	nd <sup>BS-03</sup>	nd	nd	nd	nd	nd	nd <sup>MS-05</sup>	nd	nd	nd	nd <sup>MS-05</sup>	nd <sup>Q-08</sup>	nd	41	nd <sup>Q-08</sup>	nd <sup>MS-05</sup>	nd	nd	nd <sup>Q-08,A-01</sup>	nd	nd	nd	nd	nd	
Duplicate	LAILG-NGA-DUP	3/25/12	nd <sup>BS-03</sup>	nd	<b>42,000</b>	nd <sup>BS-03</sup>	nd <sup>BS-03</sup>	nd <sup>BS-03</sup>	nd <sup>Q-12</sup>	nd	nd	nd <sup>MS-05</sup>	nd	nd	nd	nd <sup>Q-08,BS-03</sup>	nd	<b>2,000</b> <sup>Q-08,A-01a</sup>	nd <sup>Q-08</sup>	nd <sup>BS-03</sup>	nd	nd	nd	nd <sup>BS-03</sup>	nd	nd	nd	nd	nd	
Equip Blank	LAILG-NGA-EB	3/25/12	nd <sup>BS-03</sup>	nd	nd	nd <sup>BS-03</sup>	nd <sup>BS-03</sup>	nd <sup>BS-03</sup>	nd <sup>Q-12</sup>	nd	nd	nd <sup>MS-05</sup>	nd	nd	nd	nd <sup>Q-08,BS-03</sup>	nd	nd	nd <sup>Q-08,A-01a</sup>	nd <sup>Q-08</sup>	nd <sup>BS-03</sup>	nd	nd	nd	nd <sup>BS-03</sup>	nd	nd	nd	nd	nd
Field Blank	LAILG-NGA- FB	3/25/12	nd <sup>BS-03</sup>	nd	nd	nd <sup>BS-03</sup>	nd <sup>BS-03</sup>	nd <sup>BS-03</sup>	nd <sup>Q-12</sup>	nd	nd	nd <sup>MS-05</sup>	nd	nd	nd	nd <sup>Q-08,BS-03</sup>	nd	nd	nd <sup>Q-08,A-01a</sup>	nd <sup>Q-08</sup>	nd <sup>BS-03</sup>	nd	nd	nd	nd <sup>BS-03</sup>	nd	nd	nd	nd	nd
CWIL Limits			nl	nl	<b>25</b>	nl	nl	nl	<b>100</b>	nl	nl	nl <sup>(1)</sup>	nl <sup>(1)</sup>	nl <sup>(1)</sup>	nl	nl	nl	nl	nl <sup>(1)</sup>	nl	nl	nl	nl	nl	nl	nl				
MDL			5.5	4.6	6.9	5.1	10	10	5.2	2.9	6.2	10	6.7	5.4	2.9	3.8	7.6	5.8	6.3	4.2	7.6	3.0	4.1	3.1	7.8	6.7				
RL			10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				

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- |      |  |       |   |
|------|--|-------|---|
| CWIL | Conditional waiver for irrigated lands, order #R4-2005-0080  | E1    | The concentration indicated for this analyte is an estimated value above the calibration range.   |
| MDL  | Method Detection Limits  | S4    | The surrogate recovery for this sample is outside of established control limits due to possible sample matrix effect.   |
| RL   | Reporting Limits   | Q-08  | High bias in the QC sample does not affect sample result since analyte was not detected or below the reporting limit.   |
| FD   | Estimated concentration. Field Duplicate RPD >25%.   | A-01  | High bias in MS and MSD. However, ll-cv has an acceptable recovery. The batch was accepted since all samples were ND for this analyte.  |
| nl   | not listed   | A-01a | Low recovery in BS and high recoveries in both MS/MSD. However, ll-cv has an acceptable recovery. The batch was accepted since samples were either ND or yielded very high results.   |
| nd   | not detected   | Q-12  | The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on the percent recoveries and/or other acceptable QC data.                                 |
| (1)  | Although no discharge limits were set in the CWIL, the US EPA has set an aquatic life benchmark for this constituent. See Table 7. | Q-02  | Low recovery of this analyte in the QC sample. The analysis of the low level standard produced acceptable recovery indicating that the sample result might be accurately reported as non-detect.  |
|      |  | MS-05 | The spike recovery and/or RPD were outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable. |
|      |  | BS-L  | The recovery of this analyte in the BS/LCS was below the control limit. Sample result is suspect.   |
|      |  | BS-03 | The recovery of this analyte in the BS/LCS was outside the control limits. The sample result was accepted based on another acceptable BS/LCS and/or MS and MSD that meet BS criteria.   |

**SUMMARY OF HISTORICAL SAMPLES COLLECTED UNDER CWIL ORDER R4-2005-0080**  
**ORGANOPHOSPHORUS PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Organophosphorus Pesticides																		
			Bolstar	Chlorpyrifos	Demeton	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethoprop	Fenclorophos	Fensulfothion	Fenthion	Malathion	Merphos	Methyl Parathion	Mevinphos	Phorate	Tetrachlorvinphos	Tokuthion	Trichloronate
NGA #110	LAILG-NGA110-1	1/4/08	nd	<b>88.5</b>	nd	<b>534.8</b>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #189	LAILG-NGA189-1	1/4/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #19	LAILG-NGA19-3	1/5/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #124	LAILG-NGA124-3	1/5/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #183	LAILG-NGA183-4	1/5/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #4	LAILG-NGA4-2	1/23/08	nd	<b>153.8</b>	nd	<b>2,212.1</b>	nd	nd	nd	nd	nd	nd	<b>15,453.2</b>	nd	nd	nd	nd	nd	nd	nd	
NGA #53	LAILG-NGA53-2	1/23/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #64	LAILG-NGA64-1	1/23/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #130	LAILG-NGA130-3	1/24/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #182	LAILG-NGA182-2	1/24/08	nd	nd	nd	nd	nd	13.3	nd	nd	nd	nd	19.9	nd	nd	nd	nd	nd	nd	nd	
NGA #168	LAILG-NGA168-4	1/25/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA # 19	LAILG-NGA19-4	8/12/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA # 4	LAILG-NGA 4-3	8/13/08	nd <sup>M4</sup>	nd <sup>M4</sup>	nd <sup>M4</sup>	<b>6,058.9</b> <sup>O1, O2, FD</sup>	nd <sup>M4</sup>	nd <sup>M4</sup>	nd <sup>M4</sup>	nd <sup>M4</sup>	nd <sup>M4</sup>	nd <sup>M4</sup>	<b>1,148,630</b> <sup>O1</sup>	nd <sup>M4</sup>	nd <sup>M4</sup>	nd <sup>M4</sup>	nd <sup>M4</sup>	nd <sup>M4</sup>	nd <sup>M4</sup>	nd <sup>M4</sup>	
Duplicate	LAILG-NGA-DUP	8/13/08	nd	nd	nd	<b>13586.8</b> <sup>FD</sup>	nd	nd	nd	nd	nd	nd	<b>1,117,145</b>	nd	nd	nd	nd	nd	nd	nd	
NGA # 31	LAILG-NGA 31-1	9/23/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
Duplicate	LAILG-NGA-DUP	9/23/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA # 19	LAILG-NGA 19-5	11/26/08	nd	<b>130.1</b>	nd	32.6	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA # 210	LAILG-NGA 210-1	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	56.4	nd	nd	nd	nd	nd	nd	nd	
NGA # 184	LAILG-NGA 184-1	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
Duplicate	LAILG-NGA-DUP	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA # 124	LAILG-NGA 124-4	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA # 31	LAILG-NGA 31-2	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA # 130	LAILG-NGA 130-4	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA # 150	LAILG-NGA 150-3	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA # 25	LAILG-NGA 25-1	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA # 150	LAILG-NGA 150-4	12/15/08	nd	<b>90.2</b>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA # 124	LAILG-NGA 124-5	12/15/08	nd	21	nd	98.5	nd	nd	nd	nd	nd	nd	<b>85.3</b>	nd	nd	nd	nd	nd	nd	nd	
NGA # 189	LAILG-NGA 189-2	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	26.9	nd	nd	nd	nd	nd	nd	nd	
NGA # 110	LAILG-NGA 110-2	12/15/08	nd	nd	nd	79.8	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA # 31	LAILG-NGA 31-3	12/15/08	nd	<b>44.5</b>	nd	nd	nd	nd	nd	nd	nd	nd	<b>3,433.9</b>	nd	nd	nd	nd	nd	nd	nd	
NGA # 184	LAILG-NGA 184-2	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA # 130	LAILG-NGA 130-5	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	<b>85.2</b>	nd	nd	nd	nd	nd	nd	nd	
NGA # 178	LAILG-NGA 178-1	12/15/08	nd	nd	nd	nd	nd	nd	nd <sup>M4</sup>	nd	nd	nd <sup>M4</sup>	nd	nd	nd	nd	nd	nd <sup>M4</sup>	nd	nd	
Duplicate	LAILG-NGA-DUP	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA # 64	LAILG-NGA 64-2	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA # 168	LAILG-NGA 168-5	12/15/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	38.9	nd	nd	nd	nd	nd	nd	nd	
NGA # 4	LAILG-NGA 4-4	12/15/08	nd	<b>590.9</b>	nd	<b>859</b>	nd	nd	nd	nd	nd	nd	<b>102,357.2</b>	nd	nd	nd	nd	nd	nd	nd	
CWIL Limits			nl	<b>25</b>	nl	<b>100</b>	nl	nl <sup>(1)</sup>	nl <sup>(1)</sup>	nl <sup>(1)</sup>	nl	nl	nl <sup>(1)</sup>	nl	nl <sup>(1)</sup>	nl	nl <sup>(1)</sup>	nl	nl	nl	
MDL			2	1	1	2	3	3	1	1	2	1	2	3	1	1	8	6	2	3	1
RL			4	2	2	4	6	6	2	2	4	2	4	6	2	2	16	12	4	6	2

Concentrations are reported in nanograms per liter (ng/L). Results above CWIL Limits or ALB guidelines are presented in BOLD. Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be

- |      |  |    |  |    |   |
|------|--|----|--|----|---|
| CWIL | Conditional waiver for irrigated lands, order #R4-2005-0080  | M4 | Spike or surrogate compound recovery was out of control due to matrix interference. The associated method blank      | Q1 | Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration.      |
| MDL  | Method Detection Limits  |    | spike or surrogate compound was in control and therefore the sample data was reported without further clarification. |    |   |
| RL   | Reporting Limits   |    |  |    |   |
| FD   | Estimated concentration. Field Duplicate RPD >25%.   |    |  |    |   |
| nl   | not listed   |    |  | Q2 | The sample RPD was out of control. Sample is heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices. |
| nd   | not detected   |    |  |    |   |
| (1)  | Although no discharge limits were set in the CWIL, the US EPA has set an aquatic life benchmark for this constituent. See Table 7. |    |  |    |   |



**SUMMARY OF HISTORICAL SAMPLES COLLECTED UNDER CWIL ORDER R4-2005-0080**  
**ORGANOPHOSPHORUS PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Organophosphorus Pesticides																		
			Bolstar	Chlorpyrifos	Demeton	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethoprop	Fenclorphos	Fensulfothion	Fenthion	Malathion	Merphos	Methyl Parathion	Mevinphos	Phorate	Tetrachlorvinphos	Tokuthion	Trichloronate
NGA #130	NGA-#130-LAILG-1	8/6/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #183	NGA-#183-LAILG-1	8/6/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #19	NGA-#19-LAILG-1	8/13/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #124	NGA-#124-LAILG-1	8/13/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #168	NGA-#168-LAILG-1	8/13/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA BLANK	NGA LAILG-BLANK-1	8/13/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA FBLI	NGA-LAILG-FBLI	8/21/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA EQBLI	NGA-LAILG-EQBLI	8/21/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #150	NGA-#150-LAILG	9/25/07	nd	nd	nd	nd	nd	nd	nd <sup>D</sup>	nd	nd	nd	nd	nd <sup>D</sup>	nd	nd	nd	nd	nd	nd	
NGA #183	ILG-#183	9/26/07	nd	nd	nd	nd	nd	nd	nd <sup>D</sup>	nd	nd	nd	nd	nd <sup>D</sup>	nd	nd	nd	nd	nd	nd	
NGA #183-DU	ILGNGA-#Dup	9/26/07	nd	nd	nd	nd	nd	nd	nd <sup>D</sup>	nd	nd	nd	nd	nd <sup>D</sup>	nd	nd	nd	nd	nd	nd	
NGA #EQUIP	ILGNGA-#Equip	9/26/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #FIELD	ILGNGA-#FIELD-2	9/28/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #168-2	ILGNGA-#168-2	9/28/07	nd	nd	nd	nd	nd	nd	nd <sup>D</sup>	nd	nd	nd	nd	nd <sup>D</sup>	nd	nd	nd	nd	nd	nd	
NGA #168	NGA-#168-LAILG-3	11/30/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	8.9	nd	nd	nd	nd	nd	nd	
NGA #182	NGA #182-LAILG-1	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #182-DU	NGA-Duplicate	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #4	NGA #4-LAILG-1	12/7/07	nd	<b>1,122.6</b>	nd	<b>175.2</b>	11.3	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #130	NGA #130-LAILG-2	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #150	NGA #150-LAILG-2	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #124	NGA-#124-LAILG-2	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #EQUIP	NGA-equip blank	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #FIELD	Field Blank-2	12/18/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #176	NGA-#176-LAILG-1	12/18/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #183	LAILG-NGA#183-3	12/18/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #19	LAILG-NGA#19-2	12/18/07	nd	nd	nd	15	nd	nd	nd	nd	nd	nd	2,291.3	nd	nd	nd	nd	nd	nd	nd	
NGA #13	LAILG-NGA#13-1	12/18/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #53	LAILG-NGA#53-1	12/18/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
CWIL Limits			nl	<b>25</b>	nl	<b>100</b>	nl	nl	nl	nl	nl	nl	nl	nl	nl	nl	nl	nl	nl	nl	
MDL			2	1	1	2	3	3	1	1	2	1	2	3	1	1	8	6	2	3	1
RL			4	2	2	4	6	6	2	2	4	2	4	6	2	2	16	12	4	6	2

Concentrations are reported in nanograms per liter (ng/L). Results above CWIL Limits are presented in **BOLD**. Footnotes in **BOLD** indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estim

CWIL Conditional waiver for irrigated lands, order #R4-2005-0080  
D Procedural blank Matrix Spike Duplicate RPD out of limits  
nl not listed

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2016-0143 YEAR 1 INTERIM  
PYRETHROID PESTICIDES  
NURSERY GROWERS ASSOCIATION  
LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Pyrethroid Pesticides													Sample Notes		
			Allethrin	Bifenthrin	Cyfluthrin	Cypermethrin	Deltamethrin /Tralomethrin	Dichloran	Fenpopathrin (Danitol)	Fenvalerate /Esfenvalerate	L-Cyhalothrin	Pendimethalin	Permethrin	Prallethrin	Sumithrin		Telfluthrin	
NGA #4	LAILG-NGA-4-8	1/20/17	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<250	<100	<500	<100	M-04
NGA #19	LAILG-NGA-19-8	1/20/17	<40	<40	<40	<40	<40	<40	<40	64	<40	<40	<40	<100	<40	<200	<40	M-04
NGA #176	LAILG-NGA-176-3	1/20/17	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<500	<200	<1000	<200	M-04
Duplicate	LAILG-NGA-DUP	1/20/17	<40	<40	<40	<40	<40	<40	<40	48	<40	<40	<40	<100	<40	<200	<40	M-04
NGA #124	LAILG-NGA-124-8	2/17/17	<100	<b>3900</b>	<b>230</b>	<100	<100	<100	<100	<100	<100	<100	760	<250	<100	<500	<100	M-04
NGA #150	LAILG-NGA-150-7	2/17/17	<20	<b>3900</b>	<20	<20	<20	<20	<20	<b>670</b>	<20	<20	<20	<b>1900</b>	<20	<100	<20	M-04
NGA #158	LAILG-NGA-158-1	2/17/17	<40	<40	<40	<40	<40	54	<40	<40	<40	<40	<40	<100	<40	<200	<40	M-04
NGA #178	LAILG-NGA-178-3	2/17/17	<20	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<50	<20	<100	<20	M-04
NGA #202	LAILG-NGA- 202-1	2/17/17	<40	42	<40	<40	<40	54	<40	<40	<40	<40	<40	<100	<40	<200	<40	M-04
WQB			<b>1,050</b>	<b>800</b>	<b>12.5</b>	<b>210</b>	<b>55</b>	<b>nl</b>	<b>265</b>	<b>25</b>	<b>3.5</b>	<b>140,000</b>	<b>10.6</b>	<b>3,100</b>	<b>2,200</b>	<b>35</b>		
MRL			2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	5.0	2.0	10	2.0	

Concentrations are reported in nanograms per liter (ng/L). Results above CWIL Limits are presented in BOLD. Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estim

CWIL  
WQB  
nl

Conditional waiver for irrigated lands, order #R4-2005-0080  
Water Quality Benchmark  
not listed

M-04  
S-GC

Visual evaluation of the sample indicates the RPD or QC spike is above the control limit due to a non-homogeneous sample matrix  
Surrogate recovery outside of control limits due to a possible matrix effect. The data was accepted based on valid recovery of the remaining surrogate.

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 5 CONTINUATION**  
**PYRETHROID PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Pyrethroid Pesticides													Sample Notes	
			Allethrin	Bifenthrin	Cyfluthrin	Cypermethrin	Deltamethrin /Tralomethrin	Dichloran	Fenpopathrin (Danitol)	Fenvalerate /Esfenvalerate	L-Cyhalothrin	Pendimethalin	Permethrin	Prallethrin	Sumithrin		Telfluthrin
NGA #64	LAILG-NGA-64-4	1/5/16	<2.0	2.0	<2.0	<2.0	<2.0	2.6	<2.0	<2.0	<2.0	2.7	<2.0	<2.0	<10	<2.0	
NGA #168	LAILG-NGA-168-8	1/5/16	<2.0	310	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	69	<2.0	<2.0	<10	<2.0	
Duplicate	LAILG-NGA-DUP	1/5/16	<2.0	250	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	50	<2.0	<2.0	<10	<2.0	
Equip Blank	LAILG-NGA-EB	1/5/16	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<2.0	<10	<2.0	
Field Blank	LAILG-NGA-FB	1/5/16	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<2.0	<10	<2.0	
WQB			<b>1,050</b>	<b>800</b>	<b>12.5</b>	<b>210</b>	<b>55</b>	<b>nl</b>	<b>265</b>	<b>25</b>	<b>3.5</b>	<b>140,000</b>	<b>10.6</b>	<b>3,100</b>	<b>2,200</b>	<b>35</b>	
MRL			2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	5.0	2.0	10	2.0	

Concentrations are reported in nanograms per liter (ng/L). Results above CWIL Limits are presented in BOLD. Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estim

CWIL  
WQB  
nl

Conditional waiver for irrigated lands, order #R4-2005-0080  
Water Quality Benchmark  
not listed

M-04  
S-GC

Visual evaluation of the sample indicates the RPD or QC spike is above the control limit due to a non-homogeneous sample matrix  
Surrogate recovery outside of control limits due to a possible matrix effect. The data was accepted based on valid recovery of the remaining surrogate.

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 4**  
**PYRETHROID PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Pyrethroid Pesticides													Sample Notes		
			Allethrin	Bifenthrin	Cyfluthrin	Cypermethrin	Deltamethrin /Tralomethrin	Dichloran	Fenpopathrin (Danitol)	Fenvalerate /Esfenvalerate	L-Cyhalothrin	Pendimethalin	Permethrin	Prallethrin	Sumithrin		Telfluthrin	
NGA #150	LAILG-NGA-150-6	12/2/14	<2.0	<b>4000</b>	<2.0	<2.0	<2.0	<2.0	<2.0	<b>370</b>	<2.0	<2.0	<2.0	<b>1000</b>	<2.0	<10	<2.0	
NGA #188	LAILG-NGA-188-1	12/2/14	<2.0	51	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	30	<2.0	<2.0	<10	<2.0	
Duplicate	LAILG-NGA-DUP	12/2/14	<2.0	41	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	30	<2.0	<2.0	<10	<2.0	
NGA #168	LAILG-NGA-168-7	5/15/15	<2.0	22	<2.0	<2.0	<2.0	<2.0	2.3	<2.0	<2.0	<2.0	460	<5.0	<2.0	<10	<2.0	
Equip Blank	LAILG-NGA-EB	12/2/14	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<2.0	<10	<2.0	
Field Blank	LAILG-NGA- FB	12/2/14	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<2.0	<10	<2.0	
WQB			<b>1,050</b>	<b>800</b>	<b>12.5</b>	<b>210</b>	<b>55</b>	<b>nl</b>	<b>265</b>	<b>25</b>	<b>3.5</b>	<b>140,000</b>	<b>10.6</b>	<b>3,100</b>	<b>2,200</b>	<b>35</b>		
MRL			2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	5.0	2.0	10	2.0	

Concentrations are reported in nanograms per liter (ng/L). Results above CWIL Limits are presented in BOLD. Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estim

CWIL  
WQB  
nl

Conditional waiver for irrigated lands, order #R4-2005-0080  
Water Quality Benchmark  
not listed

M-04  
S-GC

Visual evaluation of the sample indicates the RPD or QC spike is above the control limit due to a non-homogeneous sample matrix  
Surrogate recovery outside of control limits due to a possible matrix effect. The data was accepted based on valid recovery of the remaining surrogate.

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 3**  
**PYRETHROID PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Pyrethroid Pesticides													Sample Notes		
			Allethrin	Bifenthrin	Cyfluthrin	Cypermethrin	Deltamethrin /Tralomethrin	Dichloran	Fenpopathrin (Danitol)	Fenvalerate /Esfenvalerate	L-Cyhalothrin	Pendimethalin	Permethrin	Prallethrin	Sumithrin		Telfluthrin	
NGA #19	LAILG-NGA19-7	2/28/14	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	28	<2.0	<2.0	<2.0	<5.0	<2.0	<10	<2.0	
NGA #26	LAILG-NGA26-1	2/28/14	<2.0	9.4	<b>20</b>	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<2.0	<10	<2.0	
NGA #124	LAILG-NGA124-7	2/28/14	<10	<b>3,700</b>	<10	<10	<10	<10	<10	170	<10	<10	<10	<b>46</b>	<10	<50	<10	M-04, S-GC
NGA #178	LAILG-NGA178-2	2/28/14	<20	40	<20	<20	<20	<20	<20	<20	<20	<20	<20	<50	<20	<100	<20	M-04, S-GC
NGA #184	LAILG-NGA184-3	2/28/14	<2.0	2.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<2.0	<10	<2.0	
Duplicate	LAILG-NGA-DUP	2/28/14	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	32	<2.0	<2.0	<2.0	<5.0	<2.0	<10	<2.0	
Equip Blank	LAILG-NGA-EB	2/28/14	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<2.0	<10	<2.0	S-GC
Field Blank	LAILG-NGA- FB	2/28/14	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<2.0	<10	<2.0	S-GC
WQB			<b>1,050</b>	<b>800</b>	<b>12.5</b>	<b>210</b>	<b>55</b>	<b>nl</b>	<b>265</b>	<b>25</b>	<b>3.5</b>	<b>140,000</b>	<b>10.6</b>	<b>3,100</b>	<b>2,200</b>	<b>35</b>		
MRL			2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	5.0	2.0	10	2.0	

Concentrations are reported in nanograms per liter (ng/L). Results above CWIL Limits are presented in BOLD. Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estim

CWIL  
WQB  
nl

Conditional waiver for irrigated lands, order #R4-2005-0080  
Water Quality Benchmark  
not listed

M-04  
S-GC

Visual evaluation of the sample indicates the RPD or QC spike is above the control limit due to a non-homogeneous sample matrix  
Surrogate recovery outside of control limits due to a possible matrix effect. The data was accepted based on valid recovery of the remaining surrogate.



**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 1**  
**PYRETHROID PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Pyrethroid Pesticides													Sample Notes	
			Allethrin	Bifenthrin	Cyfluthrin	Cypermethrin	Deltamethrin	Dichloran	Esfenvalerate	Fenvalerate	L-Cyhalothrin	Pendimethalin	Permethrin	Prallethrin	Sumithrin		Tellfluthrin
NGA #4	LAILG-NGA4-5	3/21/11	nd	22	nd	nd	nd	nd	nd	nd	nd	3.3	<b>1600</b> <sup>E1</sup>	nd	nd	nd	S4
NGA #124	LAILG-NGA124-6	3/21/11	nd	88	nd	78 <sup>FD</sup>	nd	nd	nd	nd	nd	3.8	nd	nd	nd	nd	
NGA # 150	LAILG-NGA 150-5	3/21/11	nd	480 <sup>E1</sup>	nd	nd	nd	nd	nd	nd	nd	nd	<b>48</b>	nd	nd	nd	
NGA #19	LAILG-NGA19-6	3/23/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	29	nd	nd	nd	nd	
Duplicate	LAILG-NGA-DUP	3/21/11	nd	74	nd	57	nd	nd	nd	nd	nd	3.7	nd	nd	nd	nd	
Equip Blank	LAILG-NGA-EB	3/21/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
Field Blank	LAILG-NGA- FB	3/21/11	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
NGA #168	LAILG-NGA168-6	3/17/12	nd	54	nd	nd	nd	nd <sup>BS-03</sup>	nd	nd	nd	18	nd	nd	nd	nd	S4
NGA #31	LAILG-NGA31-4	3/17/12	nd	2.9	nd	nd	nd	nd <sup>BS-03</sup>	nd	nd	nd	33	nd	nd	nd	nd	S4
NGA #162	LAILG-NGA162-1	3/17/12	nd	11	nd	nd	<b>230</b>	nd <sup>BS-03</sup>	nd	nd	nd	23	nd	nd	nd	nd	S4
NGA #64	LAILG-NGA64-3	3/17/12	nd	nd	nd	nd	nd	nd <sup>BS-03</sup>	nd	nd	nd	22	nd	nd	nd	nd	S4
Duplicate	LAILG-NGA-DUP	3/17/12	nd	nd	nd	nd	nd	nd <sup>BS-03</sup>	nd	nd	nd	20	nd	nd	nd	nd	S4
Equip Blank	LAILG-NGA-EB	3/17/12	nd	nd	nd	nd	nd	nd <sup>BS-03</sup>	nd	nd	nd	nd	nd	nd	nd	nd	
Field Blank	LAILG-NGA- FB	3/17/12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	S4
NGA #4	LAILG-NGA4-6	3/25/12	nd <sup>BS-03</sup>	9.7	nd	nd	nd	nd	nd	nd	nd	nd <sup>FD,BS-03</sup>	<b>100</b> <sup>FD</sup>	nd	nd	nd <sup>BS-03</sup>	S4
NGA #170	LAILG-NGA170-1	3/25/12	nd <sup>BS-03</sup>	5.8	nd	nd	nd	nd	nd	nd	nd	11 <sup>BS-03</sup>	nd <sup>BS-03</sup>	nd	nd	nd <sup>BS-03</sup>	S4
NGA #176	LAILG-NGA176-2	3/25/12	nd <sup>BS-03</sup>	270	nd	nd	nd	nd	nd	nd	nd	35 <sup>BS-03</sup>	nd <sup>BS-03</sup>	nd	nd	nd <sup>BS-03</sup>	S4
NGA #210	LAILG-NGA210-2	3/25/12	nd <sup>BS-03</sup>	nd	nd	nd	nd	80	nd	nd	nd	2.7 <sup>BS-03</sup>	nd <sup>BS-03</sup>	nd	nd	nd <sup>BS-03</sup>	S4
Duplicate	LAILG-NGA-DUP	3/25/12	nd <sup>BS-03</sup>	12	nd	nd	nd	nd	nd	nd	nd	47 <sup>BS-03</sup>	<b>130</b> <sup>BS-03</sup>	nd	nd	nd <sup>BS-03</sup>	S4
Equip Blank	LAILG-NGA-EB	3/25/12	nd <sup>BS-03</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>BS-03</sup>	nd <sup>BS-03</sup>	nd	nd	nd <sup>BS-03</sup>	S4
Field Blank	LAILG-NGA- FB	3/25/12	nd <sup>BS-03</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd <sup>BS-03</sup>	nd <sup>BS-03</sup>	40	nd	nd <sup>BS-03</sup>	S4
CWIL Limits			nl	nl	nl	nl	nl	nl	nl	nl	nl	nl	nl <sup>(1)</sup>	nl	nl	nl	
MDL			0.85	0.79	0.83	0.66	1.9	0.80	0.98	0.98	1.2	0.50	5.0	0.92	2.4	0.93	
RL			2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	5.0	2.0	10	2.0	

Concentrations are reported in nanograms per liter (ng/L). Results above CWIL Limits are presented in BOLD. Footnotes in BOLD indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estim

CWIL	Conditional waiver for irrigated lands, order #R4-2005-0080	E1	The concentration indicated for this analyte is an estimated value above the calibration range.
FD	Estimated concentration. Field Duplicate RPD >25%.	S4	The surrogate recovery for this sample is outside of established control limits due to possible sample matrix effect
nl	not listed	Q-12	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on the percent recoveries and/or other acceptable QC data.
nd	not detected		
(1)	Although no discharge limits were set in the CWIL, the US EPA has set an aquatic life benchmark for this constituent. See Table 8.	BS-L BS-03 A-01a	The recovery of this analyte in the BS/LCS was below the control limit. Sample result is suspect. The recovery of this analyte in the BS/LCS was outside the control limits. The sample result was accepted based on another acceptable BS/LCS and/or MS and MSD that meet BS criteria. Low recovery in BS and high recoveries in both MS/MSD. However, LL-cv has an acceptable recovery. The batch was accepted since samples were either ND or yielded very high results.

**SUMMARY OF HISTORICAL SAMPLES COLLECTED UNDER CWIL ORDER R4-2005-0080**  
**PYRETHROID PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Pyrethroid Pesticides													
			Allethrin	Bifenthrin	Cyfluthrin	Cypermethrin	Danitol	Deltamethrin	Esfenvalerate	Fenvalerate	Fluvalinate	L-Cyhalothrin	Permethrin	Prallethrin	Resmethrin	
NGA #110	LAILG-NGA110-1	1/4/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #189	LAILG-NGA189-1	1/4/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #19	LAILG-NGA19-3	1/5/08	nd	nd	nd	nd	6.8	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #124	LAILG-NGA124-3	1/5/08	nd	581.5	38	nd	1,207.20	66.4	nd	nd	5.5	nd	nd	nd	nd	nd
NGA #183	LAILG-NGA183-4	1/5/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #4	LAILG-NGA4-2	1/23/08	nd	nd	15.8	nd	1,178.40	157.1	nd	nd	13.6	24.5	nd	nd	nd	nd
NGA #53	LAILG-NGA53-2	1/23/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #64	LAILG-NGA64-1	1/23/08	nd	30.2	15.1	nd	2.1	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #130	LAILG-NGA130-3	1/24/08	nd	143.4	4.2	nd	33.2	nd	nd	nd	3.8	nd	nd	nd	nd	nd
NGA #182	LAILG-NGA182-2	1/24/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #168	LAILG-NGA168-4	1/25/08	nd	187.9	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA # 19	LAILG-NGA19-4	8/12/08	nd	nd	nd	nd	82	nd	nd	nd	9.8	nd	nd	nd	nd	nd
NGA # 4	LAILG-NGA 4-3	8/13/08	nd <sup>M4</sup>	43.8 <sup>M4,Q2,FD</sup>	nd <sup>FD</sup>	nd <sup>M4</sup>	23,704.6 <sup>Q1,Q2,FD</sup>	147.3 <sup>M4,Q2,FD</sup>	nd <sup>M4</sup>	nd	2,488.1 <sup>Q1,FD</sup>	10.6 <sup>Q2,FD</sup>	<b>359.3<sup>Q1,Q2,FD</sup></b>	nd <sup>M4</sup>	nd <sup>M4</sup>	nd <sup>M4</sup>
Duplicate	LAILG-NGA-DUP	8/13/08	nd	306.5 <sup>FD</sup>	4.9 <sup>FD</sup>	nd	77368.5 <sup>FD</sup>	306.9 <sup>FD</sup>	nd	nd	1519.6 <sup>FD</sup>	37.5 <sup>FD</sup>	<b>1,376.0<sup>FD</sup></b>	nd	nd	nd
NGA # 31	LAILG-NGA 31-1	9/23/08	nd	nd	4.3	nd	71.9	nd	nd	nd	nd	2.4 <sup>EB</sup>	nd	nd	nd	nd
Duplicate	LAILG-NGA-DUP	9/23/08	nd	nd	4.9	nd	63.6	nd	nd	nd	nd	2.6 <sup>EB</sup>	nd	nd	nd	nd
NGA # 19	LAILG-NGA 19-5	11/26/08	nd <sup>M4</sup>	34.9 <sup>M4</sup>	34.4 <sup>M4</sup>	nd <sup>M4</sup>	1,813.4 <sup>M4</sup>	nd <sup>M4</sup>	3.3 <sup>M4,Q3</sup>	3.3 <sup>J,M4,Q3,EB</sup>	274.4 <sup>M4</sup>	10.2 <sup>M4,FB</sup>	<b>62.3<sup>M4,Q3</sup></b>	nd	nd <sup>M4</sup>	nd <sup>M4</sup>
NGA # 210	LAILG-NGA 210-1	11/26/08	nd	134.5	15.6	23.3	92.9	nd	1.8 <sup>J</sup>	4.1 <sup>EB</sup>	nd	7.6 <sup>FB</sup>	nd	nd	nd	nd
NGA # 184	LAILG-NGA 184-1	11/26/08	nd	nd	nd	nd	nd	nd	nd	nd	nd	3.1 <sup>FB</sup>	nd	nd	nd	nd
Duplicate	LAILG-NGA-DUP	11/26/08	nd	nd	nd	nd	nd	nd	2.0	0.9 <sup>EB</sup>	nd	6.0 <sup>FB</sup>	nd	nd	nd	nd
NGA # 124	LAILG-NGA 124-4	11/26/08	nd	4,420.1	650.2	nd	121.6	26.6	0.9 <sup>J</sup>	1.0 <sup>J,EB</sup>	2,309.8	5.9 <sup>FB</sup>	nd	nd	nd	nd
NGA # 31	LAILG-NGA 31-2	11/26/08	nd	33.9	23.6	nd	382.1	nd	nd	4.3 <sup>EB</sup>	nd	16.3 <sup>FB</sup>	nd	nd	nd	nd
NGA # 130	LAILG-NGA 130-4	11/26/08	nd	407.5	nd	nd	180.5	nd	nd	1.5 <sup>J,EB</sup>	70.0	2.1 <sup>FB</sup>	<b>1,096.2</b>	nd	nd	nd
NGA # 150	LAILG-NGA 150-3	11/26/08	nd	8,031.3	nd	nd	nd	nd	3.2	6.4	2,238.7	10.9 <sup>FB</sup>	<b>780.0</b>	nd	nd	nd
NGA # 25	LAILG-NGA 25-1	11/26/08	nd	nd	30.1	12.3	0.7 <sup>J,EB</sup>	nd	nd	nd	nd	89.6 <sup>FB</sup>	nd	nd	nd	nd
NGA # 150	LAILG-NGA 150-4	12/15/08	nd	82,902.4	66.3	51.9	34.1	nd	8.4	9.3	6,642.4	nd	<b>2,116.6</b>	nd	nd	nd
NGA # 124	LAILG-NGA 124-5	12/15/08	nd	17,280.2	220.1	nd	346.4	95.7	0.5 <sup>J</sup>	1.4 <sup>J,EB</sup>	1,234.8	3.9 <sup>EB,FB</sup>	<b>98.3</b>	nd	nd	nd
NGA # 189	LAILG-NGA 189-2	12/15/08	nd	nd	nd	nd	0.7 <sup>J</sup>	nd	nd	nd	1.0 <sup>J,EB</sup>	4.4 <sup>EB,FB</sup>	nd	nd	nd	nd
NGA # 110	LAILG-NGA 110-2	12/15/08	nd	55.2	nd	nd	nd	nd	nd	0.5 <sup>J,EB</sup>	11.5 <sup>EB,FB</sup>	nd	nd	nd	nd	nd
NGA # 31	LAILG-NGA 31-3	12/15/08	nd	nd	nd	nd	48.5	nd	nd	0.9 <sup>J,EB</sup>	nd	3.2 <sup>EB,FB</sup>	nd	nd	nd	nd
NGA # 184	LAILG-NGA 184-2	12/15/08	nd	26.2	nd	nd	nd	nd	0.5 <sup>J</sup>	2.0 <sup>EB</sup>	nd	2.0 <sup>EB,FB</sup>	nd	nd	nd	nd
NGA # 130	LAILG-NGA 130-5	12/15/08	nd	101.8	nd	nd	35.6	nd	nd	nd	28.8	nd	<b>210.7</b>	nd	nd	nd
NGA # 178	LAILG-NGA 178-1	12/15/08	nd	nd <sup>Q3</sup>	nd	nd	1.4 <sup>J</sup>	nd <sup>Q3</sup>	0.8 <sup>J</sup>	1.0 <sup>J,EB</sup>	nd <sup>Q3</sup>	1.7 <sup>J,EB,FB</sup>	nd	nd <sup>M4</sup>	nd <sup>M4</sup>	nd <sup>M4</sup>
Duplicate	LAILG-NGA-DUP	12/15/08	nd	nd	nd	nd	1.1 <sup>J</sup>	nd	0.6 <sup>J</sup>	1 <sup>J,EB</sup>	3.0 <sup>EB,FB</sup>	nd	nd	nd	nd	nd
NGA # 64	LAILG-NGA 64-2	12/15/08	nd	81.3	nd	nd	26.9	nd	1.8 <sup>J</sup>	nd	nd	nd	nd	nd	nd	nd
NGA # 168	LAILG-NGA 168-5	12/15/08	nd	1,333.2	31.9	nd	0.8 <sup>J</sup>	nd	nd	nd	9.3 <sup>EB,FB</sup>	0.7 <sup>J,EB,FB</sup>	nd	nd	nd	nd
NGA # 4	LAILG-NGA 4-4	12/15/08	nd	311.5	133.6	133.6	93,137.5	452.3	3.6	nd	1,547	44.5	<b>824.4</b>	nd	nd	nd
CWIL Limits			nl	nl	nl	nl	nl	nl	nl	nl	nl	nl	nl <sup>(1)</sup>	nl	nl	nl
MDL			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	0.5	5	5
RL			2	2	2	2	2	2	2	2	2.0	2	25	2	25	25

Concentrations are reported in nanograms per liter (ng/L). Results above CWIL Limits are presented in BOLD. **Footnotes in BOLD indicate estimated concentration.** All other footnotes are for reference purposes; data was not deemed to be qualified as estim

M4 Spike or surrogate compound recovery was out of control due to matrix interference. The associated method blank spike or surrogate compound was in control and therefore the sample data was reported without further clarification.

CWIL Conditional waiver for irrigated lands, order #R4-2005-0080

EB Estimated concentration, constituent detected at greater than 10% in equipment blank

FD Estimated concentration. Field Duplicate RPD >25%

nl not listed

nd not detected

J Estimated concentration, results above MDL but below RL

(1) Although no discharge limits were set in the CWIL, the US EPA has set an aquatic life benchmark for this constituent. See Table 7.

Q1 Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration.

Q2 The sample RPD was out of control. Sample is heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices.

Q3 RPD values are not accurate and not applicable because the results for R1 and/or R2 are lower than ten times the MDL.

**SUMMARY OF HISTORICAL SAMPLES COLLECTED UNDER CWIL ORDER R4-2005-0080**  
**PYRETHROID PESTICIDES**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Pyrethroid Pesticides												
			Allethrin	Bifenthrin	Cyfluthrin	Cypermethrin	Danitol	Deltamethrin	Esfenvalerate	Fenvalerate	Fluvalinate	L-Cyhalothrin	Permethrin	Prallethrin	Resmethrin
NGA #130	NGA-#130-LAILG-1	8/6/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #183	NGA-#183-LAILG-1	8/6/07	nd	21 <sup>J</sup>	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #19	NGA-#19-LAILG-1	8/13/07	nd	13.7 <sup>J</sup>	24.2 <sup>J</sup>	nd	465.5	nd	nd	nd	5 <sup>J</sup>	nd	444.9	nd	nd
NGA #124	NGA-#124-LAILG-1	8/13/07	nd	62.2	nd	nd	74.7	nd	nd	nd	nd	nd	nd	nd	nd
NGA #168	NGA-#168-LAILG-1	8/13/07	nd	1348.2	19.8 <sup>J</sup>	nd	nd	nd	nd	nd	nd	11.1 <sup>J</sup>	nd	nd	nd
NGA BLANK	NGA LAILG-BLANK-1	8/13/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA FBLL	NGA-LAILG-FBLL	8/21/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA EQBLL	NGA-LAILG-EQBLL	8/21/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #150	NGA-#150-LAILG	9/25/07	nd	19,426.6	153.4	nd	nd	nd	nd	nd	515.2	nd	5,208.8	nd	nd
NGA #183	ILG-#183	9/26/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #183-DUP	ILGNGA-#Dup	9/26/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #EQUIP	ILGNGA-#Equip	9/26/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #FIELD	ILGNGA-#FIELD-2	9/28/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #168-2	ILGNGA-#168-2	9/28/07	nd	964	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #168	NGA-#168-LAILG-3	11/30/07	nd	nd	1.4 <sup>J</sup>	1.6 <sup>J</sup>	463.1	nd	nd	nd	nd	nd	nd	nd	na
NGA #182	NGA #182-LAILG-1	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na
NGA #182-DUP	NGA-Duplicate	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na
NGA #4	NGA #4-LAILG-1	12/7/07	nd	10.7	30.6	nd	1,940.5	69	nd	nd	1.6 <sup>J</sup>	55.1	nd	nd	na
NGA #130	NGA #130-LAILG-2	12/7/07	nd	944.6	14.2	nd	73.5	nd	nd	nd	33.5	nd	327.3	nd	na
NGA #150	NGA #150-LAILG-2	12/7/07	nd	1,566.7	nd	nd	nd	nd	nd	nd	17.9	nd	237.8	nd	na
NGA #124	NGA-#124-LAILG-2	12/7/07	nd	3,083.4	183.8	nd	150.5	180.3	nd	nd	32.3	3.1	70.9	nd	na
NGA #EQUIP	NGA-equip blank	12/7/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #FIELD	Field Blank-2	12/18/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NGA #176	NGA-#176-LAILG-1	12/18/07	nd	870.5	nd	nd	3.4	nd	nd	nd	nd	nd	nd	nd	na
NGA #183	LAILG-NGA#183-3	12/18/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na
NGA #19	LAILG-NGA#19-2	12/18/07	nd	nd	11.5	nd	449.5	nd	nd	nd	6.6	nd	1,346.4	nd	na
NGA #13	LAILG-NGA#13-1	12/18/07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	na
NGA #53	LAILG-NGA#53-1	12/18/07	nd	8	nd	nd	nd	nd	nd	nd	nd	nd	nd	3.5	na
CWIL Limits			nl	nl	nl	nl	nl	nl	nl	nl	nl	nl	nl	nl	nl
MDL			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
RL			2	2	2	2	2	2	2	2	2	2	2	2	2

Concentrations are reported in nanograms per liter (ng/L). Results above CWIL Limits are presented in **BOLD**. Footnotes in **BOLD** indicate estimated concentration. All other footnotes are for reference purposes; data was not deemed to be qualified as estim

CWIL Conditional waiver for irrigated lands, order #R4-2005-0080  
na not analyzed  
J Estimated concentration, results above MDL but below RL

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2016-0143 YEAR 1 INTERIM  
TOXICITY RESULTS  
NURSERY GROWERS ASSOCIATION  
LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Ceriodaphnia		Fathead Minnow		Selenastrum	TIE	
			Survival	Reproduction	Survival	Growth	Growth	Date	Result
NGA #4	LAILG-NGA-4-8	1/20/17	<b>0.00%</b>	<b>Y</b>	<b>21.60%</b>	<b>Y</b>	<b>Y</b>	2/15/17	Suspended solids or particle bound toxicants
NGA #19	LAILG-NGA-19-8	1/20/17	100.00%	N	100.00%	N	N		
NGA #176	LAILG-NGA-176-3	1/20/17	100.00%	N	100.00%	N	N		
NGA #124	LAILG-NGA-124-8	2/17/17	100.00%	N	100.00%	N	<b>P</b>		
NGA #150	LAILG-NGA-150-7	2/17/17	<b>0.00%</b>	<b>Y</b>	100.00%	N	<b>P</b>		
NGA #158	LAILG-NGA-158-1	2/17/17	100.00%	N	100.00%	N	<b>P</b>		
NGA #178	LAILG-NGA-178-3	2/17/17	100.00%	N	100.00%	N	N		
NGA #202	LAILG-NGA- 202-1	2/17/17	100.00%	N	100.00%	N	<b>P</b>		

Y significantly different from control group  
N no significant difference between control group  
P partial toxicity. Toxicity high enough to exhibit effects, but not significant enough to initiate a successful TIE (Typically needs a TUc of greater than 2  
NR not required

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 5 CONTINUATION**  
**TOXICITY RESULTS**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Ceriodaphnia		Fathead Minnow		Selenastrum	TIE	
			Survival	Reproduction	Survival	Growth	Growth	Date	Result
NGA #64	LAILG-NGA-64-4	1/5/16	100.00%	N	100.00%	N	N		
NGA #168	LAILG-NGA-168-8	1/5/16	100.00%	N	100.00%	N	Y		No TIE, IC50 > 50% for Selenastrum (75.35%)

Y significantly different from control group  
N no significant difference between control group  
P partial toxicity. Toxicity high enough to exhibit effects, but not significant enough to initiate a successful TIE (Typically needs a TUC of greater than 2  
NR not required



**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 4**  
**TOXICITY RESULTS**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Ceriodaphnia		Fathead Minnow		Selenastrum	TIE	
			Survival	Reproduction	Survival	Growth	Growth	Date	Result
NGA #150	LAILG-NGA-150-6	12/2/14	100.00%	P	100.00%	N	Y		No TIE, IC50 > 50% for Selenastrum (>100%)
NGA #188	LAILG-NGA-188-1	12/2/14	100.00%	N	100.00%	N	N		
NGA #168	LAILG-NGA-168-7	5/15/15	100.00%	N	100.00%	N	N		

Y significantly different from control group  
N no significant difference between control group  
P partial toxicity. Toxicity high enough to exhibit effects, but not significant enough to initiate a successful TIE (Typically needs a TUc of greater than 2)  
NR not required

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 3  
TOXICITY RESULTS  
NURSERY GROWERS ASSOCIATION  
LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Ceriodaphnia		Fathead Minnow		Selenastrum	TIE	
			Survival	Reproduction	Survival	Growth	Growth	Date	Result
NGA #19	LAILG-NGA19-7	2/28/14	100.00%	N	100.00%	N	Y		No TIE, IC50 > 50% for Selenastrum (87.03%)
NGA #26	LAILG-NGA26-1	2/28/14	100.00%	N	100.00%	N	N		
NGA #124	LAILG-NGA124-7	2/28/14	100.00%	N	100.00%	N	Y		No TIE, IC50 > 50% for Selenastrum (>100%)
NGA #178	LAILG-NGA178-2	2/28/14	100.00%	N	100.00%	N	Y		No TIE, IC50 > 50% for Selenastrum (97.98%)
NGA #184	LAILG-NGA184-3	2/28/14	100.00%	N	100.00%	N	Y		No TIE, IC50 > 50% for Selenastrum (>100%)

Y significantly different from control group  
N no significant difference between control group  
P partial toxicity. Toxicity high enough to exhibit effects, but not significant enough to initiate a successful TIE (Typically needs a TUc of greater than 2  
NR not required

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 1  
TOXICITY RESULTS  
NURSERY GROWERS ASSOCIATION  
LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Ceriodaphnia		Fathead Minnow		Selenastrum	TIE	
			Survival	Reproduction	Survival	Growth	Growth	Date	Result
NGA #4	LAILG-NGA4-5	3/21/11	<b>0.00%</b>	<b>Y</b>	<b>15.00%</b>	<b>Y</b>	<b>Y</b>	3/27/12	Non-polar organics and organophosphates
NGA #124	LAILG-NGA124-6	3/21/11	90.00%	N	100.00%	N	N		
NGA # 150	LAILG-NGA 150-5	3/21/11	100.00%	N	100.00%	N	<b>Y</b>	3/27/12	Organophosphates
NGA #19	LAILG-NGA19-6	3/23/11	100.00%	<b>Y</b>	<b>0.00%</b>	<b>Y</b>	<b>Y</b>	3/27/12	TIE was initiated, did not show an observed effect
NGA #168	LAILG-NGA168-6	3/17/12	100.00%	N	95.00%	N	N		
NGA #31	LAILG-NGA31-4	3/17/12	70.00%	<b>Y</b>	90.00%	N	<b>Y</b>	3/24/12	Non-polar organic compounds and metals
NGA #162	LAILG-NGA162-1	3/17/12	100.00%	N	96.67%	N	N		
NGA #64	LAILG-NGA64-3	3/17/12	90.00%	N	100.00%	N	N		

Y significantly different from control group  
N no significant difference between control group  
P partial toxicity. Toxicity high enough to exhibit effects, but not significant enough to initiate a successful TIE (Typically needs a TUc of greater than 2)  
NR not required

**SUMMARY OF HISTORICAL SAMPLES COLLECTED UNDER CWIL ORDER R4-2005-0080**  
**TOXICITY RESULTS**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Ceriodaphnia		Fathead Minnow		Selenastrum	TIE		
			Survival	Reproduction	Survival	Growth	Growth	Date	Result	
NGA #110	LAILG-NGA110-1	1/4/08	90.00%	N	80.00%	N	N			
NGA #189	LAILG-NGA189-1	1/4/08	100.00%	N	91.67%	N	Y			
NGA #19	LAILG-NGA19-3	1/5/08	TIE initiated based in results from sample LAILG-NGA#19-2					1/8/08	TIE was initiated, did not show an observed effect	
NGA #124	LAILG-NGA124-3	1/5/08	TIE initiated based in results from sample NGA #124-LAILG-2					1/8/08	TIE was initiated, did not show an observed effect	
NGA #4	LAILG-NGA4-2	1/23/08	TIE initiated based in results from sample NGA #4-LAILG-1					1/24/08	Non-polar organic compounds	
NGA #53	LAILG-NGA53-2	1/23/08	TIE initiated based in results from sample NGA #53-LAILG-1					1/24/08	TIE was initiated, did not show an observed effect	
NGA #64	LAILG-NGA64-1	1/23/08	100.00%	Y	91.67%	N	N			
NGA #182	LAILG-NGA182-2	1/23/08	TIE initiated based in results from sample NGA #182-LAILG-1					1/24/08	TIE was initiated, did not show an observed effect	
NGA #19	LAILG-NGA 19-4	8/12/08	90.00%	N	NR		NR			
NGA # 4	LAILG-NGA 4-3	8/13/08	0.00%	Y	NR		NR	8/26/08	Non-polar organics and particulate-bound toxicants	
NGA # 31	LAILG-NGA 31-1	9/23/08	20.00%	Y	NR		NR			
NGA # 19	LAILG-NGA19-5	11/26/08	70.00%	Y	NR		NR			
NGA # 210	LAILG-NGA 210-1	11/26/08	90.00%	P	98.33%	N	N			
NGA # 184	LAILG-NGA 184-1	11/26/08	80.00%	P	100.00%	N	N			
NGA # 124	LAILG-NGA 124-4	11/26/08	0.00%	Y	NR		NR	12/9/08	Volatile compounds	
NGA #31	LAILG-NGA 31-2	11/26/08	80.00%	N	98.33%	N	P			
NGA # 130	LAILG-NGA 130-4	11/26/08	NR		NR		N			
NGA # 150	LAILG-NGA 150-3	11/26/08	NR		NR		P			
NGA # 25	LAILG-NGA 25-1	11/26/08	80.00%	Y	100.00%	N	N			
NGA # 124	LAILG-NGA 124-5	12/15/08	0.00%	Y	NR		NR	12/16/08	TIE was initiated, did not show an observed effect	
NGA # 189	LAILG-NGA 189-2	12/15/08	NR		NR		Y	1/15/09	Particulate Bound toxicants and OP compounds	
NGA # 110	LAILG-NGA 110-2	12/15/08	90.00%	N	NR		NR			
NGA # 178	LAILG-NGA 178-1	12/15/08	100.00%	N	100.00%	N	N			
NGA # 64	LAILG-NGA 64-2	12/15/08	90.00%	P	NR		NR			
NGA # 168	LAILG-NGA 168-5	12/15/08	90.00%	P	NR		NR			
NGA # 4	LAILG-NGA 4-4	12/15/08	0.00%	Y	NR		NR	12/16/08	Metals,copper,cadmium,zink,manganese,lead,and nickle	

Y significantly different from control group  
N no significant difference between control group  
P partial toxicity. Toxicity high enough to exhibit effects, but not significant enough to initiate a succesful TIE (Typically needs a Tuc of greater than 2  
NR not required

**SUMMARY OF HISTORICAL SAMPLES COLLECTED UNDER CWIL ORDER R4-2005-0080**  
**TOXICITY RESULTS**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample #	Date	Ceriodaphnia		Fathead Minnow		Selenastrum	TIE	
			Survival	Reproduction	Survival	Growth	Growth	Date	Result
NGA #130	NGA-#130-LAILG-1	8/6/07	100.00%	N	93.33%	N	Y		ns
NGA #183	NGA-#183-LAILG-1	8/6/07	100.00%	N	93.33%	N	N		
NGA #19	NGA-#19-LAILG-1	8/13/07	80.00%	N	98.30%	N	N		
NGA #124	NGA-#124-LAILG-1	8/13/07	100.00%	N	98.30%	N	N		
NGA #168	NGA-#168-LAILG-1	8/13/07	<b>0.00%</b>	Y	98.30%	N	Y	9/28/08	100% survival
NGA #150	NGA-#150-LAILG	9/25/07	<b>0.00%</b>	Y	98.33%	N	Y		ns
NGA #168	NGA-#168-LAILG-3	11/30/07	100.00%	N	100.00%	N	N		
NGA #182	NGA #182-LAILG-1	12/7/07	<b>0.00%</b>	Y	98.33%	N	Y		ns
NGA #4	NGA #4-LAILG-1	12/7/07	<b>0.00%</b>	Y	<b>40.00%</b>	Y	Y		ns
NGA #130	NGA #130-LAILG-2	12/7/07	100.00%	N	98.33%	N	N		
NGA #150	NGA #150-LAILG-2	12/7/07	100.00%	N	98.33%	N	Y		ns
NGA #124	NGA-#124-LAILG-2	12/7/07	<b>0.00%</b>	Y	100.00%	N	Y		ns
NGA #176	NGA-#176-LAILG-1	12/18/07	100.00%	N	100.00%	N	N		
NGA #183	LAILG-NGA#183-3	12/18/07	100.00%	N	100.00%	N	N		
NGA #19	LAILG-NGA#19-2	12/18/07	<b>50.00%</b>	Y	100.00%	N	N		ns
NGA #13	LAILG-NGA#13-1	12/18/07	<b>10.00%</b>	Y	<b>21.67%</b>	Y	N		ns
NGA #53	LAILG-NGA#53-1	12/18/07	100.00%	N	81.67%	N	N		

Y Significantly different from control group  
N No significant difference between control group  
ns not enough runoff for follow up sample



**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 1**  
**FIELD MONITORING RESULTS**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample ID	Date	Sample Type	Time (24hr)	*Approximate Flow Cross Section (ft <sup>2</sup> )	Flow (ft/s)	Temperature (°C)	pH	E.C. (uS)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
NGA #4	LAILG-NGA#4-5	3/21/11	Bucket	10:40	0.1250	0.01	11.0	9.81	43	na*	85
				10:44		0.01	11.1	9.64	25	na*	181
				10:50		0.01	11.2	9.29	25	na*	197
NGA #124	LAILG-NGA#124-6	3/21/11	Bucket	8:00	nm	9	10.4	7.89	292	na*	54.9
				8:05		11	10.5	7.82	282	na*	49.7
				8:10		13	10.5	7.87	268	na*	16.8
NGA #150	LAILG-NGA#150-5	3/21/11	Bucket	10:47	0.0185	4	15.4	6.70	1170	na*	34.7
				10:49		4	16.0	6.61	1127	na*	33.7
				10:50		5	15.9	6.59	1163	na*	38.0
NGA #19	LAILG-NGA#19-6	3/23/11	Grab	16:58	nm	nm	13.9	8.88	1.32	na*	999
				17:00		nm	14.2	8.83	1.05	na*	999
				17:02		nm	12.6	8.87	1.19	na*	999
NGA #31	LAILG-NGA#31-4	3/17/12	Grab	14:30	0.6042	0.88	13.83	7.73	99.9	9.33	220
				14:34		0.84	13.63	7.75	99.9	8.77	174
				14:38		0.94	13.44	7.95	98.6	8.51	181
NGA #64	LAILG-NGA#64-3	3/17/12	Grab	9:50	0.0833	1.3	14.7	5.5	14.3	10.48	352
				9:53		1.2	14.5	4.9	9.4	10.58	623
				9:58		1.3	14.5	5.2	4.2	10.43	179
NGA #162	LAILG-NGA#162-1	3/17/12	Grab	13:00	nm	nm	13.37	6.94	66.2	10.67	3.3
				13:02		nm	13.42	7.24	65.9	10.33	1.6
				13:05		nm	13.32	7.46	66.1	9.93	1.2
NGA #168	LAILG-NGA#168-6	3/17/12	Grab	11:15	0.0556	0.71	13.78	6.1	84.5	10.68	>800
				11:18		0.52	13.83	6.8	85.9	10.05	>800
				11:21		0.71	13.77	7.1	82.2	9.62	>800
NGA #4	LAILG-NGA#4-6	3/25/12	Pump	12:50	No flow measurements due to access restrictions		16.21	5.63	43.7	8.52	44.9
				12:52			16.31	5.74	39.3	8.58	35.7
				12:54			15.95	5.89	37.1	8.89	42.9

\* Runoff streams were assumed to have a parabolic shape unless field measurements indicated otherwise. The cross sectional area of a parabola is 2/3\*width\*depth  
ft/s feet per second mg/L milligrams per liter  
°C degrees celcius NTU Nephelometric Turbidity Units  
uS microsiemens  
na\* Not analyzed, DO meter was not functioning properly at the time of field sampling

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 1**  
**FIELD MONITORING RESULTS**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample ID	Date	Sample Type	Time (24hr)	*Approximate Flow Cross Section (ft <sup>2</sup> )	Flow (ft/s)	Temperature (°C)	pH	E.C. (uS)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
NGA #170	LAILG-NGA#170-1	3/25/12	Grab	14:35	nm	nm	13.81	6.18	25.8	10.59	512
				14:37		nm	13.98	6.32	22.1	10.23	452
				14:40		nm	13.73	6.27	19.8	10.31	446
NGA #176	LAILG-NGA#176-2	3/25/12	Grab	15:15	nm	nm	13.17	6.49	39.7	10.69	>800
				15:17		nm	13.16	6.63	38.4	10.41	>800
				15:21		nm	12.73	6.44	40.2	10.69	>800
NGA #210	LAILG-NGA#210-2	3/25/12	Grab	17:45	nm	nm	13.21	7.22	0.129	10.55	5.8
				17:47		nm	13.35	7.75	0.130	10.40	3.8
				17:50		nm	13.88	7.93	0.133	10.24	5.5

\* Runoff streams were assumed to have a parabolic shape unless field measurements indicated otherwise. The cross sectional area of a parabola is 2/3\*width\*depth  
ft/s feet per second mg/L milligrams per liter  
°C degrees celcius NTU Nephelometric Turbidity Units  
uS microsiemens nm not monitored

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 3**  
**FIELD MONITORING RESULTS**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample ID	Date	Sample Type	Time (24hr)	*Approximate Flow Cross	Flow (ft/s)	Temperature (°C)	pH	E.C. (uS)	Dissolved Oxygen	Turbidity (NTU)
NGA #19	LAILG-NGA19-7	2/28/14	Bucket	6:11	nm	nm	12.4	7.92	1114	9.08	815
				6:12		nm	12.3	7.98	1152	9.52	820
				6:13		nm	12.4	7.87	1112	9.61	810
NGA #26	LAILG-NGA26-1	2/28/14	Bucket	9:01	nm	nm	14.8	7.77	1081	7.84	212
				9:02		nm	14.7	7.82	1057	7.95	225
				9:03		nm	14.7	7.83	1072	7.88	220
NGA #124	LAILG-NGA124-7	2/28/14	Bucket	11:22	nm	nm	14.7	7.65	894	9.10	475
				11:23		nm	14.6	7.50	910	9.01	450
				11:24		nm	14.7	7.51	915	8.80	482
NGA #178	LAILG-NGA178-2	2/28/14	Bucket	10:00	nm	nm	15.0	7.88	928	10.15	468
				10:01		nm	14.9	7.92	952	10.28	472
				10:02		nm	15.0	7.81	943	10.21	490
NGA #184	LAILG-NGA184-3	2/28/14	Bucket	7:10	nm	nm	14.7	8.01	1213	8.11	512
				7:11		nm	14.6	8.10	1219	8.23	552
				7:12		nm	14.6	7.93	1242	8.15	495

\* Runoff streams were assumed to have a parabolic shape unless field measurements indicated otherwise. The cross sectional area of a parabola is  $\frac{2}{3} \times \text{width} \times \text{depth}$ .

ft/s feet per second mg/L milligrams per liter

°C degrees celcius NTU Nephelometric Turbidity Units

uS microsiemens

na\* Not analyzed, DO meter was not functioning properly at the time of field sampling

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 4**  
**FIELD MONITORING RESULTS**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample ID	Date	Sample Type	Time (24hr)	*Approximate Flow Cross	Flow (ft/s)	Temperature (°C)	pH	E.C. (uS)	Dissolved Oxygen	Turbidity (NTU)
NGA #150	LAILG-NGA150-6	12/2/14	Grab	8:00	nm	nm	14.8	9.31	460	9.40	150
				8:15		nm	14.8	9.50	450	9.30	130
				8:20		nm	14.9	8.94	440	10.50	180
NGA #168	LAILG-NGA168-7	5/15/15	Bucket	11:20	nm	nm	16.6	7.35	663	9.87	76
				11:22		nm	16.5	7.44	651	9.47	90
				11:23		nm	16.4	7.5	689	9.72	102
NGA #188	LAILG-NGA188-1	12/2/14	Grab	13:55	nm	nm	13.9	8.83	399	8.00	900
				14:05		nm	14.1	8.70	382	7.80	800
				14:10		nm	14.1	8.56	393	8.50	630

\* Runoff streams were assumed to have a parabolic shape unless field measurements indicated otherwise. The cross sectional area of a parabola is  $\frac{2}{3} \times \text{width} \times \text{depth}$ .

ft/s                      feet per second                      mg/L                      milligrams per liter

°C                      degrees celcius                      NTU                      Nephelometric Turbidity Units

uS                      microsiemens

na\*                      Not analyzed, DO meter was not functioning properly at the time of field sampling

**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2010-0186 YEAR 5 CONTINUATION**  
**FIELD MONITORING RESULTS**  
**NURSERY GROWERS ASSOCIATION**  
**LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample ID	Date	Sample Type	Time (24hr)	*Approximate Flow Cross	Flow (ft/s)	Temperature (°C)	pH	E.C. (uS)	Dissolved Oxygen	Turbidity (NTU)
NGA #64	LAILG-NGA-64-4	1/15/16	Bucket	8:30	nm	nm	13.2	9.00	85	13.00	58
				8:40		nm	13.0	8.80	63	12.62	66
				8:42		nm	12.9	8.27	80	12.37	113
NGA #168	LAILG-NGA168-8	1/15/16	Bucket	9:15	nm	nm	12.59	8.12	568	12.93	244
				9:45		nm	12.53	8.14	603	12.49	286
				9:47		nm	12.42	7.96	646	12.62	288

\* Runoff streams were assumed to have a parabolic shape unless field measurements indicated otherwise. The cross sectional area of a parabola is  $\frac{2}{3}$ \*width\*depth.  
ft/s feet per second                      mg/L milligrams per liter  
°C degrees celcius                      NTU Nephelometric Turbidity Units  
uS microsiemens  
na\* Not analyzed, DO meter was not functioning properly at the time of field sampling



**SUMMARY OF SAMPLES COLLECTED - CWIL ORDER R4-2016-0143 YEAR 1 INTERIM  
FIELD MONITORING RESULTS  
NURSERY GROWERS ASSOCIATION  
LOS ANGELES IRRIGATED LANDS GROUP**

Site	Sample ID	Date	Sample Type	Time (24hr)	*Approximate Flow Cross	Flow (ft/s)	Temperature (°C)	pH	E.C. (uS)	Dissolved Oxygen	Turbidity (NTU)
NGA #4	LAILG-NGA-4-8	1/20/17	Bucket	13:45	nm	nm	13.76	8.37	76	5.67	35.9
				14:05		nm	13.99	7.66	57	8.34	31.8
				nm		nm	nm	nm	nm	nm	
NG#19	LAILG-NGA19-8	1/20/17	Bucket	8:03	nm	nm	7.56	9.01	884	8.08	1000
				8:25		nm	7.54	9.06	882	8.08	1000
				8:40		nm	8.24	8.12	741	6.19	1000
NGA#176	LAILG-NGA-176-3	1/20/17	Bucket	12:00	nm	nm	10.69	8.54	123	13.93	641
				12:30		nm	11.31	8.07	159	7.51	738
				nm		nm	nm	nm	nm	nm	
NGA #124	LAILG-NGA-124-8	2/17/17	Bucket	14:45	est. 10 gal/sec		12.97	7.92	209	14.88	847
				14:50			12.96	8.16	431	17.56	825
				14:55			12.98	7.98	309	18.91	832
NGA #150	LAILG-NGA150-7	2/17/17	Bucket	16:10	nm	nm	12.99	7.53	325	6.44	70.1
				16:15		nm	13.03	7.44	324	8.84	48.4
				16:20		nm	13.04	7.34	267	10.31	42.6
NGA #158	LAILG-NGA-158-1	2/17/17	Bucket	14:03	est. 1 gal/sec		12.45	8.76	413	13.21	70.9
				14:13			12.98	8.14	73	21.37	51.8
				14:27			12.84	8.09	213	18.64	46.4
NGA #178	LAILG-NGA178-3	2/17/17	Bucket	12:40	est. 1 gal/sec		11.97	8.25	893	na	1000+
				12:43			11.99	8.12	903	na	1000+
				12:48			11.98	8.06	894	na	1000+
NGA #202	LAILG-NGA202-1	2/17/17	Bucket	15:10	est. 15 gal/sec		12.86	8.18	131	12.93	122
				15:15			12.85	8.17	129	12.80	116
				15:20			12.85	8.14	127	10.01	108

\* Runoff streams were assumed to have a parabolic shape unless field measurements indicated otherwise. The cross sectional area of a parabola is 2/3\*width\*depth.  
ft/s feet per second mg/L milligrams per liter  
°C degrees celcius NTU Nephelometric Turbidity Units  
uS microsiemens  
na\* Not analyzed, DO meter was not functioning properly at the time of field sampling

## **APPENDIX C**

### **LABORATORY ANALYTICAL RESULTS AND CHAIN OF CUSTODY DOCUMENTATION**

**Work Orders:** 7A20126

**Report Date:** 2/17/2017

**Project:** Nursery Growers Association

**Received Date:** 1/20/2017

**Turnaround Time:** Normal

**Phones:** (805) 933-1770

**Fax:**

**Attn:** Scott Jordan

**P.O. #:**

**Client:** Pacific Ridgeline - Ventura CA  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

**Billing Code:**

ELAP-CA #1132 • EPA-UCMR #CA00211 • LACSD #10143 • NJ-DEP #CA015 • NV-DEP #NAC 445A

*This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.*

Dear Scott Jordan,

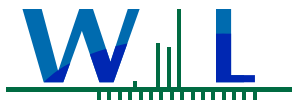
Enclosed are the results of analyses for samples received 1/20/17 with the Chain-of-Custody document. The samples were received in good condition, at 5.1 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

**Reviewed by:**



Chris Samatmanakit  
Project Manager





WECK LABORATORIES, INC.

Pacific Ridgeline - Ventura CA  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

# Certificate of Analysis

FINAL REPORT

**Project Number:** Nursery Growers Association

**Reported:**

02/17/2017 09:40

**Project Manager:** Scott Jordan

## Case Narrative

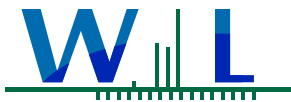
Nitrate+Nitrite analyzed by EPA 353.2 rather than EPA 300.0 due to instrument sensitivity to acidic samples. Analysis change made on 1/25/17 CSS.

## Sample Summary

Sample ID	Sampled By	Lab ID	Matrix	Sampled	Qualifiers
LAILG-NGA-19-8	Matt D.	7A20126-01	Water	01/20/17 08:45	
LAILG-NGA-6-3	Matt D.	7A20126-02	Water	01/20/17 12:30	
LAILG-NGA-4-8	Matt D.	7A20126-03	Water	01/20/17 14:15	
DUP	Matt D.	7A20126-04	Water	01/20/17 00:00	

## Not Certified Analyses Summary

Analyte	CAS #	Not Accredited By
<b>EPA 8270M in Water</b>		
Dichloran .....	99-30-9	NELAP
Tefluthrin .....	79538-32-2	NELAP
Pendimethalin .....	40487-42-1	NELAP
Allethrin .....	584-79-2	NELAP
Prallethrin .....	23031-36-9	NELAP
Bifenthrin .....	82657-04-3	NELAP
Sumithrin (Phenothrin) .....	26002-80-2	NELAP
L-Cyhalothrin .....	91465-08-6	NELAP
Permethrin .....	52645-53-1	NELAP
Cyfluthrin .....	68359-37-5	NELAP
Cypermethrin .....	52315-07-8	NELAP
Fenvalerate/Esfenvalerate .....	51630-58-1	NELAP
Deltamethrin/Tralomethrin .....	52820-00-5	NELAP
Fenpropathrin (Danitol) .....	39515-41-8	NELAP
Triphenyl phosphate .....	115-86-6	NELAP
Perylene-d12 .....	1520-96-3	NELAP



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Reported:

02/17/2017 09:40

Project Manager: Scott Jordan

## Sample Results

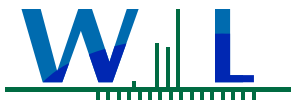
Sample: LAILG-NGA-19-8  
7A20126-01 (Water)

Sampled: 01/20/17 8:45 by Matt D.

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Anions by IC, EPA Method 300.0</b>						
Method: EPA 300.0	Batch ID: W7A2665	Prepared: 01/25/17 09:14	Analyst: jan			
Chloride, Total	42	1.0	mg/l	2	01/25/17 13:50	
Sulfate as SO4	61	1.0	mg/l	2	01/25/17 13:50	

### Chlorinated Pesticides and/or PCBs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Method: EPA 608 Batch ID: W7A2683 Prepared: 01/25/17 12:08 Analyst: rmr</b>						
2,4'-DDD	ND	25	ng/l	5	02/04/17 17:48	M-04
2,4'-DDE	ND	25	ng/l	5	02/04/17 17:48	M-04
2,4'-DDT	ND	25	ng/l	5	02/04/17 17:48	M-04
4,4'-DDD	ND	25	ng/l	5	02/04/17 17:48	M-04
4,4'-DDE	ND	25	ng/l	5	02/04/17 17:48	M-04
4,4'-DDT	ND	25	ng/l	5	02/04/17 17:48	M-04
Aldrin	ND	25	ng/l	5	02/04/17 17:48	M-04
alpha-BHC	ND	25	ng/l	5	02/04/17 17:48	M-04
alpha-Chlordane	ND	25	ng/l	5	02/04/17 17:48	M-04
Aroclor 1016	ND	500	ng/l	5	02/04/17 17:48	M-04
Aroclor 1221	ND	500	ng/l	5	02/04/17 17:48	M-04
Aroclor 1232	ND	500	ng/l	5	02/04/17 17:48	M-04
Aroclor 1242	ND	500	ng/l	5	02/04/17 17:48	M-04
Aroclor 1248	ND	500	ng/l	5	02/04/17 17:48	M-04
Aroclor 1254	ND	500	ng/l	5	02/04/17 17:48	M-04
Aroclor 1260	ND	500	ng/l	5	02/04/17 17:48	M-04
beta-BHC	ND	25	ng/l	5	02/04/17 17:48	M-04
Chlordane (tech)	ND	500	ng/l	5	02/04/17 17:48	M-04
cis-Nonachlor	ND	25	ng/l	5	02/04/17 17:48	M-04
delta-BHC	ND	25	ng/l	5	02/04/17 17:48	M-04
Dieldrin	ND	25	ng/l	5	02/04/17 17:48	M-04
Endosulfan I	ND	25	ng/l	5	02/04/17 17:48	M-04
Endosulfan II	ND	25	ng/l	5	02/04/17 17:48	M-04
Endosulfan sulfate	ND	25	ng/l	5	02/04/17 17:48	M-04
Endrin	ND	25	ng/l	5	02/04/17 17:48	M-04
Endrin aldehyde	ND	25	ng/l	5	02/04/17 17:48	M-04
gamma-BHC (Lindane)	ND	25	ng/l	5	02/04/17 17:48	M-04
gamma-Chlordane	ND	25	ng/l	5	02/04/17 17:48	M-04
Heptachlor	ND	25	ng/l	5	02/04/17 17:48	M-04
Heptachlor epoxide	ND	25	ng/l	5	02/04/17 17:48	M-04
Methoxychlor	ND	25	ng/l	5	02/04/17 17:48	M-04
Mirex	ND	25	ng/l	5	02/04/17 17:48	M-04



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# Certificate of Analysis

FINAL REPORT

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Reported:

02/17/2017 09:40

Project Manager: Scott Jordan

## Sample Results

(Continued)

Sample: LAILG-NGA-19-8  
7A20126-01 (Water)

Sampled: 01/20/17 8:45 by Matt D.

(Continued)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Chlorinated Pesticides and/or PCBs (Continued)</b>						
Toxaphene	ND	2500	ng/l	5	02/04/17 17:48	M-04
trans-Nonachlor	ND	25	ng/l	5	02/04/17 17:48	M-04
<i>Surrogate(s)</i>						
Decachlorobiphenyl	32% Conc: 31.9	0.1-118			02/04/17 17:48	M-04
Tetrachloro-meta-xylene	46% Conc: 45.8	12-117			02/04/17 17:48	M-04
<b>Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods</b>						
Method: EPA 350.1 Ammonia as N	Batch ID: W7A2978 0.31	Prepared: 01/30/17 14:42 0.10	mg/l	1	02/03/17 23:38	Analyst: mnq
Method: EPA 353.2 NO2+NO3 as N	Batch ID: W7A2676 25000	Prepared: 01/25/17 10:30 1000	ug/l	10	01/25/17 13:26	Analyst: AJK
Method: EPA 365.1 o-Phosphate as P	Batch ID: W7A2445 0.78	Prepared: 01/21/17 09:22 0.010	mg/l	5	01/21/17 11:05	Analyst: mbc **
o-Phosphate as P, dissolved	780	10	ug/l	5	01/21/17 11:05	**
Method: EPA 365.1 Phosphorus, Dissolved	Batch ID: W7A2655 0.82	Prepared: 01/24/17 22:10 0.50	mg/l	1	02/01/17 18:51	Analyst: nat M-06
Method: EPA 365.1 Phosphorus as P, Total	Batch ID: W7A3047 2.7	Prepared: 01/31/17 14:04 0.50	mg/l	1	02/03/17 16:42	Analyst: nat M-06
Method: SM 2540C Total Dissolved Solids	Batch ID: W7A2752 700	Prepared: 01/25/17 18:18 10	mg/l	1	01/26/17 19:15	Analyst: ymt
Method: SM 2540D Total Suspended Solids	Batch ID: W7A2609 430	Prepared: 01/24/17 13:27 5	mg/l	1	01/24/17 16:00	Analyst: ajk
<b>Metals by EPA 200 Series Methods</b>						
Method: EPA 200.7 Calcium Hardness as CaCO3	Batch ID: [CALC] 163	Prepared: 01/24/17 17:46 0.250	mg/l	1	01/27/17 11:19	Analyst: JCK
Method: EPA 200.7 Calcium, Total	Batch ID: W7A2632 65.2	Prepared: 01/24/17 17:46 0.100	mg/l	1	01/27/17 11:19	Analyst: JCK
Method: EPA 200.8 Copper, Total	Batch ID: W7A2630 47	Prepared: 01/24/17 17:34 0.50	ug/l	1	01/30/17 13:25	Analyst: rrl
<b>Pyrethroid Pesticides by EPA 8270M</b>						
Method: EPA 8270M Allethrin	Batch ID: W7B0195 ND	Prepared: 02/03/17 09:20 40	ng/l	20	02/10/17 07:39	Analyst: EFC M-04
Bifenthrin	ND	40	ng/l	20	02/10/17 07:39	M-04
Cyfluthrin	ND	40	ng/l	20	02/10/17 07:39	M-04
Cypermethrin	ND	40	ng/l	20	02/10/17 07:39	M-04
Deltamethrin/Tralomethrin	ND	40	ng/l	20	02/10/17 07:39	M-04
Dichloran	ND	40	ng/l	20	02/10/17 07:39	M-04
Fenpropathrin (Danitol)	48	40	ng/l	20	02/10/17 07:39	M-04
Fenvalerate/Esfenvalerate	ND	40	ng/l	20	02/10/17 07:39	M-04





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**Reported:**

02/17/2017 09:40

**Project Manager:** Scott Jordan

## Sample Results

(Continued)

Sample: LAILG-NGA-19-8  
7A20126-01 (Water)

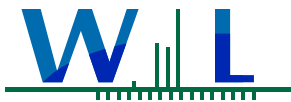
Sampled: 01/20/17 8:45 by Matt D.

(Continued)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Pyrethroid Pesticides by EPA 8270M (Continued)</b>						
L-Cyhalothrin	ND	40	ng/l	20	02/10/17 07:39	M-04
Pendimethalin	ND	40	ng/l	20	02/10/17 07:39	M-04
Permethrin	ND	100	ng/l	20	02/10/17 07:39	M-04
Prallethrin	ND	40	ng/l	20	02/10/17 07:39	M-04
Sumithrin (Phenothrin)	ND	200	ng/l	20	02/10/17 07:39	M-04
Tefluthrin	ND	40	ng/l	20	02/10/17 07:39	M-04
<i>Surrogate(s)</i>						
Perylene-d12	63% Conc: 159	2-205			02/10/17 07:39	M-04
Triphenyl phosphate	84% Conc: 210	6-222			02/10/17 07:39	M-04

### Semivolatile Organic Compounds by GC/MS

Method: EPA 525.2	Batch ID: W7A3001	Prepared: 01/31/17 08:41	Analyst: EFC
Azinphos methyl (Guthion)	ND	10 ng/l	1 02/03/17 12:34
Bolstar	ND	10 ng/l	1 02/03/17 12:34
Chlorpyrifos	ND	10 ng/l	1 02/03/17 12:34
Coumaphos	ND	10 ng/l	1 02/03/17 12:34
Demeton-o	ND	10 ng/l	1 02/03/17 12:34
Demeton-s	ND	10 ng/l	1 02/03/17 12:34
Diazinon	ND	10 ng/l	1 02/03/17 12:34
Dichlorvos	ND	10 ng/l	1 02/03/17 12:34
Dimethoate	ND	10 ng/l	1 02/03/17 12:34
Disulfoton	ND	10 ng/l	1 02/03/17 12:34
Ethoprop	ND	10 ng/l	1 02/03/17 12:34
Ethyl parathion	ND	10 ng/l	1 02/03/17 12:34
Fensulfothion	ND	10 ng/l	1 02/03/17 12:34
Fenthion	ND	10 ng/l	1 02/03/17 12:34
Malathion	ND	10 ng/l	1 02/03/17 12:34
Merphos	ND	10 ng/l	1 02/03/17 12:34
Methyl parathion	ND	10 ng/l	1 02/03/17 12:34
Mevinphos	ND	10 ng/l	1 02/03/17 12:34
Naled	ND	10 ng/l	1 02/03/17 12:34
Phorate	ND	10 ng/l	1 02/03/17 12:34
Ronnel	ND	10 ng/l	1 02/03/17 12:34
Stirophos	ND	10 ng/l	1 02/03/17 12:34
Tokuthion (Prothiofos)	ND	10 ng/l	1 02/03/17 12:34
Trichloronate	ND	10 ng/l	1 02/03/17 12:34
<i>Surrogate(s)</i>			
1,3-Dimethyl-2-nitrobenzene	105% Conc: 526	76-128	02/03/17 12:34
Triphenyl phosphate	122% Conc: 608	40-163	02/03/17 12:34



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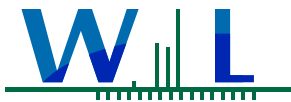
## Sample Results

(Continued)

Sample: LAILG-NGA-6-3  
7A20126-02 (Water)

Sampled: 01/20/17 12:30 by Matt D.

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Anions by IC, EPA Method 300.0</b>						
<b>Method:</b> EPA 300.0	<b>Batch ID:</b> W7A2665	<b>Prepared:</b> 01/25/17 09:14				<b>Analyst:</b> jan
Chloride, Total	3.9	1.0	mg/l	2	01/25/17 13:50	
Sulfate as SO4	3.6	1.0	mg/l	2	01/25/17 13:50	
<b>Chlorinated Pesticides and/or PCBs</b>						
<b>Method:</b> EPA 608	<b>Batch ID:</b> W7A2683	<b>Prepared:</b> 01/25/17 12:08				<b>Analyst:</b> rmr
2,4'-DDD	ND	25	ng/l	5	02/04/17 18:19	M-04
2,4'-DDE	ND	25	ng/l	5	02/04/17 18:19	M-04
2,4'-DDT	ND	25	ng/l	5	02/04/17 18:19	M-04
4,4'-DDD	ND	25	ng/l	5	02/04/17 18:19	M-04
4,4'-DDE	ND	25	ng/l	5	02/04/17 18:19	M-04
4,4'-DDT	ND	25	ng/l	5	02/04/17 18:19	M-04
Aldrin	ND	25	ng/l	5	02/04/17 18:19	M-04
alpha-BHC	ND	25	ng/l	5	02/04/17 18:19	M-04
alpha-Chlordane	ND	25	ng/l	5	02/04/17 18:19	M-04
Aroclor 1016	ND	500	ng/l	5	02/04/17 18:19	M-04
Aroclor 1221	ND	500	ng/l	5	02/04/17 18:19	M-04
Aroclor 1232	ND	500	ng/l	5	02/04/17 18:19	M-04
Aroclor 1242	ND	500	ng/l	5	02/04/17 18:19	M-04
Aroclor 1248	ND	500	ng/l	5	02/04/17 18:19	M-04
Aroclor 1254	ND	500	ng/l	5	02/04/17 18:19	M-04
Aroclor 1260	ND	500	ng/l	5	02/04/17 18:19	M-04
beta-BHC	ND	25	ng/l	5	02/04/17 18:19	M-04
Chlordane (tech)	ND	500	ng/l	5	02/04/17 18:19	M-04
cis-Nonachlor	ND	25	ng/l	5	02/04/17 18:19	M-04
delta-BHC	ND	25	ng/l	5	02/04/17 18:19	M-04
Dieldrin	ND	25	ng/l	5	02/04/17 18:19	M-04
Endosulfan I	ND	25	ng/l	5	02/04/17 18:19	M-04
Endosulfan II	ND	25	ng/l	5	02/04/17 18:19	M-04
Endosulfan sulfate	ND	25	ng/l	5	02/04/17 18:19	M-04
Endrin	ND	25	ng/l	5	02/04/17 18:19	M-04
Endrin aldehyde	ND	25	ng/l	5	02/04/17 18:19	M-04
gamma-BHC (Lindane)	ND	25	ng/l	5	02/04/17 18:19	M-04
gamma-Chlordane	ND	25	ng/l	5	02/04/17 18:19	M-04
Heptachlor	ND	25	ng/l	5	02/04/17 18:19	M-04
Heptachlor epoxide	ND	25	ng/l	5	02/04/17 18:19	M-04
Methoxychlor	ND	25	ng/l	5	02/04/17 18:19	M-04
Mirex	ND	25	ng/l	5	02/04/17 18:19	M-04



WECK LABORATORIES, INC.

Pacific Ridgeline - Ventura CA  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

# Certificate of Analysis

FINAL REPORT

Project Number: Nursery Growers Association

Reported:

02/17/2017 09:40

Project Manager: Scott Jordan

## Sample Results

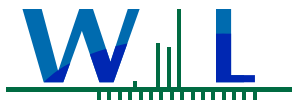
(Continued)

Sample: LAILG-NGA-6-3  
7A20126-02 (Water)

Sampled: 01/20/17 12:30 by Matt D.

(Continued)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Chlorinated Pesticides and/or PCBs (Continued)</b>						
Toxaphene	ND	2500	ng/l	5	02/04/17 18:19	M-04
trans-Nonachlor	ND	25	ng/l	5	02/04/17 18:19	M-04
<i>Surrogate(s)</i>						
Decachlorobiphenyl	31% Conc: 30.9	0.1-118			02/04/17 18:19	M-04
Tetrachloro-meta-xylene	48% Conc: 47.7	12-117			02/04/17 18:19	M-04
<b>Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods</b>						
Method: EPA 350.1 Ammonia as N	Batch ID: W7A2978 ND	Prepared: 01/30/17 14:42 0.10	mg/l	1	02/03/17 23:38	Analyst: mnq
Method: EPA 353.2 NO2+NO3 as N	Batch ID: W7A2676 700	Prepared: 01/25/17 10:30 100	ug/l	1	01/25/17 12:37	Analyst: AJK
Method: EPA 365.1 o-Phosphate as P	Batch ID: W7A2445 0.28	Prepared: 01/21/17 09:22 0.0040	mg/l	2	01/21/17 11:11	Analyst: mbc **
o-Phosphate as P, dissolved	280	4.0	ug/l	2	01/21/17 11:11	**
Method: EPA 365.1 Phosphorus, Dissolved	Batch ID: W7A2655 0.32	Prepared: 01/24/17 22:10 0.020	mg/l	2	02/01/17 19:03	Analyst: nat
Method: EPA 365.1 Phosphorus as P, Total	Batch ID: W7A3047 0.70	Prepared: 01/31/17 14:04 0.040	mg/l	2	02/03/17 16:47	Analyst: nat M-06
Method: SM 2540C Total Dissolved Solids	Batch ID: W7A2752 97	Prepared: 01/25/17 18:18 10	mg/l	1	01/26/17 19:15	Analyst: ymt
Method: SM 2540D Total Suspended Solids	Batch ID: W7A2609 360	Prepared: 01/24/17 13:27 5	mg/l	1	01/24/17 16:00	Analyst: ajk
<b>Metals by EPA 200 Series Methods</b>						
Method: EPA 200.7 Calcium Hardness as CaCO3	Batch ID: [CALC] 13.4	Prepared: 01/24/17 17:46 0.250	mg/l	1	01/27/17 11:22	Analyst: JCK
Method: EPA 200.7 Calcium, Total	Batch ID: W7A2632 5.38	Prepared: 01/24/17 17:46 0.100	mg/l	1	01/27/17 11:22	Analyst: JCK
Method: EPA 200.8 Copper, Total	Batch ID: W7A2630 29	Prepared: 01/24/17 17:34 0.50	ug/l	1	01/30/17 13:29	Analyst: rrl
<b>Pyrethroid Pesticides by EPA 8270M</b>						
Method: EPA 8270M Allethrin	Batch ID: W7B0195 ND	Prepared: 02/03/17 09:20 200	ng/l	100	02/10/17 08:13	Analyst: EFC M-04
Bifenthrin	ND	200	ng/l	100	02/10/17 08:13	M-04
Cyfluthrin	ND	200	ng/l	100	02/10/17 08:13	M-04
Cypermethrin	ND	200	ng/l	100	02/10/17 08:13	M-04
Deltamethrin/Tralomethrin	ND	200	ng/l	100	02/10/17 08:13	M-04
Dichloran	ND	200	ng/l	100	02/10/17 08:13	M-04
Fenpropathrin (Danitol)	ND	200	ng/l	100	02/10/17 08:13	M-04
Fenvalerate/Esfenvalerate	ND	200	ng/l	100	02/10/17 08:13	M-04



WECK LABORATORIES, INC.

Pacific Ridgeline - Ventura CA  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

# Certificate of Analysis

FINAL REPORT

**Project Number:** Nursery Growers Association

**Reported:**

02/17/2017 09:40

**Project Manager:** Scott Jordan

## Sample Results

(Continued)

Sample: LAILG-NGA-6-3  
7A20126-02 (Water)

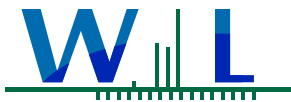
Sampled: 01/20/17 12:30 by Matt D.

(Continued)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Pyrethroid Pesticides by EPA 8270M (Continued)</b>						
L-Cyhalothrin	ND	200	ng/l	100	02/10/17 08:13	M-04
Pendimethalin	ND	200	ng/l	100	02/10/17 08:13	M-04
Permethrin	ND	500	ng/l	100	02/10/17 08:13	M-04
Prallethrin	ND	200	ng/l	100	02/10/17 08:13	M-04
Sumithrin (Phenothrin)	ND	1000	ng/l	100	02/10/17 08:13	M-04
Tefluthrin	ND	200	ng/l	100	02/10/17 08:13	M-04
<i>Surrogate(s)</i>						
Perylene-d12	48% Conc: 121	2-205			02/10/17 08:13	M-04
Triphenyl phosphate	80% Conc: 200	6-222			02/10/17 08:13	M-04

### Semivolatile Organic Compounds by GC/MS

Method: EPA 525.2	Batch ID: W7A3001	Prepared: 01/31/17 08:41	Analyst: EFC
Azinphos methyl (Guthion)	ND	10 ng/l	1 02/03/17 13:00
Bolstar	ND	10 ng/l	1 02/03/17 13:00
Chlorpyrifos	ND	10 ng/l	1 02/03/17 13:00
Coumaphos	ND	10 ng/l	1 02/03/17 13:00
Demeton-o	ND	10 ng/l	1 02/03/17 13:00
Demeton-s	ND	10 ng/l	1 02/03/17 13:00
Diazinon	ND	10 ng/l	1 02/03/17 13:00
Dichlorvos	ND	10 ng/l	1 02/03/17 13:00
Dimethoate	ND	10 ng/l	1 02/03/17 13:00
Disulfoton	ND	10 ng/l	1 02/03/17 13:00
Ethoprop	ND	10 ng/l	1 02/03/17 13:00
Ethyl parathion	ND	10 ng/l	1 02/03/17 13:00
Fensulfthion	ND	10 ng/l	1 02/03/17 13:00
Fenthion	ND	10 ng/l	1 02/03/17 13:00
Malathion	ND	10 ng/l	1 02/03/17 13:00
Merphos	ND	10 ng/l	1 02/03/17 13:00
Methyl parathion	ND	10 ng/l	1 02/03/17 13:00
Mevinphos	ND	10 ng/l	1 02/03/17 13:00
Naled	ND	10 ng/l	1 02/03/17 13:00
Phorate	ND	10 ng/l	1 02/03/17 13:00
Ronnel	ND	10 ng/l	1 02/03/17 13:00
Stirophos	ND	10 ng/l	1 02/03/17 13:00
Tokuthion (Prothiofos)	ND	10 ng/l	1 02/03/17 13:00
Trichloronate	ND	10 ng/l	1 02/03/17 13:00
<i>Surrogate(s)</i>			
1,3-Dimethyl-2-nitrobenzene	98% Conc: 491	76-128	02/03/17 13:00
Triphenyl phosphate	122% Conc: 612	40-163	02/03/17 13:00



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**Reported:**

02/17/2017 09:40

**Project Manager:** Scott Jordan

## Sample Results

(Continued)

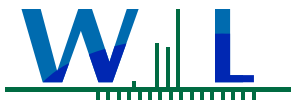
Sample: LAILG-NGA-4-8  
7A20126-03 (Water)

Sampled: 01/20/17 14:15 by Matt D.

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Anions by IC, EPA Method 300.0</b>						
<b>Method:</b> EPA 300.0	<b>Batch ID:</b> W7A2665	<b>Prepared:</b> 01/25/17 09:14				<b>Analyst:</b> jan
Chloride, Total	3.3	1.0	mg/l	2	01/25/17 13:50	
Sulfate as SO4	2.4	1.0	mg/l	2	01/25/17 13:50	

### Chlorinated Pesticides and/or PCBs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Method:</b> EPA 608						
<b>Batch ID:</b> W7A2683						
<b>Prepared:</b> 01/25/17 12:08						
<b>Analyst:</b> rmr						
2,4'-DDD	ND	100	ng/l	20	02/04/17 18:49	M-04
2,4'-DDE	ND	100	ng/l	20	02/04/17 18:49	M-04
2,4'-DDT	ND	100	ng/l	20	02/04/17 18:49	M-04
4,4'-DDD	ND	100	ng/l	20	02/04/17 18:49	M-04
4,4'-DDE	ND	100	ng/l	20	02/04/17 18:49	M-04
4,4'-DDT	ND	100	ng/l	20	02/04/17 18:49	M-04
Aldrin	ND	100	ng/l	20	02/04/17 18:49	M-04
alpha-BHC	ND	100	ng/l	20	02/04/17 18:49	M-04
alpha-Chlordane	ND	100	ng/l	20	02/04/17 18:49	M-04
Aroclor 1016	ND	2000	ng/l	20	02/04/17 18:49	M-04
Aroclor 1221	ND	2000	ng/l	20	02/04/17 18:49	M-04
Aroclor 1232	ND	2000	ng/l	20	02/04/17 18:49	M-04
Aroclor 1242	ND	2000	ng/l	20	02/04/17 18:49	M-04
Aroclor 1248	ND	2000	ng/l	20	02/04/17 18:49	M-04
Aroclor 1254	ND	2000	ng/l	20	02/04/17 18:49	M-04
Aroclor 1260	ND	2000	ng/l	20	02/04/17 18:49	M-04
beta-BHC	ND	100	ng/l	20	02/04/17 18:49	M-04
Chlordane (tech)	ND	2000	ng/l	20	02/04/17 18:49	M-04
cis-Nonachlor	ND	100	ng/l	20	02/04/17 18:49	M-04
delta-BHC	ND	100	ng/l	20	02/04/17 18:49	M-04
Dieldrin	ND	100	ng/l	20	02/04/17 18:49	M-04
Endosulfan I	ND	100	ng/l	20	02/04/17 18:49	M-04
Endosulfan II	ND	100	ng/l	20	02/04/17 18:49	M-04
Endosulfan sulfate	ND	100	ng/l	20	02/04/17 18:49	M-04
Endrin	ND	100	ng/l	20	02/04/17 18:49	M-04
Endrin aldehyde	ND	100	ng/l	20	02/04/17 18:49	M-04
gamma-BHC (Lindane)	ND	100	ng/l	20	02/04/17 18:49	M-04
gamma-Chlordane	ND	100	ng/l	20	02/04/17 18:49	M-04
Heptachlor	ND	100	ng/l	20	02/04/17 18:49	M-04
Heptachlor epoxide	ND	100	ng/l	20	02/04/17 18:49	M-04
Methoxychlor	ND	100	ng/l	20	02/04/17 18:49	M-04
Mirex	ND	100	ng/l	20	02/04/17 18:49	M-04



WECK LABORATORIES, INC.

Pacific Ridgeline - Ventura CA  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

# Certificate of Analysis

FINAL REPORT

Project Number: Nursery Growers Association

Reported:

02/17/2017 09:40

Project Manager: Scott Jordan

## Sample Results

(Continued)

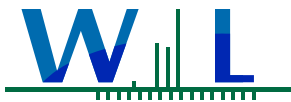
Sample: LAILG-NGA-4-8  
7A20126-03 (Water)

Sampled: 01/20/17 14:15 by Matt D.

(Continued)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Chlorinated Pesticides and/or PCBs (Continued)</b>						
Toxaphene	ND	10000	ng/l	20	02/04/17 18:49	M-04
trans-Nonachlor	ND	100	ng/l	20	02/04/17 18:49	M-04
<i>Surrogate(s)</i>						
Decachlorobiphenyl	43% Conc: 43.2	0.1-118			02/04/17 18:49	M-04
Tetrachloro-meta-xylene	106% Conc: 106	12-117			02/04/17 18:49	M-04
<b>Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods</b>						
Method: EPA 350.1 Ammonia as N	Batch ID: W7A2978 0.33	Prepared: 01/30/17 14:42 0.10	mg/l	1	02/03/17 23:38	Analyst: mnq
Method: EPA 353.2 NO2+NO3 as N	Batch ID: W7A2676 760	Prepared: 01/25/17 10:30 100	ug/l	1	01/25/17 12:39	Analyst: AJK
Method: EPA 365.1 o-Phosphate as P	Batch ID: W7A2445 0.082	Prepared: 01/21/17 09:22 0.0020	mg/l	1	01/21/17 10:58	Analyst: mbc **
o-Phosphate as P, dissolved	82	2.0	ug/l	1	01/21/17 10:58	**
Method: EPA 365.1 Phosphorus, Dissolved	Batch ID: W7A2655 0.080	Prepared: 01/24/17 22:10 0.010	mg/l	1	02/01/17 18:56	Analyst: nat
Method: EPA 365.1 Phosphorus as P, Total	Batch ID: W7A3047 0.12	Prepared: 01/31/17 14:04 0.010	mg/l	1	02/03/17 16:45	Analyst: nat
Method: SM 2540C Total Dissolved Solids	Batch ID: W7A2752 46	Prepared: 01/25/17 18:18 10	mg/l	1	01/26/17 19:15	Analyst: ymt
Method: SM 2540D Total Suspended Solids	Batch ID: W7A2609 15	Prepared: 01/24/17 13:27 5	mg/l	1	01/24/17 16:00	Analyst: ajk
<b>Metals by EPA 200 Series Methods</b>						
Method: EPA 200.7 Calcium Hardness as CaCO3	Batch ID: [CALC] 7.58	Prepared: 01/24/17 17:46 0.250	mg/l	1	01/27/17 11:25	Analyst: JCK
Method: EPA 200.7 Calcium, Total	Batch ID: W7A2632 3.04	Prepared: 01/24/17 17:46 0.100	mg/l	1	01/27/17 11:25	Analyst: JCK
Method: EPA 200.8 Copper, Total	Batch ID: W7A2630 4.5	Prepared: 01/24/17 17:34 0.50	ug/l	1	01/30/17 13:33	Analyst: rrl
<b>Pyrethroid Pesticides by EPA 8270M</b>						
Method: EPA 8270M Allethrin	Batch ID: W7B0195 ND	Prepared: 02/03/17 09:20 100	ng/l	50	02/10/17 08:46	Analyst: EFC M-04
Bifenthrin	ND	100	ng/l	50	02/10/17 08:46	M-04
Cyfluthrin	ND	100	ng/l	50	02/10/17 08:46	M-04
Cypermethrin	ND	100	ng/l	50	02/10/17 08:46	M-04
Deltamethrin/Tralomethrin	ND	100	ng/l	50	02/10/17 08:46	M-04
Dichloran	ND	100	ng/l	50	02/10/17 08:46	M-04
Fenpropathrin (Danitol)	ND	100	ng/l	50	02/10/17 08:46	M-04
Fenvalerate/Esfenvalerate	ND	100	ng/l	50	02/10/17 08:46	M-04





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Pacific Ridgeline - Ventura CA  
1891 Goodyear Avenue, Suite 621  
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# Certificate of Analysis

FINAL REPORT

**Project Number:** Nursery Growers Association

**Reported:**

02/17/2017 09:40

**Project Manager:** Scott Jordan

## Sample Results

(Continued)

Sample: LAILG-NGA-4-8  
7A20126-03 (Water)

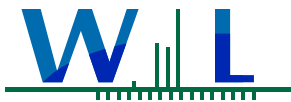
Sampled: 01/20/17 14:15 by Matt D.

(Continued)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Pyrethroid Pesticides by EPA 8270M (Continued)</b>						
L-Cyhalothrin	ND	100	ng/l	50	02/10/17 08:46	M-04
Pendimethalin	ND	100	ng/l	50	02/10/17 08:46	M-04
Permethrin	ND	250	ng/l	50	02/10/17 08:46	M-04
Prallethrin	ND	100	ng/l	50	02/10/17 08:46	M-04
Sumithrin (Phenothrin)	ND	500	ng/l	50	02/10/17 08:46	M-04
Tefluthrin	ND	100	ng/l	50	02/10/17 08:46	M-04
<i>Surrogate(s)</i>						
Perylene-d12	68% Conc: 171	2-205			02/10/17 08:46	M-04
Triphenyl phosphate	74% Conc: 185	6-222			02/10/17 08:46	M-04

### Semivolatile Organic Compounds by GC/MS

Method: EPA 525.2	Batch ID: W7A3001	Prepared: 01/31/17 08:41	Analyst: EFC
Azinphos methyl (Guthion)	ND	10 ng/l	1 02/03/17 13:26
Bolstar	ND	10 ng/l	1 02/03/17 13:26
<b>Chlorpyrifos</b>	<b>11</b>	10 ng/l	1 02/03/17 13:26
Coumaphos	ND	10 ng/l	1 02/03/17 13:26
Demeton-o	ND	10 ng/l	1 02/03/17 13:26
Demeton-s	ND	10 ng/l	1 02/03/17 13:26
<b>Diazinon</b>	<b>17</b>	10 ng/l	1 02/03/17 13:26
Dichlorvos	ND	10 ng/l	1 02/03/17 13:26
Dimethoate	ND	10 ng/l	1 02/03/17 13:26
Disulfoton	ND	10 ng/l	1 02/03/17 13:26
Ethoprop	ND	10 ng/l	1 02/03/17 13:26
Ethyl parathion	ND	10 ng/l	1 02/03/17 13:26
Fensulfothion	ND	10 ng/l	1 02/03/17 13:26
Fenthion	ND	10 ng/l	1 02/03/17 13:26
<b>Malathion</b>	<b>30</b>	10 ng/l	1 02/03/17 13:26
Merphos	ND	10 ng/l	1 02/03/17 13:26
Methyl parathion	ND	10 ng/l	1 02/03/17 13:26
Mevinphos	ND	10 ng/l	1 02/03/17 13:26
Naled	ND	10 ng/l	1 02/03/17 13:26
Phorate	ND	10 ng/l	1 02/03/17 13:26
Ronnel	ND	10 ng/l	1 02/03/17 13:26
Stirophos	ND	10 ng/l	1 02/03/17 13:26
Tokuthion (Prothiofos)	ND	10 ng/l	1 02/03/17 13:26
Trichloronate	ND	10 ng/l	1 02/03/17 13:26
<i>Surrogate(s)</i>			
1,3-Dimethyl-2-nitrobenzene	73% Conc: 363	76-128	02/03/17 13:26 S-GC
Triphenyl phosphate	110% Conc: 549	40-163	02/03/17 13:26



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FINAL REPORT

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Reported:

02/17/2017 09:40

Project Manager: Scott Jordan

## Sample Results

(Continued)

Sample: DUP

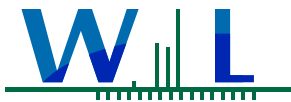
Sampled: 01/20/17 0:00 by Matt D.

7A20126-04 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Anions by IC, EPA Method 300.0</b>						
Method: EPA 300.0	Batch ID: W7A2665	Prepared: 01/25/17 09:14	Analyst: jan			
Chloride, Total	27	1.0	mg/l	2	01/25/17 13:50	
Sulfate as SO4	42	1.0	mg/l	2	01/25/17 13:50	

### Chlorinated Pesticides and/or PCBs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Method: EPA 608 Batch ID: W7A2683 Prepared: 01/25/17 12:08 Analyst: rmr</b>						
2,4'-DDD	ND	100	ng/l	20	02/04/17 19:20	M-04
2,4'-DDE	ND	100	ng/l	20	02/04/17 19:20	M-04
2,4'-DDT	ND	100	ng/l	20	02/04/17 19:20	M-04
4,4'-DDD	ND	100	ng/l	20	02/04/17 19:20	M-04
4,4'-DDE	ND	100	ng/l	20	02/04/17 19:20	M-04
4,4'-DDT	ND	100	ng/l	20	02/04/17 19:20	M-04
Aldrin	ND	100	ng/l	20	02/04/17 19:20	M-04
alpha-BHC	ND	100	ng/l	20	02/04/17 19:20	M-04
alpha-Chlordane	ND	100	ng/l	20	02/04/17 19:20	M-04
Aroclor 1016	ND	2000	ng/l	20	02/04/17 19:20	M-04
Aroclor 1221	ND	2000	ng/l	20	02/04/17 19:20	M-04
Aroclor 1232	ND	2000	ng/l	20	02/04/17 19:20	M-04
Aroclor 1242	ND	2000	ng/l	20	02/04/17 19:20	M-04
Aroclor 1248	ND	2000	ng/l	20	02/04/17 19:20	M-04
Aroclor 1254	ND	2000	ng/l	20	02/04/17 19:20	M-04
Aroclor 1260	ND	2000	ng/l	20	02/04/17 19:20	M-04
beta-BHC	ND	100	ng/l	20	02/04/17 19:20	M-04
Chlordane (tech)	ND	2000	ng/l	20	02/04/17 19:20	M-04
cis-Nonachlor	ND	100	ng/l	20	02/04/17 19:20	M-04
delta-BHC	ND	100	ng/l	20	02/04/17 19:20	M-04
Dieldrin	ND	100	ng/l	20	02/04/17 19:20	M-04
Endosulfan I	ND	100	ng/l	20	02/04/17 19:20	M-04
Endosulfan II	ND	100	ng/l	20	02/04/17 19:20	M-04
Endosulfan sulfate	ND	100	ng/l	20	02/04/17 19:20	M-04
Endrin	ND	100	ng/l	20	02/04/17 19:20	M-04
Endrin aldehyde	ND	100	ng/l	20	02/04/17 19:20	M-04
gamma-BHC (Lindane)	ND	100	ng/l	20	02/04/17 19:20	M-04
gamma-Chlordane	ND	100	ng/l	20	02/04/17 19:20	M-04
Heptachlor	ND	100	ng/l	20	02/04/17 19:20	M-04
Heptachlor epoxide	ND	100	ng/l	20	02/04/17 19:20	M-04
Methoxychlor	ND	100	ng/l	20	02/04/17 19:20	M-04
Mirex	ND	100	ng/l	20	02/04/17 19:20	M-04



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# Certificate of Analysis

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Reported:

02/17/2017 09:40

Project Manager: Scott Jordan

## Sample Results

(Continued)

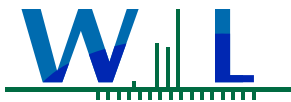
Sample: DUP

Sampled: 01/20/17 0:00 by Matt D.

7A20126-04 (Water)

(Continued)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Chlorinated Pesticides and/or PCBs (Continued)</b>						
Toxaphene	ND	10000	ng/l	20	02/04/17 19:20	M-04
trans-Nonachlor	ND	100	ng/l	20	02/04/17 19:20	M-04
<i>Surrogate(s)</i>						
Decachlorobiphenyl	18% Conc: 17.9	0.1-118			02/04/17 19:20	M-04
Tetrachloro-meta-xylene	61% Conc: 60.6	12-117			02/04/17 19:20	M-04
<b>Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods</b>						
Method: EPA 350.1 Ammonia as N	Batch ID: W7A2978 0.33	Prepared: 01/30/17 14:42 0.10	mg/l	1	02/03/17 23:38	Analyst: mnq
Method: EPA 353.2 NO2+NO3 as N	Batch ID: W7A2676 15000	Prepared: 01/25/17 10:30 200	ug/l	2	01/25/17 13:28	Analyst: AJK
Method: EPA 365.1 o-Phosphate as P	Batch ID: W7A2445 0.86	Prepared: 01/21/17 09:22 0.010	mg/l	5	01/21/17 11:14	Analyst: mbc **
o-Phosphate as P, dissolved	860	10	ug/l	5	01/21/17 11:14	**
Method: EPA 365.1 Phosphorus, Dissolved	Batch ID: W7A2655 0.85	Prepared: 01/24/17 22:10 0.50	mg/l	1	02/01/17 18:57	Analyst: nat M-06
Method: EPA 365.1 Phosphorus as P, Total	Batch ID: W7A3047 5.2	Prepared: 01/31/17 14:04 0.50	mg/l	1	02/03/17 16:49	Analyst: nat M-06
Method: SM 2540C Total Dissolved Solids	Batch ID: W7A2752 400	Prepared: 01/25/17 18:18 10	mg/l	1	01/26/17 19:15	Analyst: ymt
Method: SM 2540D Total Suspended Solids	Batch ID: W7A2609 1000	Prepared: 01/24/17 13:27 5	mg/l	1	01/24/17 16:00	Analyst: ajk
<b>Metals by EPA 200 Series Methods</b>						
Method: EPA 200.7 Calcium Hardness as CaCO3	Batch ID: [CALC] 180	Prepared: 01/24/17 17:46 0.250	mg/l	1	01/27/17 11:28	Analyst: JCK
Method: EPA 200.7 Calcium, Total	Batch ID: W7A2632 72.2	Prepared: 01/24/17 17:46 0.100	mg/l	1	01/27/17 11:28	Analyst: JCK
Method: EPA 200.8 Copper, Total	Batch ID: W7A2630 95	Prepared: 01/24/17 17:34 0.50	ug/l	1	01/30/17 13:38	Analyst: rrl
<b>Pyrethroid Pesticides by EPA 8270M</b>						
Method: EPA 8270M Allethrin	Batch ID: W7B0195 ND	Prepared: 02/03/17 09:20 40	ng/l	20	02/10/17 09:20	Analyst: EFC M-04
Bifenthrin	ND	40	ng/l	20	02/10/17 09:20	M-04
Cyfluthrin	ND	40	ng/l	20	02/10/17 09:20	M-04
Cypermethrin	ND	40	ng/l	20	02/10/17 09:20	M-04
Deltamethrin/Tralomethrin	ND	40	ng/l	20	02/10/17 09:20	M-04
Dichloran	ND	40	ng/l	20	02/10/17 09:20	M-04
Fenpropathrin (Danitol)	64	40	ng/l	20	02/10/17 09:20	M-04
Fenvalerate/Esfenvalerate	ND	40	ng/l	20	02/10/17 09:20	M-04



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## Sample Results

(Continued)

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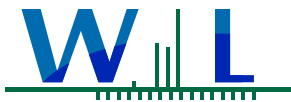
7A20126-04 (Water)

(Continued)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Pyrethroid Pesticides by EPA 8270M (Continued)</b>						
L-Cyhalothrin	ND	40	ng/l	20	02/10/17 09:20	M-04
Pendimethalin	ND	40	ng/l	20	02/10/17 09:20	M-04
Permethrin	ND	100	ng/l	20	02/10/17 09:20	M-04
Prallethrin	ND	40	ng/l	20	02/10/17 09:20	M-04
Sumithrin (Phenothrin)	ND	200	ng/l	20	02/10/17 09:20	M-04
Tefluthrin	ND	40	ng/l	20	02/10/17 09:20	M-04
<i>Surrogate(s)</i>						
Perylene-d12	63% Conc: 157	2-205			02/10/17 09:20	M-04
Triphenyl phosphate	83% Conc: 208	6-222			02/10/17 09:20	M-04

### Semivolatile Organic Compounds by GC/MS

Method: EPA 525.2	Batch ID: W7A3001	Prepared: 01/31/17 08:41	Analyst: EFC
Azinphos methyl (Guthion)	ND	10 ng/l	1 02/03/17 13:51
Bolstar	ND	10 ng/l	1 02/03/17 13:51
Chlorpyrifos	ND	10 ng/l	1 02/03/17 13:51
Coumaphos	ND	10 ng/l	1 02/03/17 13:51
Demeton-o	ND	10 ng/l	1 02/03/17 13:51
Demeton-s	ND	10 ng/l	1 02/03/17 13:51
Diazinon	ND	10 ng/l	1 02/03/17 13:51
Dichlorvos	ND	10 ng/l	1 02/03/17 13:51
Dimethoate	ND	10 ng/l	1 02/03/17 13:51
Disulfoton	ND	10 ng/l	1 02/03/17 13:51
Ethoprop	ND	10 ng/l	1 02/03/17 13:51
Ethyl parathion	ND	10 ng/l	1 02/03/17 13:51
Fensulfthion	ND	10 ng/l	1 02/03/17 13:51
Fenthion	ND	10 ng/l	1 02/03/17 13:51
Malathion	ND	10 ng/l	1 02/03/17 13:51
Merphos	ND	10 ng/l	1 02/03/17 13:51
Methyl parathion	ND	10 ng/l	1 02/03/17 13:51
Mevinphos	ND	10 ng/l	1 02/03/17 13:51
Naled	ND	10 ng/l	1 02/03/17 13:51
Phorate	ND	10 ng/l	1 02/03/17 13:51
Ronnel	ND	10 ng/l	1 02/03/17 13:51
Stirophos	ND	10 ng/l	1 02/03/17 13:51
Tokuthion (Prothiofos)	ND	10 ng/l	1 02/03/17 13:51
Trichloronate	ND	10 ng/l	1 02/03/17 13:51
<i>Surrogate(s)</i>			
1,3-Dimethyl-2-nitrobenzene	92% Conc: 462	76-128	02/03/17 13:51
Triphenyl phosphate	156% Conc: 779	40-163	02/03/17 13:51



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## Quality Control Results

Anions by IC, EPA Method 300.0

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7A2665 - EPA 300.0</b>										
<b>Blank (W7A2665-BLK1)</b>				<b>Prepared &amp; Analyzed: 01/25/17</b>						
Chloride, Total	ND	0.50	mg/l							
Sulfate as SO4	ND	0.50	mg/l							
<b>LCS (W7A2665-BS1)</b>				<b>Prepared &amp; Analyzed: 01/25/17</b>						
Chloride, Total	10.2	0.50	mg/l	9.98		103	90-110			
Sulfate as SO4	10.2	0.50	mg/l	10.1		101	90-110			
<b>Matrix Spike (W7A2665-MS1)</b>				<b>Source: 7A20076-01</b>			<b>Prepared &amp; Analyzed: 01/25/17</b>			
Chloride, Total	153	5.0	mg/l	99.8	48.0	105	76-118			
Sulfate as SO4	426	5.0	mg/l	101	297	128	78-111			MS-05
<b>Matrix Spike (W7A2665-MS2)</b>				<b>Source: 7A20114-01</b>			<b>Prepared &amp; Analyzed: 01/25/17</b>			
Chloride, Total	239	5.0	mg/l	99.8	127	112	76-118			
Sulfate as SO4	497	5.0	mg/l	101	327	169	78-111			MS-05
<b>Matrix Spike Dup (W7A2665-MSD1)</b>				<b>Source: 7A20076-01</b>			<b>Prepared &amp; Analyzed: 01/25/17</b>			
Chloride, Total	154	5.0	mg/l	99.8	48.0	106	76-118	0.5	20	
Sulfate as SO4	430	5.0	mg/l	101	297	133	78-111	1	20	MS-05
<b>Matrix Spike Dup (W7A2665-MSD2)</b>				<b>Source: 7A20114-01</b>			<b>Prepared &amp; Analyzed: 01/25/17</b>			
Chloride, Total	241	5.0	mg/l	99.8	127	114	76-118	0.9	20	
Sulfate as SO4	504	5.0	mg/l	101	327	175	78-111	1	20	MS-05



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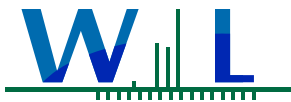
## Quality Control Results

(Continued)

Chlorinated Pesticides and/or PCBs

Analyte	Result	MRL	Units	Spike	Source	%REC		RPD		Qualifier
				Level	Result	%REC	Limits	RPD	Limit	
<b>Batch: W7A2683 - EPA 608</b>										
<b>Blank (W7A2683-BLK1)</b>				<b>Prepared: 01/25/17 Analyzed: 02/04/17</b>						
2,4'-DDD	ND	5.0	ng/l							
2,4'-DDE	ND	5.0	ng/l							
2,4'-DDT	ND	5.0	ng/l							
4,4'-DDD	ND	5.0	ng/l							
4,4'-DDE	ND	5.0	ng/l							
4,4'-DDT	ND	5.0	ng/l							
Aldrin	ND	5.0	ng/l							
alpha-BHC	ND	5.0	ng/l							
alpha-Chlordane	ND	5.0	ng/l							
Aroclor 1016	ND	100	ng/l							
Aroclor 1221	ND	100	ng/l							
Aroclor 1232	ND	100	ng/l							
Aroclor 1242	ND	100	ng/l							
Aroclor 1248	ND	100	ng/l							
Aroclor 1254	ND	100	ng/l							
Aroclor 1260	ND	100	ng/l							
beta-BHC	ND	5.0	ng/l							
Chlordane (tech)	ND	100	ng/l							
cis-Nonachlor	ND	5.0	ng/l							
delta-BHC	ND	5.0	ng/l							
Dieldrin	ND	5.0	ng/l							
Endosulfan I	ND	5.0	ng/l							
Endosulfan II	ND	5.0	ng/l							
Endosulfan sulfate	ND	5.0	ng/l							
Endrin	ND	5.0	ng/l							
Endrin aldehyde	ND	5.0	ng/l							
gamma-BHC (Lindane)	ND	5.0	ng/l							
gamma-Chlordane	ND	5.0	ng/l							
Heptachlor	ND	5.0	ng/l							
Heptachlor epoxide	ND	5.0	ng/l							
Methoxychlor	ND	5.0	ng/l							
Mirex	ND	5.0	ng/l							
Oxychlordane	ND	5.0	ng/l							
Toxaphene	ND	500	ng/l							
trans-Nonachlor	ND	5.0	ng/l							
<i>Surrogate(s)</i>										
Decachlorobiphenyl		69.9	ng/l	100		70	0.1-118			





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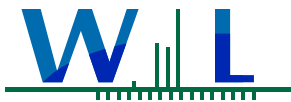
Project Manager: Scott Jordan

## Quality Control Results

(Continued)

Chlorinated Pesticides and/or PCBs (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7A2683 - EPA 608 (Continued)</b>										
<b>Blank (W7A2683-BLK1)</b>										
<b>Prepared: 01/25/17 Analyzed: 02/04/17</b>										
<i>Surrogate(s)</i>										
Tetrachloro-meta-xylene		71.1	ng/l	100		71	12-117			
<b>LCS (W7A2683-BS1)</b>										
<b>Prepared: 01/25/17 Analyzed: 02/04/17</b>										
4,4'-DDD	81.3	5.0	ng/l	100		81	42-133			
4,4'-DDE	86.8	5.0	ng/l	100		87	33-126			
4,4'-DDT	90.8	5.0	ng/l	100		91	35-147			
Aldrin	80.6	5.0	ng/l	100		81	18-117			
alpha-BHC	76.3	5.0	ng/l	100		76	47-119			
beta-BHC	89.2	5.0	ng/l	100		89	53-123			
delta-BHC	87.3	5.0	ng/l	100		87	51-123			
Dieldrin	87.0	5.0	ng/l	100		87	48-123			
Endosulfan I	80.5	5.0	ng/l	100		81	14-131			
Endosulfan II	81.4	5.0	ng/l	100		81	40-121			
Endosulfan sulfate	86.3	5.0	ng/l	100		86	44-140			
Endrin	92.1	5.0	ng/l	100		92	40-143			
Endrin aldehyde	73.7	5.0	ng/l	100		74	18-136			
gamma-BHC (Lindane)	78.8	5.0	ng/l	100		79	49-117			
Heptachlor	86.3	5.0	ng/l	100		86	31-130			
Heptachlor epoxide	86.0	5.0	ng/l	100		86	49-122			
<i>Surrogate(s)</i>										
Decachlorobiphenyl		80.6	ng/l	100		81	0.1-118			
Tetrachloro-meta-xylene		70.0	ng/l	100		70	12-117			
<b>Matrix Spike (W7A2683-MS1)</b>										
<b>Source: 7A20083-01 Prepared: 01/25/17 Analyzed: 02/04/17</b>										
4,4'-DDD	86.1	5.0	ng/l	100	ND	86	23-124			
4,4'-DDE	90.4	5.0	ng/l	100	ND	90	30-114			
4,4'-DDT	97.4	5.0	ng/l	100	ND	97	11-151			
Aldrin	84.7	5.0	ng/l	100	ND	85	18-110			
alpha-BHC	90.8	5.0	ng/l	100	ND	91	43-114			
beta-BHC	87.2	5.0	ng/l	100	ND	87	24-135			
delta-BHC	90.8	5.0	ng/l	100	ND	91	37-122			
Dieldrin	93.4	5.0	ng/l	100	ND	93	27-132			
Endosulfan I	85.2	5.0	ng/l	100	ND	85	0.1-140			
Endosulfan II	87.4	5.0	ng/l	100	ND	87	17-122			
Endosulfan sulfate	91.0	5.0	ng/l	100	ND	91	37-131			
Endrin	99.0	5.0	ng/l	100	ND	99	42-144			
Endrin aldehyde	67.2	5.0	ng/l	100	ND	67	11-113			
gamma-BHC (Lindane)	83.5	5.0	ng/l	100	ND	84	33-112			
Heptachlor	95.2	5.0	ng/l	100	ND	95	28-131			



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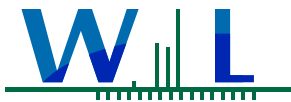
Project Manager: Scott Jordan

## Quality Control Results

(Continued)

Chlorinated Pesticides and/or PCBs (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7A2683 - EPA 608 (Continued)</b>										
<b>Matrix Spike (W7A2683-MS1)</b>			<b>Source: 7A20083-01</b>		<b>Prepared: 01/25/17 Analyzed: 02/04/17</b>					
Heptachlor epoxide	91.4	5.0	ng/l	100	ND	91	36-117			
<i>Surrogate(s)</i>										
Decachlorobiphenyl		79.4	ng/l	100		79	0.1-118			
Tetrachloro-meta-xylene		75.5	ng/l	100		75	12-117			
<b>Matrix Spike Dup (W7A2683-MSD1)</b>			<b>Source: 7A20083-01</b>		<b>Prepared: 01/25/17 Analyzed: 02/04/17</b>					
4,4'-DDD	80.0	5.0	ng/l	100	ND	80	23-124	7	30	
4,4'-DDE	86.8	5.0	ng/l	100	ND	87	30-114	4	30	
4,4'-DDT	90.9	5.0	ng/l	100	ND	91	11-151	7	30	
Aldrin	84.0	5.0	ng/l	100	ND	84	18-110	0.8	30	
alpha-BHC	84.0	5.0	ng/l	100	ND	84	43-114	8	30	
beta-BHC	83.5	5.0	ng/l	100	ND	84	24-135	4	30	
delta-BHC	85.1	5.0	ng/l	100	ND	85	37-122	6	30	
Dieldrin	85.0	5.0	ng/l	100	ND	85	27-132	9	30	
Endosulfan I	79.8	5.0	ng/l	100	ND	80	0.1-140	7	30	
Endosulfan II	80.7	5.0	ng/l	100	ND	81	17-122	8	30	
Endosulfan sulfate	85.6	5.0	ng/l	100	ND	86	37-131	6	30	
Endrin	91.9	5.0	ng/l	100	ND	92	42-144	8	30	
Endrin aldehyde	73.4	5.0	ng/l	100	ND	73	11-113	9	30	
gamma-BHC (Lindane)	77.4	5.0	ng/l	100	ND	77	33-112	8	30	
Heptachlor	87.6	5.0	ng/l	100	ND	88	28-131	8	30	
Heptachlor epoxide	85.8	5.0	ng/l	100	ND	86	36-117	6	30	
<i>Surrogate(s)</i>										
Decachlorobiphenyl		82.0	ng/l	100		82	0.1-118			
Tetrachloro-meta-xylene		69.9	ng/l	100		70	12-117			



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 Ventura, CA 93003

# Certificate of Analysis

FINAL REPORT

**Project Number:** Nursery Growers Association

**Reported:**

02/17/2017 09:40

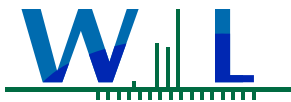
**Project Manager:** Scott Jordan

## Quality Control Results

(Continued)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7A2445 - EPA 365.1</b>										
<b>Blank (W7A2445-BLK1)</b>										
<b>Prepared &amp; Analyzed: 01/21/17</b>										
o-Phosphate as P	ND	0.0020	mg/l							
o-Phosphate as P, dissolved	ND	2.0	ug/l							
<b>LCS (W7A2445-BS1)</b>										
<b>Prepared &amp; Analyzed: 01/21/17</b>										
o-Phosphate as P	0.0531	0.0020	mg/l	0.0500		106	90-110			
o-Phosphate as P, dissolved	53.1	2.0	ug/l	50.0		106	90-110			
<b>Duplicate (W7A2445-DUP1)</b>										
<b>Source: 7A20121-01</b>										
<b>Prepared &amp; Analyzed: 01/21/17</b>										
o-Phosphate as P	0.111	0.0020	mg/l		0.111			0	20	
o-Phosphate as P, dissolved	111	2.0	ug/l		111			0	20	
<b>Matrix Spike (W7A2445-MS1)</b>										
<b>Source: 7A20121-01</b>										
<b>Prepared &amp; Analyzed: 01/21/17</b>										
o-Phosphate as P	0.160	0.0020	mg/l	0.0500	0.111	98	90-110			
o-Phosphate as P, dissolved	160	2.0	ug/l	50.0	111	98	90-110			
<b>Matrix Spike (W7A2445-MS2)</b>										
<b>Source: 7A20115-01</b>										
<b>Prepared &amp; Analyzed: 01/21/17</b>										
o-Phosphate as P	0.575	0.010	mg/l	0.250	0.334	97	90-110			
o-Phosphate as P, dissolved	575	10	ug/l	250	334	97	90-110			
<b>Matrix Spike Dup (W7A2445-MSD1)</b>										
<b>Source: 7A20121-01</b>										
<b>Prepared &amp; Analyzed: 01/21/17</b>										
o-Phosphate as P	0.159	0.0020	mg/l	0.0500	0.111	96	90-110	0.6	20	
o-Phosphate as P, dissolved	159	2.0	ug/l	50.0	111	96	90-110	0.6	20	
<b>Matrix Spike Dup (W7A2445-MSD2)</b>										
<b>Source: 7A20115-01</b>										
<b>Prepared &amp; Analyzed: 01/21/17</b>										
o-Phosphate as P	0.575	0.010	mg/l	0.250	0.334	97	90-110	0	20	
o-Phosphate as P, dissolved	575	10	ug/l	250	334	97	90-110	0	20	



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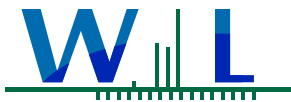
**Project Manager:** Scott Jordan

## Quality Control Results

(Continued)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7A2609 - SM 2540D</b>										
<b>Blank (W7A2609-BLK1)</b> Prepared & Analyzed: 01/24/17										
Total Suspended Solids	ND	5	mg/l							
<b>LCS (W7A2609-BS1)</b> Prepared & Analyzed: 01/24/17										
Total Suspended Solids	61.0	5	mg/l	58.3		105	90-110			
<b>Duplicate (W7A2609-DUP1)</b> Source: 7A20115-01 Prepared & Analyzed: 01/24/17										
Total Suspended Solids	10.0	5	mg/l		10.0			0	20	
<b>Duplicate (W7A2609-DUP2)</b> Source: 7A20121-01 Prepared & Analyzed: 01/24/17										
Total Suspended Solids	39.0	5	mg/l		38.0			3	20	
<b>Batch: W7A2655 - EPA 365.1</b>										
<b>Blank (W7A2655-BLK1)</b> Prepared: 01/24/17 Analyzed: 02/01/17										
Phosphorus, Dissolved	ND	0.010	mg/l							
<b>LCS (W7A2655-BS1)</b> Prepared: 01/24/17 Analyzed: 02/01/17										
Phosphorus, Dissolved	0.0499	0.010	mg/l	0.0500		100	90-110			
<b>Duplicate (W7A2655-DUP1)</b> Source: 7A20122-01 Prepared: 01/24/17 Analyzed: 02/01/17										
Phosphorus, Dissolved	ND	0.010	mg/l		ND				20	
<b>Matrix Spike (W7A2655-MS1)</b> Source: 7A20115-01 Prepared: 01/24/17 Analyzed: 02/01/17										
Phosphorus, Dissolved	0.440	0.020	mg/l	0.100	0.348	92	90-110			
<b>Matrix Spike (W7A2655-MS2)</b> Source: 7A20121-01 Prepared: 01/24/17 Analyzed: 02/01/17										
Phosphorus, Dissolved	0.175	0.010	mg/l	0.0500	0.123	104	90-110			



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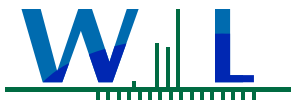
**Project Manager:** Scott Jordan

## Quality Control Results

(Continued)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7A2655 - EPA 365.1 (Continued)</b>										
<b>Matrix Spike Dup (W7A2655-MSD1)</b>			<b>Source: 7A20115-01</b>		<b>Prepared: 01/24/17 Analyzed: 02/01/17</b>					
Phosphorus, Dissolved	0.452	0.020	mg/l	0.100	0.348	104	90-110	3	20	
<b>Matrix Spike Dup (W7A2655-MSD2)</b>			<b>Source: 7A20121-01</b>		<b>Prepared: 01/24/17 Analyzed: 02/01/17</b>					
Phosphorus, Dissolved	0.174	0.010	mg/l	0.0500	0.123	102	90-110	0.6	20	
<b>Batch: W7A2676 - EPA 353.2</b>										
<b>Blank (W7A2676-BLK1)</b>			<b>Prepared &amp; Analyzed: 01/25/17</b>							
NO2+NO3 as N	ND	100	ug/l							
<b>LCS (W7A2676-BS1)</b>			<b>Prepared &amp; Analyzed: 01/25/17</b>							
NO2+NO3 as N	974	100	ug/l	1000		97	90-110			
<b>Matrix Spike (W7A2676-MS1)</b>			<b>Source: 7A24066-02</b>		<b>Prepared &amp; Analyzed: 01/25/17</b>					
NO2+NO3 as N	5510	100	ug/l	2000	3520	100	90-110			
<b>Matrix Spike (W7A2676-MS2)</b>			<b>Source: 7A24066-04</b>		<b>Prepared &amp; Analyzed: 01/25/17</b>					
NO2+NO3 as N	5030	100	ug/l	2000	3100	97	90-110			
<b>Matrix Spike Dup (W7A2676-MSD1)</b>			<b>Source: 7A24066-02</b>		<b>Prepared &amp; Analyzed: 01/25/17</b>					
NO2+NO3 as N	5450	100	ug/l	2000	3520	97	90-110	1	20	
<b>Matrix Spike Dup (W7A2676-MSD2)</b>			<b>Source: 7A24066-04</b>		<b>Prepared &amp; Analyzed: 01/25/17</b>					
NO2+NO3 as N	5040	100	ug/l	2000	3100	97	90-110	0.1	20	
<b>Batch: W7A2752 - SM 2540C</b>										
<b>Blank (W7A2752-BLK1)</b>			<b>Prepared: 01/25/17 Analyzed: 01/26/17</b>							
Total Dissolved Solids	ND	10	mg/l							



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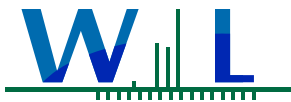
## Quality Control Results

(Continued)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7A2752 - SM 2540C (Continued)</b>										
<b>LCS (W7A2752-BS1)</b>										
Total Dissolved Solids	806	10	mg/l	824		98	96-102			
<b>Duplicate (W7A2752-DUP1) Source: 7A20114-01 Prepared: 01/25/17 Analyzed: 01/26/17</b>										
Total Dissolved Solids	1220	10	mg/l		1200			2	10	
<b>Duplicate (W7A2752-DUP2) Source: 7A25058-01 Prepared: 01/25/17 Analyzed: 01/26/17</b>										
Total Dissolved Solids	3850	10	mg/l		3790			2	10	
<b>Batch: W7A2978 - EPA 350.1</b>										
<b>Blank (W7A2978-BLK1) Prepared: 01/30/17 Analyzed: 02/03/17</b>										
Ammonia as N	ND	0.10	mg/l							
<b>Blank (W7A2978-BLK2) Prepared: 01/30/17 Analyzed: 02/03/17</b>										
Ammonia as N	ND	0.10	mg/l							
<b>LCS (W7A2978-BS1) Prepared: 01/30/17 Analyzed: 02/03/17</b>										
Ammonia as N	0.252	0.10	mg/l	0.250		101	90-110			
<b>LCS (W7A2978-BS2) Prepared: 01/30/17 Analyzed: 02/03/17</b>										
Ammonia as N	0.256	0.10	mg/l	0.250		103	90-110			
<b>Duplicate (W7A2978-DUP1) Source: 7A20118-01 Prepared: 01/30/17 Analyzed: 02/03/17</b>										
Ammonia as N	0.304	0.10	mg/l		0.307			0.8	15	
<b>Matrix Spike (W7A2978-MS1) Source: 7A20109-01 Prepared: 01/30/17 Analyzed: 02/03/17</b>										
Ammonia as N	0.246	0.10	mg/l	0.250	ND	98	90-110			





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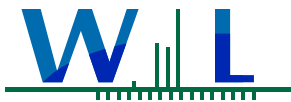
**Project Manager:** Scott Jordan

## Quality Control Results

(Continued)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7A2978 - EPA 350.1 (Continued)</b>										
<b>Matrix Spike (W7A2978-MS2) Source: 7A20121-01 Prepared: 01/30/17 Analyzed: 02/03/17</b>										
Ammonia as N	0.446	0.10	mg/l	0.250	0.201	98	90-110			
<b>Matrix Spike Dup (W7A2978-MSD1) Source: 7A20109-01 Prepared: 01/30/17 Analyzed: 02/03/17</b>										
Ammonia as N	0.246	0.10	mg/l	0.250	ND	99	90-110	0.09	15	
<b>Matrix Spike Dup (W7A2978-MSD2) Source: 7A20121-01 Prepared: 01/30/17 Analyzed: 02/03/17</b>										
Ammonia as N	0.446	0.10	mg/l	0.250	0.201	98	90-110	0.1	15	
<b>Batch: W7A3047 - EPA 365.1</b>										
<b>Blank (W7A3047-BLK1) Prepared: 01/31/17 Analyzed: 02/03/17</b>										
Phosphorus as P, Total	ND	0.010	mg/l							
<b>LCS (W7A3047-BS1) Prepared: 01/31/17 Analyzed: 02/03/17</b>										
Phosphorus as P, Total	0.0531	0.010	mg/l	0.0500		106	90-110			
<b>Duplicate (W7A3047-DUP1) Source: 7A31036-02 Prepared: 01/31/17 Analyzed: 02/03/17</b>										
Phosphorus as P, Total	0.412	0.040	mg/l		0.404			2	20	
<b>Matrix Spike (W7A3047-MS1) Source: 7A20121-01 Prepared: 01/31/17 Analyzed: 02/03/17</b>										
Phosphorus as P, Total	0.220	0.020	mg/l	0.0500	0.172	96	90-110			
<b>Matrix Spike (W7A3047-MS2) Source: 7A31036-01 Prepared: 01/31/17 Analyzed: 02/03/17</b>										
Phosphorus as P, Total	0.512	0.040	mg/l	0.100	0.416	96	90-110			
<b>Matrix Spike Dup (W7A3047-MSD1) Source: 7A20121-01 Prepared: 01/31/17 Analyzed: 02/03/17</b>										
Phosphorus as P, Total	0.220	0.020	mg/l	0.0500	0.172	96	90-110	0	20	



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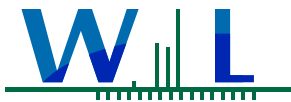
**Project Manager:** Scott Jordan

## Quality Control Results

(Continued)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7A3047 - EPA 365.1 (Continued)</b>										
<b>Matrix Spike Dup (W7A3047-MSD2)</b>										
<b>Source: 7A31036-01</b>										
<b>Prepared: 01/31/17 Analyzed: 02/03/17</b>										
Phosphorus as P, Total	0.520	0.040	mg/l	0.100	0.416	104	90-110	2	20	



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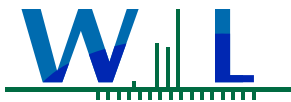
**Project Manager:** Scott Jordan

## Quality Control Results

(Continued)

Metals by EPA 200 Series Methods

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7A2630 - EPA 200.8</b>										
<b>Blank (W7A2630-BLK1)</b>				<b>Prepared: 01/24/17 Analyzed: 01/30/17</b>						
Copper, Total	ND	0.50	ug/l							
<b>LCS (W7A2630-BS1)</b>				<b>Prepared: 01/24/17 Analyzed: 01/30/17</b>						
Copper, Total	46.8	0.50	ug/l	50.0		94	85-115			
<b>Matrix Spike (W7A2630-MS1)</b>				<b>Source: 7A19043-01</b>		<b>Prepared: 01/24/17 Analyzed: 01/30/17</b>				
Copper, Total	63.9	0.50	ug/l	50.0	17.9	92	70-130			
<b>Matrix Spike Dup (W7A2630-MSD1)</b>				<b>Source: 7A19043-01</b>		<b>Prepared: 01/24/17 Analyzed: 01/30/17</b>				
Copper, Total	63.4	0.50	ug/l	50.0	17.9	91	70-130	0.8	30	
<b>Batch: W7A2632 - EPA 200.7</b>										
<b>Blank (W7A2632-BLK1)</b>				<b>Prepared: 01/24/17 Analyzed: 01/27/17</b>						
Calcium, Total	ND	0.100	mg/l							
<b>LCS (W7A2632-BS1)</b>				<b>Prepared: 01/24/17 Analyzed: 01/27/17</b>						
Calcium, Total	46.3	0.100	mg/l	50.2		92	85-115			
<b>Matrix Spike (W7A2632-MS1)</b>				<b>Source: 7A18090-01</b>		<b>Prepared: 01/24/17 Analyzed: 01/27/17</b>				
Calcium, Total	63.3	0.100	mg/l	50.2	17.4	91	70-130			
<b>Matrix Spike (W7A2632-MS2)</b>				<b>Source: 7A18090-02</b>		<b>Prepared: 01/24/17 Analyzed: 01/27/17</b>				
Calcium, Total	322	0.100	mg/l	50.2	281	83	70-130			
<b>Matrix Spike Dup (W7A2632-MSD1)</b>				<b>Source: 7A18090-01</b>		<b>Prepared: 01/24/17 Analyzed: 01/27/17</b>				
Calcium, Total	62.6	0.100	mg/l	50.2	17.4	90	70-130	1	30	



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## Quality Control Results

(Continued)

Metals by EPA 200 Series Methods (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7A2632 - EPA 200.7 (Continued)</b>										
<b>Matrix Spike Dup (W7A2632-MSD2)</b>										
		<b>Source: 7A18090-02</b>			<b>Prepared: 01/24/17 Analyzed: 01/27/17</b>					
Calcium, Total	320	0.100	mg/l	50.2	281	78	70-130	0.7	30	



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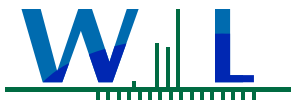
**Project Manager:** Scott Jordan

## Quality Control Results

(Continued)

Pyrethroid Pesticides by EPA 8270M

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7B0195 - EPA 8270M</b>										
<b>Blank (W7B0195-BLK1)</b>				<b>Prepared: 02/03/17 Analyzed: 02/09/17</b>						
Allethrin	ND	2.0	ng/l							
Bifenthrin	ND	2.0	ng/l							
Cyfluthrin	ND	2.0	ng/l							
Cypermethrin	ND	2.0	ng/l							
Deltamethrin/Tralomethrin	ND	2.0	ng/l							
Desulfinylfipronil	ND	2.0	ng/l							
Dichloran	ND	2.0	ng/l							
Fenpropathrin (Danitol)	ND	2.0	ng/l							
Fenvalerate/Esfenvalerate	ND	2.0	ng/l							
Fipronil	ND	2.0	ng/l							
Fipronil sulfide	ND	2.0	ng/l							
Fipronil sulfone	ND	2.0	ng/l							
L-Cyhalothrin	ND	2.0	ng/l							
Pendimethalin	ND	2.0	ng/l							
Permethrin	ND	5.0	ng/l							
Prallethrin	ND	2.0	ng/l							
Sumithrin (Phenothrin)	ND	10	ng/l							
Tefluthrin	ND	2.0	ng/l							
<i>Surrogate(s)</i>										
Perylene-d12		231	ng/l	250		92	2-205			
Triphenyl phosphate		261	ng/l	250		104	6-222			
<b>LCS (W7B0195-BS1)</b>				<b>Prepared: 02/03/17 Analyzed: 02/09/17</b>						
Allethrin	31.1	2.0	ng/l	50.0		62	23-149			
Bifenthrin	28.2	2.0	ng/l	50.0		56	26-153			
Cyfluthrin	35.0	2.0	ng/l	50.0		70	3-168			
Cypermethrin	35.0	2.0	ng/l	50.0		70	2-169			
Deltamethrin/Tralomethrin	40.9	2.0	ng/l	50.0		82	0.1-252			
Desulfinylfipronil	27.0	2.0	ng/l	50.0		54	50-150			
Dichloran	32.7	2.0	ng/l	50.0		65	53-161			
Fenpropathrin (Danitol)	35.9	2.0	ng/l	50.0		72	28-154			
Fenvalerate/Esfenvalerate	39.4	2.0	ng/l	50.0		79	35-133			
Fipronil	34.9	2.0	ng/l	50.0		70	50-150			
Fipronil sulfide	26.9	2.0	ng/l	50.0		54	50-150			
Fipronil sulfone	28.1	2.0	ng/l	51.0		55	50-150			
L-Cyhalothrin	36.0	2.0	ng/l	50.0		72	9-214			
Pendimethalin	30.9	2.0	ng/l	50.0		62	41-158			
Permethrin	34.2	5.0	ng/l	50.0		68	31-154			



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## Quality Control Results

(Continued)

Pyrethroid Pesticides by EPA 8270M (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7B0195 - EPA 8270M (Continued)</b>										
<b>LCS (W7B0195-BS1)</b>				<b>Prepared: 02/03/17 Analyzed: 02/09/17</b>						
Prallethrin	36.3	2.0	ng/l	50.0		73	28-143			
Sumithrin (Phenothrin)	41.2	10	ng/l	50.0		82	12-200			
Tefluthrin	29.6	2.0	ng/l	50.0		59	48-161			
<i>Surrogate(s)</i>										
Perylene-d12		191	ng/l	250		77	2-205			
Triphenyl phosphate		162	ng/l	250		65	6-222			
<b>LCS Dup (W7B0195-BSD1)</b>				<b>Prepared: 02/03/17 Analyzed: 02/09/17</b>						
Allethrin	30.2	2.0	ng/l	50.0		60	23-149	3	30	
Bifenthrin	29.0	2.0	ng/l	50.0		58	26-153	3	30	
Cyfluthrin	34.9	2.0	ng/l	50.0		70	3-168	0.2	30	
Cypermethrin	33.6	2.0	ng/l	50.0		67	2-169	4	30	
Deltamethrin/Tralomethrin	40.2	2.0	ng/l	50.0		80	0.1-252	2	30	
Desulfinylfipronil	24.8	2.0	ng/l	50.0		50	50-150	8	30	
Dichloran	33.0	2.0	ng/l	50.0		66	53-161	0.8	30	
Fenpropathrin (Danitol)	36.5	2.0	ng/l	50.0		73	28-154	2	30	
Fenvalerate/Esfenvalerate	38.5	2.0	ng/l	50.0		77	35-133	2	30	
Fipronil	30.7	2.0	ng/l	50.0		61	50-150	13	30	
Fipronil sulfide	26.7	2.0	ng/l	50.0		53	50-150	0.6	30	
Fipronil sulfone	27.8	2.0	ng/l	51.0		55	50-150	1	30	
L-Cyhalothrin	37.2	2.0	ng/l	50.0		74	9-214	3	30	
Pendimethalin	32.9	2.0	ng/l	50.0		66	41-158	6	30	
Permethrin	34.3	5.0	ng/l	50.0		69	31-154	0.3	30	
Prallethrin	35.4	2.0	ng/l	50.0		71	28-143	2	30	
Sumithrin (Phenothrin)	46.2	10	ng/l	50.0		92	12-200	11	30	
Tefluthrin	31.4	2.0	ng/l	50.0		63	48-161	6	30	
<i>Surrogate(s)</i>										
Perylene-d12		183	ng/l	250		73	2-205			
Triphenyl phosphate		153	ng/l	250		61	6-222			





WECK LABORATORIES, INC.

Pacific Ridgeline - Ventura CA  
1891 Goodyear Avenue, Suite 621  
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# Certificate of Analysis

FINAL REPORT

**Project Number:** Nursery Growers Association

**Reported:**

02/17/2017 09:40

**Project Manager:** Scott Jordan

## Quality Control Results

(Continued)

Semivolatle Organic Compounds by GC/MS

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7A3001 - EPA 525.2</b>										
<b>Blank (W7A3001-BLK1)</b>										
<b>Prepared: 01/31/17 Analyzed: 02/03/17</b>										
Azinphos methyl (Guthion)	ND	10	ng/l							
Bolstar	ND	10	ng/l							
Chlorpyrifos	ND	10	ng/l							
Coumaphos	ND	10	ng/l							
Demeton-o	ND	10	ng/l							
Demeton-s	ND	10	ng/l							
Diazinon	ND	10	ng/l							
Dichlorvos	ND	10	ng/l							
Dimethoate	ND	10	ng/l							
Disulfoton	ND	10	ng/l							
Ethoprop	ND	10	ng/l							
Ethyl parathion	ND	10	ng/l							
Fensulfothion	ND	10	ng/l							
Fenthion	ND	10	ng/l							
Malathion	ND	10	ng/l							
Merphos	ND	10	ng/l							
Methyl parathion	ND	10	ng/l							
Mevinphos	ND	10	ng/l							
Naled	ND	10	ng/l							
Phorate	ND	10	ng/l							
Ronnel	ND	10	ng/l							
Stirophos	ND	10	ng/l							
Tokuthion (Prothiofos)	ND	10	ng/l							
Trichloronate	ND	10	ng/l							
<i>Surrogate(s)</i>										
1,3-Dimethyl-2-nitrobenzene		500	ng/l	500		100	76-128			
Triphenyl phosphate		560	ng/l	500		112	40-163			
<b>LCS (W7A3001-BS1)</b>										
<b>Prepared: 01/31/17 Analyzed: 02/03/17</b>										
Azinphos methyl (Guthion)	61.3	10	ng/l	50.0		123	0.1-188			
Bolstar	44.6	10	ng/l	50.0		89	11-166			
Chlorpyrifos	51.5	10	ng/l	50.0		103	37-169			
Coumaphos	61.6	10	ng/l	50.0		123	0.1-225			
Demeton-o	37.0	10	ng/l	50.0		74	0.1-211			
Demeton-s	56.0	10	ng/l	50.0		112	0.1-213			
Diazinon	44.7	10	ng/l	50.0		89	43-152			
Dichlorvos	53.8	10	ng/l	50.0		108	46-133			
Dimethoate	58.7	10	ng/l	50.0		117	10-234			



WECK LABORATORIES, INC.

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Reported:

02/17/2017 09:40

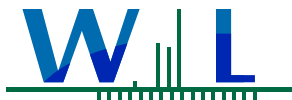
Project Manager: Scott Jordan

## Quality Control Results

(Continued)

### Semivolatle Organic Compounds by GC/MS (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7A3001 - EPA 525.2 (Continued)</b>										
<b>LCS (W7A3001-BS1)</b>										
				<b>Prepared: 01/31/17 Analyzed: 02/03/17</b>						
Disulfoton	48.0	10	ng/l	50.0		96	0.1-212			
Ethoprop	54.5	10	ng/l	50.0		109	53-163			
Ethyl parathion	65.8	10	ng/l	50.0		132	7-230			
Fensulfothion	63.3	10	ng/l	50.0		127	0.1-265			
Fenthion	51.4	10	ng/l	50.0		103	20-177			
Malathion	60.5	10	ng/l	50.0		121	14-175			
Merphos	46.4	10	ng/l	50.0		93	28-181			
Methyl parathion	75.3	10	ng/l	50.0		151	0.1-252			
Mevinphos	54.3	10	ng/l	50.0		109	14-202			
Naled	51.2	10	ng/l	50.0		102	0.1-240			
Phorate	49.5	10	ng/l	50.0		99	26-180			
Ronnel	50.6	10	ng/l	50.0		101	34-154			
Stirophos	59.9	10	ng/l	50.0		120	0.1-188			
Tokuthion (Prothiofos)	44.9	10	ng/l	50.0		90	23-159			
Trichloronate	50.4	10	ng/l	50.0		101	34-153			
<i>Surrogate(s)</i>										
1,3-Dimethyl-2-nitrobenzene		519	ng/l	500		104	76-128			
Triphenyl phosphate		538	ng/l	500		108	40-163			
<b>Matrix Spike (W7A3001-MS1)</b>										
				<b>Source: 7A20126-01</b>			<b>Prepared: 01/31/17 Analyzed: 02/03/17</b>			
Azinphos methyl (Guthion)	73.9	10	ng/l	50.0	ND	148	0.1-154			
Bolstar	62.8	10	ng/l	50.0	ND	126	4-184			
Chlorpyrifos	53.8	10	ng/l	50.0	ND	108	37-168			
Coumaphos	74.8	10	ng/l	50.0	ND	150	0.1-203			
Demeton-o	50.4	10	ng/l	50.0	ND	101	0.1-208			
Demeton-s	61.1	10	ng/l	50.0	ND	122	0.1-207			
Diazinon	46.1	10	ng/l	50.0	ND	92	36-153			
Dichlorvos	62.1	10	ng/l	50.0	ND	124	42-137			
Dimethoate	74.5	10	ng/l	50.0	ND	149	4-222			
Disulfoton	53.1	10	ng/l	50.0	ND	106	12-199			
Ethoprop	58.1	10	ng/l	50.0	ND	116	51-167			
Ethyl parathion	77.9	10	ng/l	50.0	ND	156	5-229			
Fensulfothion	78.8	10	ng/l	50.0	ND	158	0.1-316			
Fenthion	70.3	10	ng/l	50.0	ND	141	23-169			
Malathion	75.0	10	ng/l	50.0	ND	150	6-184			
Merphos	72.3	10	ng/l	50.0	ND	145	3-210			
Methyl parathion	93.3	10	ng/l	50.0	ND	187	0.1-249			
Mevinphos	72.6	10	ng/l	50.0	ND	145	25-189			



WECK LABORATORIES, INC.

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Reported:

02/17/2017 09:40

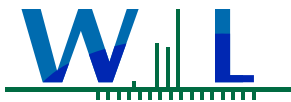
Project Manager: Scott Jordan

## Quality Control Results

(Continued)

Semivolatile Organic Compounds by GC/MS (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7A3001 - EPA 525.2 (Continued)</b>										
<b>Matrix Spike (W7A3001-MS1)</b>			<b>Source: 7A20126-01</b>			<b>Prepared: 01/31/17 Analyzed: 02/03/17</b>				
Naled	67.5	10	ng/l	50.0	ND	135	0.1-242			
Phorate	51.2	10	ng/l	50.0	ND	102	31-181			
Ronnel	53.3	10	ng/l	50.0	ND	107	29-153			
Stirophos	82.3	10	ng/l	50.0	ND	165	0.1-167			
Tokuthion (Prothiofos)	46.6	10	ng/l	50.0	ND	93	27-160			
Trichloronate	51.9	10	ng/l	50.0	ND	104	40-150			
<i>Surrogate(s)</i>										
1,3-Dimethyl-2-nitrobenzene		521	ng/l	500		104	76-128			
Triphenyl phosphate		637	ng/l	500		127	40-163			
<b>Matrix Spike Dup (W7A3001-MSD1)</b>			<b>Source: 7A20126-01</b>			<b>Prepared: 01/31/17 Analyzed: 02/03/17</b>				
Azinphos methyl (Guthion)	207	10	ng/l	50.0	ND	415	0.1-154	95	30	MS-05
Bolstar	108	10	ng/l	50.0	ND	217	4-184	53	30	MS-05
Chlorpyrifos	49.4	10	ng/l	50.0	ND	99	37-168	9	30	
Coumaphos	167	10	ng/l	50.0	ND	334	0.1-203	76	30	MS-05
Demeton-o	17.0	10	ng/l	50.0	ND	34	0.1-208	99	30	MS-05
Demeton-s	45.9	10	ng/l	50.0	ND	92	0.1-207	28	30	
Diazinon	32.1	10	ng/l	50.0	ND	64	36-153	36	30	MS-05
Dichlorvos	53.4	10	ng/l	50.0	ND	107	42-137	15	30	
Dimethoate	66.4	10	ng/l	50.0	ND	133	4-222	12	30	
Disulfoton	36.5	10	ng/l	50.0	ND	73	12-199	37	30	MS-05
Ethoprop	54.8	10	ng/l	50.0	ND	110	51-167	6	30	
Ethyl parathion	74.3	10	ng/l	50.0	ND	149	5-229	5	30	
Fensulfothion	209	10	ng/l	50.0	ND	418	0.1-316	91	30	MS-05
Fenthion	54.6	10	ng/l	50.0	ND	109	23-169	25	30	
Malathion	72.2	10	ng/l	50.0	ND	144	6-184	4	30	
Merphos	163	10	ng/l	50.0	ND	326	3-210	77	30	MS-05
Methyl parathion	88.0	10	ng/l	50.0	ND	176	0.1-249	6	30	
Mevinphos	63.2	10	ng/l	50.0	ND	126	25-189	14	30	
Naled	63.2	10	ng/l	50.0	ND	126	0.1-242	7	30	
Phorate	46.7	10	ng/l	50.0	ND	93	31-181	9	30	
Ronnel	46.8	10	ng/l	50.0	ND	94	29-153	13	30	
Stirophos	79.6	10	ng/l	50.0	ND	159	0.1-167	3	30	
Tokuthion (Prothiofos)	88.0	10	ng/l	50.0	ND	176	27-160	62	30	MS-05
Trichloronate	42.6	10	ng/l	50.0	ND	85	40-150	20	30	
<i>Surrogate(s)</i>										
1,3-Dimethyl-2-nitrobenzene		533	ng/l	500		107	76-128			
Triphenyl phosphate		1780	ng/l	500		357	40-163			S-GC



WECK LABORATORIES, INC.

Pacific Ridgeline - Ventura CA  
1891 Goodyear Avenue, Suite 621  
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# Certificate of Analysis

FINAL REPORT

**Project Number:** Nursery Growers Association

**Reported:**

02/17/2017 09:40

**Project Manager:** Scott Jordan



## Notes and Definitions

Item	Definition
**	The recommended holding time for field filtering is only 15 minutes. The sample was filtered as soon as possible but it was filtered past holding time. However, the sample was analyzed within holding time.
M-04	Due to the nature of matrix interferences, sample extract was diluted prior to analysis. The MDL and MRL were raised due to the dilution.
M-06	Due to the high concentration of analyte inherent in the sample, sample was diluted prior to preparation. The MDL and MRL were raised due to this dilution.
MS-05	The spike recovery and/or RPD were outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
S-GC	Surrogate recovery outside of control limits due to a possible matrix effect. The data was accepted based on valid recovery of the remaining surrogate.
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Source	Sample that was matrix spiked or duplicated.
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ) and Detection Limit for Reporting (DLR)
MDA	Minimum Detectable Activity
NR	Not Reportable
TIC	Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB)

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS 002.



March 1, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* EPA-821-R-02-013. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

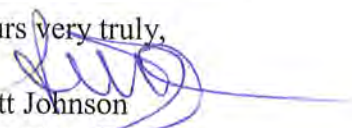
CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA-19.8
DATE RECEIVED:	23 Jan -17
ABC LAB. NO.:	PRI0117.187

#### **CHRONIC FATHEAD LARVAE SURVIVAL & GROWTH BIOASSAY**

SURVIVAL	NOEC =	100.00 %
	TUc =	1.00
	EC25 =	N/A
	EC50 =	N/A

GROWTH	NOEC =	100.00 %
	TUc =	1.00
	IC25 =	N/A
	IC50 =	N/A

Yours very truly,

  
Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 23 Feb-17 16:18 (p 1 of 1)  
 Test Code: PRI0117.187fml | 15-2796-3012

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 21-3668-0497	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:10	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:15	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 17-6507-7802	<b>Code:</b> PRI0117.187f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 08:45	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 3h (9.4 °C)	<b>Station:</b> LAILG-NGA-19.8	

### Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
01-0663-5423	7d Survival Rate	Equal Variance t Two-Sample Test	0.6442	100% passed 7d survival rate
04-6640-6177	Mean Dry Biomass-mg	Equal Variance t Two-Sample Test	0.9198	100% passed mean dry biomass-mg

### Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
01-0663-5423	7d Survival Rate	Control Resp	0.95	0.8	>>	Yes	Passes Criteria
04-6640-6177	Mean Dry Biomass-mg	Control Resp	0.2592	0.25	>>	Yes	Passes Criteria

### 7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.9500	0.8484	1.0000	0.8667	1.0000	0.0319	0.0638	6.72%	0.00%
100		4	0.9667	0.8606	1.0000	0.8667	1.0000	0.0333	0.0667	6.90%	-1.75%

### Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.2592	0.2055	0.3128	0.2107	0.2887	0.01686	0.03372	13.01%	0.00%
100		4	0.2883	0.2664	0.3103	0.2713	0.3047	0.006893	0.01379	4.78%	-11.25%

### 7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	0.8667	1.0000	0.9333
100		1.0000	1.0000	1.0000	0.8667

### Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.2707	0.2107	0.2667	0.2887
100		0.286	0.3047	0.2913	0.2713

### 7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	13/15	15/15	14/15
100		15/15	15/15	15/15	13/15



# CETIS Analytical Report

Report Date: 23 Feb-17 16:18 (p 1 of 4)  
 Test Code: PRI0117.187fml | 15-2796-3012

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 01-0663-5423	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 23 Feb-17 16:18	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 21-3668-0497	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:10	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:15	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 17-6507-7802	<b>Code:</b> PRI0117.187f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 08:45	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 3h (9.4 °C)	<b>Station:</b> LAILG-NGA-19.8	

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 7d survival rate	9.83%

### Equal Variance t Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	-0.3879	1.943	0.165	6	CDF	0.6442	Non-Significant Effect

### Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.95	0.8	>>	Yes	Passes Criteria

### ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.002168	0.002168	1	0.1504	0.7115	Non-Significant Effect
Error	0.0864659	0.014411	6			
Total	0.0886339		7			

### Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	0.003885	13.75	0.9523	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.2396	13.75	0.6419	Equal Variances
Variances	Variance Ratio F Test	1.074	47.47	0.9546	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.8547	3.878	0.0279	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.3337	0.3313	0.0091	Non-Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.7959	0.6451	0.0259	Normal Distribution

### 7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.9500	0.8484	1.0000	0.9667	0.8667	1.0000	0.0319	6.72%	0.00%
100		4	0.9667	0.8606	1.0000	1.0000	0.8667	1.0000	0.0333	6.90%	-1.75%

### Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.347	1.16	1.535	1.375	1.197	1.441	0.05894	8.75%	0.00%
100		4	1.38	1.186	1.575	1.441	1.197	1.441	0.06108	8.85%	-2.44%

### 7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	0.8667	1.0000	0.9333
100		1.0000	1.0000	1.0000	0.8667

### Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.441	1.197	1.441	1.31
100		1.441	1.441	1.441	1.197

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 01-0663-5423

Endpoint: 7d Survival Rate

CETIS Version: CETISv1.9.2

Analyzed: 23 Feb-17 16:18

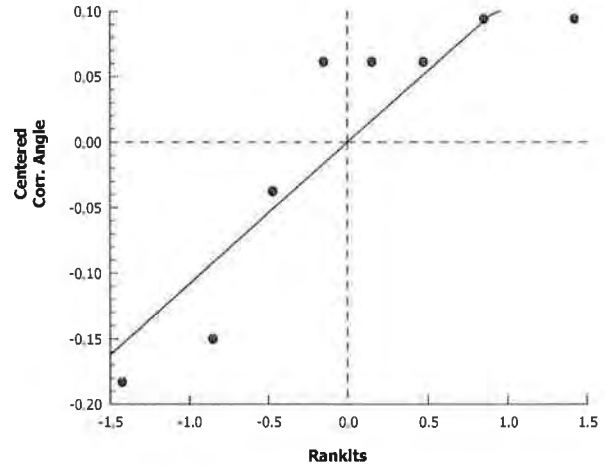
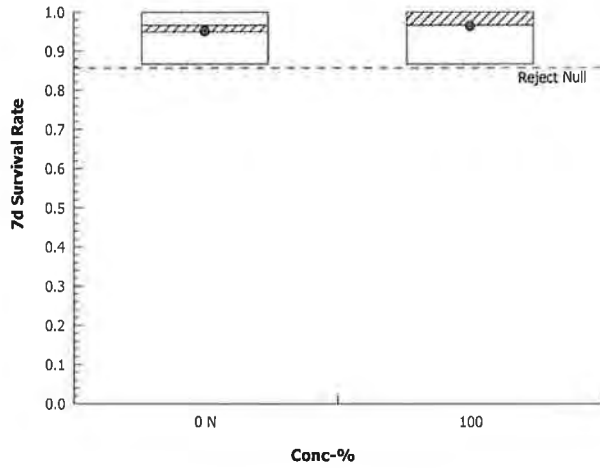
Analysis: Parametric-Two Sample

Official Results: Yes

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	13/15	15/15	14/15
100		15/15	15/15	15/15	13/15

Graphics



**CETIS Analytical Report**

Report Date: 23 Feb-17 16:18 (p 3 of 4)  
 Test Code: PRI0117.187fml | 15-2796-3012

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 04-6640-6177	<b>Endpoint:</b> Mean Dry Biomass-mg	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 23 Feb-17 16:18	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 21-3668-0497	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:10	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:15	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 17-6507-7802	<b>Code:</b> PRI0117.187f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 08:45	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 3h (9.4 °C)	<b>Station:</b> LAILG-NGA-19.8	

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% passed mean dry biomass-mg	13.66%

**Equal Variance t Two-Sample Test**

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	-1.601	1.943	0.035	6	CDF	0.9198	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.2592	0.25	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0017014	0.0017014	1	2.564	0.1604	Non-Significant Effect
Error	0.0039812	0.0006635	6			
Total	0.0056826		7			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	2.033	13.75	0.2038	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.6156	13.75	0.4625	Equal Variances
Variances	Variance Ratio F Test	5.982	47.47	0.1759	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.4039	3.878	0.3596	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.211	0.3313	0.4239	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9168	0.6451	0.4043	Normal Distribution

**Mean Dry Biomass-mg Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.2592	0.2055	0.3128	0.2687	0.2107	0.2887	0.01686	13.01%	0.00%
100		4	0.2883	0.2664	0.3103	0.2887	0.2713	0.3047	0.006893	4.78%	-11.25%

**Mean Dry Biomass-mg Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.2707	0.2107	0.2667	0.2887
100		0.286	0.3047	0.2913	0.2713



# CETIS Measurement Report

Report Date: 23 Feb-17 16:18 (p 1 of 2)  
 Test Code: PRI0117.187fml | 15-2796-3012

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 21-3668-0497	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:10	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:15	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 17-6507-7802	<b>Code:</b> PRI0117.187f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 08:45	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 3h (9.4 °C)	<b>Station:</b> LAILG-NGA-19.8	

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	66	62.54	69.46	61	69	1.464	4.14	6.27%	0
100		8	55	55	55	55	55	0	0	0.0%	0
Overall		16	60.5	57.12	63.88	55	69	1.586	6.346	10.49%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	353.8	346.9	360.6	336	360	2.896	8.19	2.32%	0
100		8	526.6	494.6	558.6	466	565	13.54	38.3	7.27%	0
Overall		16	440.2	390.5	489.8	336	565	23.3	93.2	21.17%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.725	7.531	7.919	7.4	8.2	0.08183	0.2315	3.0%	0
100		8	7.6	7	8.2	6.2	8.3	0.2535	0.7171	9.44%	0
Overall		16	7.663	7.386	7.939	6.2	8.3	0.1297	0.5188	6.77%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	88.38	87.94	88.81	88	89	0.183	0.5175	0.59%	0
100		8	182	182	182	182	182	0	0	0.0%	0
Overall		16	135.2	109.4	161	88	182	12.09	48.35	35.76%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.837	7.648	8.027	7.5	8.2	0.08004	0.2264	2.89%	0
100		8	7.275	7.188	7.362	7.1	7.4	0.0366	0.1035	1.42%	0
Overall		16	7.556	7.377	7.736	7.1	8.2	0.08415	0.3366	4.45%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24.05	23.96	24.14	24	24.3	0.0378	0.1069	0.44%	0
100		8	24	24	24	24	24	0	0	0.0%	0
Overall		16	24.02	23.98	24.07	24	24.3	0.01936	0.07746	0.32%	0 (0%)

# CETIS Measurement Report

Report Date: 23 Feb-17 16:18 (p 2 of 2)  
 Test Code: PRI0117.187fml | 15-2796-3012

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

### Alkalinity (CaCO<sub>3</sub>)-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	61	61	61	69	69	69	69	69
100		55	55	55	55	55	55	55	55

### Conductivity-µmhos

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	354	357	356	360	360	359	336	348
100		466	471	545	536	538	527	565	565

### Dissolved Oxygen-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.7	7.4	7.6	7.6	7.8	7.7	7.8	8.2
100		7.9	7.8	8.1	7.9	7.8	6.8	8.3	6.2

### Hardness (CaCO<sub>3</sub>)-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	89	89	89	88	88	88	88	88
100		182	182	182	182	182	182	182	182

### pH-Units

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.7	7.6	7.9	7.9	7.9	8	7.5	8.2
100		7.3	7.2	7.2	7.1	7.3	7.4	7.3	7.4

### Temperature-°C

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	24.3	24.1	24	24	24	24	24	24
100		24	24	24	24	24	24	24	24





February 28, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms EPA-821-R-02-013*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

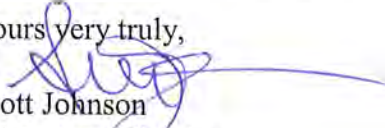
CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA-19.8
DATE RECEIVED:	23 Jan -17
ABC LAB. NO.:	PRI0117.187

#### **CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY**

SURVIVAL	NOEC =	100.00 %
	TUc =	1.00
	EC25 =	N/A
	EC50 =	N/A %

REPRODUCTION	NOEC =	100.00 %
	TUc =	1.00
	IC25 =	N/A
	IC50 =	N/A

Yours very truly,

  
Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 23 Feb-17 16:19 (p 1 of 1)  
 Test Code: PRI0117.187cer | 03-9780-8472

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 07-6025-5502	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:10	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:15	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 17-6192-8180	<b>Code:</b> PRI0117.187c	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 08:45	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 3h (9.4 °C)	<b>Station:</b> LAILG-NGA-19.8	

### Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
05-7738-3368	7d Survival Rate	Fisher Exact Test	1.0000	100% passed 7d survival rate
06-1743-3375	Reproduction	Equal Variance t Two-Sample Test	0.5561	100% passed reproduction

### Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
05-7738-3368	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
06-1743-3375	Reproduction	Control Resp	16.6	15	>>	Yes	Passes Criteria

### 7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

### Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	16.6	12.75	20.45	9	23	1.701	5.379	32.40%	0.00%
100		10	17	11.98	22.02	4	25	2.221	7.024	41.32%	-2.41%

### 7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

### Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	12	21	9	18	10	12	18	20	23	23
100		17	5	4	21	20	16	25	21	20	21

### 7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

# CETIS Analytical Report

Report Date: 23 Feb-17 16:19 (p 1 of 2)  
 Test Code: PRI0117.187cer | 03-9780-8472

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 06-1743-3375	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 16 Feb-17 13:33	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 07-6025-5502	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:10	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:15	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 17-6192-8180	<b>Code:</b> PRI0117.187c	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 08:45	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 3h (9.4 °C)	<b>Station:</b> LAILG-NGA-19.8	

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% passed reproduction	29.22%

### Equal Variance t Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	-0.143	1.734	4.851	18	CDF	0.5561	Non-Significant Effect

### Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	16.6	15	>>	Yes	Passes Criteria

### ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.8	0.8	1	0.02044	0.8879	Non-Significant Effect
Error	704.4	39.1333	18			
Total	705.2		19			

### Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	0.1132	8.285	0.7404	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.008806	8.285	0.9263	Equal Variances
Variances	Variance Ratio F Test	1.705	6.541	0.4389	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.9285	3.878	0.0185	Normal Distribution
Distribution	D'Agostino Kurtosis Test	0.05212	2.576	0.9584	Normal Distribution
Distribution	D'Agostino Skewness Test	1.74	2.576	0.0819	Normal Distribution
Distribution	D'Agostino-Pearson K2 Omnibus Test	3.03	9.21	0.2198	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1909	0.2235	0.0543	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.8994	0.866	0.0402	Normal Distribution

### Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	16.6	12.75	20.45	18	9	23	1.701	32.40%	0.00%
100		10	17	11.98	22.02	20	4	25	2.221	41.32%	-2.41%

### Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	12	21	9	18	10	12	18	20	23	23
100		17	5	4	21	20	16	25	21	20	21

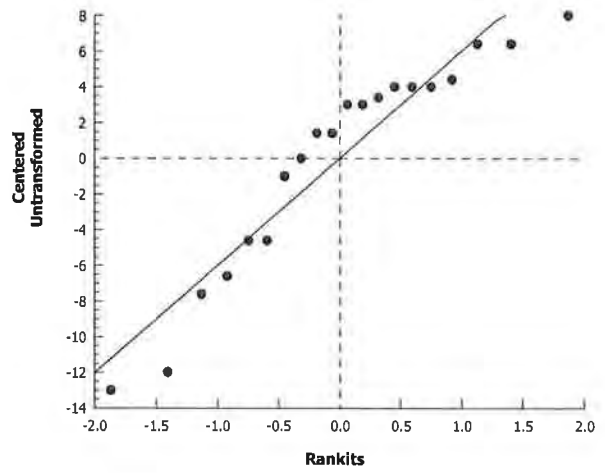
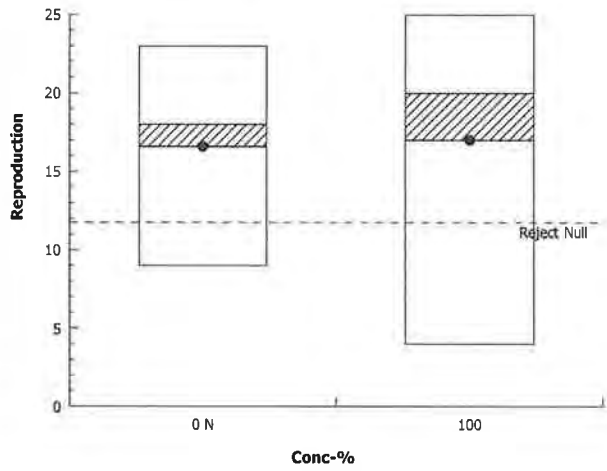
**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**Analysis ID:** 06-1743-3375 **Endpoint:** Reproduction  
**Analyzed:** 16 Feb-17 13:33 **Analysis:** Parametric-Two Sample

**CETIS Version:** CETISv1.9.2  
**Official Results:** Yes

**Graphics**





# CETIS Measurement Report

Report Date: 23 Feb-17 16:19 (p 1 of 2)  
 Test Code: PRI0117.187cer | 03-9780-8472

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 07-6025-5502      Test Type: Reproduction-Survival (7d)  
 Start Date: 24 Jan-17 12:10      Protocol: EPA/821/R-02-013 (2002)  
 Ending Date: 31 Jan-17 10:15      Species: Ceriodaphnia dubia  
 Duration: 6d 22h      Source: Aquatic Biosystems, CO

Analyst:  
 Diluent: Laboratory Water  
 Brine: Not Applicable  
 Age:

Sample ID: 17-6192-8180      Code: PRI0117.187c  
 Sample Date: 20 Jan-17 08:45      Material: Sample Water  
 Receipt Date: 23 Jan-17 13:23      Source: Bioassay Report  
 Sample Age: 4d 3h (9.4 °C)      Station: LAILG-NGA-19.8

Client: Pacific Ridgeline, Inc.  
 Project: LA Irrigated Lands Group (LAILG)-NG

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	66	62.54	69.46	61	69	1.464	4.14	6.27%	0
100		8	55	55	55	55	55	0	0	0.0%	0
Overall		16	60.5	57.12	63.88	55	69	1.586	6.346	10.49%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	353.8	346.9	360.6	336	360	2.896	8.19	2.32%	0
100		8	526.6	494.6	558.6	466	565	13.54	38.3	7.27%	0
Overall		16	440.2	390.5	489.8	336	565	23.3	93.2	21.17%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.725	7.531	7.919	7.4	8.2	0.08183	0.2315	3.0%	0
100		8	7.85	7.463	8.237	6.8	8.3	0.1637	0.4629	5.9%	0
Overall		16	7.788	7.596	7.979	6.8	8.3	0.08985	0.3594	4.62%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	88.38	87.94	88.81	88	89	0.183	0.5175	0.59%	0
100		8	182	182	182	182	182	0	0	0.0%	0
Overall		16	135.2	109.4	161	88	182	12.09	48.35	35.76%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.837	7.648	8.027	7.5	8.2	0.08004	0.2264	2.89%	0
100		8	7.275	7.188	7.362	7.1	7.4	0.0366	0.1035	1.42%	0
Overall		16	7.556	7.377	7.736	7.1	8.2	0.08415	0.3366	4.45%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24.05	23.96	24.14	24	24.3	0.0378	0.1069	0.44%	0
100		8	24	24	24	24	24	0	0	0.0%	0
Overall		16	24.02	23.98	24.07	24	24.3	0.01936	0.07746	0.32%	0 (0%)



**CETIS Measurement Report**

Report Date: 23 Feb-17 16:19 (p 2 of 2)  
 Test Code: PRI0117.187cer | 03-9780-8472

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**Alkalinity (CaCO<sub>3</sub>)-mg/L**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	61	61	61	69	69	69	69	69
100		55	55	55	55	55	55	55	55

**Conductivity-µmhos**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	354	357	356	360	360	359	336	348
100		466	471	545	536	538	527	565	565

**Dissolved Oxygen-mg/L**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.7	7.4	7.6	7.6	7.8	7.7	7.8	8.2
100		7.9	7.8	8.1	7.9	7.8	6.8	8.3	8.2

**Hardness (CaCO<sub>3</sub>)-mg/L**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	89	89	89	88	88	88	88	88
100		182	182	182	182	182	182	182	182

**pH-Units**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.7	7.6	7.9	7.9	7.9	8	7.5	8.2
100		7.3	7.2	7.2	7.1	7.3	7.4	7.3	7.4

**Temperature-°C**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	24.3	24.1	24	24	24	24	24	24
100		24	24	24	24	24	24	24	24

March 1, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms EPA-821-R-02-013*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA-19.8
DATE RECEIVED:	23 Jan -17
ABC LAB. NO.:	PRI0117.187

#### CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY

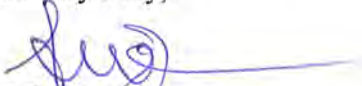
NOEC = 100.00 %

TU<sub>c</sub> = 1.00

IC<sub>25</sub> = N/A

IC<sub>50</sub> = N/A

Yours very truly,



Scott Johnson  
Laboratory Director

**CETIS Summary Report**

Report Date: 23 Feb-17 16:41 (p 1 of 1)  
 Test Code: PRI0117.187sel | 20-7866-6951

**Selenastrum Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 10-1282-3844	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 16:20	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Jan-17 15:30	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Duration:</b> 95h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 14-3501-1962	<b>Code:</b> PRI0117.187sel	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 08:45	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 8h (4 °C)	<b>Station:</b> LAILG-NGA-19.8	

**Single Comparison Summary**

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
15-7400-1274	Cell Density	Equal Variance t Two-Sample Test	0.9837	100% passed cell density

**Test Acceptability**

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
15-7400-1274	Cell Density	Control CV	0.01961	<<	0.2	Yes	Passes Criteria
15-7400-1274	Cell Density	Control Resp	1.42E+6	1000000	>>	Yes	Passes Criteria

**Cell Density Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.418E+6	1.374E+6	1.463E+6	1.389E+6	1.456E+6	1.391E+4	2.781E+4	1.96%	0.00%
100		4	1.666E+6	1.384E+6	1.948E+6	1.408E+6	1.795E+6	8.846E+4	1.769E+5	10.62%	-17.45%

**Cell Density Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.456E+6	1.412E+6	1.389E+6	1.417E+6
100		1.765E+6	1.795E+6	1.696E+6	1.408E+6

# CETIS Analytical Report

Report Date: 23 Feb-17 16:41 (p 1 of 2)  
 Test Code: PRI0117.187sel | 20-7866-6951

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 15-7400-1274	<b>Endpoint:</b> Cell Density	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 23 Feb-17 16:41	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 10-1282-3844	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 16:20	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Jan-17 15:30	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Duration:</b> 95h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 14-3501-1962	<b>Code:</b> PRI0117.187sel	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 08:45	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 8h (4 °C)	<b>Station:</b> LAILG-NGA-19.8	

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% passed cell density	12.27%

## Equal Variance t Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	-2.764	1.943	2E+05	6	CDF	0.9837	Non-Significant Effect

## Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control CV	0.01961	<<	0.2	Yes	Passes Criteria
Control Resp	1.42E+6	1000000	>>	Yes	Passes Criteria

## ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	1.225E+11	1.225E+11	1	7.639	0.0327	Significant Effect
Error	9.623E+10	1.604E+10	6			
Total	2.187E+11		7			

## Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	5.162	13.75	0.0635	Equal Variances
Variances	Mod Levene Equality of Variance Test	1.854	13.75	0.2222	Equal Variances
Variances	Variance Ratio F Test	40.46	47.47	0.0126	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.665	3.878	0.0827	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.2757	0.3313	0.0742	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.8399	0.6451	0.0751	Normal Distribution

## Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.418E+6	1.374E+6	1.463E+6	1.414E+6	1.389E+6	1.456E+6	1.391E+4	1.96%	0.00%
100		4	1.666E+6	1.384E+6	1.948E+6	1.730E+6	1.408E+6	1.795E+6	8.846E+4	10.62%	-17.45%

## Cell Density Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.456E+6	1.412E+6	1.389E+6	1.417E+6
100		1.765E+6	1.795E+6	1.696E+6	1.408E+6



# CETIS Measurement Report

Report Date: 23 Feb-17 16:41 (p 1 of 2)  
 Test Code: PRI0117.187sel | 20-7866-6951

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 10-1282-3844	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 16:20	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Jan-17 15:30	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Duration:</b> 95h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 14-3501-1962	<b>Code:</b> PRI0117.187sel	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 08:45	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 8h (4 °C)	<b>Station:</b> LAILG-NGA-19.8	

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	69			69	69	0	0	0.0%	0
100		1	79			79	79	0	0	0.0%	0
Overall		2	74	10.47	137.5	69	79	5	7.071	9.56%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	443.8	437.4	450.2	439	452	2.311	5.167	1.16%	0
100		5	580	573.4	586.6	574	588	2.387	5.339	0.92%	0
Overall		10	511.9	460.4	563.4	439	588	22.75	71.95	14.06%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	97			97	97	0	0	0.0%	0
100		1	175			175	175	0	0	0.0%	0
Overall		2	136	-359.5	631.5	97	175	39	55.15	40.55%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.52	7.358	7.682	7.4	7.7	0.05831	0.1304	1.73%	0
100		5	7.52	7.154	7.886	7.2	8	0.1319	0.295	3.92%	0
Overall		10	7.52	7.366	7.674	7.2	8	0.06799	0.215	2.86%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	24.16	23.9	24.42	24	24.5	0.09272	0.2073	0.86%	0
100		5	24.16	23.9	24.42	24	24.5	0.09272	0.2073	0.86%	0
Overall		10	24.16	24.02	24.3	24	24.5	0.06182	0.1955	0.81%	0 (0%)



# CETIS Measurement Report

Report Date: 23 Feb-17 16:41 (p 2 of 2)  
Test Code: PRI0117.187sel | 20-7866-6951

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

### Alkalinity (CaCO<sub>3</sub>)-mg/L

Conc-%	Code	1
0	N	69
100		79

### Conductivity-µmhos

Conc-%	Code	1	2	3	4	5
0	N	452	439	440	445	443
100		588	582	579	574	577

### Hardness (CaCO<sub>3</sub>)-mg/L

Conc-%	Code	1
0	N	97
100		175

### pH-Units

Conc-%	Code	1	2	3	4	5
0	N	7.4	7.4	7.5	7.6	7.7
100		8	7.2	7.5	7.4	7.5

### Temperature-°C

Conc-%	Code	1	2	3	4	5
0	N	24.5	24.2	24.1	24	24
100		24.5	24.2	24.1	24	24



March 1, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms EPA-821-R-02-013*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

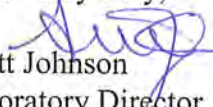
CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA-176-3
DATE RECEIVED:	23 Jan -17
ABC LAB. NO.:	PRI0117.188

#### CHRONIC FATHEAD LARVAE SURVIVAL & GROWTH BIOASSAY

SURVIVAL	NOEC =	100.00 %
	TUc =	1.00
	EC25 =	N/A
	EC50 =	N/A

GROWTH	NOEC =	100.00 %
	TUc =	1.00
	IC25 =	N/A
	IC50 =	N/A

Yours very truly,

  
Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 23 Feb-17 16:21 (p 1 of 1)  
 Test Code: PRI0117.188fml | 19-2562-3316

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 19-2667-1693	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:17	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:20	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 13-4273-2381	<b>Code:</b> PRI0117.188f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 12:30	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 96h (9.2 °C)	<b>Station:</b> LAILG-NGA-176-3	

### Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
11-7499-1478	7d Survival Rate	Equal Variance t Two-Sample Test	0.4730	100% passed 7d survival rate
14-7203-9189	Mean Dry Biomass-mg	Equal Variance t Two-Sample Test	0.6958	100% passed mean dry biomass-mg

### Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
11-7499-1478	7d Survival Rate	Control Resp	0.95	0.8	>>	Yes	Passes Criteria
14-7203-9189	Mean Dry Biomass-mg	Control Resp	0.2592	0.25	>>	Yes	Passes Criteria

### 7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.9500	0.8484	1.0000	0.8667	1.0000	0.0319	0.0638	6.72%	0.00%
100		4	0.9500	0.8970	1.0000	0.9333	1.0000	0.0167	0.0333	3.51%	0.00%

### Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.2592	0.2055	0.3128	0.2107	0.2887	0.01686	0.03372	13.01%	0.00%
100		4	0.2687	0.2528	0.2845	0.258	0.282	0.004989	0.009978	3.71%	-3.67%

### 7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	0.8667	1.0000	0.9333
100		1.0000	0.9333	0.9333	0.9333

### Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.2707	0.2107	0.2667	0.2887
100		0.2687	0.266	0.282	0.258

### 7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	13/15	15/15	14/15
100		15/15	14/15	14/15	14/15

# CETIS Analytical Report

Report Date: 23 Feb-17 16:21 (p 1 of 4)  
 Test Code: PRI0117.188fml | 19-2562-3316

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 11-7499-1478	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 23 Feb-17 16:20	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 19-2667-1693	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:17	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:20	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 13-4273-2381	<b>Code:</b> PRI0117.188f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 12:30	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 96h (9.2 °C)	<b>Station:</b> LAILG-NGA-176-3	

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 7d survival rate	7.43%

### Equal Variance t Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	0.07058	1.943	0.131	6	CDF	0.4730	Non-Significant Effect

### Test Acceptability Criteria

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	0.95	0.8	>>	Yes	Passes Criteria

### ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	4.542E-05	4.542E-05	1	0.004982	0.9460	Non-Significant Effect
Error	0.0547006	0.0091168	6			
Total	0.054746		7			

### Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	2.49	13.75	0.1656	Equal Variances
Variances	Mod Levene Equality of Variance Test	1.988	13.75	0.2082	Equal Variances
Variances	Variance Ratio F Test	3.205	47.47	0.3643	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.7431	3.878	0.0527	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.2702	0.3313	0.0881	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.8419	0.6451	0.0788	Normal Distribution

### 7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.9500	0.8484	1.0000	0.9667	0.8667	1.0000	0.0319	6.72%	0.00%
100		4	0.9500	0.8970	1.0000	0.9333	0.9333	1.0000	0.0167	3.51%	0.00%

### Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.347	1.16	1.535	1.375	1.197	1.441	0.05894	8.75%	0.00%
100		4	1.343	1.238	1.447	1.31	1.31	1.441	0.03292	4.90%	0.35%

### 7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	0.8667	1.0000	0.9333
100		1.0000	0.9333	0.9333	0.9333

### Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.441	1.197	1.441	1.31
100		1.441	1.31	1.31	1.31

# CETIS Analytical Report

Report Date: 23 Feb-17 16:21 (p 2 of 4)  
 Test Code: PRI0117.188fml | 19-2562-3316

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

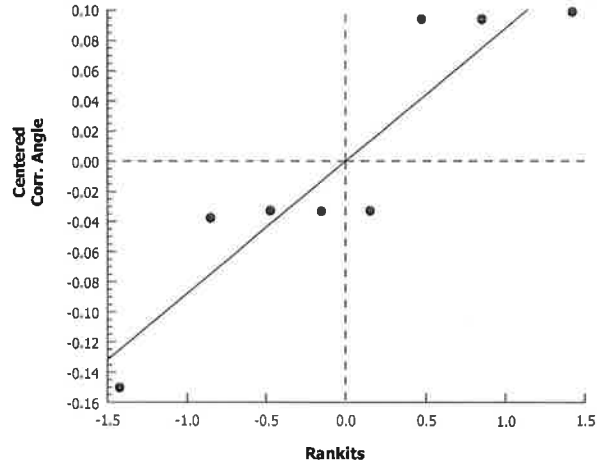
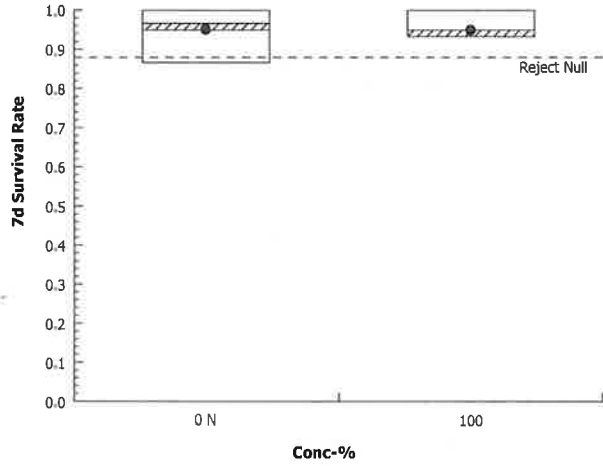
Analysis ID: 11-7499-1478      Endpoint: 7d Survival Rate  
 Analyzed: 23 Feb-17 16:20      Analysis: Parametric-Two Sample

CETIS Version: CETISv1.9.2  
 Official Results: Yes

### 7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	13/15	15/15	14/15
100		15/15	14/15	14/15	14/15

### Graphics



**CETIS Analytical Report**

Report Date: 23 Feb-17 16:21 (p 3 of 4)  
 Test Code: PRI0117.188fml | 19-2562-3316

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 14-7203-9189	<b>Endpoint:</b> Mean Dry Biomass-mg	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 23 Feb-17 16:20	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 19-2667-1693	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:17	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:20	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 13-4273-2381	<b>Code:</b> PRI0117.188f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 12:30	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 96h (9.2 °C)	<b>Station:</b> LAILG-NGA-176-3	

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% passed mean dry biomass-mg	13.18%

**Equal Variance t Two-Sample Test**

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	-0.5403	1.943	0.034	6	CDF	0.6958	Non-Significant Effect

**Test Acceptability Criteria**

**TAC Limits**

Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	0.2592	0.25	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0001805	0.0001805	1	0.2919	0.6084	Non-Significant Effect
Error	0.0037097	0.0006183	6			
Total	0.0038902		7			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	3.145	13.75	0.1265	Equal Variances
Variances	Mod Levene Equality of Variance Test	1.035	13.75	0.3483	Equal Variances
Variances	Variance Ratio F Test	11.42	47.47	0.0757	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.482	3.878	0.2350	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.2039	0.3313	0.4943	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.8972	0.6451	0.2724	Normal Distribution

**Mean Dry Biomass-mg Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.2592	0.2055	0.3128	0.2687	0.2107	0.2887	0.01686	13.01%	0.00%
100		4	0.2687	0.2528	0.2845	0.2673	0.258	0.282	0.004989	3.71%	-3.67%

**Mean Dry Biomass-mg Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.2707	0.2107	0.2667	0.2887
100		0.2687	0.266	0.282	0.258





# CETIS Measurement Report

Report Date: 23 Feb-17 16:21 (p 1 of 2)  
 Test Code: PRI0117.188fm | 19-2562-3316

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 19-2667-1693	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:17	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:20	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 13-4273-2381	<b>Code:</b> PRI0117.188f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 12:30	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 96h (9.2 °C)	<b>Station:</b> LAILG-NGA-176-3	

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	66	62.54	69.46	61	69	1.464	4.14	6.27%	0
100		8	67	67	67	67	67	0	0	0.0%	0
Overall		16	66.5	64.97	68.03	61	69	0.7188	2.875	4.32%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	353.8	346.9	360.6	336	360	2.896	8.19	2.32%	0
100		8	278.9	274.2	283.5	272	287	1.959	5.54	1.99%	0
Overall		16	316.3	295.4	337.2	272	360	9.813	39.25	12.41%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.725	7.531	7.919	7.4	8.2	0.08183	0.2315	3.0%	0
100		8	7.238	6.746	7.729	6	7.8	0.2078	0.5878	8.12%	0
Overall		16	7.481	7.215	7.747	6	8.2	0.1249	0.4996	6.68%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	88.38	87.94	88.81	88	89	0.183	0.5175	0.59%	0
100		8	91	91	91	91	91	0	0	0.0%	0
Overall		16	89.69	88.94	90.43	88	91	0.3502	1.401	1.56%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.837	7.648	8.027	7.5	8.2	0.08004	0.2264	2.89%	0
100		8	7.125	7.038	7.212	7	7.3	0.0366	0.1035	1.45%	0
Overall		16	7.481	7.265	7.697	7	8.2	0.1013	0.4053	5.42%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24.05	23.96	24.14	24	24.3	0.0378	0.1069	0.44%	0
100		8	24	24	24	24	24	0	0	0.0%	0
Overall		16	24.02	23.98	24.07	24	24.3	0.01936	0.07746	0.32%	0 (0%)

**CETIS Measurement Report**

Report Date: 23 Feb-17 16:21 (p 2 of 2)

Test Code: PRI0117.188fml | 19-2562-3316

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**Alkalinity (CaCO3)-mg/L**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	61	61	61	69	69	69	69	69
100		67	67	67	67	67	67	67	67

**Conductivity-µmhos**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	354	357	356	360	360	359	336	348
100		272	275	273	279	280	279	286	287

**Dissolved Oxygen-mg/L**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.7	7.4	7.6	7.6	7.8	7.7	7.8	8.2
100		7.3	7.4	6.8	7.6	7.7	7.3	7.8	6

**Hardness (CaCO3)-mg/L**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	89	89	89	88	88	88	88	88
100		91	91	91	91	91	91	91	91

**pH-Units**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.7	7.6	7.9	7.9	7.9	8	7.5	8.2
100		7.1	7	7	7.1	7.3	7.2	7.1	7.2

**Temperature-°C**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	24.3	24.1	24	24	24	24	24	24
100		24	24	24	24	24	24	24	24



February 28, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms EPA-821-R-02-013*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

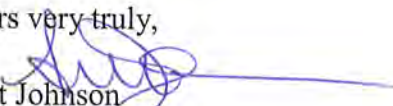
CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA-176-3
DATE RECEIVED:	23 Jan -17
ABC LAB. NO.:	PRI0117.188

#### **CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY**

SURVIVAL	NOEC =	100.00 %
	TUc =	1.00
	EC25 =	N/A
	EC50 =	N/A %

REPRODUCTION	NOEC =	100.00 %
	TUc =	1.00
	IC25 =	N/A
	IC50 =	N/A

Yours very truly,

  
Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 23 Feb-17 16:21 (p 1 of 1)  
 Test Code: PRI0117.188cer | 11-0328-4312

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 13-3769-8779	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:17	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:20	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 09-8544-2515	<b>Code:</b> PRI0117.188c	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 12:30	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 96h (9.3 °C)	<b>Station:</b> LAILG-NGA-176-3	

### Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
17-7488-7654	7d Survival Rate	Fisher Exact Test	0.5000	100% passed 7d survival rate
00-0940-1652	Reproduction	Equal Variance t Two-Sample Test	0.7525	100% passed reproduction

### Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
17-7488-7654	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
00-0940-1652	Reproduction	Control Resp	16.6	15	>>	Yes	Passes Criteria

### 7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		10	0.9000	0.6738	1.0000	0.0000	1.0000	0.1000	0.3162	35.14%	10.00%

### Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	16.6	12.75	20.45	9	23	1.701	5.379	32.40%	0.00%
100		10	19.1	11.95	26.25	0	29	3.16	9.994	52.32%	-15.06%

### 7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000

### Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	12	21	9	18	10	12	18	20	23	23
100		28	29	22	28	11	18	7	0	22	26

### 7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1

# CETIS Analytical Report

Report Date: 23 Feb-17 16:21 (p 1 of 2)  
 Test Code: PRI0117.188cer | 11-0328-4312

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 00-0940-1652	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 16 Feb-17 13:39	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 13-3769-8779	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:17	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:20	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 09-8544-2515	<b>Code:</b> PRI0117.188c	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 12:30	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 96h (9.3 °C)	<b>Station:</b> LAILG-NGA-176-3	

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% passed reproduction	37.49%

### Equal Variance t Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	-0.6966	1.734	6.224	18	CDF	0.7525	Non-Significant Effect

### Test Acceptability Criteria

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	16.6	15	>>	Yes	Passes Criteria

### ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	31.25	31.25	1	0.4852	0.4950	Non-Significant Effect
Error	1159.3	64.4056	18			
Total	1190.55		19			

### Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	3.62	8.285	0.0732	Equal Variances
Variances	Mod Levene Equality of Variance Test	1.706	8.285	0.2079	Equal Variances
Variances	Variance Ratio F Test	3.452	6.541	0.0791	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.5498	3.878	0.1605	Normal Distribution
Distribution	D'Agostino Kurtosis Test	0.4553	2.576	0.6489	Normal Distribution
Distribution	D'Agostino Skewness Test	1.638	2.576	0.1014	Normal Distribution
Distribution	D'Agostino-Pearson K2 Omnibus Test	2.89	9.21	0.2357	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1711	0.2235	0.1286	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9298	0.866	0.1529	Normal Distribution

### Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	16.6	12.75	20.45	18	9	23	1.701	32.40%	0.00%
100		10	19.1	11.95	26.25	22	0	29	3.16	52.32%	-15.06%

### Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	12	21	9	18	10	12	18	20	23	23
100		28	29	22	28	11	18	7	0	22	26

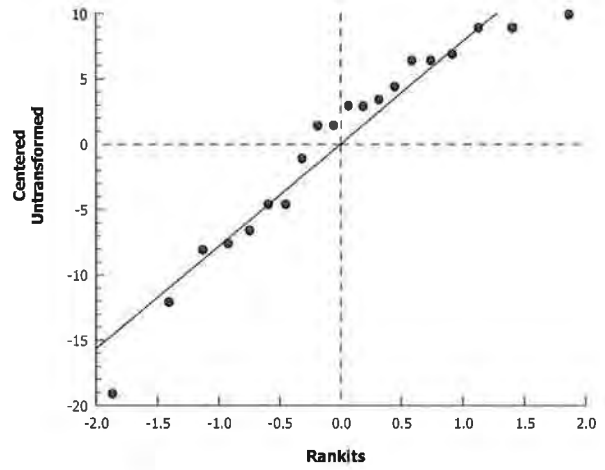
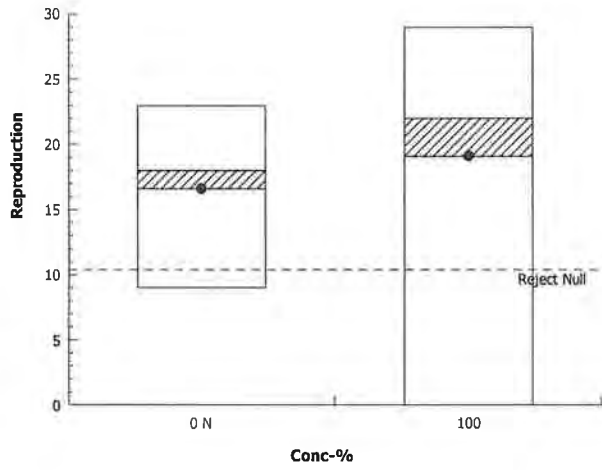
Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 00-0940-1652      Endpoint: Reproduction  
Analyzed: 16 Feb-17 13:39      Analysis: Parametric-Two Sample

CETIS Version: CETISv1.9.2  
Official Results: Yes

Graphics







# CETIS Measurement Report

Report Date: 23 Feb-17 16:21 (p 1 of 2)  
 Test Code: PRI0117.188cer | 11-0328-4312

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 13-3769-8779	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:17	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:20	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 09-8544-2515	<b>Code:</b> PRI0117.188c	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 12:30	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 96h (9.3 °C)	<b>Station:</b> LAILG-NGA-176-3	

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	66	62.54	69.46	61	69	1.464	4.14	6.27%	0
100		8	67	67	67	67	67	0	0	0.0%	0
Overall		16	66.5	64.97	68.03	61	69	0.7188	2.875	4.32%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	353.8	346.9	360.6	336	360	2.896	8.19	2.32%	0
100		8	278.9	274.2	283.5	272	287	1.959	5.54	1.99%	0
Overall		16	316.3	295.4	337.2	272	360	9.813	39.25	12.41%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.725	7.531	7.919	7.4	8.2	0.08183	0.2315	3.0%	0
100		8	7.238	6.746	7.729	6	7.8	0.2078	0.5878	8.12%	0
Overall		16	7.481	7.215	7.747	6	8.2	0.1249	0.4996	6.68%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	88.38	87.94	88.81	88	89	0.183	0.5175	0.59%	0
100		8	91	91	91	91	91	0	0	0.0%	0
Overall		16	89.69	88.94	90.43	88	91	0.3502	1.401	1.56%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.837	7.648	8.027	7.5	8.2	0.08004	0.2264	2.89%	0
100		8	7.125	7.038	7.212	7	7.3	0.0366	0.1035	1.45%	0
Overall		16	7.481	7.265	7.697	7	8.2	0.1013	0.4053	5.42%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24.05	23.96	24.14	24	24.3	0.0378	0.1069	0.44%	0
100		8	24	24	24	24	24	0	0	0.0%	0
Overall		16	24.02	23.98	24.07	24	24.3	0.01936	0.07746	0.32%	0 (0%)

# CETIS Measurement Report

Report Date: 23 Feb-17 16:21 (p 2 of 2)  
 Test Code: PRI0117.188cer | 11-0328-4312

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	61	61	61	69	69	69	69	69
100		67	67	67	67	67	67	67	67

### Conductivity-µmhos

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	354	357	356	360	360	359	336	348
100		272	275	273	279	280	279	286	287

### Dissolved Oxygen-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.7	7.4	7.6	7.6	7.8	7.7	7.8	8.2
100		7.3	7.4	6.8	7.6	7.7	7.3	7.8	6

### Hardness (CaCO3)-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	89	89	89	88	88	88	88	88
100		91	91	91	91	91	91	91	91

### pH-Units

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.7	7.6	7.9	7.9	7.9	8	7.5	8.2
100		7.1	7	7	7.1	7.3	7.2	7.1	7.2

### Temperature-°C

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	24.3	24.1	24	24	24	24	24	24
100		24	24	24	24	24	24	24	24



March 1, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms EPA-821-R-02-013*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA-176-3
DATE RECEIVED:	23 Jan -17
ABC LAB. NO.:	PRI0117.188

#### CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY

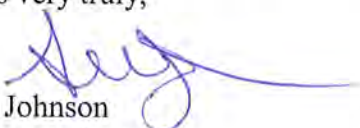
NOEC = 100.00 %

TUc = 1.00

IC25 = N/A

IC50 = N/A

Yours very truly,



Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 23 Feb-17 16:46 (p 1 of 1)  
 Test Code: PRI0117.188sel | 03-3649-6145

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 12-5053-9909	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 16:21	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Jan-17 15:45	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Duration:</b> 95h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 00-5132-2296	<b>Code:</b> PRI0117.188sel	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 12:30	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 4h (9.3 °C)	<b>Station:</b> LAILG-NGA-176-3	

## Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
09-9713-4551	Cell Density	Equal Variance t Two-Sample Test	0.1238	100% passed cell density

## Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
09-9713-4551	Cell Density	Control CV	0.01961	<<	0.2	Yes	Passes Criteria
09-9713-4551	Cell Density	Control Resp	1.42E+6	1000000	>>	Yes	Passes Criteria

## Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.418E+6	1.374E+6	1.463E+6	1.389E+6	1.456E+6	1.391E+4	2.781E+4	1.96%	0.00%
100		4	1.389E+6	1.332E+6	1.447E+6	1.336E+6	1.417E+6	1.812E+4	3.623E+4	2.61%	2.06%

## Cell Density Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.456E+6	1.412E+6	1.389E+6	1.417E+6
100		1.336E+6	1.417E+6	1.404E+6	1.400E+6

# CETIS Analytical Report

Report Date: 23 Feb-17 16:46 (p 1 of 2)  
 Test Code: PRI0117.188sel | 03-3649-6145

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 09-9713-4551	<b>Endpoint:</b> Cell Density	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 23 Feb-17 16:46	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 12-5053-9909	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 16:21	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Jan-17 15:45	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Duration:</b> 95h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 00-5132-2296	<b>Code:</b> PRI0117.188sel	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 12:30	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 4h (9.3 °C)	<b>Station:</b> LAILG-NGA-176-3	

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% passed cell density	3.13%

## Equal Variance t Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	1.281	1.943	44380	6	CDF	0.1238	Non-Significant Effect

## Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control CV	0.01961	<<	0.2	Yes	Passes Criteria
Control Resp	1.42E+6	1000000	>>	Yes	Passes Criteria

## ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	1.711E+09	1.711E+09	1	1.64	0.2476	Non-Significant Effect
Error	6.26E+09	1.043E+09	6			
Total	7.971E+09		7			

## Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	0.3688	13.75	0.5659	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.03274	13.75	0.8624	Equal Variances
Variances	Variance Ratio F Test	1.697	47.47	0.6746	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.2328	3.878	0.8281	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.164	0.3313	1.0000	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9578	0.6451	0.7888	Normal Distribution

## Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.418E+6	1.374E+6	1.463E+6	1.414E+6	1.389E+6	1.456E+6	1.391E+4	1.96%	0.00%
100		4	1.389E+6	1.332E+6	1.447E+6	1.402E+6	1.336E+6	1.417E+6	1.812E+4	2.61%	2.06%

## Cell Density Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.456E+6	1.412E+6	1.389E+6	1.417E+6
100		1.336E+6	1.417E+6	1.404E+6	1.400E+6

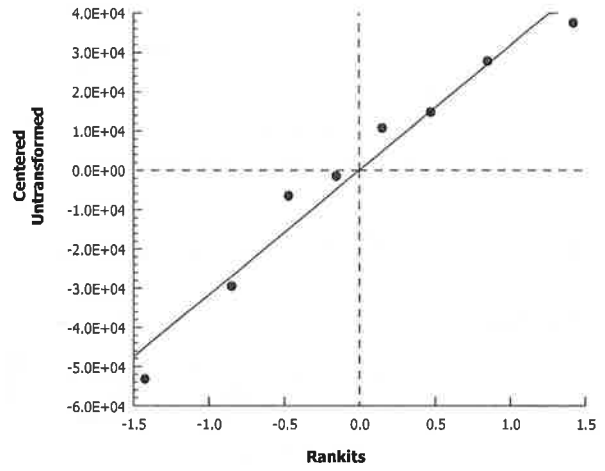
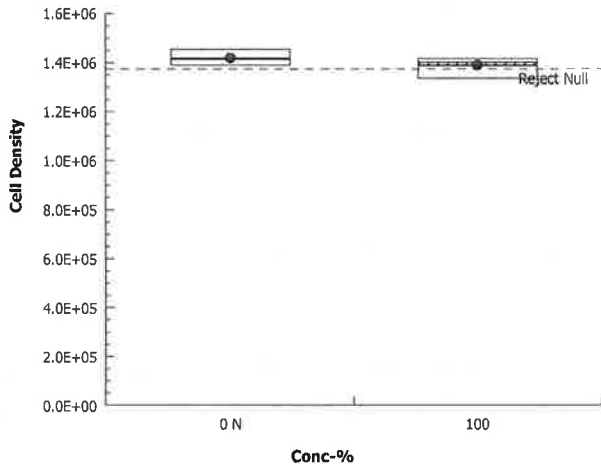
**Selenastrum Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**Analysis ID:** 09-9713-4551    **Endpoint:** Cell Density  
**Analyzed:** 23 Feb-17 16:46    **Analysis:** Parametric-Two Sample

**CETIS Version:** CETISv1.9.2  
**Official Results:** Yes

**Graphics**





# CETIS Measurement Report

Report Date: 23 Feb-17 16:46 (p 1 of 2)  
 Test Code: PRI0117.188sel | 03-3649-6145

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 12-5053-9909	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 16:21	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Jan-17 15:45	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Duration:</b> 95h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 00-5132-2296	<b>Code:</b> PRI0117.188sel	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 12:30	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 4h (9.3 °C)	<b>Station:</b> LAILG-NGA-176-3	

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	69			69	69	0	0	0.0%	0
100		1	77			77	77	0	0	0.0%	0
Overall		2	73	22.18	123.8	69	77	4	5.657	7.75%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	443.8	437.4	450.2	439	452	2.311	5.167	1.16%	0
100		5	362.2	354.7	369.7	355	369	2.709	6.058	1.67%	0
Overall		10	403	372	434	355	452	13.7	43.33	10.75%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	97			97	97	0	0	0.0%	0
100		1	88			88	88	0	0	0.0%	0
Overall		2	92.5	35.32	149.7	88	97	4.5	6.364	6.88%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.52	7.358	7.682	7.4	7.7	0.05831	0.1304	1.73%	0
100		5	7.4	7.083	7.717	7.1	7.8	0.114	0.255	3.45%	0
Overall		10	7.46	7.316	7.604	7.1	7.8	0.0636	0.2011	2.70%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	24.16	23.9	24.42	24	24.5	0.09272	0.2073	0.86%	0
100		5	24.16	23.9	24.42	24	24.5	0.09272	0.2073	0.86%	0
Overall		10	24.16	24.02	24.3	24	24.5	0.06182	0.1955	0.81%	0 (0%)

# CETIS Measurement Report

Report Date: 23 Feb-17 16:46 (p 2 of 2)  
Test Code: PRI0117.188sel | 03-3649-6145

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

### Alkalinity (CaCO<sub>3</sub>)-mg/L

Conc-%	Code	1
0	N	69
100		77

### Conductivity-µmhos

Conc-%	Code	1	2	3	4	5
0	N	452	439	440	445	443
100		355	359	360	368	369

### Hardness (CaCO<sub>3</sub>)-mg/L

Conc-%	Code	1
0	N	97
100		88

### pH-Units

Conc-%	Code	1	2	3	4	5
0	N	7.4	7.4	7.5	7.6	7.7
100		7.8	7.1	7.4	7.3	7.4

### Temperature-°C

Conc-%	Code	1	2	3	4	5
0	N	24.5	24.2	24.1	24	24
100		24.5	24.2	24.1	24	24



March 1, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms EPA-821-R-02-013*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

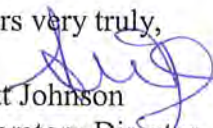
CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA-4.8
DATE RECEIVED:	23 Jan -17
ABC LAB. NO.:	PRI0117.189

#### **CHRONIC FATHEAD LARVAE SURVIVAL & GROWTH BIOASSAY**

SURVIVAL	NOEC =	<100.00 %
	TU <sub>c</sub> =	>1.00
	EC25 =	N/A
	EC50 =	N/A

GROWTH	NOEC =	<100.00 %
	TU <sub>c</sub> =	>1.00
	IC25 =	N/A
	IC50 =	N/A

Yours very truly,

  
Scott Johnson  
Laboratory Director

**CETIS Summary Report**

Report Date: 23 Feb-17 16:36 (p 1 of 1)  
 Test Code: PRI0117.189fml | 05-7184-3879

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 08-3252-9270	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:20	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:21	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 04-6722-4537	<b>Code:</b> PRI0117.189f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 94h (9.1 °C)	<b>Station:</b> LAILG-NGA-4.8	

**Single Comparison Summary**

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
10-2578-5137	7d Survival Rate	Equal Variance t Two-Sample Test	7.8E-05	100% failed 7d survival rate
11-0402-0701	Mean Dry Biomass-mg	Equal Variance t Two-Sample Test	4.9E-05	100% failed mean dry biomass-mg

**Test Acceptability**

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
10-2578-5137	7d Survival Rate	Control Resp	0.95	0.8	>>	Yes	Passes Criteria
11-0402-0701	Mean Dry Biomass-mg	Control Resp	0.2592	0.25	>>	Yes	Passes Criteria

**7d Survival Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.9500	0.8484	1.0000	0.8667	1.0000	0.0319	0.0638	6.72%	0.00%
100		4	0.2167	0.0000	0.4354	0.0667	0.4000	0.0687	0.1374	63.43%	77.19%

**Mean Dry Biomass-mg Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.2592	0.2055	0.3128	0.2107	0.2887	0.01686	0.03372	13.01%	0.00%
100		4	0.04117	-0.01273	0.09506	0.01267	0.08533	0.01693	0.03387	82.27%	84.12%

**7d Survival Rate Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	0.8667	1.0000	0.9333
100		0.2000	0.4000	0.2000	0.0667

**Mean Dry Biomass-mg Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.2707	0.2107	0.2667	0.2887
100		0.01667	0.08533	0.05	0.01267

**7d Survival Rate Binomials**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	13/15	15/15	14/15
100		3/15	6/15	3/15	1/15

**CETIS Analytical Report**

Report Date: 23 Feb-17 16:35 (p 1 of 4)  
 Test Code: PRI0117.189fml | 05-7184-3879

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 10-2578-5137	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 23 Feb-17 16:35	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 08-3252-9270	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:20	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:21	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 04-6722-4537	<b>Code:</b> PRI0117.189f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 94h (9.1 °C)	<b>Station:</b> LAILG-NGA-4.8	

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% failed 7d survival rate	12.78%

**Equal Variance t Two-Sample Test**

Control	vs	Control II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100*	8.398	1.943	0.203	6	CDF	7.8E-05	Significant Effect

**Test Acceptability Criteria**

**TAC Limits**

Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	0.95	0.8	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	1.54541	1.54541	1	70.52	1.6E-04	Significant Effect
Error	0.131481	0.0219135	6			
Total	1.67689		7			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	0.04913	13.75	0.8319	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.03107	13.75	0.8659	Equal Variances
Variances	Variance Ratio F Test	2.154	47.47	0.5449	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.2374	3.878	0.8128	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1417	0.3313	1.0000	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9673	0.6451	0.8760	Normal Distribution

**7d Survival Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.9500	0.8484	1.0000	0.9667	0.8667	1.0000	0.0319	6.72%	0.00%
100		4	0.2167	0.0000	0.4354	0.2000	0.0667	0.4000	0.0687	63.43%	77.19%

**Angular (Corrected) Transformed Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.347	1.16	1.535	1.375	1.197	1.441	0.05894	8.75%	0.00%
100		4	0.4683	0.193	0.7436	0.4636	0.2612	0.6847	0.0865	36.94%	65.24%

**7d Survival Rate Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	0.8667	1.0000	0.9333
100		0.2000	0.4000	0.2000	0.0667

**Angular (Corrected) Transformed Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.441	1.197	1.441	1.31
100		0.4636	0.6847	0.4636	0.2612



# CETIS Analytical Report

Report Date: 23 Feb-17 16:35 (p 3 of 4)  
 Test Code: PRI0117.189fml | 05-7184-3879

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 11-0402-0701	<b>Endpoint:</b> Mean Dry Biomass-mg	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 23 Feb-17 16:35	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 08-3252-9270	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:20	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:21	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 04-6722-4537	<b>Code:</b> PRI0117.189f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 94h (9.1 °C)	<b>Station:</b> LAILG-NGA-4.8	

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% failed mean dry biomass-mg	17.92%

### Equal Variance t Two-Sample Test

Control	vs	Control II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100*	9.123	1.943	0.046	6	CDF	4.9E-05	Significant Effect

### Test Acceptability Criteria

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	0.2592	0.25	>>	Yes	Passes Criteria

### ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.095048	0.095048	1	83.23	9.8E-05	Significant Effect
Error	0.0068522	0.0011420	6			
Total	0.1019		7			

### Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	0.03593	13.75	0.8559	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.1455	13.75	0.7160	Equal Variances
Variances	Variance Ratio F Test	1.009	47.47	0.9944	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.2938	3.878	0.6306	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.2197	0.3313	0.3479	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9526	0.6451	0.7377	Normal Distribution

### Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.2592	0.2055	0.3128	0.2687	0.2107	0.2887	0.01686	13.01%	0.00%
100		4	0.04117	-0.01273	0.09506	0.03333	0.01267	0.08533	0.01693	82.27%	84.12%

### Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.2707	0.2107	0.2667	0.2887
100		0.01667	0.08533	0.05	0.01267



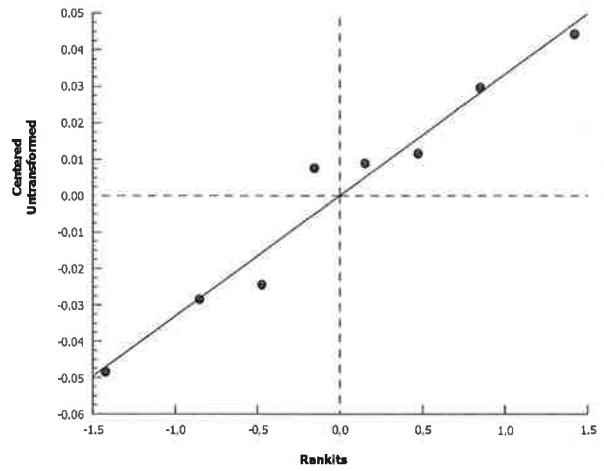
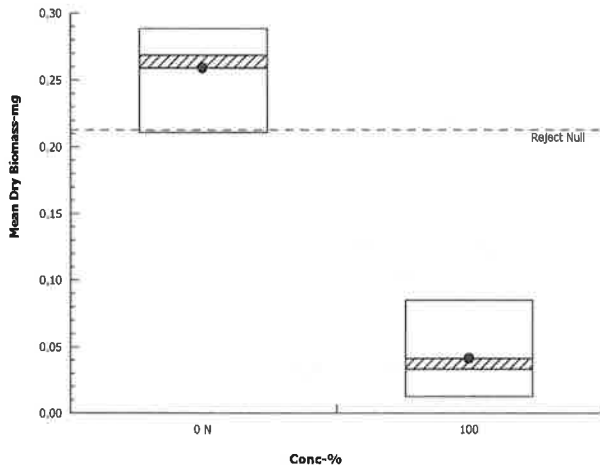
Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 11-0402-0701    Endpoint: Mean Dry Biomass-mg  
Analyzed: 23 Feb-17 16:35    Analysis: Parametric-Two Sample

CETIS Version: CETISv1.9.2  
Official Results: Yes

Graphics



# CETIS Measurement Report

Report Date: 23 Feb-17 16:35 (p 1 of 2)  
Test Code: PRI0117.189fml | 05-7184-3879

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 08-3252-9270	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:20	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:21	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 04-6722-4537	<b>Code:</b> PRI0117.189f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 94h (9.1 °C)	<b>Station:</b> LAILG-NGA-4.8	

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	66	62.54	69.46	61	69	1.464	4.14	6.27%	0
100		8	17	17	17	17	17	0	0	0.0%	0
Overall		16	41.5	27.93	55.07	17	69	6.365	25.46	61.35%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	353.8	346.9	360.6	336	360	2.896	8.19	2.32%	0
100		8	52.12	49.35	54.9	46	56	1.172	3.314	6.36%	0
Overall		16	202.9	119.9	286	46	360	38.97	155.9	76.81%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.725	7.531	7.919	7.4	8.2	0.08183	0.2315	3.0%	0
100		8	7.925	7.483	8.367	6.9	8.8	0.1868	0.5285	6.67%	0
Overall		16	7.825	7.608	8.042	6.9	8.8	0.1019	0.4074	5.21%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	88.38	87.94	88.81	88	89	0.183	0.5175	0.59%	0
100		8	23	23	23	23	23	0	0	0.0%	0
Overall		16	55.69	37.7	73.68	23	89	8.44	33.76	60.63%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.837	7.648	8.027	7.5	8.2	0.08004	0.2264	2.89%	0
100		8	7.575	7.488	7.662	7.4	7.7	0.0366	0.1035	1.37%	0
Overall		16	7.706	7.59	7.822	7.4	8.2	0.05437	0.2175	2.82%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24.05	23.96	24.14	24	24.3	0.0378	0.1069	0.44%	0
100		8	24.03	23.99	24.06	24	24.1	0.01634	0.04623	0.19%	0
Overall		16	24.04	23.99	24.08	24	24.3	0.02016	0.08062	0.34%	0 (0%)

# CETIS Measurement Report

Report Date: 23 Feb-17 16:35 (p 2 of 2)  
 Test Code: PRI0117.189fml | 05-7184-3879

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	61	61	61	69	69	69	69	69
100		17	17	17	17	17	17	17	17

### Conductivity-µmhos

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	354	357	356	360	360	359	336	348
100		50	50	46	54	55	56	52	54

### Dissolved Oxygen-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.7	7.4	7.6	7.6	7.8	7.7	7.8	8.2
100		8.1	8	8.1	8	7.8	7.7	8.8	6.9

### Hardness (CaCO3)-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	89	89	89	88	88	88	88	88
100		23	23	23	23	23	23	23	23

### pH-Units

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.7	7.6	7.9	7.9	7.9	8	7.5	8.2
100		7.6	7.6	7.4	7.5	7.7	7.7	7.5	7.6

### Temperature-°C

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	24.3	24.1	24	24	24	24	24	24
100		24.1	24.1	24	24	24	24	24	24



March 1, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* EPA-821-R-02-013. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

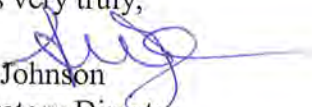
CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA-4.8
DATE RECEIVED:	23 Jan -17
ABC LAB. NO.:	PRI0117.189

#### **CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY**

SURVIVAL	NOEC =	<100.00 %
	TUc =	>1.00
	EC25 =	N/A
	EC50 =	N/A %

REPRODUCTION	NOEC =	<100.00 %
	TUc =	>1.00
	IC25 =	N/A
	IC50 =	N/A

Yours very truly,

  
Scott Johnson  
Laboratory Director

**CETIS Summary Report**

Report Date: 23 Feb-17 16:36 (p 1 of 1)  
 Test Code: PRI0117.189cer | 19-5949-8952

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 15-1396-9746	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:20	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:21	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 09-9014-7762	<b>Code:</b> PRI0117.189c	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 94h (9.1 °C)	<b>Station:</b> LAILG-NGA-4.8	

**Single Comparison Summary**

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
16-6827-0907	7d Survival Rate	Fisher Exact Test	0.0054	100% failed 7d survival rate
09-0989-0154	Reproduction	Equal Variance t Two-Sample Test	1.0E-04	100% failed reproduction

**Test Acceptability**

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
16-6827-0907	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
09-0989-0154	Reproduction	Control Resp	16.6	15	>>	Yes	Passes Criteria

**7d Survival Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		10	0.4000	0.0306	0.7694	0.0000	1.0000	0.1633	0.5164	129.10%	60.00%

**Reproduction Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	16.6	12.75	20.45	9	23	1.701	5.379	32.40%	0.00%
100		10	4.3	-0.2873	8.887	0	18	2.028	6.413	149.13%	74.10%

**7d Survival Rate Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		0.0000	1.0000	1.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	0.0000

**Reproduction Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	12	21	9	18	10	12	18	20	23	23
100		0	6	5	0	0	0	0	18	13	1

**7d Survival Rate Binomials**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		0/1	1/1	1/1	0/1	0/1	0/1	0/1	1/1	1/1	0/1

**CETIS Analytical Report**

Report Date: 23 Feb-17 16:36 (p 1 of 2)  
 Test Code: PRI0117.189cer | 19-5949-8952

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 09-0989-0154	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 16 Feb-17 13:43	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 15-1396-9746	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:20	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:21	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 09-9014-7762	<b>Code:</b> PRI0117.189c	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 94h (9.1 °C)	<b>Station:</b> LAILG-NGA-4.8	

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% failed reproduction	27.65%

**Equal Variance t Two-Sample Test**

Control	vs	Control II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100*	4.647	1.734	4.59	18	CDF	1.0E-04	Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	16.6	15	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	756.45	756.45	1	21.6	2.0E-04	Significant Effect
Error	630.5	35.0278	18			
Total	1386.95		19			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	0.04264	8.285	0.8387	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.002163	8.285	0.9634	Equal Variances
Variances	Variance Ratio F Test	1.421	6.541	0.6089	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.9021	3.878	0.0214	Normal Distribution
Distribution	D'Agostino Kurtosis Test	0.1482	2.576	0.8821	Normal Distribution
Distribution	D'Agostino Skewness Test	1.536	2.576	0.1245	Normal Distribution
Distribution	D'Agostino-Pearson K2 Omnibus Test	2.382	9.21	0.3039	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.2223	0.2235	0.0107	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9073	0.866	0.0566	Normal Distribution

**Reproduction Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	16.6	12.75	20.45	18	9	23	1.701	32.40%	0.00%
100		10	4.3	-0.2873	8.887	0.5	0	18	2.028	149.13%	74.10%

**Reproduction Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	12	21	9	18	10	12	18	20	23	23
100		0	6	5	0	0	0	0	18	13	1





# CETIS Analytical Report

Report Date: 23 Feb-17 16:36 (p 1 of 1)  
Test Code: PRI0117.189cer | 19-5949-8952

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 16-6827-0907	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 16 Feb-17 13:43	<b>Analysis:</b> Single 2x2 Contingency Table	<b>Official Results:</b> Yes
<b>Batch ID:</b> 15-1396-9746	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:20	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:21	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 09-9014-7762	<b>Code:</b> PRI0117.189c	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 94h (9.1 °C)	<b>Station:</b> LAILG-NGA-4.8	

<b>Data Transform</b>	<b>Alt Hyp</b>	<b>Comparison Result</b>
Untransformed	C > T	100% failed 7d survival rate

<b>Fisher Exact Test</b>						
<b>Control</b>	<b>vs</b>	<b>Control</b>	<b>Test Stat</b>	<b>P-Type</b>	<b>P-Value</b>	<b>Decision(α:5%)</b>
Negative Control		100*	0.0054	Exact	0.0054	Significant Effect

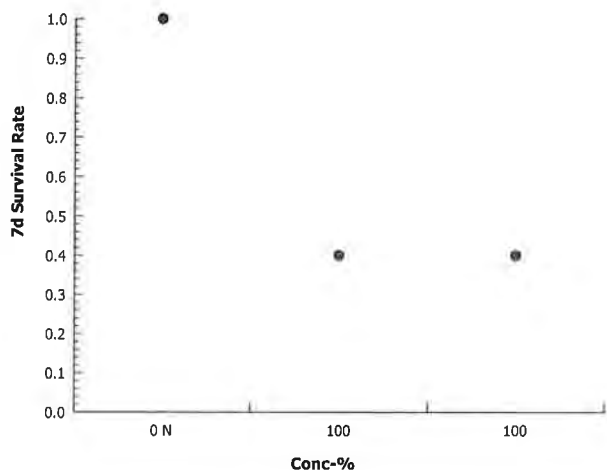
<b>Test Acceptability Criteria</b>					
		<b>TAC Limits</b>			
<b>Attribute</b>	<b>Test Stat</b>	<b>Lower</b>	<b>Upper</b>	<b>Overlap</b>	<b>Decision</b>
Control Resp	1	0.8	>>	Yes	Passes Criteria

<b>Data Summary</b>							
<b>Conc-%</b>	<b>Code</b>	<b>NR</b>	<b>R</b>	<b>NR + R</b>	<b>Prop NR</b>	<b>Prop R</b>	<b>%Effect</b>
0	N	10	0	10	1	0	0.0%
100		4	6	10	0.4	0.6	60.0%

<b>7d Survival Rate Detail</b>											
<b>Conc-%</b>	<b>Code</b>	<b>Rep 1</b>	<b>Rep 2</b>	<b>Rep 3</b>	<b>Rep 4</b>	<b>Rep 5</b>	<b>Rep 6</b>	<b>Rep 7</b>	<b>Rep 8</b>	<b>Rep 9</b>	<b>Rep 10</b>
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		0.0000	1.0000	1.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	0.0000

<b>7d Survival Rate Binomials</b>											
<b>Conc-%</b>	<b>Code</b>	<b>Rep 1</b>	<b>Rep 2</b>	<b>Rep 3</b>	<b>Rep 4</b>	<b>Rep 5</b>	<b>Rep 6</b>	<b>Rep 7</b>	<b>Rep 8</b>	<b>Rep 9</b>	<b>Rep 10</b>
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		0/1	1/1	1/1	0/1	0/1	0/1	0/1	1/1	1/1	0/1

### Graphics



# CETIS Measurement Report

Report Date: 23 Feb-17 16:36 (p 1 of 2)  
 Test Code: PRI0117.189cer | 19-5949-8952

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 15-1396-9746	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:20	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:21	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 09-9014-7762	<b>Code:</b> PRI0117.189c	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 94h (9.1 °C)	<b>Station:</b> LAILG-NGA-4.8	

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	66	62.54	69.46	61	69	1.464	4.14	6.27%	0
100		8	17	17	17	17	17	0	0	0.0%	0
Overall		16	41.5	27.93	55.07	17	69	6.365	25.46	61.35%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	353.8	346.9	360.6	336	360	2.896	8.19	2.32%	0
100		8	52.12	49.35	54.9	46	56	1.172	3.314	6.36%	0
Overall		16	202.9	119.9	286	46	360	38.97	155.9	76.81%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.725	7.531	7.919	7.4	8.2	0.08183	0.2315	3.0%	0
100		8	7.925	7.483	8.367	6.9	8.8	0.1868	0.5285	6.67%	0
Overall		16	7.825	7.608	8.042	6.9	8.8	0.1019	0.4074	5.21%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	88.38	87.94	88.81	88	89	0.183	0.5175	0.59%	0
100		8	23	23	23	23	23	0	0	0.0%	0
Overall		16	55.69	37.7	73.68	23	89	8.44	33.76	60.63%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.837	7.648	8.027	7.5	8.2	0.08004	0.2264	2.89%	0
100		8	7.575	7.488	7.662	7.4	7.7	0.0366	0.1035	1.37%	0
Overall		16	7.706	7.59	7.822	7.4	8.2	0.05437	0.2175	2.82%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24.05	23.96	24.14	24	24.3	0.0378	0.1069	0.44%	0
100		8	24.03	23.99	24.06	24	24.1	0.01634	0.04623	0.19%	0
Overall		16	24.04	23.99	24.08	24	24.3	0.02016	0.08062	0.34%	0 (0%)

# CETIS Measurement Report

Report Date: 23 Feb-17 16:36 (p 2 of 2)  
 Test Code: PRI0117.189cer | 19-5949-8952

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

### Alkalinity (CaCO<sub>3</sub>)-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	61	61	61	69	69	69	69	69
100		17	17	17	17	17	17	17	17

### Conductivity-µmhos

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	354	357	356	360	360	359	336	348
100		50	50	46	54	55	56	52	54

### Dissolved Oxygen-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.7	7.4	7.6	7.6	7.8	7.7	7.8	8.2
100		8.1	8	8.1	8	7.8	7.7	8.8	6.9

### Hardness (CaCO<sub>3</sub>)-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	89	89	89	88	88	88	88	88
100		23	23	23	23	23	23	23	23

### pH-Units

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.7	7.6	7.9	7.9	7.9	8	7.5	8.2
100		7.6	7.6	7.4	7.5	7.7	7.7	7.5	7.6

### Temperature-°C

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	24.3	24.1	24	24	24	24	24	24
100		24.1	24.1	24	24	24	24	24	24



March 1, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms EPA-821-R-02-013*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA-4.8
DATE RECEIVED:	23 Jan -17
ABC LAB. NO.:	PRI0117.189

#### **CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY**


NOEC = <100.00 %

TUc = > 1.00

IC25 = N/A

IC50 = N/A

Yours very truly,

  
Scott Johnson  
Laboratory Director

**CETIS Summary Report**

Report Date: 02 Feb-17 09:28 (p 1 of 1)

Test Code: PRI0117.189sel | 16-5944-0495

Selenastrum Growth Test				Aquatic Bioassay & Consulting Labs, Inc.			
Batch ID:	19-6696-0546	Test Type:	Cell Growth	Analyst:			
Start Date:	24 Jan-17 16:22	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Laboratory Water		
Ending Date:	28 Jan-17 16:00	Species:	Selenastrum capricornutum	Brine:	Not Applicable		
Duration:	96h	Source:	Aquatic Biosystems, CO	Age:			
Sample ID:	02-4016-0279	Code:	PRI0117.189sel	Client:	Pacific Ridgeline, Inc.		
Sample Date:	20 Jan-17 14:15	Material:	Sample Water	Project:	LA Irrigated Lands Group (LAILG)-NG		
Receipt Date:	23 Jan-17 13:23	Source:	Bioassay Report				
Sample Age:	4d 2h (9.1 °C)	Station:	LAILG-NGA-4.8				

Single Comparison Summary				
Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
19-8902-7660	Cell Density	Equal Variance t Two-Sample Test	3.1E-07	100% failed cell density

Test Acceptability		TAC Limits					
Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
19-8902-7660	Cell Density	Control CV	0.01961	<<	0.2	Yes	Passes Criteria
19-8902-7660	Cell Density	Control Resp	1.42E+6	1000000	>>	Yes	Passes Criteria

Cell Density Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.418E+6	1.374E+6	1.463E+6	1.389E+6	1.456E+6	1.391E+4	2.781E+4	1.96%	0.00%
100		4	9.665E+5	9.171E+5	1.016E+6	9.290E+5	1.005E+6	1.552E+4	3.103E+4	3.21%	31.86%

Cell Density Detail						
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	
0	N	1.456E+6	1.412E+6	1.389E+6	1.417E+6	
100		1.005E+6	9.660E+5	9.660E+5	9.290E+5	

**CETIS Analytical Report**

Report Date: 02 Feb-17 09:28 (p 1 of 2)  
 Test Code: PRI0117.189sel | 16-5944-0495

Selenastrum Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 19-8902-7660	Endpoint: Cell Density	CETIS Version: CETISv1.9.2			
Analyzed: 02 Feb-17 9:27	Analysis: Parametric-Two Sample	Official Results: Yes			
Batch ID: 19-6696-0546	Test Type: Cell Growth	Analyst:			
Start Date: 24 Jan-17 16:22	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 28 Jan-17 16:00	Species: Selenastrum capricornutum	Brine: Not Applicable			
Duration: 96h	Source: Aquatic Biosystems, CO	Age:			
Sample ID: 02-4016-0279	Code: PRI0117.189sel	Client: Pacific Ridgeline, Inc.			
Sample Date: 20 Jan-17 14:15	Material: Sample Water	Project: LA Irrigated Lands Group (LAILG)-NG			
Receipt Date: 23 Jan-17 13:23	Source: Bioassay Report				
Sample Age: 4d 2h (9.1 °C)	Station: LAILG-NGA-4.8				

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% failed cell density	2.85%

Equal Variance t Two-Sample Test									
Control	vs	Control II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100*	21.69	1.943	40490	6	CDF	3.1E-07	Significant Effect

Test Acceptability Criteria		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control CV	0.01961	<<	0.2	Yes	Passes Criteria
Control Resp	1.42E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	4.086E+11	4.086E+11	1	470.6	6.3E-07	Significant Effect
Error	5.21E+09	868333000	6			
Total	4.138E+11		7			

Distributional Tests						
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)	
Variances	Levene Equality of Variance Test	0.001292	13.75	0.9725	Equal Variances	
Variances	Mod Levene Equality of Variance Test	0.004734	13.75	0.9474	Equal Variances	
Variances	Variance Ratio F Test	1.245	47.47	0.8615	Equal Variances	
Distribution	Anderson-Darling A2 Normality Test	0.4912	3.878	0.2234	Normal Distribution	
Distribution	Kolmogorov-Smirnov D Test	0.2573	0.3313	0.1298	Normal Distribution	
Distribution	Shapiro-Wilk W Normality Test	0.895	0.6451	0.2600	Normal Distribution	

Cell Density Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.418E+6	1.374E+6	1.463E+6	1.414E+6	1.389E+6	1.456E+6	1.391E+4	1.96%	0.00%
100		4	9.665E+5	9.171E+5	1.016E+6	9.660E+5	9.290E+5	1.005E+6	1.552E+4	3.21%	31.86%

Cell Density Detail					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.456E+6	1.412E+6	1.389E+6	1.417E+6
100		1.005E+6	9.660E+5	9.660E+5	9.290E+5

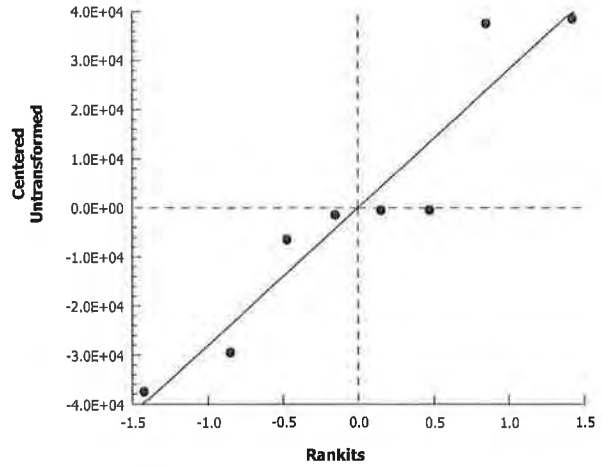
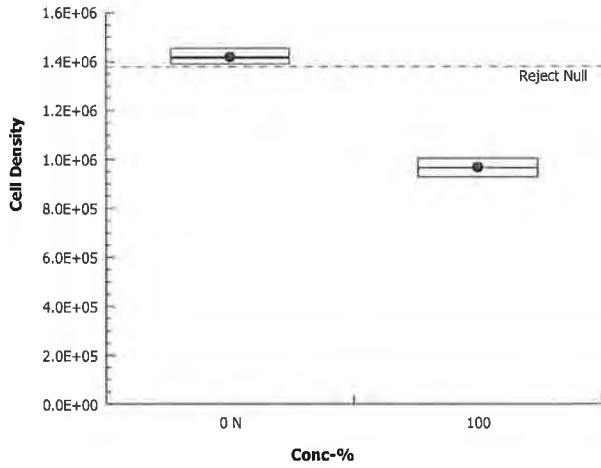
Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 19-8902-7660    Endpoint: Cell Density  
Analyzed: 02 Feb-17 9:27    Analysis: Parametric-Two Sample

CETIS Version: CETISv1.9.2  
Official Results: Yes

Graphics





**CETIS Measurement Report**

Report Date: 02 Feb-17 09:28 (p 1 of 2)  
 Test Code: PRI0117.189sel | 16-5944-0495

**Selenastrum Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 19-6696-0546	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 16:22	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Jan-17 16:00	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Duration:</b> 96h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 02-4016-0279	<b>Code:</b> PRI0117.189sel	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 2h (9.1 °C)	<b>Station:</b> LAILG-NGA-4.8	

**Alkalinity (CaCO3)-mg/L**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	69			69	69	0	0	0.0%	0
100		1	36			36	36	0	0	0.0%	0
Overall		2	52.5	-157.2	262.2	36	69	16.5	23.33	44.45%	0 (0%)

**Conductivity-µmhos**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	443.8	437.4	450.2	439	452	2.311	5.167	1.16%	0
100		5	157	146.6	167.4	147	168	3.755	8.396	5.35%	0
Overall		10	300.4	192.2	408.6	147	452	47.85	151.3	50.37%	0 (0%)

**Hardness (CaCO3)-mg/L**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	97			97	97	0	0	0.0%	0
100		1	55			55	55	0	0	0.0%	0
Overall		2	76	-190.8	342.8	55	97	21	29.7	39.08%	0 (0%)

**pH-Units**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.52	7.358	7.682	7.4	7.7	0.05831	0.1304	1.73%	0
100		5	7.76	7.488	8.032	7.5	8.1	0.09798	0.2191	2.82%	0
Overall		10	7.64	7.488	7.792	7.4	8.1	0.067	0.2119	2.77%	0 (0%)

**Temperature-°C**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	24.16	23.9	24.42	24	24.5	0.09272	0.2073	0.86%	0
100		5	24.16	23.9	24.42	24	24.5	0.09272	0.2073	0.86%	0
Overall		10	24.16	24.02	24.3	24	24.5	0.06182	0.1955	0.81%	0 (0%)

# CETIS Measurement Report

Report Date: 02 Feb-17 09:28 (p 2 of 2)  
Test Code: PRI0117.189sel | 16-5944-0495

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

### Alkalinity (CaCO<sub>3</sub>)-mg/L

Conc-%	Code	1
0	N	69
100		36

### Conductivity-µmhos

Conc-%	Code	1	2	3	4	5
0	N	452	439	440	445	443
100		147	153	154	163	168

### Hardness (CaCO<sub>3</sub>)-mg/L

Conc-%	Code	1
0	N	97
100		55

### pH-Units

Conc-%	Code	1	2	3	4	5
0	N	7.4	7.4	7.5	7.6	7.7
100		8.1	7.5	7.8	7.7	7.7

### Temperature-°C

Conc-%	Code	1	2	3	4	5
0	N	24.5	24.2	24.1	24	24
100		24.5	24.2	24.1	24	24



1891 Goodyear Ave., Suite 621  
 Ventura, CA 93003  
 Tel 855-682-1802 • www.pacr1.com

# CHAIN OF CUSTODY RECORD

ABC

CLIENT NAME / BILL TO:

PROJECT:

ANALYSES REQUESTED

SPECIAL HANDLING

Pacific Ridgeline  
 ADDRESS:

LA Irrigated Lands Group (LAILG) - NGA  
 ADDRESS:

1891 Goodyear Ave., Suite 621  
 Ventura Ca, 93003

PHONE: (855) 682-1802

EMAIL: bryn@pacr1.com

PO#:

PROJECT MANAGER:

SAMPLER:

Bryn Home

MATT deHAAS

SAMPLE ID#	DATE SAMPLED	TIME SAMPLED	SMP L TYPE	SAMPLE DESCRIPTION/SITE LOCATION	# OF CONT.
LAILG-NGA-19.8.12d.17	12/17	0845	RW		2
LAILG-NGA-19.8.12d.17	12/17	1230	RW		2
LAILG-NGA-19.8.12d.17	12/17	1415	RW		2

Ceriodaphnia Dubia (7Day)  
 Fathead Minnow (7 Day)  
 Selanastrum (96 hr.)

Temp. deg. C = 19.8  
 Chlorine (mg/L) = 19.8  
 NH3 (mg/L) = 4.8

4-5 Day Kush  
 19.8 = 17.5-3  
 19.8 = 19.8  
 4.8 = 4.8  
 4.8 = 4.8

COMMENTS:  
 chlorind = 19.8 = 0  
 17.5 = 0  
 4.8 = 0

SAMPLE ID#	DATE SAMPLED	TIME SAMPLED	SMP L TYPE	SAMPLE DESCRIPTION/SITE LOCATION	# OF CONT.	Ceriodaphnia Dubia (7Day)	Fathead Minnow (7 Day)	Selanastrum (96 hr.)	Temp. deg. C	Chlorine (mg/L)	NH3 (mg/L)	COMMENTS:
LAILG-NGA-19.8.12d.17	12/17	0845	RW		2	X	X	X	19.8	19.8	4.8	chlorind = 19.8 = 0
LAILG-NGA-19.8.12d.17	12/17	1230	RW		2	X	X	X	17.5	17.5	4.8	17.5 = 0
LAILG-NGA-19.8.12d.17	12/17	1415	RW		2	X	X	X	4.8	4.8	4.8	4.8 = 0

SAMPLE CONDITION:

SAMPLE TYPE CODE:

Actual Temperature:

AA=Aqueous

Received On Ice Preserved

Y / N

Evidence Seals Present

Y / N

Container Attacked

Y / N

Preserved at Lab

Y / N

Received By:

Y / N

DW = Drinking Water  
 WW = Waste Water  
 RW = Rain Water  
 GW = Ground Water  
 SO = Soil  
 SW = Solid Waste  
 OL = Oil  
 OT = Other Matrix

RELINQUISHED BY: *MATT deHAAS* DATE / TIME: *11/27/17 1130* RECEIVED BY: *Simon de Haas* DATE / TIME: *01/23/19; 1323*

RELINQUISHED BY: DATE / TIME: RECEIVED BY:

**CHRONIC FATHEAD MINNOW SURVIVAL AND GROWTH BIOASSAY**

DATE: 24 January 2017

STANDARD TOXICANT: Copper Chloride

ENDPOINT: SURVIVAL

NOEC = 38.00 ug/l

EC25 = 58.43 ug/l

EC50 = 86.41 ug/l

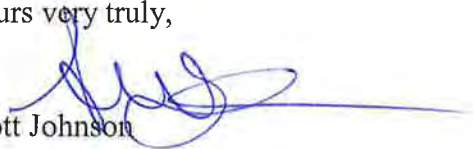
ENDPOINT: GROWTH

NOEC = 38.00 ug/l

IC25 = 49.58 ug/l

IC50 = 70.09 ug/l

Yours very truly,

  
Scott Johnson  
Laboratory Director

**CETIS Summary Report**

Report Date: 10 Feb-17 09:17 (p 1 of 2)  
 Test Code: FML012417 | 10-3096-7388

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 13-4483-9757	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:00	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:00	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 05-9728-2768	<b>Code:</b> FML012417	<b>Client:</b> ABC Labs
<b>Sample Date:</b> 24 Jan-17 12:00	<b>Material:</b> Copper chloride	<b>Project:</b> REF TOX
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD	✓
07-0027-1489	7d Survival Rate	Dunnett Multiple Comparison Test	38	75	53.39		15.7%	✓
04-8522-4018	Mean Dry Biomass-mg	Dunnett Multiple Comparison Test	38	75	53.39		15.9%	✓

**Point Estimate Summary**

Analysis ID	Endpoint	Point Estimate Method	Level	µg/L	95% LCL	95% UCL	TU	✓
18-4691-3531	7d Survival Rate	Linear Interpolation (ICPIN)	EC5	40.85	n/a	43.59		
			EC10	45.25	n/a	48.26		
			EC15	49.64	35.35	52.92		
			EC20	54.03	41.38	57.78		
			EC25	58.43	47.4	62.74		
			EC40	71.61	63.65	79.32		
			EC50	86.41	68.15	98.15		
02-0789-8098	Mean Dry Biomass-mg	Linear Interpolation (ICPIN)	IC5	27.73	11.48	42.27		✓
			IC10	36.47	25.82	44.72		✓
			IC15	41.38	32.56	47.93		✓
			IC20	45.48	38.19	51.7		✓
			IC25	49.58	42.97	55.3		✓
			IC40	61.89	56.63	66.68		✓
			IC50	70.09	65.61	74.54		✓

**Test Acceptability**

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits			Overlap	Decision
				Lower	Upper			
07-0027-1489	7d Survival Rate	Control Resp	0.95	0.8	>>	Yes	Passes Criteria	
18-4691-3531	7d Survival Rate	Control Resp	0.95	0.8	>>	Yes	Passes Criteria	
02-0789-8098	Mean Dry Biomass-mg	Control Resp	0.2592	0.25	>>	Yes	Passes Criteria	
04-8522-4018	Mean Dry Biomass-mg	Control Resp	0.2592	0.25	>>	Yes	Passes Criteria	
04-8522-4018	Mean Dry Biomass-mg	PMSD	0.159	0.12	0.3	Yes	Passes Criteria	

**7d Survival Rate Summary**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.9500	0.8484	1.0000	0.8667	1.0000	0.0319	0.0638	6.72%	0.00%
10		4	0.9500	0.8484	1.0000	0.8667	1.0000	0.0319	0.0638	6.72%	0.00%
19		4	0.9333	0.7212	1.0000	0.7333	1.0000	0.0667	0.1333	14.29%	1.75%
38		4	0.9333	0.7833	1.0000	0.8000	1.0000	0.0471	0.0943	10.10%	1.75%
75		4	0.5333	0.4467	0.6199	0.4667	0.6000	0.0272	0.0544	10.21%	43.86%
150		4	0.1500	0.0000	0.3091	0.0667	0.2667	0.0500	0.1000	66.67%	84.21%

**Mean Dry Biomass-mg Summary**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.2592	0.2055	0.3128	0.2107	0.2887	0.01686	0.03372	13.01%	0.00%
10		4	0.3087	0.2718	0.3455	0.2853	0.3373	0.01158	0.02315	7.50%	-19.10%
19		4	0.2978	0.2367	0.359	0.2707	0.3533	0.01922	0.03844	12.91%	-14.92%
38		4	0.2572	0.2393	0.2751	0.2407	0.266	0.005626	0.01125	4.38%	0.77%
75		4	0.127	0.1135	0.1405	0.118	0.1373	0.004238	0.008477	6.67%	51.00%
150		4	0.01333	-0.00733	0.03399	0.002	0.032	0.006492	0.01298	97.38%	94.86%

CETIS Summary Report

Report Date: 10 Feb-17 09:17 (p 2 of 2)  
 Test Code: FML012417 | 10-3096-7388

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

7d Survival Rate Detail

Conc-μg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	0.8667	1.0000	0.9333
10		1.0000	0.9333	1.0000	0.8667
19		0.7333	1.0000	1.0000	1.0000
38		1.0000	1.0000	0.8000	0.9333
75		0.5333	0.5333	0.6000	0.4667
150		0.0667	0.2667	0.0667	0.2000

Mean Dry Biomass-mg Detail

Conc-μg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.2707	0.2107	0.2667	0.2887
10		0.2853	0.3167	0.3373	0.2953
19		0.2733	0.3533	0.2707	0.294
38		0.266	0.2613	0.2407	0.2607
75		0.1227	0.13	0.1373	0.118
150		0.01067	0.032	0.008667	0.002

7d Survival Rate Binomials

Conc-μg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	13/15	15/15	14/15
10		15/15	14/15	15/15	13/15
19		11/15	15/15	15/15	15/15
38		15/15	15/15	12/15	14/15
75		8/15	8/15	9/15	7/15
150		1/15	4/15	1/15	3/15

**CETIS Analytical Report**

Report Date: 10 Feb-17 09:17 (p 1 of 4)  
 Test Code: FML012417 | 10-3096-7388

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 07-0027-1489	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 10 Feb-17 9:14	<b>Analysis:</b> Parametric-Control vs Treatments	<b>Official Results:</b> Yes
<b>Batch ID:</b> 13-4483-9757	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:00	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:00	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 05-9728-2768	<b>Code:</b> FML012417	<b>Client:</b> ABC Labs
<b>Sample Date:</b> 24 Jan-17 12:00	<b>Material:</b> Copper chloride	<b>Project:</b> REF TOX
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	38	75	53.39		15.75%

**Dunnett Multiple Comparison Test**

Control	vs	Conc-µg/L	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		10	0	2.407	0.24	6	CDF	0.8333	Non-Significant Effect
		19	0.09329	2.407	0.24	6	CDF	0.8044	Non-Significant Effect
		38	0.2256	2.407	0.24	6	CDF	0.7584	Non-Significant Effect
		75*	5.308	2.407	0.24	6	CDF	1.3E-04	Significant Effect
		150*	9.694	2.407	0.24	6	CDF	2.7E-05	Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.95	0.8	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	3.29442	0.658885	5	33.24	<1.0E-37	Significant Effect
Error	0.356845	0.0198247	18			
Total	3.65127		23			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	4.166	15.09	0.5258	Equal Variances
Variances	Levene Equality of Variance Test	1.618	4.248	0.2058	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.3834	4.248	0.8536	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	1.155	3.878	0.0051	Non-Normal Distribution
Distribution	D'Agostino Kurtosis Test	0.2474	2.576	0.8046	Normal Distribution
Distribution	D'Agostino Skewness Test	1.861	2.576	0.0628	Normal Distribution
Distribution	D'Agostino-Pearson K2 Omnibus Test	3.523	9.21	0.1718	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.2051	0.2056	0.0103	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.8925	0.884	0.0150	Normal Distribution

**7d Survival Rate Summary**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.9500	0.8484	1.0000	0.9667	0.8667	1.0000	0.0319	6.72%	0.00%
10		4	0.9500	0.8484	1.0000	0.9667	0.8667	1.0000	0.0319	6.72%	0.00%
19		4	0.9333	0.7212	1.0000	1.0000	0.7333	1.0000	0.0667	14.29%	1.75%
38		4	0.9333	0.7833	1.0000	0.9667	0.8000	1.0000	0.0471	10.10%	1.75%
75		4	0.5333	0.4467	0.6199	0.5333	0.4667	0.6000	0.0272	10.21%	43.86%
150		4	0.1500	0.0000	0.3091	0.1333	0.0667	0.2667	0.0500	66.67%	84.21%



# CETIS Analytical Report

Report Date: 10 Feb-17 09:17 (p 2 of 4)  
Test Code: FML012417 | 10-3096-7388

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 07-0027-1489 Endpoint: 7d Survival Rate  
Analyzed: 10 Feb-17 9:14 Analysis: Parametric-Control vs Treatments

CETIS Version: CETISv1.9.2  
Official Results: Yes

### Angular (Corrected) Transformed Summary

Conc- $\mu\text{g/L}$	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.347	1.16	1.535	1.375	1.197	1.441	0.05894	8.75%	0.00%
10		4	1.347	1.16	1.535	1.375	1.197	1.441	0.05894	8.75%	0.00%
19		4	1.338	1.009	1.667	1.441	1.028	1.441	0.1033	15.44%	0.69%
38		4	1.325	1.074	1.576	1.375	1.107	1.441	0.07893	11.92%	1.67%
75		4	0.8189	0.7318	0.906	0.8188	0.752	0.8861	0.02736	6.68%	39.22%
150		4	0.3822	0.154	0.6103	0.3624	0.2612	0.5426	0.07169	37.52%	71.64%

### 7d Survival Rate Detail

Conc- $\mu\text{g/L}$	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	0.8667	1.0000	0.9333
10		1.0000	0.9333	1.0000	0.8667
19		0.7333	1.0000	1.0000	1.0000
38		1.0000	1.0000	0.8000	0.9333
75		0.5333	0.5333	0.6000	0.4667
150		0.0667	0.2667	0.0667	0.2000

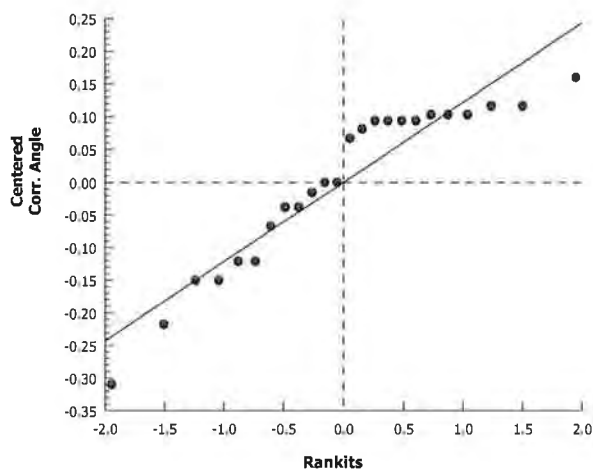
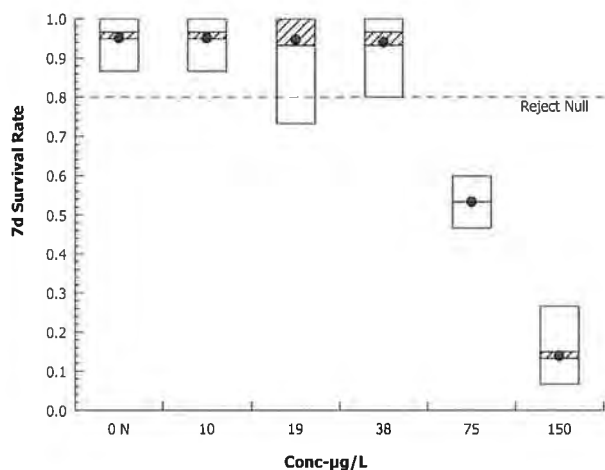
### Angular (Corrected) Transformed Detail

Conc- $\mu\text{g/L}$	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.441	1.197	1.441	1.31
10		1.441	1.31	1.441	1.197
19		1.028	1.441	1.441	1.441
38		1.441	1.441	1.107	1.31
75		0.8188	0.8188	0.8861	0.752
150		0.2612	0.5426	0.2612	0.4636

### 7d Survival Rate Binomials

Conc- $\mu\text{g/L}$	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	13/15	15/15	14/15
10		15/15	14/15	15/15	13/15
19		11/15	15/15	15/15	15/15
38		15/15	15/15	12/15	14/15
75		8/15	8/15	9/15	7/15
150		1/15	4/15	1/15	3/15

### Graphics



**CETIS Analytical Report**

Report Date: 10 Feb-17 09:17 (p 3 of 4)  
 Test Code: FML012417 | 10-3096-7388

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 04-8522-4018	<b>Endpoint:</b> Mean Dry Biomass-mg	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 10 Feb-17 9:17	<b>Analysis:</b> Parametric-Control vs Treatments	<b>Official Results:</b> Yes
<b>Batch ID:</b> 13-4483-9757	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:00	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:00	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 05-9728-2768	<b>Code:</b> FML012417	<b>Client:</b> ABC Labs
<b>Sample Date:</b> 24 Jan-17 12:00	<b>Material:</b> Copper chloride	<b>Project:</b> REF TOX
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	38	75	53.39		15.90%

**Dunnett Multiple Comparison Test**

Control	vs	Conc-µg/L	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		10	-2.891	2.407	0.041	6	CDF	0.9999	Non-Significant Effect
		19	-2.258	2.407	0.041	6	CDF	0.9996	Non-Significant Effect
		38	0.1168	2.407	0.041	6	CDF	0.7966	Non-Significant Effect
		75*	7.719	2.407	0.041	6	CDF	2.8E-05	Significant Effect
		150*	14.36	2.407	0.041	6	CDF	2.7E-05	Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	0.2592	0.25	>>	Yes	Passes Criteria
PMSD	0.159	0.12	0.3	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.270628	0.0541256	5	92.32	<1.0E-37	Significant Effect
Error	0.0105534	0.0005863	18			
Total	0.281181		23			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	8.979	15.09	0.1099	Equal Variances
Variances	Levene Equality of Variance Test	1.948	4.248	0.1360	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.8971	4.248	0.5040	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.3355	3.878	0.5132	Normal Distribution
Distribution	D'Agostino Kurtosis Test	1.439	2.576	0.1500	Normal Distribution
Distribution	D'Agostino Skewness Test	0.6489	2.576	0.5164	Normal Distribution
Distribution	D'Agostino-Pearson K2 Omnibus Test	2.493	9.21	0.2875	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.129	0.2056	0.3757	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9735	0.884	0.7542	Normal Distribution

**Mean Dry Biomass-mg Summary**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.2592	0.2055	0.3128	0.2687	0.2107	0.2887	0.01686	13.01%	0.00%
10		4	0.3087	0.2718	0.3455	0.306	0.2853	0.3373	0.01158	7.50%	-19.10%
19		4	0.2978	0.2367	0.359	0.2837	0.2707	0.3533	0.01922	12.91%	-14.92%
38		4	0.2572	0.2393	0.2751	0.261	0.2407	0.266	0.005627	4.38%	0.77%
75		4	0.127	0.1135	0.1405	0.1263	0.118	0.1373	0.004238	6.67%	51.00%
150		4	0.01333	-0.00733	0.03399	0.009667	0.002	0.032	0.006492	97.38%	94.86%



**CETIS Analytical Report**

**Report Date:** 10 Feb-17 09:17 (p 1 of 4)  
**Test Code:** FML012417 | 10-3096-7388

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 18-4691-3531	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 10 Feb-17 9:14	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Official Results:</b> Yes
<b>Batch ID:</b> 13-4483-9757	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:00	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:00	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 05-9728-2768	<b>Code:</b> FML012417	<b>Client:</b> ABC Labs
<b>Sample Date:</b> 24 Jan-17 12:00	<b>Material:</b> Copper chloride	<b>Project:</b> REF TOX
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

**Linear Interpolation Options**

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.95	0.8	>>	Yes	Passes Criteria

**Point Estimates**

Level	µg/L	95% LCL	95% UCL
EC5	40.85	n/a	43.59
EC10	45.25	n/a	48.26
EC15	49.64	35.35	52.92
EC20	54.03	41.38	57.78
EC25	58.43	47.4	62.74
EC40	71.61	63.65	79.32
EC50	86.41	68.15	98.15

**7d Survival Rate Summary**

Conc-µg/L	Code	Count	Calculated Variate(A/B)								
			Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	N	4	0.9500	0.8667	1.0000	0.0319	0.0638	6.72%	0.0%	57	60
10		4	0.9500	0.8667	1.0000	0.0319	0.0638	6.72%	0.0%	57	60
19		4	0.9333	0.7333	1.0000	0.0667	0.1333	14.29%	1.75%	56	60
38		4	0.9333	0.8000	1.0000	0.0471	0.0943	10.10%	1.75%	56	60
75		4	0.5333	0.4667	0.6000	0.0272	0.0544	10.21%	43.86%	32	60
150		4	0.1500	0.0667	0.2667	0.0500	0.1000	66.67%	84.21%	9	60

**7d Survival Rate Detail**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	0.8667	1.0000	0.9333
10		1.0000	0.9333	1.0000	0.8667
19		0.7333	1.0000	1.0000	1.0000
38		1.0000	1.0000	0.8000	0.9333
75		0.5333	0.5333	0.6000	0.4667
150		0.0667	0.2667	0.0667	0.2000

**7d Survival Rate Binomials**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	13/15	15/15	14/15
10		15/15	14/15	15/15	13/15
19		11/15	15/15	15/15	15/15
38		15/15	15/15	12/15	14/15
75		8/15	8/15	9/15	7/15
150		1/15	4/15	1/15	3/15

# CETIS Analytical Report

Report Date: 10 Feb-17 09:17 (p 2 of 4)  
Test Code: FML012417 | 10-3096-7388

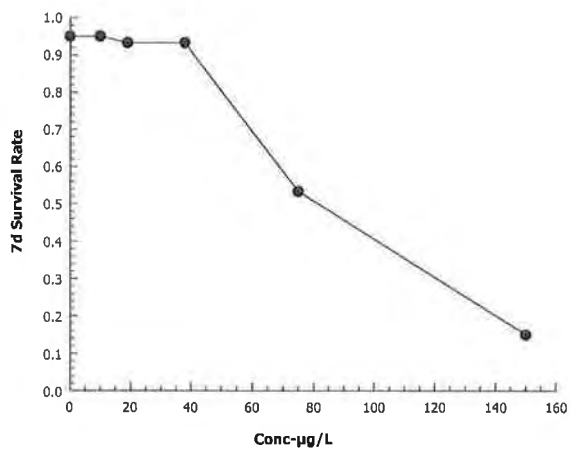
## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 18-4691-3531      Endpoint: 7d Survival Rate  
Analyzed: 10 Feb-17 9:14      Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISv1.9.2  
Official Results: Yes

### Graphics









# CETIS Measurement Report

Report Date: 10 Feb-17 09:17 (p 1 of 2)  
 Test Code: FML012417 | 10-3096-7388

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 13-4483-9757	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 24 Jan-17 12:00	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 31 Jan-17 10:00	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 05-9728-2768	<b>Code:</b> FML012417	<b>Client:</b> ABC Labs
<b>Sample Date:</b> 24 Jan-17 12:00	<b>Material:</b> Copper chloride	<b>Project:</b> REF TOX
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

### Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	66	62.54	69.46	61	69	1.464	4.14	6.27%	0
150		8	60	60	60	60	60	0	0	0.0%	0
Overall		16	63	60.76	65.24	60	69	1.049	4.195	6.66%	0 (0%)

### Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	353.8	346.9	360.6	336	360	2.896	8.19	2.32%	0
10		8	369.5	357.1	381.9	357	396	5.258	14.87	4.03%	0
19		8	368.2	354.8	381.7	351	396	5.688	16.09	4.37%	0
38		8	365.6	351.4	379.9	350	396	6.024	17.04	4.66%	0
75		8	366	350.6	381.4	348	396	6.503	18.39	5.03%	0
150		8	363.4	347.6	379.1	347	397	6.655	18.82	5.18%	0
Overall		48	364.4	359.8	369.1	336	397	2.305	15.97	4.38%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.725	7.531	7.919	7.4	8.2	0.08183	0.2315	3.0%	0
10		8	7.825	7.287	8.363	6.4	8.4	0.2274	0.6431	8.22%	0
19		8	8.113	7.926	8.299	7.8	8.5	0.07892	0.2232	2.75%	0
38		8	8.213	8.015	8.41	7.9	8.6	0.08332	0.2357	2.87%	0
75		8	8.238	8.028	8.447	7.9	8.6	0.08851	0.2504	3.04%	0
150		8	8.212	7.992	8.433	7.8	8.6	0.09342	0.2642	3.22%	0
Overall		48	8.054	7.943	8.166	6.4	8.6	0.05538	0.3837	4.76%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	88.38	87.94	88.81	88	89	0.183	0.5175	0.59%	0
150		8	83	83	83	83	83	0	0	0.0%	0
Overall		16	85.69	84.2	87.18	83	89	0.6995	2.798	3.27%	0 (0%)

### pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.837	7.648	8.027	7.5	8.2	0.08004	0.2264	2.89%	0
10		8	7.563	7.384	7.741	7.4	7.9	0.07544	0.2134	2.82%	0
19		8	7.538	7.383	7.692	7.3	7.8	0.06529	0.1847	2.45%	0
38		8	7.538	7.383	7.692	7.3	7.8	0.06529	0.1847	2.45%	0
75		8	7.563	7.429	7.696	7.4	7.8	0.0565	0.1598	2.11%	0
150		8	7.55	7.409	7.691	7.4	7.8	0.05976	0.169	2.24%	0
Overall		48	7.598	7.537	7.659	7.3	8.2	0.03044	0.2109	2.78%	0 (0%)

# CETIS Measurement Report

Report Date: 10 Feb-17 09:17 (p 2 of 2)  
 Test Code: FML012417 | 10-3096-7388

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

### Temperature-°C

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24.03	23.97	24.08	24	24.2	0.02499	0.07069	0.29%	0
10		8	24.05	23.96	24.14	24	24.3	0.0378	0.1069	0.44%	0
19		8	24.04	23.95	24.13	24	24.3	0.03751	0.1061	0.44%	0
38		8	24.05	23.96	24.14	24	24.3	0.0378	0.1069	0.44%	0
75		8	24.04	23.98	24.1	24	24.2	0.02629	0.07436	0.31%	0
150		8	24.03	23.99	24.06	24	24.1	0.01634	0.04623	0.19%	0
Overall		48	24.04	24.01	24.06	24	24.3	0.01214	0.08411	0.35%	0 (0%)

### Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	61	61	61	69	69	69	69	69
150		60	60	60	60	60	60	60	60

### Conductivity-µmhos

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	354	357	356	360	360	359	336	348
10		390	396	362	360	360	366	357	365
19		390	396	365	363	362	364	351	355
38		389	396	357	357	359	362	350	355
75		389	396	357	354	355	376	348	353
150		389	397	355	354	353	361	347	351

### Dissolved Oxygen-mg/L

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	7.7	7.4	7.6	7.6	7.8	7.7	7.8	8.2
10		8.3	7.6	8	8.3	7.8	7.8	8.4	6.4
19		8.5	8.1	8	8.2	7.9	7.8	8.3	8.1
38		8.6	8.3	8.1	8.3	7.9	7.9	8.3	8.3
75		8.6	8.4	8.1	8.3	7.9	7.9	8.4	8.3
150		8.6	8.4	8.2	8	8	7.8	8.4	8.3

### Hardness (CaCO3)-mg/L

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	89	89	89	88	88	88	88	88
150		83	83	83	83	83	83	83	83

### pH-Units

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	7.7	7.6	7.9	7.9	7.9	8	7.5	8.2
10		7.5	7.4	7.4	7.9	7.9	7.5	7.4	7.5
19		7.5	7.4	7.4	7.8	7.8	7.5	7.3	7.6
38		7.5	7.4	7.4	7.8	7.8	7.5	7.3	7.6
75		7.5	7.4	7.5	7.8	7.8	7.5	7.4	7.6
150		7.5	7.4	7.4	7.8	7.8	7.5	7.4	7.6

### Temperature-°C

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	24	24	24	24.2	24	24	24	24
10		24.1	24	24	24.3	24	24	24	24
19		24	24	24	24.3	24	24	24	24
38		24	24	24	24.3	24.1	24	24	24
75		24	24	24	24.2	24.1	24	24	24
150		24	24	24	24.1	24.1	24	24	24

**CHRONIC CERIODAPHNIA SURVIVAL AND REPRODUCTION BIOASSAY**

DATE: 4 January- 2017

STANDARD TOXICANT: Copper Chloride

ENDPOINT: SURVIVAL

NOEC = 10.00 ug/l

EC25 = 15.00 ug/l

EC50 = 20.00 ug/l

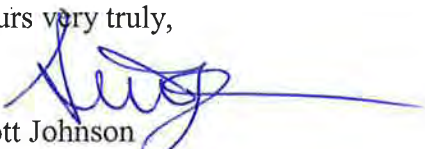
ENDPOINT: REPRODUCTION

NOEC = 10.00 ug/l

IC25 = 14.98 ug/l

IC50 = 19.99 ug/l

Yours very truly,

  
Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 24 Jan-17 17:33 (p 1 of 2)  
 Test Code: CER010417 | 07-8098-3807

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 19-5757-5420	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 04 Jan-17 12:00	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 11 Jan-17 11:50	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 7d	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 11-7560-7722	<b>Code:</b> CER010417c	<b>Client:</b> Internal Lab
<b>Sample Date:</b> 04 Jan-17 12:00	<b>Material:</b> Copper chloride	<b>Project:</b>
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

### Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD	✓
11-5490-4844	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	10	30	17.32		n/a	✓
06-5562-8972	Reproduction	Dunnett Multiple Comparison Test	10	30	17.32		24.6%	✓

### Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	Level	µg/L	95% LCL	95% UCL	TU	✓
05-7805-8636	7d Survival Rate	Linear Interpolation (ICPIN)	EC5	11	11	11		
			EC10	12	12	12		
			EC15	13	13	13		
			EC20	14	14	14		
			EC25	15	15	15		
			EC40	18	18	18		
11-2476-6582	Reproduction	Linear Interpolation (ICPIN)	IC5	10.98	0.9602	11		✓
			IC10	11.98	1.92	12		✓
			IC15	12.98	2.881	13		✓
			IC20	13.98	10.91	14		✓
			IC25	14.98	12.1	15		✓
			IC40	17.98	15.68	18		✓
			IC50	19.99	18.07	20		✓

### Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits			Overlap	Decision
				Lower	Upper			
05-7805-8636	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria	
11-5490-4844	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria	
06-5562-8972	Reproduction	Control Resp	25.7	15	>>	Yes	Passes Criteria	
11-2476-6582	Reproduction	Control Resp	25.7	15	>>	Yes	Passes Criteria	
06-5562-8972	Reproduction	PMSD	0.2456	0.13	0.47	Yes	Passes Criteria	

### 7d Survival Rate Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
3		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
5		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
10		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
30		10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%
50		10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%

### Reproduction Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	25.7	20.28	31.12	12	34	2.395	7.573	29.47%	0.00%
3		10	22	17.79	26.21	14	32	1.862	5.888	26.76%	14.40%
5		10	27.8	23.7	31.9	16	33	1.812	5.731	20.62%	-8.17%
10		10	27.2	22.12	32.28	16	37	2.245	7.099	26.10%	-5.84%
30		10	0	0	0	0	0	0	0		100.00%
50		10	0	0	0	0	0	0	0		100.00%

## CETIS Summary Report

Report Date: 24 Jan-17 17:33 (p 2 of 2)  
Test Code: CER010417 | 07-8098-3807

### Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

#### 7d Survival Rate Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
30		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

#### Reproduction Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	30	28	20	12	30	32	33	20	34	18
3		32	26	17	18	23	27	15	14	26	22
5		33	30	30	33	27	31	32	16	26	20
10		29	35	37	27	33	30	25	23	16	17
30		0	0	0	0	0	0	0	0	0	0
50		0	0	0	0	0	0	0	0	0	0

#### 7d Survival Rate Binomials

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
3		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
10		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
30		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
50		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1

**CETIS Analytical Report**

Report Date: 24 Jan-17 17:33 (p 1 of 2)  
 Test Code: CER010417 | 07-8098-3807

Ceriodaphnia 7-d Survival and Reproduction Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 06-5562-8972	Endpoint: Reproduction	CETIS Version: CETISv1.9.2			
Analyzed: 24 Jan-17 10:30	Analysis: Parametric-Control vs Treatments	Official Results: Yes			
Batch ID: 19-5757-5420	Test Type: Reproduction-Survival (7d)	Analyst:			
Start Date: 04 Jan-17 12:00	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 11 Jan-17 11:50	Species: Ceriodaphnia dubia	Brine: Not Applicable			
Duration: 7d	Source: Aquatic Biosystems, CO	Age:			
Sample ID: 11-7560-7722	Code: CER010417c	Client: Internal Lab			
Sample Date: 04 Jan-17 12:00	Material: Copper chloride	Project:			
Receipt Date:	Source: Reference Toxicant				
Sample Age: n/a	Station: REF TOX				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	10	30	17.32		24.56%

**Dunnett Multiple Comparison Test**

Control	vs	Conc-µg/L	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		3	1.25	2.133	6.313	18	CDF	0.2350	Non-Significant Effect
		5	-0.7094	2.133	6.313	18	CDF	0.9304	Non-Significant Effect
		10	-0.5067	2.133	6.313	18	CDF	0.8943	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	25.7	15	>>	Yes	Passes Criteria
PMSD	0.2456	0.13	0.47	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	203.475	67.825	3	1.548	0.2189	Non-Significant Effect
Error	1577.3	43.8139	36			
Total	1780.78		39			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	0.9735	11.34	0.8077	Equal Variances
Variances	Levene Equality of Variance Test	0.7857	4.377	0.5098	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.458	4.377	0.7133	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.7669	3.878	0.0459	Normal Distribution
Distribution	D'Agostino Kurtosis Test	1.329	2.576	0.1838	Normal Distribution
Distribution	D'Agostino Skewness Test	1.277	2.576	0.2017	Normal Distribution
Distribution	D'Agostino-Pearson K2 Omnibus Test	3.397	9.21	0.1830	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1364	0.1617	0.0586	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9514	0.9236	0.0848	Normal Distribution

**Reproduction Summary**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	25.7	20.28	31.12	29	12	34	2.395	29.47%	0.00%
3		10	22	17.79	26.21	22.5	14	32	1.862	26.76%	14.40%
5		10	27.8	23.7	31.9	30	16	33	1.812	20.62%	-8.17%
10		10	27.2	22.12	32.28	28	16	37	2.245	26.10%	-5.84%
30		10	0	0	0	0	0	0	0		100.00%
50		10	0	0	0	0	0	0	0		100.00%





**CETIS Analytical Report**

Report Date: 24 Jan-17 17:33 (p 1 of 4)  
 Test Code: CER010417 | 07-8098-3807

Ceriodaphnia 7-d Survival and Reproduction Test				Aquatic Bioassay & Consulting Labs, Inc.			
Analysis ID: 05-7805-8636	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.2					
Analyzed: 24 Jan-17 10:30	Analysis: Linear Interpolation (ICPIN)	Official Results: Yes					
Batch ID: 19-5757-5420	Test Type: Reproduction-Survival (7d)	Analyst:					
Start Date: 04 Jan-17 12:00	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water					
Ending Date: 11 Jan-17 11:50	Species: Ceriodaphnia dubia	Brine: Not Applicable					
Duration: 7d	Source: Aquatic Biosystems, CO	Age:					
Sample ID: 11-7560-7722	Code: CER010417c	Client: Internal Lab					
Sample Date: 04 Jan-17 12:00	Material: Copper chloride	Project:					
Receipt Date:	Source: Reference Toxicant						
Sample Age: n/a	Station: REF TOX						

Linear Interpolation Options					
X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	1	0.8	>>	Yes	Passes Criteria

Point Estimates			
Level	µg/L	95% LCL	95% UCL
EC5	11	11	11
EC10	12	12	12
EC15	13	13	13
EC20	14	14	14
EC25	15	15	15
EC40	18	18	18
EC50	20	20	20

7d Survival Rate Summary			Calculated Variate(A/B)									
Conc-µg/L	Code	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B	
0	N	10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10	
3		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10	
5		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10	
10		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10	
30		10	0.0000	0.0000	0.0000	0.0000	0.0000		100.0%	0	10	
50		10	0.0000	0.0000	0.0000	0.0000	0.0000		100.0%	0	10	

7d Survival Rate Detail											
Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
30		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

7d Survival Rate Binomials											
Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
3		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
10		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
30		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
50		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1

# CETIS Analytical Report

Report Date: 24 Jan-17 17:33 (p 2 of 4)  
Test Code: CER010417 | 07-8098-3807

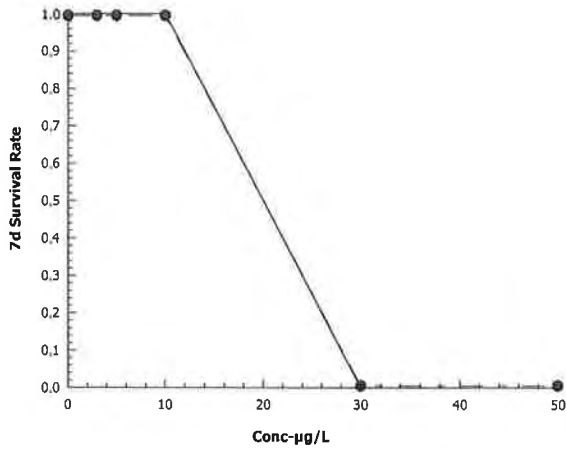
## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 05-7805-8636      Endpoint: 7d Survival Rate  
Analyzed: 24 Jan-17 10:30      Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISv1.9.2  
Official Results: Yes

### Graphics



**CETIS Analytical Report**

Report Date: 24 Jan-17 17:33 (p 3 of 4)  
 Test Code: CER010417 | 07-8098-3807

Ceriodaphnia 7-d Survival and Reproduction Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 11-2476-6582	Endpoint: Reproduction	CETIS Version: CETISv1.9.2	Analyzed: 24 Jan-17 10:30	Analysis: Linear Interpolation (ICPIN)	Official Results: Yes
Batch ID: 19-5757-5420	Test Type: Reproduction-Survival (7d)	Analyst:	Start Date: 04 Jan-17 12:00	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 11 Jan-17 11:50	Species: Ceriodaphnia dubia	Brine: Not Applicable	Duration: 7d	Source: Aquatic Biosystems, CO	Age:
Sample ID: 11-7560-7722	Code: CER010417c	Client: Internal Lab	Sample Date: 04 Jan-17 12:00	Material: Copper chloride	Project:
Receipt Date:	Source: Reference Toxicant		Sample Age: n/a	Station: REF TOX	

Linear Interpolation Options					
X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	2014549	280	Yes	Two-Point Interpolation

Test Acceptability Criteria		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	25.7	15	>>	Yes	Passes Criteria

Point Estimates			
Level	µg/L	95% LCL	95% UCL
IC5	10.98	0.9602	11
IC10	11.98	1.92	12
IC15	12.98	2.881	13
IC20	13.98	10.91	14
IC25	14.98	12.1	15
IC40	17.98	15.68	18
IC50	19.99	18.07	20

Reproduction Summary			Calculated Variate						
Conc-µg/L	Code	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	25.7	12	34	2.395	7.573	29.47%	0.0%
3		10	22	14	32	1.862	5.888	26.76%	14.4%
5		10	27.8	16	33	1.812	5.731	20.62%	-8.17%
10		10	27.2	16	37	2.245	7.099	26.10%	-5.84%
30		10	0	0	0	0	0		100.0%
50		10	0	0	0	0	0		100.0%

Reproduction Detail											
Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	30	28	20	12	30	32	33	20	34	18
3		32	26	17	18	23	27	15	14	26	22
5		33	30	30	33	27	31	32	16	26	20
10		29	35	37	27	33	30	25	23	16	17
30		0	0	0	0	0	0	0	0	0	0
50		0	0	0	0	0	0	0	0	0	0

# CETIS Analytical Report

Report Date: 24 Jan-17 17:33 (p 4 of 4)  
Test Code: CER010417 | 07-8098-3807

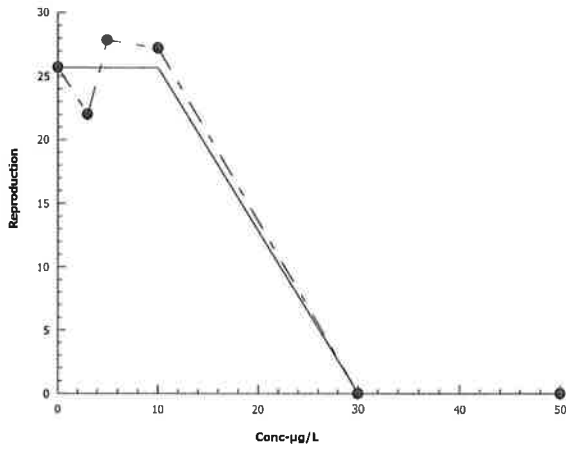
## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 11-2476-6582      Endpoint: Reproduction  
Analyzed: 24 Jan-17 10:30      Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISv1.9.2  
Official Results: Yes

### Graphics



**CETIS Analytical Report**

Report Date: 24 Jan-17 17:33 (p 1 of 2)  
 Test Code: CER010417 | 07-8098-3807

Ceriodaphnia 7-d Survival and Reproduction Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 11-5490-4844	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.2			
Analyzed: 24 Jan-17 10:30	Analysis: STP 2xK Contingency Tables	Official Results: Yes			
Batch ID: 19-5757-5420	Test Type: Reproduction-Survival (7d)	Analyst:			
Start Date: 04 Jan-17 12:00	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 11 Jan-17 11:50	Species: Ceriodaphnia dubia	Brine: Not Applicable			
Duration: 7d	Source: Aquatic Biosystems, CO	Age:			
Sample ID: 11-7560-7722	Code: CER010417c	Client: Internal Lab			
Sample Date: 04 Jan-17 12:00	Material: Copper chloride	Project:			
Receipt Date:	Source: Reference Toxicant				
Sample Age: n/a	Station: REF TOX				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Untransformed	C > T	10	30	17.32	

**Fisher Exact/Bonferroni-Holm Test**

Control	vs	Group	Test Stat	P-Type	P-Value	Decision(α:5%)
Negative Control		3	1.0000	Exact	1.0000	Non-Significant Effect
		5	1.0000	Exact	1.0000	Non-Significant Effect
		10	1.0000	Exact	1.0000	Non-Significant Effect
		30*	0.0000	Exact	2.7E-05	Significant Effect
		50*	0.0000	Exact	2.7E-05	Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	1	0.8	>>	Yes	Passes Criteria

**Data Summary**

Conc-µg/L	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	N	10	0	10	1	0	0.0%
3		10	0	10	1	0	0.0%
5		10	0	10	1	0	0.0%
10		10	0	10	1	0	0.0%
30		0	10	10	0	1	100.0%
50		0	10	10	0	1	100.0%

**7d Survival Rate Detail**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
30		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

**7d Survival Rate Binomials**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
3		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
10		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
30		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
50		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1

# CETIS Analytical Report

Report Date: 24 Jan-17 17:33 (p 2 of 2)  
Test Code: CER010417 | 07-8098-3807

## Ceriodaphnia 7-d Survival and Reproduction Test

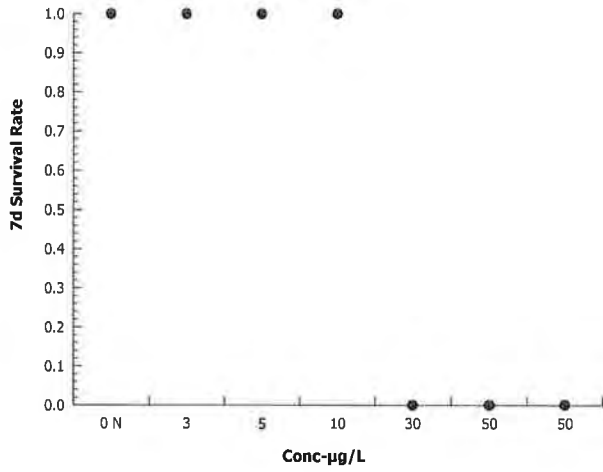
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 11-5490-4844  
Analyzed: 24 Jan-17 10:30

Endpoint: 7d Survival Rate  
Analysis: STP 2xK Contingency Tables

CETIS Version: CETISv1.9.2  
Official Results: Yes

### Graphics



# CETIS Measurement Report

Report Date: 24 Jan-17 17:33 (p 1 of 2)  
 Test Code: CER010417 | 07-8098-3807

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 19-5757-5420	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 04 Jan-17 12:00	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 11 Jan-17 11:50	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 7d	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>

<b>Sample ID:</b> 11-7560-7722	<b>Code:</b> CER010417c	<b>Client:</b> Internal Lab
<b>Sample Date:</b> 04 Jan-17 12:00	<b>Material:</b> Copper chloride	<b>Project:</b>
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

### Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	60	60	60	60	60	0	0	0.0%	0
50		3	67	67	67	67	67	0	0	0.0%	0
Overall		11	61.91	59.71	64.11	60	67	0.9859	3.27	5.28%	0 (0%)

### Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	334	329.5	338.5	324	343	1.918	5.425	1.62%	0
3		8	331.6	328.8	334.4	328	336	1.194	3.378	1.02%	0
5		8	329	327.7	330.3	327	331	0.5345	1.512	0.46%	0
10		8	328.6	326.3	330.9	325	333	0.9808	2.774	0.84%	0
30		7	327.6	324.4	330.7	325	334	1.288	3.409	1.04%	0
50		3	328	321.4	334.6	326	331	1.528	2.646	0.81%	0
Overall		42	330.1	328.8	331.3	324	343	0.6213	4.027	1.22%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.863	7.684	8.041	7.6	8.2	0.07545	0.2134	2.71%	0
3		8	8.113	7.74	8.485	7.7	8.8	0.1575	0.4454	5.49%	0
5		8	8.088	7.743	8.432	7.6	8.7	0.1457	0.4121	5.1%	0
10		8	8.1	7.748	8.452	7.7	8.7	0.1488	0.4209	5.2%	0
30		6	8.05	7.606	8.494	7.7	8.8	0.1727	0.4231	5.26%	0
50		2	8.15	6.244	10.06	8	8.3	0.15	0.2121	2.6%	0
Overall		40	8.048	7.928	8.167	7.6	8.8	0.05905	0.3735	4.64%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	89	89	89	89	89	0	0	0.0%	0
50		3	99	99	99	99	99	0	0	0.0%	0
Overall		11	91.73	88.59	94.87	89	99	1.408	4.671	5.09%	0 (0%)

### pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.987	7.753	8.222	7.6	8.4	0.09899	0.28	3.51%	0
3		8	7.938	7.771	8.104	7.8	8.3	0.07055	0.1996	2.51%	0
5		8	7.888	7.75	8.025	7.8	8.2	0.05806	0.1642	2.08%	0
10		8	7.85	7.645	8.055	7.7	8.4	0.0866	0.2449	3.12%	0
30		6	7.833	7.65	8.017	7.7	8.1	0.07149	0.1751	2.24%	0
50		2	8.05	7.415	8.685	8	8.1	0.05001	0.07073	0.88%	0
Overall		40	7.91	7.842	7.978	7.6	8.4	0.03355	0.2122	2.68%	0 (0%)



**CETIS Measurement Report**

Report Date: 24 Jan-17 17:33 (p 2 of 2)  
 Test Code: CER010417 | 07-8098-3807

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**Temperature-°C**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24.01	23.98	24.04	24	24.1	0.01249	0.03531	0.15%	0
3		8	24.01	23.98	24.04	24	24.1	0.01249	0.03531	0.15%	0
5		8	24.01	23.98	24.04	24	24.1	0.01249	0.03531	0.15%	0
10		8	24.01	23.98	24.04	24	24.1	0.01249	0.03531	0.15%	0
30		6	24.02	23.97	24.06	24	24.1	0.01665	0.04077	0.17%	0
50		2	24	24	24	24	24	0	0	0.0%	0
Overall		40	24.01	24	24.02	24	24.1	0.005296	0.03349	0.14%	0 (0%)

**Alkalinity (CaCO3)-mg/L**

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	60	60	60	60	60	60	60	60
50		67	67	67					

**Conductivity-µmhos**

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	343	332	334	324	332	335	334	338
3		329	332	336	330	328	328	336	334
5		328	331	328	329	328	327	330	331
10		327	330	327	328	325	327	332	333
30		326	328	334	330	325	325	325	
50		326	327	331					

**Dissolved Oxygen-mg/L**

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	7.6	7.9	7.6	7.8	7.9	7.8	8.1	8.2
3		7.9	8.5	8.6	7.7	7.8	7.7	8.8	7.9
5		7.9	8.3	8.7	7.6	7.8	7.7	8.6	8.1
10		7.8	8.2	8.7	7.7	7.8	7.7	8.7	8.2
30		7.9	8.3	8.8	7.8	7.8	7.7		
50		8	8.3						

**Hardness (CaCO3)-mg/L**

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	89	89	89	89	89	89	89	89
50		99	99	99					

**pH-Units**

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	8.2	8.4	7.6	7.7	8.1	7.8	7.9	8.2
3		8.2	8.3	7.8	7.8	7.9	7.8	7.9	7.8
5		8.1	8.2	7.8	7.8	7.8	7.8	7.8	7.8
10		8	8.4	7.7	7.7	7.8	7.7	7.7	7.8
30		8	8.1	7.7	7.7	7.8	7.7		
50		8	8.1						

**Temperature-°C**

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	24	24	24.1	24	24	24	24	24
3		24	24	24.1	24	24	24	24	24
5		24	24	24	24	24	24.1	24	24
10		24	24	24	24	24	24.1	24	24
30		24	24	24	24	24	24.1		
50		24	24						

**CHRONIC SELENASTRUM GROWTH BIOASSAY**

DATE: 5 January - 2017

STANDARD TOXICANT: Cadmium Chloride

NOEC = 20.00 ug/l

IC25 = 127.50 ug/l

IC50 = 169.50 ug/l

Yours very truly,



Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 19 Jan-17 16:22 (p 1 of 1)  
 Test Code: SEL010517 | 10-2386-0047

Selenastrum Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Batch ID:	02-0919-5357	Test Type:	Cell Growth	Analyst:	
Start Date:	05 Jan-17 12:32	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Laboratory Water
Ending Date:	09 Jan-17 12:00	Species:	Selenastrum capricornutum	Brine:	Not Applicable
Duration:	95h	Source:	Aquatic Biosystems, CO	Age:	
Sample ID:	05-3109-8838	Code:	SEL010517	Client:	Internal Lab
Sample Date:	05 Jan-17 12:32	Material:	Cadmium chloride	Project:	
Receipt Date:		Source:	Reference Toxicant		
Sample Age:	n/a	Station:	REF TOX		

Multiple Comparison Summary							
Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
12-5258-0943	Cell Density	Dunnett Multiple Comparison Test	20	40	28.28		5.99%

Point Estimate Summary							
Analysis ID	Endpoint	Point Estimate Method	Level	µg/L	95% LCL	95% UCL	TU ✓
14-2916-7122	Cell Density	Linear Interpolation (ICPIN)	IC5	34.35	13.62	61.11	
			IC10	69.42	18.65	99.03	
			IC15	93.35	62.81	109.5	
			IC20	110.4	88.48	124.6	
			IC25	127.5	108.9	141.2	
			IC40	155.7	149.9	160.7	
			IC50	169.5	164.4	175.1	

Test Acceptability							
Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
12-5258-0943	Cell Density	Control CV	0.04997	<<	0.2	Yes	Passes Criteria
14-2916-7122	Cell Density	Control CV	0.04997	<<	0.2	Yes	Passes Criteria
12-5258-0943	Cell Density	Control Resp	1.34E+6	1000000	>>	Yes	Passes Criteria
14-2916-7122	Cell Density	Control Resp	1.34E+6	1000000	>>	Yes	Passes Criteria
12-5258-0943	Cell Density	PMSD	0.05988	0.091	0.29	Yes	Below Criteria

Cell Density Summary											
Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.340E+6	1.233E+6	1.446E+6	1.244E+6	1.394E+6	3.347E+4	6.694E+4	5.00%	0.00%
20		4	1.341E+6	1.256E+6	1.426E+6	1.272E+6	1.385E+6	2.670E+4	5.339E+4	3.98%	-0.09%
40		4	1.247E+6	1.191E+6	1.303E+6	1.214E+6	1.293E+6	1.755E+4	3.509E+4	2.81%	6.92%
80		4	1.192E+6	1.104E+6	1.279E+6	1.121E+6	1.235E+6	2.743E+4	5.485E+4	4.60%	11.05%
140		4	9.560E+5	9.150E+5	9.970E+5	9.230E+5	9.770E+5	1.289E+4	2.578E+4	2.70%	28.63%
180		4	5.682E+5	5.158E+5	6.207E+5	5.390E+5	6.150E+5	1.647E+4	3.294E+4	5.80%	57.58%

Cell Density Detail						
Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	
0	N	1.376E+6	1.244E+6	1.344E+6	1.394E+6	
20		1.325E+6	1.385E+6	1.272E+6	1.381E+6	
40		1.254E+6	1.226E+6	1.293E+6	1.214E+6	
80		1.235E+6	1.235E+6	1.121E+6	1.175E+6	
140		9.770E+5	9.230E+5	9.480E+5	9.760E+5	
180		5.650E+5	6.150E+5	5.390E+5	5.540E+5	

**CETIS Analytical Report**

Report Date: 19 Jan-17 16:22 (p 1 of 2)  
 Test Code: SEL010517 | 10-2386-0047

Selenastrum Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 12-5258-0943	Endpoint: Cell Density	CETIS Version: CETISv1.9.2			
Analyzed: 19 Jan-17 16:21	Analysis: Parametric-Control vs Treatments	Official Results: Yes			
Batch ID: 02-0919-5357	Test Type: Cell Growth	Analyst:			
Start Date: 05 Jan-17 12:32	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 09 Jan-17 12:00	Species: Selenastrum capricornutum	Brine: Not Applicable			
Duration: 95h	Source: Aquatic Biosystems, CO	Age:			
Sample ID: 05-3109-8838	Code: SEL010517	Client: Internal Lab			
Sample Date: 05 Jan-17 12:32	Material: Cadmium chloride	Project:			
Receipt Date:	Source: Reference Toxicant				
Sample Age: n/a	Station: REF TOX				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	20	40	28.28		5.99%

**Dunnett Multiple Comparison Test**

Control	vs	Conc-µg/L	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		20	-0.03752	2.407	80200	6	CDF	0.8441	Non-Significant Effect
		40*	2.784	2.407	80200	6	CDF	0.0239	Significant Effect
		80*	4.442	2.407	80200	6	CDF	7.2E-04	Significant Effect
		140*	11.51	2.407	80200	6	CDF	2.7E-05	Significant Effect
		180*	23.15	2.407	80200	6	CDF	2.7E-05	Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control CV	0.04997	<<	0.2	Yes	Passes Criteria
Control Resp	1.34E+6	1000000	>>	Yes	Passes Criteria
PMSD	0.05988	0.091	0.29	Yes	Below Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	1.794E+12	3.587E+11	5	161.6	<1.0E-37	Significant Effect
Error	3.997E+10	2.220E+09	18			
Total	1.834E+12		23			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	3.334	15.09	0.6486	Equal Variances
Variances	Levene Equality of Variance Test	1.064	4.248	0.4124	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.6834	4.248	0.6420	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.6211	3.878	0.1067	Normal Distribution
Distribution	D'Agostino Kurtosis Test	0.1558	2.576	0.8762	Normal Distribution
Distribution	D'Agostino Skewness Test	1.307	2.576	0.1912	Normal Distribution
Distribution	D'Agostino-Pearson K2 Omnibus Test	1.733	9.21	0.4204	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1427	0.2056	0.2310	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.928	0.884	0.0879	Normal Distribution

**Cell Density Summary**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.340E+6	1.233E+6	1.446E+6	1.360E+6	1.244E+6	1.394E+6	3.347E+4	5.00%	0.00%
20		4	1.341E+6	1.256E+6	1.426E+6	1.353E+6	1.272E+6	1.385E+6	2.670E+4	3.98%	-0.09%
40		4	1.247E+6	1.191E+6	1.303E+6	1.240E+6	1.214E+6	1.293E+6	1.755E+4	2.81%	6.92%
80		4	1.192E+6	1.104E+6	1.279E+6	1.205E+6	1.121E+6	1.235E+6	2.743E+4	4.60%	11.05%
140		4	9.560E+5	9.150E+5	9.970E+5	9.620E+5	9.230E+5	9.770E+5	1.289E+4	2.70%	28.63%
180		4	5.682E+5	5.158E+5	6.207E+5	5.595E+5	5.390E+5	6.150E+5	1.647E+4	5.80%	57.58%

# CETIS Analytical Report

Report Date: 19 Jan-17 16:22 (p 2 of 2)  
Test Code: SEL010517 | 10-2386-0047

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

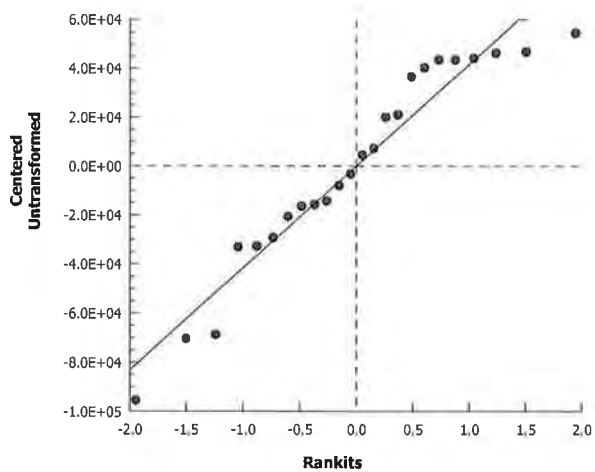
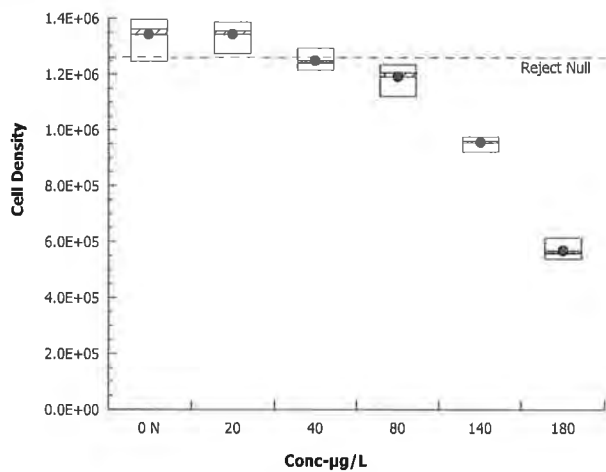
Analysis ID: 12-5258-0943    Endpoint: Cell Density  
Analyzed: 19 Jan-17 16:21    Analysis: Parametric-Control vs Treatments

CETIS Version: CETISv1.9.2  
Official Results: Yes

### Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.376E+6	1.244E+6	1.344E+6	1.394E+6
20		1.325E+6	1.385E+6	1.272E+6	1.381E+6
40		1.254E+6	1.226E+6	1.293E+6	1.214E+6
80		1.235E+6	1.235E+6	1.121E+6	1.175E+6
140		9.770E+5	9.230E+5	9.480E+5	9.760E+5
180		5.650E+5	6.150E+5	5.390E+5	5.540E+5

### Graphics





# CETIS Analytical Report

Report Date: 19 Jan-17 16:22 (p 2 of 2)  
Test Code: SEL010517 | 10-2386-0047

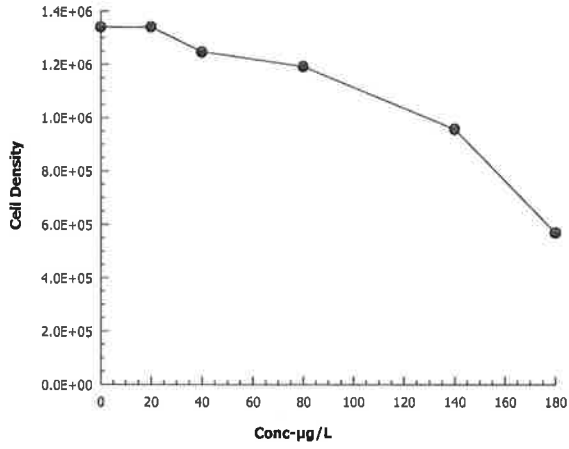
## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 14-2916-7122      Endpoint: Cell Density  
Analyzed: 19 Jan-17 16:21      Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISv1.9.2  
Official Results: Yes

### Graphics





**CETIS Measurement Report**

Report Date: 19 Jan-17 16:22 (p 1 of 2)  
 Test Code: SEL010517 | 10-2386-0047

**Selenastrum Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 02-0919-5357	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 05 Jan-17 12:32	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 09 Jan-17 12:00	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Duration:</b> 95h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 05-3109-8838	<b>Code:</b> SEL010517	<b>Client:</b> Internal Lab
<b>Sample Date:</b> 05 Jan-17 12:32	<b>Material:</b> Cadmium chloride	<b>Project:</b>
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

**Alkalinity (CaCO3)-mg/L**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	69			69	69	0	0	0.0%	0
20		1	64			64	64	0	0	0.0%	0
40		1	65			65	65	0	0	0.0%	0
80		1	69			69	69	0	0	0.0%	0
140		1	63			63	63	0	0	0.0%	0
180		1	62			62	62	0	0	0.0%	0
Overall		6	65.33	62.17	68.49	62	69	1.229	3.011	4.61%	0 (0%)

**Conductivity-µmhos**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	433.4	427.8	439	430	441	2.015	4.506	1.04%	0
20		5	433	416.2	449.8	420	456	6.05	13.53	3.12%	0
40		5	411.4	407.6	415.2	407	415	1.364	3.05	0.74%	0
80		5	406	394	418	398	418	4.324	9.67	2.38%	0
140		5	380.8	373.6	388	373	387	2.596	5.805	1.52%	0
180		5	362	353.7	370.3	355	373	3	6.708	1.85%	0
Overall		30	404.4	394.2	414.7	355	456	5.013	27.46	6.79%	0 (0%)

**Hardness (CaCO3)-mg/L**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	99			99	99	0	0	0.0%	0
20		1	99			99	99	0	0	0.0%	0
40		1	95			95	95	0	0	0.0%	0
80		1	96			96	96	0	0	0.0%	0
140		1	97			97	97	0	0	0.0%	0
180		1	93			93	93	0	0	0.0%	0
Overall		6	96.5	94.04	98.96	93	99	0.9574	2.345	2.43%	0 (0%)

**pH-Units**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.54	7.283	7.797	7.4	7.9	0.09274	0.2074	2.75%	0
20		5	7.84	7.632	8.048	7.7	8.1	0.07483	0.1673	2.13%	0
40		5	7.84	7.632	8.048	7.7	8.1	0.07483	0.1673	2.13%	0
80		5	7.84	7.632	8.048	7.7	8.1	0.07483	0.1673	2.13%	0
140		5	7.84	7.614	8.066	7.6	8.1	0.08124	0.1817	2.32%	0
180		5	7.82	7.636	8.004	7.6	8	0.06633	0.1483	1.9%	0
Overall		30	7.787	7.714	7.859	7.4	8.1	0.03547	0.1943	2.50%	0 (0%)



**CHRONIC FATHEAD MINNOW SURVIVAL AND GROWTH BIOASSAY**

DATE: 21 February 2017

STANDARD TOXICANT: Copper Chloride

ENDPOINT: SURVIVAL

NOEC = 75.00 ug/l

EC25 = 112.50 ug/l

EC50 = >150.00 ug/l

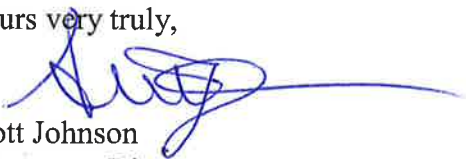
ENDPOINT: GROWTH

NOEC = 75.00 ug/l

IC25 = 51.89 ug/l

IC50 = 108.90 ug/l

Yours very truly,



Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 07 Mar-17 14:10 (p 1 of 2)  
 Test Code: FML022117 | 07-3563-0398

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 19-4065-1991	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 11:40	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 09:40	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 11-9234-5492	<b>Code:</b> FML022117	<b>Client:</b> ABC Labs
<b>Sample Date:</b> 21 Feb-17 11:40	<b>Material:</b> Copper chloride	<b>Project:</b> REF TOX
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

### Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD	✓
20-9077-4083	7d Survival Rate	Steel Many-One Rank Sum Test	75	150	106.1		9.15%	✓
16-0580-4573	Mean Dry Biomass-mg	Steel Many-One Rank Sum Test	75	150	106.1		29.8%	✓

### Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	Level	µg/L	95% LCL	95% UCL	TU	✓
00-0410-4112	7d Survival Rate	Linear Interpolation (ICPIN)	EC5	45.4	23.43	97.98		
			EC10	67.6	39.97	103.4		
			EC15	84.38	47.85	117.4		
			EC20	98.44	55.56	140.9		
			EC25	112.5	77.76	n/a		
			EC40	>150	n/a	n/a		
18-1615-8074	Mean Dry Biomass-mg	Linear Interpolation (ICPIN)	IC5	3.584	n/a	74.71		✓
			IC10	7.168	n/a	110.5		✓
			IC15	13.32	n/a	121.5		✓
			IC20	38.14	n/a	118.2		✓
			IC25	51.89	n/a	121.3		✓
			IC40	88.47	n/a	134.4		✓
IC50	108.9	48.64	146.8		✓			

### Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits			Overlap	Decision
				Lower	Upper			
00-0410-4112	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria	
20-9077-4083	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria	
16-0580-4573	Mean Dry Biomass-mg	Control Resp	0.3333	0.25	>>	Yes	Passes Criteria	
18-1615-8074	Mean Dry Biomass-mg	Control Resp	0.3333	0.25	>>	Yes	Passes Criteria	
16-0580-4573	Mean Dry Biomass-mg	PMSD	0.2979	0.12	0.3	Yes	Passes Criteria	

### 7d Survival Rate Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
10		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
19		4	0.9833	0.9303	1.0000	0.9333	1.0000	0.0167	0.0333	3.39%	1.67%
38		4	0.9667	0.9054	1.0000	0.9333	1.0000	0.0193	0.0385	3.98%	3.33%
75		4	0.8833	0.7022	1.0000	0.7333	1.0000	0.0569	0.1139	12.89%	11.67%
150		4	0.6167	0.3814	0.8519	0.4667	0.8000	0.0739	0.1478	23.97%	38.33%

### Mean Dry Biomass-mg Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.3333	0.1248	0.5418	0.2553	0.5293	0.06551	0.131	39.31%	0.00%
10		4	0.2868	0.2653	0.3083	0.2693	0.3013	0.006757	0.01351	4.71%	13.95%
19		4	0.2773	0.2551	0.2996	0.2653	0.2947	0.006992	0.01398	5.04%	16.80%
38		4	0.2668	0.2535	0.2802	0.2553	0.2753	0.004193	0.008387	3.14%	19.95%
75		4	0.222	0.1438	0.3002	0.1507	0.2633	0.02457	0.04915	22.14%	33.40%
150		4	0.0995	0.06809	0.1309	0.07867	0.122	0.009871	0.01974	19.84%	70.15%

# CETIS Summary Report

Report Date: 07 Mar-17 14:10 (p 2 of 2)  
Test Code: FML022117 | 07-3563-0398

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

### 7d Survival Rate Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
10		1.0000	1.0000	1.0000	1.0000
19		1.0000	1.0000	1.0000	0.9333
38		0.9333	1.0000	1.0000	0.9333
75		0.8667	1.0000	0.7333	0.9333
150		0.5333	0.8000	0.4667	0.6667

### Mean Dry Biomass-mg Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.2787	0.27	0.2553	0.5293
10		0.292	0.2847	0.3013	0.2693
19		0.2653	0.2947	0.2667	0.2827
38		0.2693	0.2673	0.2753	0.2553
75		0.2367	0.2373	0.1507	0.2633
150		0.07867	0.1093	0.088	0.122

### 7d Survival Rate Binomials

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
10		15/15	15/15	15/15	15/15
19		15/15	15/15	15/15	14/15
38		14/15	15/15	15/15	14/15
75		13/15	15/15	11/15	14/15
150		8/15	12/15	7/15	10/15

# CETIS Analytical Report

Report Date: 07 Mar-17 14:10 (p 1 of 4)  
 Test Code: FML022117 | 07-3563-0398

Fathead Minnow 7-d Larval Survival and Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 20-9077-4083	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.2			
Analyzed: 07 Mar-17 14:09	Analysis: Nonparametric-Control vs Treatments	Official Results: Yes			
Batch ID: 19-4065-1991	Test Type: Growth-Survival (7d)	Analyst:			
Start Date: 21 Feb-17 11:40	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 28 Feb-17 09:40	Species: Pimephales promelas	Brine: Not Applicable			
Duration: 6d 22h	Source: Aquatic Biosystems, CO	Age:			
Sample ID: 11-9234-5492	Code: FML022117	Client: ABC Labs			
Sample Date: 21 Feb-17 11:40	Material: Copper chloride	Project: REF TOX			
Receipt Date:	Source: Reference Toxicant				
Sample Age: n/a	Station: REF TOX				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	75	150	106.1		9.15%

Steel Many-One Rank Sum Test									
Control	vs	Conc-µg/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		10	18	10	1	6	Asymp	0.8333	Non-Significant Effect
		19	16	10	1	6	Asymp	0.6105	Non-Significant Effect
		38	14	10	1	6	Asymp	0.3451	Non-Significant Effect
		75	12	10	1	6	Asymp	0.1424	Non-Significant Effect
		150*	10	10	0	6	Asymp	0.0417	Significant Effect

Test Acceptability Criteria		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	1	0.8	>>	Yes	Passes Criteria

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.855569	0.171114	5	15.67	5.2E-06	Significant Effect
Error	0.196585	0.0109214	18			
Total	1.05215		23			

Distributional Tests						
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)	
Variances	Levene Equality of Variance Test	5.913	4.248	0.0021	Unequal Variances	
Variances	Mod Levene Equality of Variance Test	4.729	4.248	0.0062	Unequal Variances	
Distribution	Anderson-Darling A2 Normality Test	0.8812	3.878	0.0240	Normal Distribution	
Distribution	D'Agostino Kurtosis Test	1.38	2.576	0.1675	Normal Distribution	
Distribution	D'Agostino Skewness Test	0.05022	2.576	0.9599	Normal Distribution	
Distribution	D'Agostino-Pearson K2 Omnibus Test	1.908	9.21	0.3852	Normal Distribution	
Distribution	Kolmogorov-Smirnov D Test	0.2083	0.2056	0.0084	Non-Normal Distribution	
Distribution	Shapiro-Wilk W Normality Test	0.9323	0.884	0.1095	Normal Distribution	

7d Survival Rate Summary											
Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
10		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
19		4	0.9833	0.9303	1.0000	1.0000	0.9333	1.0000	0.0167	3.39%	1.67%
38		4	0.9667	0.9054	1.0000	0.9667	0.9333	1.0000	0.0192	3.98%	3.33%
75		4	0.8833	0.7022	1.0000	0.9000	0.7333	1.0000	0.0569	12.89%	11.67%
150		4	0.6167	0.3814	0.8519	0.6000	0.4667	0.8000	0.0739	23.97%	38.33%





# CETIS Analytical Report

Report Date: 07 Mar-17 14:10 (p 3 of 4)  
 Test Code: FML022117 | 07-3563-0398

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 16-0580-4573	<b>Endpoint:</b> Mean Dry Biomass-mg	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 07 Mar-17 14:09	<b>Analysis:</b> Nonparametric-Control vs Treatments	<b>Official Results:</b> Yes
<b>Batch ID:</b> 19-4065-1991	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 11:40	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 09:40	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 11-9234-5492	<b>Code:</b> FML022117	<b>Client:</b> ABC Labs
<b>Sample Date:</b> 21 Feb-17 11:40	<b>Material:</b> Copper chloride	<b>Project:</b> REF TOX
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	75	150	106.1		29.79%

## Steel Many-One Rank Sum Test

Control	vs	Conc-µg/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		10	20	10	0	6	Asymp	0.9516	Non-Significant Effect
		19	18	10	0	6	Asymp	0.8333	Non-Significant Effect
		38	14.5	10	1	6	Asymp	0.4092	Non-Significant Effect
		75	11	10	0	6	Asymp	0.0805	Non-Significant Effect
		150*	10	10	0	6	Asymp	0.0417	Significant Effect

## Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.3333	0.25	>>	Yes	Passes Criteria
PMSD	0.2979	0.12	0.3	Yes	Passes Criteria

## ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.13093	0.0261859	5	7.694	5.0E-04	Significant Effect
Error	0.0612615	0.0034034	18			
Total	0.192191		23			

## Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	28.03	15.09	3.6E-05	Unequal Variances
Variances	Levene Equality of Variance Test	5.684	4.248	0.0026	Unequal Variances
Variances	Mod Levene Equality of Variance Test	0.8379	4.248	0.5401	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	2.018	3.878	<1.0E-37	Non-Normal Distribution
Distribution	D'Agostino Kurtosis Test	3.74	2.576	1.8E-04	Non-Normal Distribution
Distribution	D'Agostino Skewness Test	3.768	2.576	1.6E-04	Non-Normal Distribution
Distribution	D'Agostino-Pearson K2 Omnibus Test	28.19	9.21	7.9E-07	Non-Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.2481	0.2056	5.2E-04	Non-Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.7523	0.884	5.4E-05	Non-Normal Distribution

## Mean Dry Biomass-mg Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.3333	0.1248	0.5418	0.2743	0.2553	0.5293	0.06551	39.31%	0.00%
10		4	0.2868	0.2653	0.3083	0.2883	0.2693	0.3013	0.006757	4.71%	13.95%
19		4	0.2773	0.2551	0.2996	0.2747	0.2653	0.2947	0.006992	5.04%	16.80%
38		4	0.2668	0.2535	0.2802	0.2683	0.2553	0.2753	0.004193	3.14%	19.95%
75		4	0.222	0.1438	0.3002	0.237	0.1507	0.2633	0.02457	22.14%	33.40%
150		4	0.0995	0.06809	0.1309	0.09867	0.07867	0.122	0.009871	19.84%	70.15%

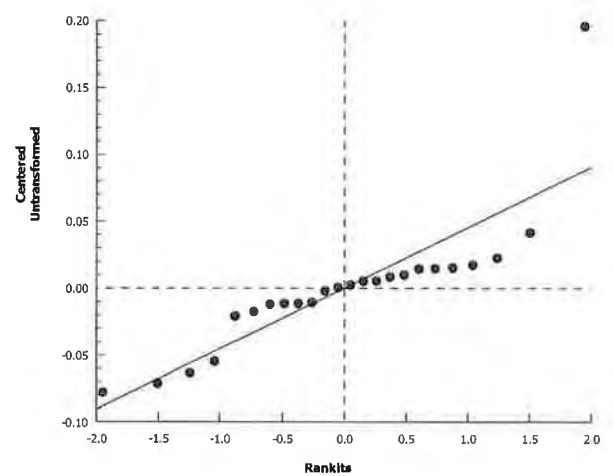
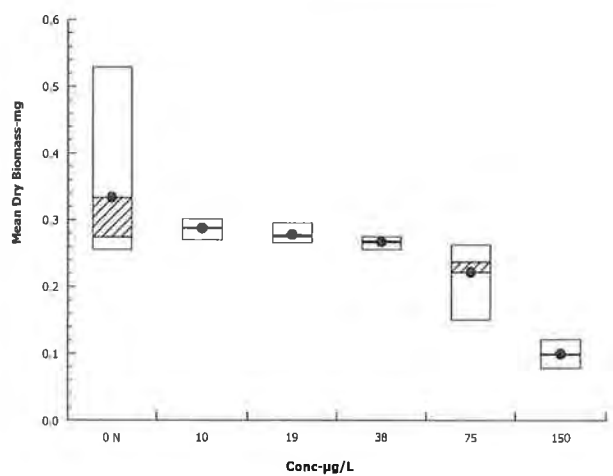
**Fathead Minnow 7-d Larval Survival and Growth Test** **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID: 16-0580-4573      Endpoint: Mean Dry Biomass-mg      CETIS Version: CETISv1.9.2  
 Analyzed: 07 Mar-17 14:09      Analysis: Nonparametric-Control vs Treatments      Official Results: Yes

**Mean Dry Biomass-mg Detail**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.2787	0.27	0.2553	0.5293
10		0.292	0.2847	0.3013	0.2693
19		0.2653	0.2947	0.2667	0.2827
38		0.2693	0.2673	0.2753	0.2553
75		0.2367	0.2373	0.1507	0.2633
150		0.07867	0.1093	0.088	0.122

**Graphics**



**CETIS Analytical Report**

Report Date: 07 Mar-17 14:10 (p 1 of 4)  
 Test Code: FML022117 | 07-3563-0398

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 00-0410-4112	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 07 Mar-17 14:09	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Official Results:</b> Yes
<b>Batch ID:</b> 19-4065-1991	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 11:40	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 09:40	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 11-9234-5492	<b>Code:</b> FML022117	<b>Client:</b> ABC Labs
<b>Sample Date:</b> 21 Feb-17 11:40	<b>Material:</b> Copper chloride	<b>Project:</b> REF TOX
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

**Linear Interpolation Options**

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

**Test Acceptability Criteria**

**TAC Limits**

Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	1	0.8	>>	Yes	Passes Criteria

**Point Estimates**

Level	µg/L	95% LCL	95% UCL
EC5	45.4	23.43	97.98
EC10	67.6	39.97	103.4
EC15	84.38	47.85	117.4
EC20	98.44	55.56	140.9
EC25	112.5	77.76	n/a
EC40	>150	n/a	n/a
EC50	>150	n/a	n/a

**7d Survival Rate Summary**

**Calculated Variate(A/B)**

Conc-µg/L	Code	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	N	4	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	60	60
10		4	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	60	60
19		4	0.9833	0.9333	1.0000	0.0167	0.0333	3.39%	1.67%	59	60
38		4	0.9667	0.9333	1.0000	0.0192	0.0385	3.98%	3.33%	58	60
75		4	0.8833	0.7333	1.0000	0.0569	0.1139	12.89%	11.67%	53	60
150		4	0.6167	0.4667	0.8000	0.0739	0.1478	23.97%	38.33%	37	60

**7d Survival Rate Detail**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
10		1.0000	1.0000	1.0000	1.0000
19		1.0000	1.0000	1.0000	0.9333
38		0.9333	1.0000	1.0000	0.9333
75		0.8667	1.0000	0.7333	0.9333
150		0.5333	0.8000	0.4667	0.6667

**7d Survival Rate Binomials**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
10		15/15	15/15	15/15	15/15
19		15/15	15/15	15/15	14/15
38		14/15	15/15	15/15	14/15
75		13/15	15/15	11/15	14/15
150		8/15	12/15	7/15	10/15



# CETIS Analytical Report

Report Date: 07 Mar-17 14:10 (p 3 of 4)  
Test Code: FML022117 | 07-3563-0398

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 18-1615-8074	<b>Endpoint:</b> Mean Dry Biomass-mg	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 07 Mar-17 14:10	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Official Results:</b> Yes
<b>Batch ID:</b> 19-4065-1991	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 11:40	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 09:40	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 11-9234-5492	<b>Code:</b> FML022117	<b>Client:</b> ABC Labs
<b>Sample Date:</b> 21 Feb-17 11:40	<b>Material:</b> Copper chloride	<b>Project:</b> REF TOX
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

### Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1850021	280	Yes	Two-Point Interpolation

### Test Acceptability Criteria

#### TAC Limits

Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	0.3333	0.25	>>	Yes	Passes Criteria

### Point Estimates

Level	µg/L	95% LCL	95% UCL
IC5	3.584	n/a	74.71
IC10	7.168	n/a	110.5
IC15	13.32	n/a	121.5
IC20	38.14	n/a	118.2
IC25	51.89	n/a	121.3
IC40	88.47	n/a	134.4
IC50	108.9	48.64	146.8

### Mean Dry Biomass-mg Summary

#### Calculated Variate

Conc-µg/L	Code	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.3333	0.2553	0.5293	0.06551	0.131	39.31%	0.0%
10		4	0.2868	0.2693	0.3013	0.006757	0.01351	4.71%	13.95%
19		4	0.2773	0.2653	0.2947	0.006992	0.01398	5.04%	16.8%
38		4	0.2668	0.2553	0.2753	0.004193	0.008387	3.14%	19.95%
75		4	0.222	0.1507	0.2633	0.02457	0.04915	22.14%	33.4%
150		4	0.0995	0.07867	0.122	0.009871	0.01974	19.84%	70.15%

### Mean Dry Biomass-mg Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.2787	0.27	0.2553	0.5293
10		0.292	0.2847	0.3013	0.2693
19		0.2653	0.2947	0.2667	0.2827
38		0.2693	0.2673	0.2753	0.2553
75		0.2367	0.2373	0.1507	0.2633
150		0.07867	0.1093	0.088	0.122

# CETIS Analytical Report

Report Date: 07 Mar-17 14:10 (p 4 of 4)  
Test Code: FML022117 | 07-3563-0398

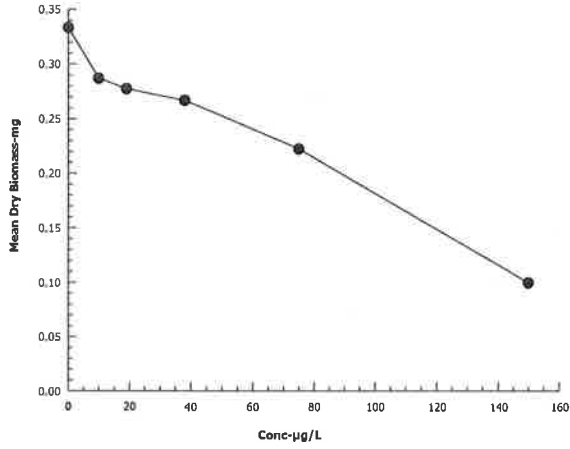
## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 18-1615-8074      Endpoint: Mean Dry Biomass-mg  
Analyzed: 07 Mar-17 14:10      Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISv1.9.2  
Official Results: Yes

### Graphics



# CETIS Measurement Report

Report Date: 07 Mar-17 14:10 (p 1 of 2)  
 Test Code: FML022117 | 07-3563-0398

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 19-4065-1991	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 11:40	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 09:40	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 11-9234-5492	<b>Code:</b> FML022117	<b>Client:</b> ABC Labs
<b>Sample Date:</b> 21 Feb-17 11:40	<b>Material:</b> Copper chloride	<b>Project:</b> REF TOX
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

### Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	61.12	60.83	61.42	61	62	0.125	0.3536	0.58%	0
150		8	63	63	63	63	63	0	0	0.0%	0
Overall		16	62.06	61.53	62.59	61	63	0.2495	0.9979	1.61%	0 (0%)

### Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	336.9	316.3	357.4	300	388	8.694	24.59	7.3%	0
10		8	331.1	326.1	336.2	322	339	2.133	6.034	1.82%	0
19		8	331.5	328.4	334.6	326	336	1.309	3.703	1.12%	0
38		8	331.4	328.4	334.4	327	336	1.267	3.583	1.08%	0
75		8	331.1	328.4	333.8	326	334	1.141	3.227	0.97%	0
150		8	331.9	326.5	337.3	325	346	2.279	6.446	1.94%	0
Overall		48	332.3	329.2	335.4	300	388	1.524	10.56	3.18%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.887	7.596	8.179	7.5	8.5	0.1231	0.3482	4.42%	0
10		8	8.563	8.096	9.029	7.8	9.3	0.1972	0.5579	6.52%	0
19		8	8.55	8.071	9.029	7.7	9.3	0.2027	0.5732	6.7%	0
38		8	8.513	8.056	8.969	7.7	9.1	0.1931	0.5463	6.42%	0
75		8	8.538	8.042	9.033	7.7	9.3	0.2095	0.5927	6.94%	0
150		8	8.5	8.021	8.979	7.7	9.2	0.2027	0.5732	6.74%	0
Overall		48	8.425	8.261	8.589	7.5	9.3	0.08146	0.5644	6.70%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	88.75	86.98	90.52	88	94	0.75	2.121	2.39%	0
150		8	98	98	98	98	98	0	0	0.0%	0
Overall		16	93.38	90.72	96.03	88	98	1.248	4.992	5.35%	0 (0%)

### pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.713	7.362	8.063	7.1	8.3	0.1481	0.419	5.43%	0
10		8	7.713	7.483	7.942	7.3	8	0.09717	0.2748	3.56%	0
19		8	7.663	7.463	7.862	7.2	7.9	0.08438	0.2387	3.12%	0
38		8	7.638	7.477	7.798	7.3	7.8	0.06797	0.1923	2.52%	0
75		8	7.575	7.435	7.715	7.3	7.8	0.05901	0.1669	2.2%	0
150		8	7.6	7.491	7.709	7.4	7.8	0.04629	0.1309	1.72%	0
Overall		48	7.65	7.578	7.722	7.1	8.3	0.03561	0.2467	3.23%	0 (0%)





**CHRONIC CERIODAPHNIA SURVIVAL AND REPRODUCTION BIOASSAY**

DATE: 7 February - 2017

STANDARD TOXICANT: Copper Chloride

ENDPOINT: SURVIVAL

NOEC = 10.00 ug/l

EC25 = 14.17 ug/l

EC50 = 21.67 ug/l


ENDPOINT: REPRODUCTION

NOEC = 10.00 ug/l

IC25 = 16.06 ug/l

IC50 = 22.12 ug/l

Yours very truly,



Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 28 Feb-17 14:03 (p 1 of 2)  
 Test Code: CER020717 | 21-2318-8339

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 20-2943-3270	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 07 Feb-17 15:30	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 14 Feb-17 14:00	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 05-8899-6852	<b>Code:</b> CER020717	<b>Client:</b> Internal Lab
<b>Sample Date:</b> 07 Feb-17 15:30	<b>Material:</b> Copper chloride	<b>Project:</b>
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

## Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD	✓
20-6445-9731	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	10	30	17.32		n/a	✓
09-3448-2979	Reproduction	Steel Many-One Rank Sum Test	10	30	17.32		54.8%	✓

## Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	Level	µg/L	95% LCL	95% UCL	TU	✓
16-3042-6541	7d Survival Rate	Linear Interpolation (ICPIN)	EC5	2.7	0.6	11.5		✓
			EC10	9	1.2	13		✓
			EC15	11.17	1.8	14.5		✓
			EC20	12.67	2.4	16.4		✓
			EC25	14.17	4.5	18		✓
			EC40	18.67	10	24.67		✓
17-7098-0701	Reproduction	Linear Interpolation (ICPIN)	IC5	11.21	0.6809	11.53		
			IC10	12.42	1.362	13.06		
			IC15	13.64	2.043	14.58		
			IC20	14.85	2.724	16.11		
			IC25	16.06	4.221	17.64		
			IC40	19.7	9.563	22.33		
			IC50	22.12	14.15	25.62		

## Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits			Overlap	Decision
				Lower	Upper			
16-3042-6541	7d Survival Rate	Control Resp	0.9	0.8	>>	Yes	Passes Criteria	
20-6445-9731	7d Survival Rate	Control Resp	0.9	0.8	>>	Yes	Passes Criteria	
09-3448-2979	Reproduction	Control Resp	22	15	>>	Yes	Passes Criteria	
17-7098-0701	Reproduction	Control Resp	22	15	>>	Yes	Passes Criteria	
09-3448-2979	Reproduction	PMSD	0.548	0.13	0.47	Yes	Above Criteria	

## 7d Survival Rate Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	0.9000	0.6738	1.0000	0.0000	1.0000	0.1000	0.3162	35.14%	0.00%
3		10	0.8000	0.4984	1.0000	0.0000	1.0000	0.1333	0.4216	52.70%	11.11%
5		10	0.9000	0.6738	1.0000	0.0000	1.0000	0.1000	0.3162	35.14%	0.00%
10		10	0.8000	0.4984	1.0000	0.0000	1.0000	0.1333	0.4216	52.70%	11.11%
30		10	0.2000	0.0000	0.5016	0.0000	1.0000	0.1333	0.4216	210.82%	77.78%
50		10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%

## Reproduction Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	22	11.51	32.49	1	38	4.638	14.67	66.67%	0.00%
3		10	20.1	11.32	28.88	0	40	3.883	12.28	61.09%	8.64%
5		10	26.6	16.68	36.52	3	46	4.385	13.87	52.13%	-20.91%
10		10	24.9	14.15	35.65	0	45	4.753	15.03	60.36%	-13.18%
30		10	4.1	-0.8383	9.038	0	22	2.183	6.903	168.37%	81.36%
50		10	0.3	-0.1828	0.7828	0	2	0.2134	0.6749	224.98%	98.64%

**CETIS Summary Report**

Report Date: 28 Feb-17 14:03 (p 2 of 2)  
 Test Code: CER020717 | 21-2318-8339

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**7d Survival Rate Detail**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3		0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000
10		1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000
30		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
50		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

**Reproduction Detail**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	37	25	3	22	37	38	9	35	1	13
3		11	0	11	25	40	24	26	7	27	30
5		41	9	23	29	46	37	3	16	32	30
10		45	2	24	15	37	30	0	33	26	37
30		6	0	0	3	0	2	0	0	8	22
50		0	0	1	2	0	0	0	0	0	0

**7d Survival Rate Binomials**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	0/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
3		0/1	0/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
5		1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1
10		1/1	0/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1
30		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	1/1	1/1
50		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1

**CETIS Analytical Report**

Report Date: 28 Feb-17 14:02 (p 1 of 2)  
 Test Code: CER020717 | 21-2318-8339

**Ceriodaphnia 7-d Survival and Reproduction Test**

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 09-3448-2979	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 28 Feb-17 14:01	<b>Analysis:</b> Nonparametric-Control vs Treatments	<b>Official Results:</b> Yes
<b>Batch ID:</b> 20-2943-3270	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 07 Feb-17 15:30	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 14 Feb-17 14:00	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 05-8899-6852	<b>Code:</b> CER020717	<b>Client:</b> Internal Lab
<b>Sample Date:</b> 07 Feb-17 15:30	<b>Material:</b> Copper chloride	<b>Project:</b>
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	10	30	17.32		54.80%

**Steel Many-One Rank Sum Test**

Control	vs	Conc-µg/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		3	101.5	75	1	18	Asymp	0.7427	Non-Significant Effect
		5	114	75	3	18	Asymp	0.9629	Non-Significant Effect
		10	109	75	1	18	Asymp	0.9082	Non-Significant Effect
		30*	66	75	2	18	Asymp	0.0071	Significant Effect
		50*	56.5	75	1	18	Asymp	5.9E-04	Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	22	15	>>	Yes	Passes Criteria
PMSD	0.548	0.13	0.47	Yes	Above Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	6318.13	1263.63	5	9.111	2.5E-06	Significant Effect
Error	7489.2	138.689	54			
Total	13807.3		59			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	47.02	15.09	<1.0E-37	Unequal Variances
Variances	Levene Equality of Variance Test	5.95	3.377	1.9E-04	Unequal Variances
Variances	Mod Levene Equality of Variance Test	4.246	3.377	0.0025	Unequal Variances
Distribution	Anderson-Darling A2 Normality Test	0.717	3.878	0.0612	Normal Distribution
Distribution	D'Agostino Kurtosis Test	0.187	2.576	0.8516	Normal Distribution
Distribution	D'Agostino Skewness Test	1.107	2.576	0.2682	Normal Distribution
Distribution	D'Agostino-Pearson K2 Omnibus Test	1.261	9.21	0.5323	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1246	0.1331	0.0213	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9646	0.9459	0.0788	Normal Distribution

**Reproduction Summary**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	22	11.51	32.49	23.5	1	38	4.638	66.67%	0.00%
3		10	20.1	11.32	28.88	24.5	0	40	3.883	61.09%	8.64%
5		10	26.6	16.68	36.52	29.5	3	46	4.385	52.13%	-20.91%
10		10	24.9	14.15	35.65	28	0	45	4.753	60.36%	-13.18%
30		10	4.1	-0.8383	9.038	1	0	22	2.183	168.37%	81.36%
50		10	0.3	-0.1828	0.7828	0	0	2	0.2134	224.98%	98.64%

# CETIS Analytical Report

Report Date: 28 Feb-17 14:02 (p 2 of 2)  
Test Code: CER020717 | 21-2318-8339

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

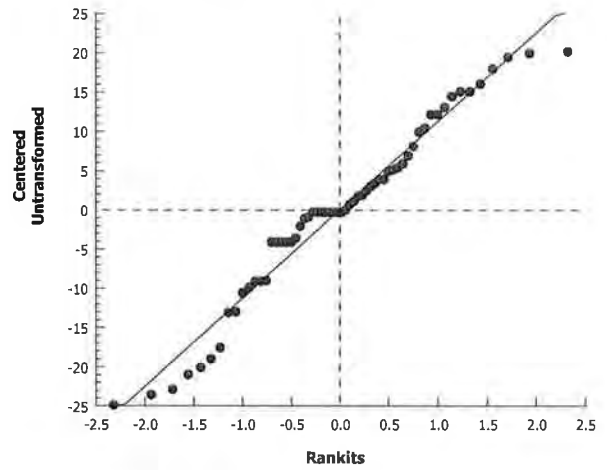
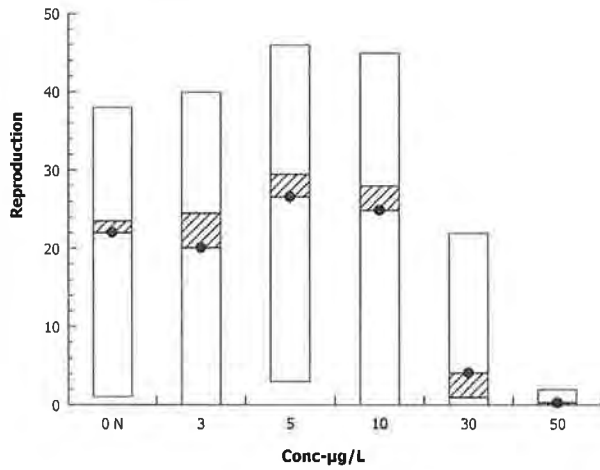
Analysis ID: 09-3448-2979    Endpoint: Reproduction  
Analyzed: 28 Feb-17 14:01    Analysis: Nonparametric-Control vs Treatments

CETIS Version: CETISv1.9.2  
Official Results: Yes

### Reproduction Detail

Conc- $\mu$ g/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	37	25	3	22	37	38	9	35	1	13
3		11	0	11	25	40	24	26	7	27	30
5		41	9	23	29	46	37	3	16	32	30
10		45	2	24	15	37	30	0	33	26	37
30		6	0	0	3	0	2	0	0	8	22
50		0	0	1	2	0	0	0	0	0	0

### Graphics



**CETIS Analytical Report**

Report Date: 28 Feb-17 14:02 (p 1 of 4)  
 Test Code: CER020717 | 21-2318-8339

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 16-3042-6541	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 28 Feb-17 14:00	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Official Results:</b> Yes
<b>Batch ID:</b> 20-2943-3270	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 07 Feb-17 15:30	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 14 Feb-17 14:00	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 05-8899-6852	<b>Code:</b> CER020717	<b>Client:</b> Internal Lab
<b>Sample Date:</b> 07 Feb-17 15:30	<b>Material:</b> Copper chloride	<b>Project:</b>
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

**Linear Interpolation Options**

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.9	0.8	>>	Yes	Passes Criteria

**Point Estimates**

Level	µg/L	95% LCL	95% UCL
EC5	2.7	0.6	11.5
EC10	9	1.2	13
EC15	11.17	1.8	14.5
EC20	12.67	2.4	16.4
EC25	14.17	4.5	18
EC40	18.67	10	24.67
EC50	21.67	15	30

**7d Survival Rate Summary**

**Calculated Variate(A/B)**

Conc-µg/L	Code	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	N	10	0.9000	0.0000	1.0000	0.1000	0.3162	35.14%	0.0%	9	10
3		10	0.8000	0.0000	1.0000	0.1333	0.4216	52.70%	11.11%	8	10
5		10	0.9000	0.0000	1.0000	0.1000	0.3162	35.14%	0.0%	9	10
10		10	0.8000	0.0000	1.0000	0.1333	0.4216	52.70%	11.11%	8	10
30		10	0.2000	0.0000	1.0000	0.1333	0.4216	210.80%	77.78%	2	10
50		10	0.0000	0.0000	0.0000	0.0000	0.0000		100.0%	0	10

**7d Survival Rate Detail**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3		0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000
10		1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000
30		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
50		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

**7d Survival Rate Binomials**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	0/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
3		0/1	0/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
5		1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1
10		1/1	0/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1
30		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	1/1	1/1
50		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1





**CETIS Analytical Report**

**Report Date:** 28 Feb-17 14:02 (p 3 of 4)  
**Test Code:** CER020717 | 21-2318-8339

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 17-7098-0701	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 28 Feb-17 14:01	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Official Results:</b> Yes
<b>Batch ID:</b> 20-2943-3270	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 07 Feb-17 15:30	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 14 Feb-17 14:00	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 05-8899-6852	<b>Code:</b> CER020717	<b>Client:</b> Internal Lab
<b>Sample Date:</b> 07 Feb-17 15:30	<b>Material:</b> Copper chloride	<b>Project:</b>
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

**Linear Interpolation Options**

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	22	15	>>	Yes	Passes Criteria

**Point Estimates**

Level	µg/L	95% LCL	95% UCL
IC5	11.21	0.6809	11.53
IC10	12.42	1.362	13.06
IC15	13.64	2.043	14.58
IC20	14.85	2.724	16.11
IC25	16.06	4.221	17.64
IC40	19.7	9.563	22.33
IC50	22.12	14.15	25.62

**Reproduction Summary**

Conc-µg/L	Code	Count	Calculated Variate						
			Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	22	1	38	4.638	14.67	66.67%	0.0%
3		10	20.1	0	40	3.883	12.28	61.09%	8.64%
5		10	26.6	3	46	4.385	13.87	52.13%	-20.91%
10		10	24.9	0	45	4.753	15.03	60.36%	-13.18%
30		10	4.1	0	22	2.183	6.903	168.40%	81.36%
50		10	0.3	0	2	0.2134	0.6749	225.00%	98.64%

**Reproduction Detail**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	37	25	3	22	37	38	9	35	1	13
3		11	0	11	25	40	24	26	7	27	30
5		41	9	23	29	46	37	3	16	32	30
10		45	2	24	15	37	30	0	33	26	37
30		6	0	0	3	0	2	0	0	8	22
50		0	0	1	2	0	0	0	0	0	0



# CETIS Analytical Report

Report Date: 28 Feb-17 14:02 (p 1 of 2)  
 Test Code: CER020717 | 21-2318-8339

Ceriodaphnia 7-d Survival and Reproduction Test				Aquatic Bioassay & Consulting Labs, Inc.			
Analysis ID:	20-6445-9731	Endpoint:	7d Survival Rate	CETIS Version:	CETISv1.9.2		
Analyzed:	28 Feb-17 14:00	Analysis:	STP 2xK Contingency Tables	Official Results:	Yes		
Batch ID:	20-2943-3270	Test Type:	Reproduction-Survival (7d)	Analyst:			
Start Date:	07 Feb-17 15:30	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Laboratory Water		
Ending Date:	14 Feb-17 14:00	Species:	Ceriodaphnia dubia	Brine:	Not Applicable		
Duration:	6d 22h	Source:	Aquatic Biosystems, CO	Age:			
Sample ID:	05-8899-6852	Code:	CER020717	Client:	Internal Lab		
Sample Date:	07 Feb-17 15:30	Material:	Copper chloride	Project:			
Receipt Date:		Source:	Reference Toxicant				
Sample Age:	n/a	Station:	REF TOX				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Untransformed	C > T	10	30	17.32	

Fisher Exact/Bonferroni-Holm Test						
Control	vs	Group	Test Stat	P-Type	P-Value	Decision(α:5%)
Negative Control		3	0.5000	Exact	1.0000	Non-Significant Effect
		5	0.7632	Exact	0.7632	Non-Significant Effect
		10	0.5000	Exact	1.0000	Non-Significant Effect
		30*	0.0027	Exact	0.0110	Significant Effect
		50*	0.0001	Exact	3.0E-04	Significant Effect

Test Acceptability Criteria					
Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.9	0.8	>>	Yes	Passes Criteria

Data Summary							
Conc-µg/L	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	N	9	1	10	0.9	0.1	0.0%
3		8	2	10	0.8	0.2	11.11%
5		9	1	10	0.9	0.1	0.0%
10		8	2	10	0.8	0.2	11.11%
30		2	8	10	0.2	0.8	77.78%
50		0	10	10	0	1	100.0%

7d Survival Rate Detail											
Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3		0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000
10		1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000
30		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
50		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

7d Survival Rate Binomials											
Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	0/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
3		0/1	0/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
5		1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1
10		1/1	0/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1
30		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	1/1	1/1
50		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1



# CETIS Measurement Report

Report Date: 28 Feb-17 14:02 (p 1 of 2)  
 Test Code: CER020717 | 21-2318-8339

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 20-2943-3270	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 07 Feb-17 15:30	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 14 Feb-17 14:00	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 05-8899-6852	<b>Code:</b> CER020717	<b>Client:</b> Internal Lab
<b>Sample Date:</b> 07 Feb-17 15:30	<b>Material:</b> Copper chloride	<b>Project:</b>
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

### Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	63.5	63.05	63.95	63	64	0.189	0.5345	0.84%	0
50		6	63	63	63	63	63	0	0	0.0%	0
Overall		14	63.29	63.02	63.56	63	64	0.1253	0.4688	0.74%	0 (0%)

### Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	347.2	328.5	366	326	384	7.919	22.4	6.45%	0
3		8	343.1	331.6	354.6	323	364	4.868	13.77	4.01%	0
5		8	338	334.3	341.7	330	345	1.581	4.472	1.32%	0
10		8	338.9	334.6	343.1	334	347	1.787	5.055	1.49%	0
30		8	337.2	328.4	346.1	327	350	3.731	10.55	3.13%	0
50		6	342	330.9	353.1	328	351	4.336	10.62	3.11%	0
Overall		46	341	337.3	344.8	323	384	1.849	12.54	3.68%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.612	7.207	8.018	7	8.7	0.1716	0.4853	6.38%	0
3		8	7.8	7.29	8.31	7	8.7	0.2155	0.6094	7.81%	0
5		8	7.775	7.342	8.208	7	8.5	0.183	0.5175	6.66%	0
10		8	7.738	7.302	8.173	6.9	8.5	0.1841	0.5208	6.73%	0
30		8	7.738	7.335	8.14	7	8.3	0.17	0.4809	6.22%	0
50		6	7.717	7.201	8.233	7.1	8.3	0.2007	0.4916	6.37%	0
Overall		46	7.73	7.583	7.877	6.9	8.7	0.07295	0.4948	6.40%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	92	90.21	93.79	90	94	0.7559	2.138	2.32%	0
50		6	94	94	94	94	94	0	0	0.0%	0
Overall		14	92.86	91.77	93.94	90	94	0.5012	1.875	2.02%	0 (0%)

### pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	8.025	7.865	8.185	7.8	8.3	0.06748	0.1909	2.38%	0
3		8	7.9	7.727	8.073	7.6	8.2	0.07319	0.207	2.62%	0
5		8	7.863	7.658	8.067	7.5	8.2	0.08647	0.2446	3.11%	0
10		8	7.825	7.672	7.978	7.6	8.1	0.06478	0.1832	2.34%	0
30		8	7.8	7.652	7.948	7.6	8.1	0.06268	0.1773	2.27%	0
50		6	7.733	7.538	7.929	7.6	8.1	0.07601	0.1862	2.41%	0
Overall		46	7.863	7.801	7.925	7.5	8.3	0.03083	0.2091	2.66%	0 (0%)

**CETIS Measurement Report**

Report Date: 28 Feb-17 14:02 (p 2 of 2)  
 Test Code: CER020717 | 21-2318-8339

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**Temperature-°C**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24.11	23.88	24.35	24	24.8	0.09899	0.28	1.16%	0
3		8	24.08	23.93	24.22	24	24.5	0.06196	0.1752	0.73%	0
5		8	24.09	23.91	24.26	24	24.6	0.07425	0.21	0.87%	0
10		8	24.11	23.88	24.35	24	24.8	0.09899	0.28	1.16%	0
30		8	24.01	23.98	24.04	24	24.1	0.01249	0.03531	0.15%	0
50		6	24	24	24	24	24	0	0	0.0%	0
Overall		46	24.07	24.01	24.13	24	24.8	0.0288	0.1954	0.81%	0 (0%)

**Alkalinity (CaCO3)-mg/L**

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	64	64	64	64	63	63	63	63
50		63	63	63	63	63	63		

**Conductivity-µmhos**

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	381	384	333	326	335	338	336	345
3		323	338	339	338	333	359	351	364
5		330	345	342	339	337	338	335	338
10		334	347	345	341	334	335	336	339
30		335	349	350	350	328	330	327	329
50		331	351	351	351	328	340		

**Dissolved Oxygen-mg/L**

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	7	7.5	7.6	7.7	7.5	8.7	7.5	7.4
3		8.3	7	7.5	7.8	7.9	8.7	8.2	7
5		8.2	7	7.3	7.7	7.9	8.5	8.2	7.4
10		8.2	6.9	7.3	7.6	7.8	8.5	8.1	7.5
30		8.2	7	7.3	7.5	7.9	8.3	8.2	7.5
50		8.2	7.1	7.3	7.5	7.9	8.3		

**Hardness (CaCO3)-mg/L**

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	90	90	90	90	94	94	94	94
50		94	94	94	94	94	94		

**pH-Units**

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	7.9	8	7.8	7.9	7.9	8.3	8.3	8.1
3		7.6	7.8	7.8	7.8	7.8	8.2	8.1	8.1
5		7.5	7.7	7.8	7.8	7.7	8.2	8.1	8.1
10		7.6	7.7	7.7	7.8	7.7	8.1	8	8
30		7.6	7.7	7.7	7.7	7.7	8.1	8	7.9
50		7.6	7.7	7.7	7.7	7.6	8.1		

**Temperature-°C**

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	24	24	24	24	24	24.8	24.1	24
3		24	24	24	24	24	24.5	24.1	24
5		24	24	24	24	24	24.6	24.1	24
10		24	24	24	24	24	24.8	24.1	24
30		24	24	24	24	24	24	24.1	24
50		24	24	24	24	24	24		

**CHRONIC SELENASTRUM GROWTH BIOASSAY**

DATE: 2 February - 2017

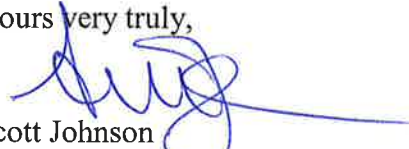
STANDARD TOXICANT: Cadmium Chloride

NOEC = 40.00 ug/l

IC25 = 89.24 ug/l

IC50 = 135.10 ug/l

Yours very truly,



Scott Johnson  
Laboratory Director



# CETIS Summary Report

Report Date: 15 Feb-17 15:17 (p 1 of 1)  
 Test Code: SEL020217 | 15-7507-1914

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 00-3510-0994	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 02 Feb-17 13:08	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 06 Feb-17 13:00	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Duration:</b> 96h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 14-2990-8990	<b>Code:</b> SEL020217s	<b>Client:</b> Internal Lab
<b>Sample Date:</b> 02 Feb-17 13:08	<b>Material:</b> Cadmium chloride	<b>Project:</b>
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

## Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD	✓
20-4050-2957	Cell Density	Dunnett Multiple Comparison Test	40	80	56.57		8.64%	

## Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	Level	µg/L	95% LCL	95% UCL	TU	✓
12-8217-0386	Cell Density	Linear Interpolation (ICPIN)	IC5	43.15	n/a	57.97		
			IC10	55.46	12.33	72.05		
			IC15	67.77	41.96	87.44		
			IC20	80.06	59.78	93.4		
			IC25	89.24	74.9	101.6		
			IC40	116.8	104.4	129.1		
			IC50	135.1	123.3	146.7		

## Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
12-8217-0386	Cell Density	Control CV	0.07165	<<	0.2	Yes	Passes Criteria
20-4050-2957	Cell Density	Control CV	0.07165	<<	0.2	Yes	Passes Criteria
12-8217-0386	Cell Density	Control Resp	1.14E+6	1000000	>>	Yes	Passes Criteria
20-4050-2957	Cell Density	Control Resp	1.14E+6	1000000	>>	Yes	Passes Criteria
20-4050-2957	Cell Density	PMSD	0.08638	0.091	0.29	Yes	Below Criteria

## Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.142E+6	1.012E+6	1.272E+6	1.037E+6	1.219E+6	4.091E+4	8.182E+4	7.16%	0.00%
20		4	1.104E+6	9.960E+5	1.213E+6	1.009E+6	1.156E+6	3.408E+4	6.817E+4	6.17%	3.28%
40		4	1.100E+6	9.916E+5	1.207E+6	1.035E+6	1.188E+6	3.390E+4	6.781E+4	6.17%	3.72%
80		4	9.140E+5	8.618E+5	9.662E+5	8.720E+5	9.510E+5	1.641E+4	3.281E+4	3.59%	19.96%
140		4	5.408E+5	4.619E+5	6.196E+5	5.020E+5	6.100E+5	2.479E+4	4.958E+4	9.17%	52.65%
180		4	2.200E+5	1.785E+5	2.615E+5	1.950E+5	2.430E+5	1.303E+4	2.606E+4	11.85%	80.74%

## Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.037E+6	1.119E+6	1.193E+6	1.219E+6
20		1.102E+6	1.009E+6	1.156E+6	1.151E+6
40		1.035E+6	1.060E+6	1.188E+6	1.115E+6
80		9.100E+5	8.720E+5	9.230E+5	9.510E+5
140		5.020E+5	5.080E+5	6.100E+5	5.430E+5
180		2.430E+5	2.420E+5	2.000E+5	1.950E+5

**CETIS Analytical Report**

Report Date: 15 Feb-17 15:17 (p 1 of 2)  
 Test Code: SEL020217 | 15-7507-1914

Selenastrum Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 20-4050-2957	Endpoint: Cell Density	CETIS Version: CETISv1.9.2			
Analyzed: 14 Feb-17 7:57	Analysis: Parametric-Control vs Treatments	Official Results: Yes			
Batch ID: 00-3510-0994	Test Type: Cell Growth	Analyst:			
Start Date: 02 Feb-17 13:08	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 06 Feb-17 13:00	Species: Selenastrum capricornutum	Brine: Not Applicable			
Duration: 96h	Source: Aquatic Biosystems, CO	Age:			
Sample ID: 14-2990-8990	Code: SEL020217s	Client: Internal Lab			
Sample Date: 02 Feb-17 13:08	Material: Cadmium chloride	Project:			
Receipt Date:	Source: Reference Toxicant				
Sample Age: n/a	Station: REF TOX				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	40	80	56.57		8.64%

Dunnett Multiple Comparison Test									
Control	vs	Conc-µg/L	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		20	0.9151	2.407	98650	6	CDF	0.4598	Non-Significant Effect
		40	1.037	2.407	98650	6	CDF	0.4056	Non-Significant Effect
		80*	5.564	2.407	98650	6	CDF	9.0E-05	Significant Effect
		140*	14.67	2.407	98650	6	CDF	2.7E-05	Significant Effect
		180*	22.5	2.407	98650	6	CDF	2.7E-05	Significant Effect

Test Acceptability Criteria					
Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control CV	0.07165	<<	0.2	Yes	Passes Criteria
Control Resp	1.14E+6	1000000	>>	Yes	Passes Criteria
PMSD	0.08638	0.091	0.29	Yes	Below Criteria

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.831E+12	5.663E+11	5	168.6	<1.0E-37	Significant Effect
Error	6.046E+10	3.359E+09	18			
Total	2.892E+12		23			

Distributional Tests						
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)	
Variances	Bartlett Equality of Variance Test	4.568	15.09	0.4709	Equal Variances	
Variances	Levene Equality of Variance Test	1.407	4.248	0.2686	Equal Variances	
Variances	Mod Levene Equality of Variance Test	1.086	4.248	0.4011	Equal Variances	
Distribution	Anderson-Darling A2 Normality Test	0.1795	3.878	0.9730	Normal Distribution	
Distribution	D'Agostino Kurtosis Test	0.2901	2.576	0.7717	Normal Distribution	
Distribution	D'Agostino Skewness Test	0.4985	2.576	0.6181	Normal Distribution	
Distribution	D'Agostino-Pearson K2 Omnibus Test	0.3327	9.21	0.8468	Normal Distribution	
Distribution	Kolmogorov-Smirnov D Test	0.08134	0.2056	1.0000	Normal Distribution	
Distribution	Shapiro-Wilk W Normality Test	0.9787	0.884	0.8706	Normal Distribution	

Cell Density Summary											
Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.142E+6	1.012E+6	1.272E+6	1.156E+6	1.037E+6	1.219E+6	4.091E+4	7.16%	0.00%
20		4	1.104E+6	9.960E+5	1.213E+6	1.126E+6	1.009E+6	1.156E+6	3.408E+4	6.17%	3.28%
40		4	1.100E+6	9.916E+5	1.207E+6	1.088E+6	1.035E+6	1.188E+6	3.390E+4	6.17%	3.72%
80		4	9.140E+5	8.618E+5	9.662E+5	9.165E+5	8.720E+5	9.510E+5	1.641E+4	3.59%	19.96%
140		4	5.408E+5	4.619E+5	6.196E+5	5.255E+5	5.020E+5	6.100E+5	2.479E+4	9.17%	52.65%
180		4	2.200E+5	1.785E+5	2.615E+5	2.210E+5	1.950E+5	2.430E+5	1.303E+4	11.85%	80.74%

Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

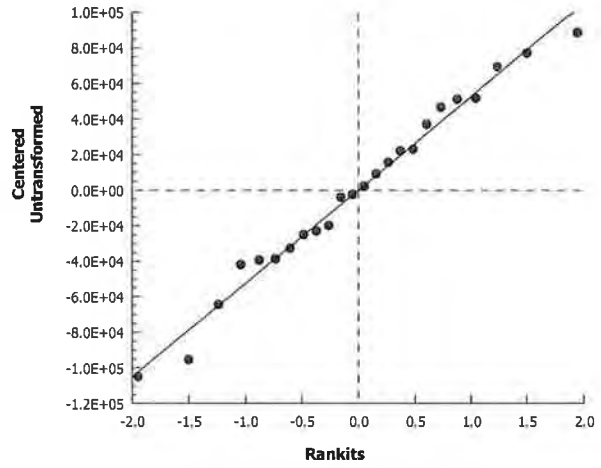
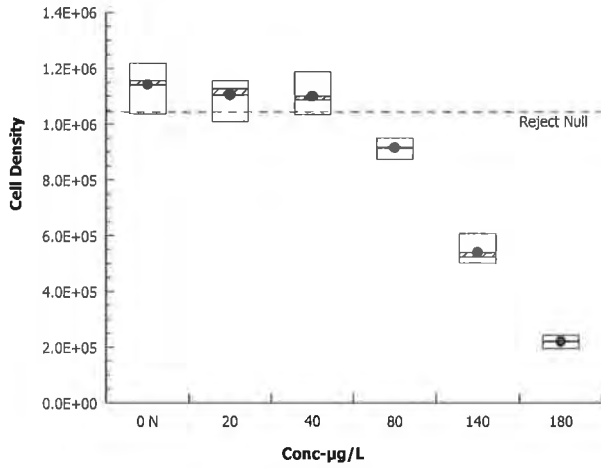
Analysis ID: 20-4050-2957     Endpoint: Cell Density  
Analyzed: 14 Feb-17 7:57     Analysis: Parametric-Control vs Treatments

CETIS Version: CETISv1.9.2  
Official Results: Yes

Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.037E+6	1.119E+6	1.193E+6	1.219E+6
20		1.102E+6	1.009E+6	1.156E+6	1.151E+6
40		1.035E+6	1.060E+6	1.188E+6	1.115E+6
80		9.100E+5	8.720E+5	9.230E+5	9.510E+5
140		5.020E+5	5.080E+5	6.100E+5	5.430E+5
180		2.430E+5	2.420E+5	2.000E+5	1.950E+5

Graphics



# CETIS Analytical Report

Report Date: 15 Feb-17 15:17 (p 1 of 2)  
 Test Code: SEL020217 | 15-7507-1914

Selenastrum Growth Test		Aquatic Bioassay & Consulting Labs, Inc.	
Analysis ID: 12-8217-0386	Endpoint: Cell Density	CETIS Version: CETISv1.9.2	
Analyzed: 14 Feb-17 7:57	Analysis: Linear Interpolation (ICPIN)	Official Results: Yes	
Batch ID: 00-3510-0994	Test Type: Cell Growth	Analyst:	
Start Date: 02 Feb-17 13:08	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water	
Ending Date: 06 Feb-17 13:00	Species: Selenastrum capricornutum	Brine: Not Applicable	
Duration: 96h	Source: Aquatic Biosystems, CO	Age:	
Sample ID: 14-2990-8990	Code: SEL020217s	Client: Internal Lab	
Sample Date: 02 Feb-17 13:08	Material: Cadmium chloride	Project:	
Receipt Date:	Source: Reference Toxicant		
Sample Age: n/a	Station: REF TOX		

Linear Interpolation Options					
X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

Test Acceptability Criteria		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control CV	0.07165	<<	0.2	Yes	Passes Criteria
Control Resp	1.14E+6	1000000	>>	Yes	Passes Criteria

Point Estimates			
Level	µg/L	95% LCL	95% UCL
IC5	43.15	n/a	57.97
IC10	55.46	12.33	72.05
IC15	67.77	41.96	87.44
IC20	80.06	59.78	93.4
IC25	89.24	74.9	101.6
IC40	116.8	104.4	129.1
IC50	135.1	123.3	146.7

Cell Density Summary			Calculated Variate						
Conc-µg/L	Code	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.142E+6	1.037E+6	1.219E+6	4.091E+4	8.182E+4	7.17%	0.0%
20		4	1.104E+6	1.009E+6	1.156E+6	3.408E+4	6.817E+4	6.17%	3.28%
40		4	1.100E+6	1.035E+6	1.188E+6	3.390E+4	6.781E+4	6.17%	3.72%
80		4	9.140E+5	8.720E+5	9.510E+5	1.641E+4	3.281E+4	3.59%	19.96%
140		4	5.408E+5	5.020E+5	6.100E+5	2.479E+4	4.958E+4	9.17%	52.65%
180		4	2.200E+5	1.950E+5	2.430E+5	1.303E+4	2.606E+4	11.85%	80.74%

Cell Density Detail					
Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.037E+6	1.119E+6	1.193E+6	1.219E+6
20		1.102E+6	1.009E+6	1.156E+6	1.151E+6
40		1.035E+6	1.060E+6	1.188E+6	1.115E+6
80		9.100E+5	8.720E+5	9.230E+5	9.510E+5
140		5.020E+5	5.080E+5	6.100E+5	5.430E+5
180		2.430E+5	2.420E+5	2.000E+5	1.950E+5

**CETIS Analytical Report**

**Report Date:** 15 Feb-17 15:17 (p 2 of 2)  
**Test Code:** SEL020217 | 15-7507-1914

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**Selenastrum Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

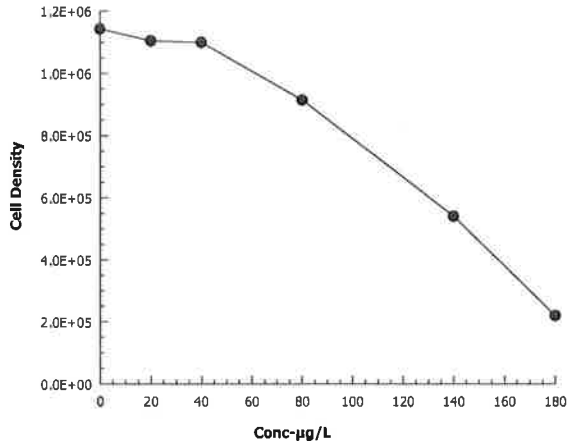
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**Analysis ID:** 12-8217-0386     **Endpoint:** Cell Density  
**Analyzed:** 14 Feb-17 7:57     **Analysis:** Linear Interpolation (ICPIN)

**CETIS Version:** CETISv1.9.2  
**Official Results:** Yes

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**Graphics**



**CETIS Measurement Report**

Report Date: 15 Feb-17 15:17 (p 1 of 2)  
 Test Code: SEL020217 | 15-7507-1914

Selenastrum Growth Test				Aquatic Bioassay & Consulting Labs, Inc.			
Batch ID:	00-3510-0994	Test Type:	Cell Growth	Analyst:			
Start Date:	02 Feb-17 13:08	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Laboratory Water		
Ending Date:	06 Feb-17 13:00	Species:	Selenastrum capricornutum	Brine:	Not Applicable		
Duration:	96h	Source:	Aquatic Biosystems, CO	Age:			
Sample ID:	14-2990-8990	Code:	SEL020217s	Client:	Internal Lab		
Sample Date:	02 Feb-17 13:08	Material:	Cadmium chloride	Project:			
Receipt Date:		Source:	Reference Toxicant				
Sample Age:	n/a	Station:	REF TOX				

**Alkalinity (CaCO3)-mg/L**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	68			68	68	0	0	0.0%	0
20		1	59			59	59	0	0	0.0%	0
40		1	51			51	51	0	0	0.0%	0
80		1	54			54	54	0	0	0.0%	0
140		1	58			58	58	0	0	0.0%	0
180		1	50			50	50	0	0	0.0%	0
Overall		6	56.67	49.72	63.62	50	68	2.704	6.623	11.69%	0 (0%)

**Conductivity-µmhos**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	444.6	432.8	456.4	434	460	4.238	9.476	2.13%	0
20		5	418.2	409.1	427.3	409	429	3.277	7.328	1.75%	0
40		5	413.4	409.1	417.7	410	418	1.536	3.435	0.83%	0
80		5	405.2	400.8	409.6	402	410	1.594	3.564	0.88%	0
140		5	383.8	379.2	388.4	379	388	1.655	3.701	0.96%	0
180		5	366.8	363.4	370.2	364	370	1.241	2.775	0.76%	0
Overall		30	405.3	395.7	415	364	460	4.718	25.84	6.38%	0 (0%)

**Hardness (CaCO3)-mg/L**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	88			88	88	0	0	0.0%	0
20		1	92			92	92	0	0	0.0%	0
40		1	93			93	93	0	0	0.0%	0
80		1	94			94	94	0	0	0.0%	0
140		1	95			95	95	0	0	0.0%	0
180		1	97			97	97	0	0	0.0%	0
Overall		6	93.17	89.95	96.38	88	97	1.249	3.061	3.29%	0 (0%)

**pH-Units**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.82	7.616	8.024	7.6	8	0.07348	0.1643	2.1%	0
20		5	7.82	7.764	7.876	7.8	7.9	0.02	0.04473	0.57%	0
40		5	7.8	7.799	7.801	7.8	7.8	0	0	0.0%	0
80		5	7.78	7.724	7.836	7.7	7.8	0.02001	0.04473	0.58%	0
140		5	7.74	7.672	7.808	7.7	7.8	0.0245	0.05478	0.71%	0
180		5	7.74	7.672	7.808	7.7	7.8	0.0245	0.05478	0.71%	0
Overall		30	7.783	7.754	7.813	7.6	8	0.01445	0.07915	1.02%	0 (0%)

# CETIS Measurement Report

Report Date: 15 Feb-17 15:17 (p 2 of 2)  
Test Code: SEL020217 | 15-7507-1914

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

### Temperature-°C

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	24.1	24.01	24.19	24	24.2	0.03156	0.07056	0.29%	0
20		5	24.1	24.01	24.19	24	24.2	0.03156	0.07056	0.29%	0
40		5	24.1	24.01	24.19	24	24.2	0.03156	0.07056	0.29%	0
80		5	24.1	24.01	24.19	24	24.2	0.03156	0.07056	0.29%	0
140		5	24.1	24.01	24.19	24	24.2	0.03156	0.07056	0.29%	0
180		5	24.1	24.01	24.19	24	24.2	0.03156	0.07056	0.29%	0
Overall		30	24.1	24.08	24.12	24	24.2	0.01174	0.06433	0.27%	0 (0%)

### Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	1
0	N	68
20		59
40		51
80		54
140		58
180		50

### Conductivity-µmhos

Conc-µg/L	Code	1	2	3	4	5
0	N	434	442	444	443	460
20		409	415	418	420	429
40		414	410	410	415	418
80		402	403	403	408	410
140		379	381	385	388	386
180		364	364	367	369	370

### Hardness (CaCO3)-mg/L

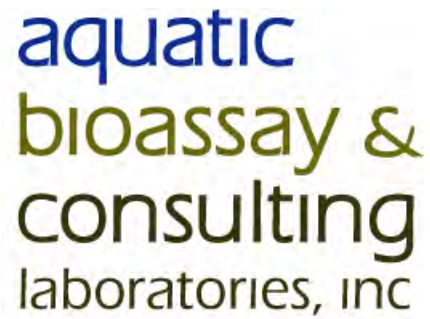
Conc-µg/L	Code	1
0	N	88
20		92
40		93
80		94
140		95
180		97

### pH-Units

Conc-µg/L	Code	1	2	3	4	5
0	N	8	7.7	7.9	7.9	7.6
20		7.9	7.8	7.8	7.8	7.8
40		7.8	7.8	7.8	7.8	7.8
80		7.8	7.7	7.8	7.8	7.8
140		7.8	7.7	7.7	7.7	7.8
180		7.8	7.7	7.7	7.7	7.8

### Temperature-°C

Conc-µg/L	Code	1	2	3	4	5
0	N	24	24.1	24.1	24.1	24.2
20		24	24.1	24.1	24.1	24.2
40		24	24.1	24.1	24.1	24.2
80		24	24.1	24.1	24.1	24.2
140		24	24.1	24.1	24.1	24.2
180		24	24.1	24.1	24.1	24.2



## **Toxicity Identification & Evaluation (TIE) Report for Pacific Ridgeline**

PROJECT: LA Irrigated Lands Group (LAILG) - NGA  
PO:  
CLIENT: Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003  
SAMPLE I.D.: LAILG-NGA-4-8  
DATE RECEIVED: 1/23/2017  
ABC LAB NO.: PRI0117.189



## **SAMPLES**

Chronic toxicity tests using *Ceriodaphnia dubia*, fathead minnow (*Pimephales promelas*), and *Selenastrum* were performed to evaluate the quality of aquatic samples for Pacific Ridgeline, Inc. The samples were collected on January 20, 2017. Testing was conducted at Aquatic Bioassay and Consulting Labs, Inc. in Ventura California from January 23, through February 22, 2017. All samples were shipped in polyethylene containers in the dark and kept at 4°C.

## **MATERIALS AND METHODS**

### Test Material

Test material consisted of three grab samples collected Pacific Ridgeline Inc. The samples were collected in 4-L low-density polyethylene cubitainers© and were delivered to Aquatic Bioassay in insulated ice chests containing wet ice following sample collection.

Samples were stored at 4°C. Upon arrival at Aquatic Bioassay, an aliquot of each sample was drawn and water quality parameters of pH, dissolved oxygen (DO), conductivity, temperature, salinity, alkalinity, and hardness were measured and recorded.

## **RESULTS OF INITIAL TESTING**

Sample LAILG-NGA-4.8 exhibited toxicity during initial testing for fathead minnow, *Selenastrum*, and *Ceriodaphnia*. A toxicity Identification Evaluation (TIE) study was initiated due to the clients request.

Baseline TIE analysis was initiated on February 8, 2017 for fathead minnow, *Selenastrum*, and *Ceriodaphnia*. All three species exhibited substantial toxicity. Fathead minnow exhibited 64.72% effect on biomass, *Selenastrum* exhibited 44.94% effect on cell growth, and *Ceriodaphnia* exhibited 68.18% effect on reproduction. Due to the highest effect ratio on *Ceriodaphnia*, it was chosen as the test organism for the TIE analysis.

## **TIE TREATMENTS**

TIE analysis employs treatment of the sample to five different manipulations. Each reduces toxicity by eliminating different classes of toxicants. This study employed a 45µm filtration, C-18 column extraction, EDTA addition, STS addition, and PBO addition.

## **RESULTS**

45µm filtration was run on the sample using a vacuum filtration system. The sample was set at two dilutions [50-100]%. Toxicity was greatly reduced in the sample using the 45µm filtration method. Toxicity went from 68.18% effect in the 100% sample to 9.26% effect. The filtration process eliminated the toxicity exhibited by the sample to a point where it would pass and EPA statistical analysis for toxicity.

The C-18 extraction is accomplished by placing an activated C-18 column over a vacuum flask and drawing the sample through. This manipulation is run at two concentrations [50-100]% sample. The C-198 manipulation had no effect on the toxicity of the sample. Compare the 68.18% effect in the baseline to 72.31% effect in the C-18 extraction.

EDTA is added to the sample at two concentrations [50-400]mg/L. The EDTA addition had little effect on the toxicity of the sample. It decreased slightly from 68.18% effect to 46.30% effect. Both 68.18% effect and 46.30% effect are considered toxic. Due to the minimal effect of the EDTA addition we do not feel it is responsible for decreasing the toxicity.

Sodium thiosulfate (STS) addition is conducted at two concentrations [60-100]mg/L. The SDS addition did not lower the toxic effect of the sample. The initial toxicity was 68.18% effect and the SDS sample was 85.19% effect.

Lead monoxide (PBO) addition is conducted at two concentrations [20-50]mg/L. The PBO additions caused 100% mortality at both concentrations. PBO did not reduce the toxicity exhibited by the sample

## **CONCLUSION**

The 45 $\mu$ m filtration was the only treatment that significantly reduced toxicity in the sample. C-18 extraction, EDTA addition, STS addition, and PBO addition had little to no effect on the toxicity of the sample.

Due to the success of the 45 $\mu$ m filtration we can deduce that the constituent causing toxicity can be filtered from the sample but gives little specific information on which class of toxicant is causing the toxicity. Reductions of toxicity by filtering alone may imply toxicity associated with suspended solids or removal of particle bound toxicants. Whether compounds in the effluent are in solution or sorbed to particles is dependent on particle surface charge, surface area, compound polarity and charge, solubility and matrix of the effluent.

The likely cause of toxicity in sample LAILG-NGA-4.8 is suspended solids or particle bound toxicants.

## **REFERENCES**

USEPA, 1992, EPA/600/6-91/005F Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase 1. May, 1992.



**CETIS Analytical Report**

Report Date: 31 Mar-17 11:05 (p 1 of 2)  
 Test Code: PRI0117.189TIE | 15-4233-0340

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 06-5335-6741	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 31 Mar-17 10:32	<b>Analysis:</b> Parametric-Control vs Treatments	<b>Official Results:</b> Yes
<b>Batch ID:</b> 19-6434-7856	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b> Joe Freas
<b>Start Date:</b> 15 Feb-17	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Feb-17	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 7d 0h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 04-5930-5178	<b>Code:</b> PRI0117.189Tfil	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 25d 10h	<b>Station:</b> LAILG-NGA-4.8	

**Comments:**  
 45uM Filtration  
 45uM Filtration

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	100	> 100	n/a	1	40.37%

**Dunnnett Multiple Comparison Test**

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		50	-3.3	2.18	10.9	6	CDF	0.9992	Non-Significant Effect
		100	0.5	2.18	10.9	6	CDF	0.4601	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	27	15	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	852.667	426.333	2	8.527	0.0084	Significant Effect
Error	450	50	9			
Total	1302.67		11			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	6.801	9.21	0.0334	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.6085	3.878	0.1147	Normal Distribution
Distribution	D'Agostino Skewness Test	0	2.576	1.0000	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1813	0.2801	0.3610	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9051	0.8025	0.1843	Normal Distribution

**Reproduction Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	27	8.626	45.37	27	17	37	5.774	42.77%	0.00%
50		4	43.5	38.91	48.09	43.5	41	46	1.443	6.64%	-61.11%
100		4	24.5	19.91	29.09	24.5	22	27	1.443	11.78%	9.26%

**Reproduction Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	37	17	37	17
50		41	46	41	46
100		27	22	27	22

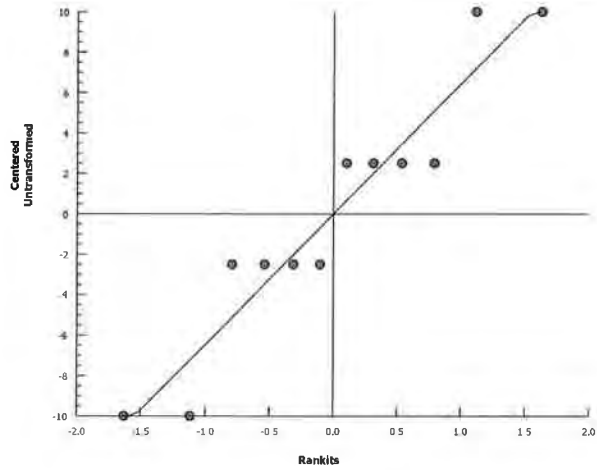
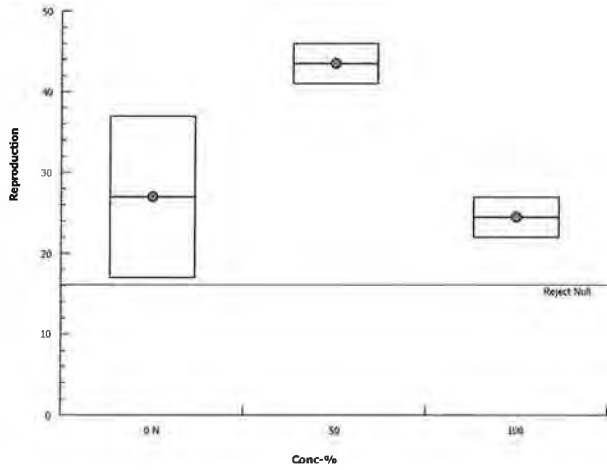
Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 06-5335-6741      Endpoint: Reproduction  
Analyzed: 31 Mar-17 10:32      Analysis: Parametric-Control vs Treatments

CETIS Version: CETISv1.9.2  
Official Results: Yes

Graphics



**CETIS Analytical Report**

Report Date: 31 Mar-17 11:05 (p 1 of 2)  
 Test Code: PRI0117.189TIE | 15-4233-0340

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 05-4535-1593	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 31 Mar-17 10:32	<b>Analysis:</b> STP 2xK Contingency Tables	<b>Official Results:</b> Yes
<b>Batch ID:</b> 19-6434-7856	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b> Joe Freas
<b>Start Date:</b> 15 Feb-17	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Feb-17	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 7d 0h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 04-5930-5178	<b>Code:</b> PRI0117.189TFil	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 25d 10h	<b>Station:</b> LAILG-NGA-4.8	

**Comments:**  
 45uM Filtration  
 45uM Filtration

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Untransformed	C > T	100	> 100	n/a	1

**Fisher Exact/Bonferroni-Holm Test**

Control	vs	Group	Test Stat	P-Type	P-Value	Decision(α:5%)
Negative Control		50	1.0000	Exact	1.0000	Non-Significant Effect
		100	1.0000	Exact	1.0000	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	1	0.8	>>	Yes	Passes Criteria

**Data Summary**

Conc-%	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	N	4	0	4	1	0	0.0%
50		4	0	4	1	0	0.0%
100		4	0	4	1	0	0.0%

**7d Survival Rate Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

**7d Survival Rate Binomials**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1







# CETIS Summary Report

Report Date: 31 Mar-17 11:05 (p 1 of 1)  
 Test Code: PRI0117.189TC18 | 18-3165-2608

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 08-0519-2680	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b> Joe Freas
<b>Start Date:</b> 15 Feb-17 00:01	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Feb-17 00:01	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 7d 0h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 19-2652-3371	<b>Code:</b> PRI0117.189TC18	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 25d 10h	<b>Station:</b> LAILG-NGA-4.8	

**Comments:**  
C-18 Column Extraction

### Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
02-4396-6333	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	100	> 100	n/a	1	n/a
15-6989-4071	Reproduction	Steel Many-One Rank Sum Test	50	100	70.71	2	39.2%

### Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits			Overlap	Decision
				Lower	Upper			
02-4396-6333	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria	
15-6989-4071	Reproduction	Control Resp	32.5	15	>>	Yes	Passes Criteria	
15-6989-4071	Reproduction	PMSD	0.3917	0.13	0.47	Yes	Passes Criteria	

### 7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

### Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	32.5	16.88	48.12	24	41	4.907	9.815	30.20%	0.00%
50		4	43.5	42.58	44.42	43	44	0.2887	0.5774	1.33%	-33.85%
100		4	9	-7.536	25.54	0	18	5.196	10.39	115.47%	72.31%

### 7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

### Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	41	24	41	24
50		43	44	43	44
100		0	18	0	18

### 7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1

**CETIS Analytical Report**

Report Date: 31 Mar-17 11:05 (p 1 of 2)  
 Test Code: PRI0117.189TC18 | 18-3165-2608

Ceriodaphnia 7-d Survival and Reproduction Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 15-6989-4071	Endpoint: Reproduction	CETIS Version: CETISv1.9.2			
Analyzed: 31 Mar-17 10:38	Analysis: Nonparametric-Control vs Treatments	Official Results: Yes			
Batch ID: 08-0519-2680	Test Type: Reproduction-Survival (7d)	Analyst: Joe Freas			
Start Date: 15 Feb-17 00:01	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 22 Feb-17 00:01	Species: Ceriodaphnia dubia	Brine: Not Applicable			
Duration: 7d 0h	Source: Aquatic Biosystems, CO	Age:			
Sample ID: 19-2652-3371	Code: PRI0117.189TC18	Client: Pacific Ridgeline, Inc.			
Sample Date: 20 Jan-17 14:15	Material: Sample Water	Project: LA Irrigated Lands Group (LAILG)-NG			
Receipt Date: 23 Jan-17 13:23	Source: Bioassay Report				
Sample Age: 25d 10h	Station: LAILG-NGA-4.8				

Comments:  
 C-18 Column Extraction

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	50	100	70.71	2	39.17%

**Steel Many-One Rank Sum Test**

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		50	26	11	0	6	Asymp	0.9986	Non-Significant Effect
		100*	10	11	0	6	Asymp	0.0196	Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	32.5	15	>>	Yes	Passes Criteria
PMSD	0.3917	0.13	0.47	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2484.67	1242.33	2	18.21	6.9E-04	Significant Effect
Error	614	68.2222	9			
Total	3098.67		11			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	11.8	9.21	0.0027	Unequal Variances
Distribution	Anderson-Darling A2 Normality Test	0.8787	3.878	0.0244	Normal Distribution
Distribution	D'Agostino Skewness Test	0	2.576	1.0000	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.2057	0.2801	0.1795	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.8356	0.8025	0.0245	Normal Distribution

**Reproduction Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	32.5	16.88	48.12		24	41	4.907	30.20%	0.00%
50		4	43.5	42.58	44.42		43	44	0.2887	1.33%	-33.85%
100		4	9	-7.536	25.54		0	18	5.196	115.47%	72.31%

**Reproduction Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	41	24	41	24
50		43	44	43	44
100		0	18	0	18

# CETIS Analytical Report

Report Date: 31 Mar-17 11:05 (p 2 of 2)

Test Code: PRI0117.189TC18 | 18-3165-2608

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## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

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Analysis ID: 15-6989-4071

Endpoint: Reproduction

CETIS Version: CETISv1.9.2

Analyzed: 31 Mar-17 10:38

Analysis: Nonparametric-Control vs Treatments

Official Results: Yes



# CETIS Analytical Report

Report Date: 31 Mar-17 11:05 (p 2 of 2)

Test Code: PRI0117.189TC18 | 18-3165-2608

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 02-4396-6333

Endpoint: 7d Survival Rate

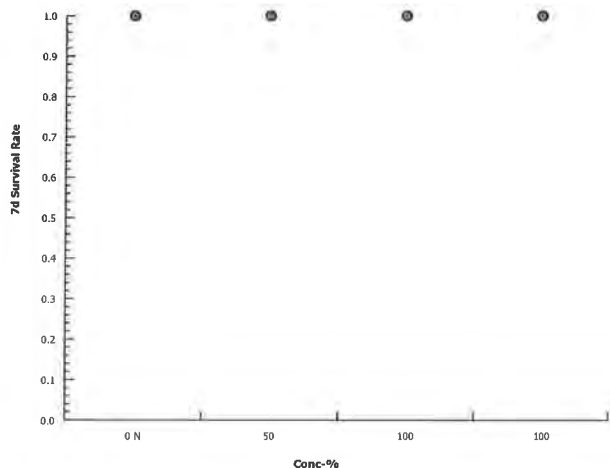
CETIS Version: CETISv1.9.2

Analyzed: 31 Mar-17 10:39

Analysis: STP 2xK Contingency Tables

Official Results: Yes

### Graphics



**CETIS Measurement Report**

Report Date: 31 Mar-17 11:05 (p 1 of 1)  
 Test Code: PRI0117.189TC18 | 18-3165-2608

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 08-0519-2680	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b> Joe Freas
<b>Start Date:</b> 15 Feb-17 00:01	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Feb-17 00:01	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 7d 0h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 19-2652-3371	<b>Code:</b> PRI0117.189TC18	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 25d 10h	<b>Station:</b> LAILG-NGA-4.8	

**Comments:**  
 C-18 Column Extraction

**pH-Units**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	7.75	7.115	8.385	7.7	7.8	0.05001	0.07072	0.91%	0
50		2	7.75	7.115	8.385	7.7	7.8	0.05001	0.07072	0.91%	0
100		2	7.85	7.215	8.485	7.8	7.9	0.05	0.07071	0.9%	0
Overall		6	7.783	7.704	7.862	7.7	7.9	0.03073	0.07528	0.97%	0 (0%)

**Dissolved Oxygen-mg/L**

Conc-%	Code	1	2
0	N		
50			
100			

**Hardness (CaCO3)-mg/L**

Conc-%	Code	1	2
0	N		
50			
100			

**pH-Units**

Conc-%	Code	1	2
0	N	7.7	7.8
50		7.7	7.8
100		7.9	7.8

**Temperature-°C**

Conc-%	Code	1	2
0	N		
50			
100			

# CETIS Summary Report

Report Date: 31 Mar-17 11:05 (p 1 of 1)  
 Test Code: PRI0117.189EDTA | 11-2820-7877

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 12-5264-0595	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b> Joe Freas
<b>Start Date:</b> 15 Feb-17 00:02	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Feb-17 00:02	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 7d 0h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 10-8764-7910	<b>Code:</b> PRI0117.189EDTA	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 25d 10h	<b>Station:</b> LAILG-NGA-4.8	

**Comments:**  
 EDTA Addition  
 EDTA Addition

## Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
13-9893-9719	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	400	> 400	n/a		n/a
06-6262-1973	Reproduction	Dunnett Multiple Comparison Test	400	> 400	n/a		67.7%

## Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
13-9893-9719	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
06-6262-1973	Reproduction	Control Resp	27	15	>>	Yes	Passes Criteria

## 7d Survival Rate Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
400		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

## Reproduction Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	27	8.626	45.37	17	37	5.774	11.55	42.77%	0.00%
50		4	22.5	17.91	27.09	20	25	1.443	2.887	12.83%	16.67%
400		4	14.5	-12.14	41.14	0	29	8.372	16.74	115.47%	46.30%

## 7d Survival Rate Detail

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
400		1.0000	1.0000	1.0000	1.0000

## Reproduction Detail

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	37	17	37	17
50		20	25	20	25
400		0	29	0	29

## 7d Survival Rate Binomials

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1
400		1/1	1/1	1/1	1/1

# CETIS Analytical Report

Report Date: 31 Mar-17 11:05 (p 1 of 2)  
Test Code: PRI0117.189EDTA | 11-2820-7877

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 06-6262-1973	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 31 Mar-17 10:50	<b>Analysis:</b> Parametric-Control vs Treatments	<b>Official Results:</b> Yes
<b>Batch ID:</b> 12-5264-0595	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b> Joe Freas
<b>Start Date:</b> 15 Feb-17 00:02	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Feb-17 00:02	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 7d 0h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 10-8764-7910	<b>Code:</b> PRI0117.189EDTA	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 25d 10h	<b>Station:</b> LAILG-NGA-4.8	

**Comments:**  
EDTA Addition  
EDTA Addition

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	400	> 400	n/a		67.71%

## Dunnett Multiple Comparison Test

Control	vs	Conc-mg/L	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		50	0.5366	2.18	18.28	6	CDF	0.4449	Non-Significant Effect
		400	1.49	2.18	18.28	6	CDF	0.1418	Non-Significant Effect

## Test Acceptability Criteria

### TAC Limits

Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	27	15	>>	Yes	Passes Criteria

## ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	320.667	160.333	2	1.14	0.3620	Non-Significant Effect
Error	1266	140.667	9			
Total	1586.67		11			

## Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	5.722	9.21	0.0572	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.4271	3.878	0.3175	Normal Distribution
Distribution	D'Agostino Skewness Test	0	2.576	1.0000	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1577	0.2801	0.6300	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9132	0.8025	0.2347	Normal Distribution

## Reproduction Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	27	8.626	45.37		17	37	5.774	42.77%	0.00%
50		4	22.5	17.91	27.09		20	25	1.443	12.83%	16.67%
400		4	14.5	-12.14	41.14		0	29	8.372	115.47%	46.30%

## Reproduction Detail

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	37	17	37	17
50		20	25	20	25
400		0	29	0	29



# CETIS Analytical Report

Report Date: 31 Mar-17 11:05 (p 2 of 2)

Test Code: PRI0117.189EDTA | 11-2820-7877

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## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 06-6262-1973

Endpoint: Reproduction

CETIS Version: CETISv1.9.2

Analyzed: 31 Mar-17 10:50

Analysis: Parametric-Control vs Treatments

Official Results: Yes

**CETIS Analytical Report**

Report Date: 31 Mar-17 11:05 (p 1 of 2)  
 Test Code: PRI0117.189EDTA | 11-2820-7877

**Ceriodaphnia 7-d Survival and Reproduction Test**

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 13-9893-9719	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 31 Mar-17 10:50	<b>Analysis:</b> STP 2xK Contingency Tables	<b>Official Results:</b> Yes
<b>Batch ID:</b> 12-5264-0595	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b> Joe Freas
<b>Start Date:</b> 15 Feb-17 00:02	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Feb-17 00:02	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 7d 0h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 10-8764-7910	<b>Code:</b> PRI0117.189EDTA	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 25d 10h	<b>Station:</b> LAILG-NGA-4.8	

**Comments:**  
 EDTA Addition  
 EDTA Addition

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Untransformed	C > T	400	> 400	n/a	

**Fisher Exact/Bonferroni-Holm Test**

Control	vs	Group	Test Stat	P-Type	P-Value	Decision(α:5%)
Negative Control		50	1.0000	Exact	1.0000	Non-Significant Effect
		400	1.0000	Exact	1.0000	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	1	0.8	>>	Yes	Passes Criteria

**Data Summary**

Conc-mg/L	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	N	4	0	4	1	0	0.0%
50		4	0	4	1	0	0.0%
400		4	0	4	1	0	0.0%

**7d Survival Rate Detail**

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
400		1.0000	1.0000	1.0000	1.0000

**7d Survival Rate Binomials**

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1
400		1/1	1/1	1/1	1/1

# CETIS Analytical Report

Report Date: 31 Mar-17 11:05 (p 2 of 2)

Test Code: PRI0117.189EDTA | 11-2820-7877

## Ceriodaphnia 7-d Survival and Reproduction Test

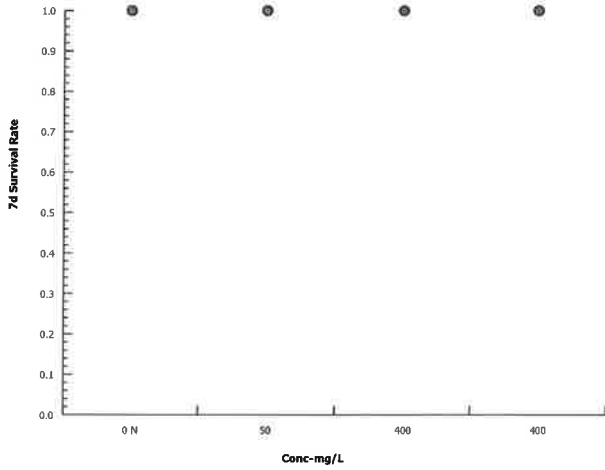
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 13-9893-9719  
Analyzed: 31 Mar-17 10:50

Endpoint: 7d Survival Rate  
Analysis: STP 2xK Contingency Tables

CETIS Version: CETISv1.9.2  
Official Results: Yes

### Graphics



# CETIS Measurement Report

Report Date: 31 Mar-17 11:05 (p 1 of 1)  
 Test Code: PRI0117.189EDTA | 11-2820-7877

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 12-5264-0595	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b> Joe Freas
<b>Start Date:</b> 15 Feb-17 00:02	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Feb-17 00:02	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 7d 0h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 10-8764-7910	<b>Code:</b> PRI0117.189EDTA	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 25d 10h	<b>Station:</b> LAILG-NGA-4.8	

**Comments:**  
 EDTA Addition  
 EDTA Addition

### pH-Units

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	7.5	4.959	10.04	7.3	7.7	0.2	0.2828	3.77%	0
50		2	7.45	6.815	8.085	7.4	7.5	0.05	0.07072	0.95%	0
400		2	7.5	6.229	8.771	7.4	7.6	0.1	0.1414	1.89%	0
Overall		6	7.483	7.329	7.638	7.3	7.7	0.06009	0.1472	1.97%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-mg/L	Code	1	2
0	N		
50			
400			

### Hardness (CaCO3)-mg/L

Conc-mg/L	Code	1	2
0	N		
50			
400			

### pH-Units

Conc-mg/L	Code	1	2
0	N	7.3	7.7
50		7.5	7.4
400		7.4	7.6

### Temperature-°C

Conc-mg/L	Code	1	2
0	N		
50			
400			

**CETIS Summary Report**

Report Date: 31 Mar-17 11:06 (p 1 of 1)

Test Code: PRI0117.189STSa | 07-9138-9798

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 05-4147-3743	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b> Joe Freas
<b>Start Date:</b> 15 Feb-17 00:03	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Feb-17 00:03	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 7d 0h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 03-6576-8000	<b>Code:</b> PRI017.189STS	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 25d 10h	<b>Station:</b> LAILG-NGA-4.8	

**Comments:**  
STS Addition

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD
18-3446-4913	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	< 60	60	n/a		n/a
01-6085-7916	Reproduction	Dunnett Multiple Comparison Test	< 60	60	n/a		43.7%

**Test Acceptability**

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
18-3446-4913	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
01-6085-7916	Reproduction	Control Resp	27	15	>>	Yes	Passes Criteria

**7d Survival Rate Summary**

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
60		4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%
100		4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%

**Reproduction Summary**

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	27	8.626	45.37	17	37	5.774	11.55	42.77%	0.00%
60		4	4	-3.35	11.35	0	8	2.309	4.619	115.47%	85.19%
100		4	4	-3.35	11.35	0	8	2.309	4.619	115.47%	85.19%

**7d Survival Rate Detail**

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
60		0.0000	0.0000	0.0000	0.0000
100		0.0000	0.0000	0.0000	0.0000

**Reproduction Detail**

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	37	17	37	17
60		8	0	8	0
100		0	8	0	8

**7d Survival Rate Binomials**

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1/1	1/1	1/1	1/1
60		0/1	0/1	0/1	0/1
100		0/1	0/1	0/1	0/1

# CETIS Analytical Report

Report Date: 31 Mar-17 11:06 (p 1 of 2)

Test Code: PRI0117.189STSa | 07-9138-9798

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 01-6085-7916	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 31 Mar-17 10:57	<b>Analysis:</b> Parametric-Control vs Treatments	<b>Official Results:</b> Yes
<b>Batch ID:</b> 05-4147-3743	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b> Joe Freas
<b>Start Date:</b> 15 Feb-17 00:03	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Feb-17 00:03	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 7d 0h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 03-6576-8000	<b>Code:</b> PRI017.189STS	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 25d 10h	<b>Station:</b> LAILG-NGA-4.8	

**Comments:**  
STS Addition

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	< 60	60	n/a		43.73%

## Dunnett Multiple Comparison Test

Control	vs	Control II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		60*	4.247	2.18	11.81	6	CDF	0.0020	Significant Effect
		100*	4.247	2.18	11.81	6	CDF	0.0020	Significant Effect

## Test Acceptability Criteria

### TAC Limits

Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	27	15	>>	Yes	Passes Criteria

## ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	1410.67	705.333	2	12.02	0.0029	Significant Effect
Error	528	58.6667	9			
Total	1938.67		11			

## Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	3.141	9.21	0.2079	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.678	3.878	0.0767	Normal Distribution
Distribution	D'Agostino Skewness Test	0	2.576	1.0000	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.2181	0.2801	0.1200	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.8943	0.8025	0.1338	Normal Distribution

## Reproduction Summary

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	27	8.626	45.37	17	17	37	5.774	42.77%	0.00%
60		4	4	-3.35	11.35	0	0	8	2.309	115.47%	85.19%
100		4	4	-3.35	11.35	0	0	8	2.309	115.47%	85.19%

## Reproduction Detail

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	37	17	37	17
60		8	0	8	0
100		0	8	0	8



# CETIS Analytical Report

Report Date: 31 Mar-17 11:06 (p 1 of 2)

Test Code: PRI0117.189STSa | 07-9138-9798

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 18-3446-4913	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 31 Mar-17 10:57	<b>Analysis:</b> STP 2xK Contingency Tables	<b>Official Results:</b> Yes
<b>Batch ID:</b> 05-4147-3743	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b> Joe Freas
<b>Start Date:</b> 15 Feb-17 00:03	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Feb-17 00:03	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 7d 0h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 03-6576-8000	<b>Code:</b> PRI017.189STS	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 25d 10h	<b>Station:</b> LAILG-NGA-4.8	

**Comments:**  
STS Addition

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Untransformed	C > T	< 60	60	n/a	

### Fisher Exact/Bonferroni-Holm Test

Control	vs	Control	Test Stat	P-Type	P-Value	Decision(α:5%)
Negative Control		60*	0.0143	Exact	0.0286	Significant Effect
		100*	0.0143	Exact	0.0286	Significant Effect

### Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	1	0.8	>>	Yes	Passes Criteria

### Data Summary

Conc-mg/L	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	N	4	0	4	1	0	0.0%
60		0	4	4	0	1	100.0%
100		0	4	4	0	1	100.0%

### 7d Survival Rate Detail

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
60		0.0000	0.0000	0.0000	0.0000
100		0.0000	0.0000	0.0000	0.0000

### 7d Survival Rate Binomials

Conc-mg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1/1	1/1	1/1	1/1
60		0/1	0/1	0/1	0/1
100		0/1	0/1	0/1	0/1



# CETIS Analytical Report

Report Date: 31 Mar-17 11:06 (p 2 of 2)  
Test Code: PRI0117.189STSa | 07-9138-9798

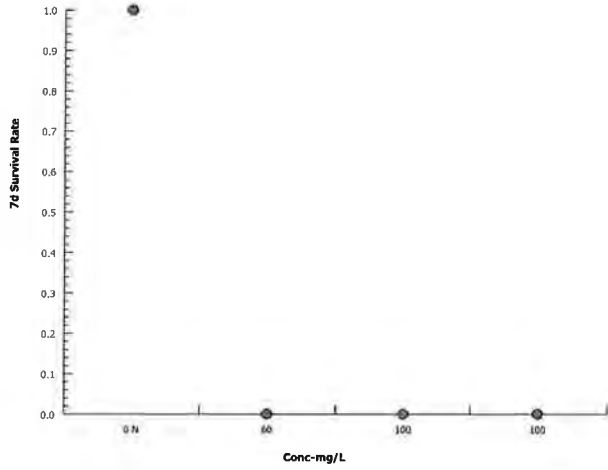
## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 18-3446-4913     Endpoint: 7d Survival Rate  
Analyzed: 31 Mar-17 10:57     Analysis: STP 2xK Contingency Tables

CETIS Version: CETISv1.9.2  
Official Results: Yes

### Graphics



**CETIS Measurement Report**

Report Date: 31 Mar-17 11:06 (p 1 of 1)  
Test Code: PRI0117.189STSa | 07-9138-9798

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 05-4147-3743	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b> Joe Freas
<b>Start Date:</b> 15 Feb-17 00:03	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Feb-17 00:03	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 7d 0h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 03-6576-8000	<b>Code:</b> PRI017.189STSa	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 20 Jan-17 14:15	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 23 Jan-17 13:23	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 25d 10h	<b>Station:</b> LAILG-NGA-4.8	

**Comments:**  
STS Addition

**pH-Units**

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	7.45	1.732	13.17	7	7.9	0.45	0.6364	8.54%	0
60		2	6.4	1.318	11.48	6	6.8	0.4	0.5657	8.84%	0
100		2	6.35	0.6322	12.07	5.9	6.8	0.45	0.6364	10.02%	0
Overall		6	6.733	5.966	7.501	5.9	7.9	0.2985	0.7312	10.86%	0 (0%)

**Dissolved Oxygen-mg/L**

Conc-mg/L	Code	1	2
0	N		
60			
100			

**Hardness (CaCO3)-mg/L**

Conc-mg/L	Code	1	2
0	N		
60			
100			

**pH-Units**

Conc-mg/L	Code	1	2
0	N	7	7.9
60		6.8	6
100		6.8	5.9

**Temperature-°C**

Conc-mg/L	Code	1	2
0	N		
60			
100			







# CETIS Analytical Report

Report Date: 31 Mar-17 11:06 (p 2 of 2)  
Test Code: PRI0117.189PBOb | 04-6614-5863

## Ceriodaphnia 7-d Survival and Reproduction Test

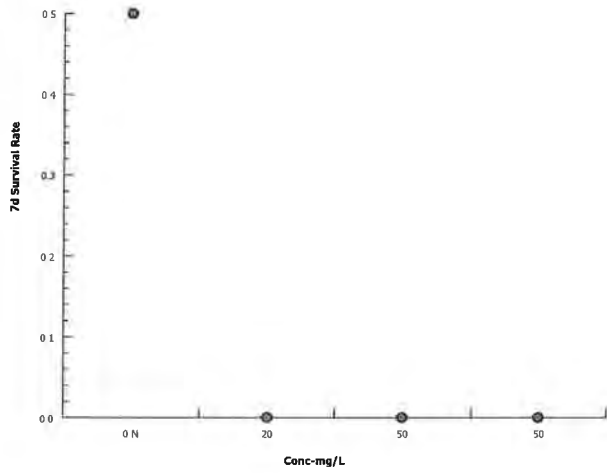
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 00-7231-6350  
Analyzed: 31 Mar-17 11:04

Endpoint: 7d Survival Rate  
Analysis: STP 2xK Contingency Tables

CETIS Version: CETISv1.9.2  
Official Results: Yes

### Graphics



**CETIS Measurement Report**

**Report Date:** 31 Mar-17 11:06 (p 1 of 1)  
**Test Code:** PRI0117.189PBOb | 04-6614-5863

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**Batch ID:** 21-4472-0765 **Test Type:** Reproduction-Survival (7d)  
**Start Date:** 15 Feb-17 00:04 **Protocol:** EPA/821/R-02-013 (2002)  
**Ending Date:** 22 Feb-17 00:04 **Species:** Ceriodaphnia dubia  
**Duration:** 7d 0h **Source:** Aquatic Biosystems, CO

**Analyst:** Joe Freas  
**Diluent:** Laboratory Water  
**Brine:** Not Applicable  
**Age:**

**Sample ID:** 11-4654-8009 **Code:** PRI0117.189PBO  
**Sample Date:** 20 Jan-17 14:15 **Material:** Sample Water  
**Receipt Date:** 23 Jan-17 13:25 **Source:** Bioassay Report  
**Sample Age:** 25d 10h **Station:** LAILG-NGA-4.8

**Client:** Pacific Ridgeline, Inc.  
**Project:** LA Irrigated Lands Group (LAILG)-NG

**Comments:**  
PBO Addition

**pH-Units**

Conc-mg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	7.4	1.047	13.75	6.9	7.9	0.5	0.7071	9.56%	0
20		2	6.8	6.788	6.812	6.8	6.8	0	0	0.0%	0
50		2	6.85	6.215	7.485	6.8	6.9	0.04999	0.0707	1.03%	0
Overall		6	7.017	6.56	7.474	6.8	7.9	0.1778	0.4355	6.21%	0 (0%)

**Dissolved Oxygen-mg/L**

Conc-mg/L	Code	1	2
0	N		
20			
50			

**Hardness (CaCO3)-mg/L**

Conc-mg/L	Code	1	2
0	N		
20			
50			

**pH-Units**

Conc-mg/L	Code	1	2
0	N	6.9	7.9
20		6.8	6.8
50		6.8	6.9

**Temperature-°C**

Conc-mg/L	Code	1	2
0	N		
20			
50			

# CHAIN OF CUSTODY RECORD

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 Tel 855-682-1802 • www.pacr1.com



**ABC**

CLIENT NAME / BILL TO: Pacific Ridgeline ADDRESS: 1891 Goodyear Ave., Suite 621 Ventura Ca, 93003 PHONE: (855) 682-1802 EMAIL: bryn@pacr1.com			PROJECT: LA Irrigated Lands Group (LAILG) - NGA ADDRESS: PO#: SAMPLER: <b>MATT DELHAAS</b>			ANALYSES REQUESTED Ceriodaphnia Dubia (7 Day) X Fathead Minnow (7 Day) X Selastrium (96 hr.) X		SPECIAL HANDLING 19.8 STANDARD = 4.8 = 9.1 48-72 Hour Rush 4 - 5 Day Rush 176-3 19.8 = 19.8 (4.8) = 19.8 (PRI. 18) = > 2.0	
PROJECT MANAGER: Bryn Home			PROJECT: LA Irrigated Lands Group (LAILG) - NGA ADDRESS: PO#: SAMPLER: <b>MATT DELHAAS</b>		ANALYSES REQUESTED Ceriodaphnia Dubia (7 Day) X Fathead Minnow (7 Day) X Selastrium (96 hr.) X		SPECIAL HANDLING 19.8 STANDARD = 4.8 = 9.1 48-72 Hour Rush 4 - 5 Day Rush 176-3 19.8 = 19.8 (4.8) = 19.8 (PRI. 18) = > 2.0		
SAMPLE ID#	DATE SAMPLED	TIME SAMPLED	SMP TYPE	SAMPLE DESCRIPTION/SITE LOCATION	# OF CONT.				
LAILG-NGA-19.8-176-3	12/17/17	0845	RW		2	X	X	X	
LAILG-NGA-19.8-176-3	12/17/17	1230	RW		2	X	X	X	
LAILG-NGA-19.8-176-3	12/17/17	1415	RW		2	X	X	X	
LAILG-NGA-19.8-176-3	12/17/17	1415	RW		2	X	X	X	
COMMENTS: CHLORINE = 19.8 = 0 176.3 = 0 4.8 = 0									
RELINQUISHED BY: <b>MATT DELHAAS</b>						RECEIVED BY: <b>Jenni Harris</b>		DATE / TIME: 11/27/17 1130	
RELINQUISHED BY:						RECEIVED BY:		DATE / TIME: 01/23/19; 1323	
RELINQUISHED BY:						RECEIVED BY:		DATE / TIME:	

SAMPLE TYPE CODE:  
 AQ=Aqueous  
 NA= Non Aqueous  
 SL = Sludge  
 DW = Drinking Water  
 WW = Waste Water  
 RW = Rain Water  
 GW = Ground Water  
 SO = Soil  
 SW = Solid Waste  
 OL = Oil  
 OT = Other Matrix



**Work Orders:** 7B21176

**Report Date:** 3/16/2017

**Project:** Nursery Growers Association

**Received Date:** 2/21/2017

**Turnaround Time:** Normal

**Phones:** (805) 933-1770

**Fax:**

**Attn:** Scott Jordan

**P.O. #:**

**Client:** Pacific Ridgeline - Ventura CA  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

**Billing Code:**

ELAP-CA #1132 • EPA-UCMR #CA00211 • LACSD #10143 • NJ-DEP #CA015 • NV-DEP #NAC 445A

*This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.*

Dear Scott Jordan,

Enclosed are the results of analyses for samples received 2/21/17 with the Chain-of-Custody document. The samples were received in good condition, at 1.9 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

**Reviewed by:**



Chris Samatmanakit  
Project Manager





WECK LABORATORIES, INC.

Pacific Ridgeline - Ventura CA  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

# Certificate of Analysis

FINAL REPORT

**Project Number:** Nursery Growers Association

**Reported:**

03/16/2017 16:25

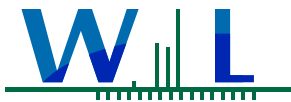
**Project Manager:** Scott Jordan

## Sample Summary

Sample ID	Sampled By	Lab ID	Matrix	Sampled	Qualifiers
LAILG-NGA-178-3	Scott Jordan	7B21176-01	Water	02/17/17 12:40	
LAILG-NGA-158-1	Scott Jordan	7B21176-02	Water	02/17/17 14:03	
LAILG-NGA-124-8	Scott Jordan	7B21176-03	Water	02/17/17 14:45	
LAILG-NGA-202-1	Scott Jordan	7B21176-04	Water	02/17/17 15:10	
LAILG-NGA-150-7	Scott Jordan	7B21176-05	Water	02/17/17 16:10	

## Not Certified Analyses Summary

Analyte	CAS #	Not Accredited By
<b>EPA 8270M in Water</b>		
Dichloran .....	99-30-9	NELAP
Tefluthrin .....	79538-32-2	NELAP
Pendimethalin .....	40487-42-1	NELAP
Allethrin .....	584-79-2	NELAP
Prallethrin .....	23031-36-9	NELAP
Bifenthrin .....	82657-04-3	NELAP
Sumithrin (Phenothrin) .....	26002-80-2	NELAP
L-Cyhalothrin .....	91465-08-6	NELAP
Permethrin .....	52645-53-1	NELAP
Cyfluthrin .....	68359-37-5	NELAP
Cypermethrin .....	52315-07-8	NELAP
Fenvalerate/Esfenvalerate .....	51630-58-1	NELAP
Deltamethrin/Tralomethrin .....	52820-00-5	NELAP
Fenpropathrin (Danitol) .....	39515-41-8	NELAP
Triphenyl phosphate .....	115-86-6	NELAP
Perylene-d12 .....	1520-96-3	NELAP



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# Certificate of Analysis

FINAL REPORT

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**Reported:**

03/16/2017 16:25

**Project Manager:** Scott Jordan

## Sample Results

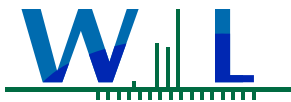
Sample: LAILG-NGA-178-3  
7B21176-01 (Water)

Sampled: 02/17/17 12:40 by Scott Jordan

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Anions by IC, EPA Method 300.0</b>						
<b>Method:</b> EPA 300.0		<b>Batch ID:</b> W7B1295		<b>Prepared:</b> 02/22/17 08:46		<b>Analyst:</b> jan
Chloride, Total	74	0.50	mg/l	1	02/22/17 11:50	
Sulfate as SO4	200	2.0	mg/l	4	02/22/17 11:50	

### Chlorinated Pesticides and/or PCBs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Method:</b> EPA 608						
<b>Batch ID:</b> W7B1462						
<b>Prepared:</b> 02/24/17 09:46						
<b>Analyst:</b> rmr						
2,4'-DDD	ND	25	ng/l	5	03/07/17 22:53	M-04
2,4'-DDE	ND	25	ng/l	5	03/07/17 22:53	M-04
2,4'-DDT	ND	25	ng/l	5	03/07/17 22:53	M-04
4,4'-DDD	ND	25	ng/l	5	03/07/17 22:53	M-04
4,4'-DDE	ND	25	ng/l	5	03/07/17 22:53	M-04
4,4'-DDT	ND	25	ng/l	5	03/07/17 22:53	M-04
Aldrin	ND	25	ng/l	5	03/07/17 22:53	M-04
alpha-BHC	ND	25	ng/l	5	03/07/17 22:53	M-04
alpha-Chlordane	ND	25	ng/l	5	03/07/17 22:53	M-04
Aroclor 1016	ND	500	ng/l	5	03/07/17 22:53	M-04
Aroclor 1221	ND	500	ng/l	5	03/07/17 22:53	M-04
Aroclor 1232	ND	500	ng/l	5	03/07/17 22:53	M-04
Aroclor 1242	ND	500	ng/l	5	03/07/17 22:53	M-04
Aroclor 1248	ND	500	ng/l	5	03/07/17 22:53	M-04
Aroclor 1254	ND	500	ng/l	5	03/07/17 22:53	M-04
Aroclor 1260	ND	500	ng/l	5	03/07/17 22:53	M-04
beta-BHC	ND	25	ng/l	5	03/07/17 22:53	M-04
Chlordane (tech)	ND	500	ng/l	5	03/07/17 22:53	M-04
cis-Nonachlor	ND	25	ng/l	5	03/07/17 22:53	M-04
delta-BHC	ND	25	ng/l	5	03/07/17 22:53	M-04
Dieldrin	ND	25	ng/l	5	03/07/17 22:53	M-04
Endosulfan I	ND	25	ng/l	5	03/07/17 22:53	M-04
Endosulfan II	ND	25	ng/l	5	03/07/17 22:53	M-04
Endosulfan sulfate	ND	25	ng/l	5	03/07/17 22:53	M-04
Endrin	ND	25	ng/l	5	03/07/17 22:53	M-04
Endrin aldehyde	ND	25	ng/l	5	03/07/17 22:53	M-04
gamma-BHC (Lindane)	ND	25	ng/l	5	03/07/17 22:53	M-04
gamma-Chlordane	ND	25	ng/l	5	03/07/17 22:53	M-04
Heptachlor	ND	25	ng/l	5	03/07/17 22:53	M-04
Heptachlor epoxide	ND	25	ng/l	5	03/07/17 22:53	M-04
Methoxychlor	ND	25	ng/l	5	03/07/17 22:53	M-04
Mirex	ND	25	ng/l	5	03/07/17 22:53	M-04



WECK LABORATORIES, INC.

Pacific Ridgeline - Ventura CA  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

# Certificate of Analysis

FINAL REPORT

Project Number: Nursery Growers Association

Reported:

03/16/2017 16:25

Project Manager: Scott Jordan

## Sample Results

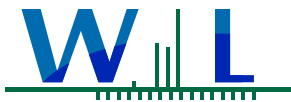
(Continued)

Sample: LAILG-NGA-178-3  
7B21176-01 (Water)

Sampled: 02/17/17 12:40 by Scott Jordan

(Continued)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Chlorinated Pesticides and/or PCBs (Continued)</b>						
Toxaphene	ND	2500	ng/l	5	03/07/17 22:53	M-04
trans-Nonachlor	ND	25	ng/l	5	03/07/17 22:53	M-04
<i>Surrogate(s)</i>						
Decachlorobiphenyl	38% Conc: 38.5	0.1-118			03/07/17 22:53	M-04
Tetrachloro-meta-xylene	50% Conc: 49.6	12-117			03/07/17 22:53	M-04
<b>Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods</b>						
Method: EPA 350.1 Ammonia as N	Batch ID: W7B1304 0.58	Prepared: 02/22/17 09:29 0.10	mg/l	1	02/24/17 18:56	Analyst: mnq
Method: EPA 353.2 NO2+NO3 as N	Batch ID: W7B1310 550	Prepared: 02/22/17 10:20 100	ug/l	1	02/22/17 13:46	Analyst: AJK
Method: EPA 365.1 o-Phosphate as P	Batch ID: W7B1322 1.3	Prepared: 02/22/17 11:30 0.020	mg/l	10	02/22/17 15:12	Analyst: nat **
o-Phosphate as P, dissolved	1300	20	ug/l	10	02/22/17 15:12	**
Method: EPA 365.1 Phosphorus, Dissolved	Batch ID: W7B1408 1.3	Prepared: 02/23/17 11:52 0.10	mg/l	2	02/27/17 20:11	Analyst: nat M-06
Method: EPA 365.1 Phosphorus as P, Total	Batch ID: W7C0269 13	Prepared: 03/06/17 11:16 1.2	mg/l	5	03/07/17 18:19	Analyst: nat M-06
Method: SM 2540C Total Dissolved Solids	Batch ID: W7B1340 720	Prepared: 02/22/17 12:35 10	mg/l	1	02/22/17 18:20	Analyst: ymt
Method: SM 2540D Total Suspended Solids	Batch ID: W7B1391 2900	Prepared: 02/23/17 09:13 5	mg/l	1	02/23/17 12:40	Analyst: ajk
<b>Metals by EPA 200 Series Methods</b>						
Method: EPA 200.7 Calcium Hardness as CaCO3	Batch ID: [CALC] 431	Prepared: 02/24/17 13:24 0.250	mg/l	1	03/02/17 15:17	Analyst: JCK
Method: EPA 200.7 Calcium, Total	Batch ID: W7B1483 173	Prepared: 02/24/17 13:24 0.100	mg/l	1	03/02/17 15:17	Analyst: JCK
Method: EPA 200.8 Copper, Total	Batch ID: W7B1484 370	Prepared: 02/24/17 13:32 5.0	ug/l	10	03/03/17 12:08	Analyst: rrl
<b>Pyrethroid Pesticides by EPA 8270M</b>						
Method: EPA 8270M Allethrin	Batch ID: W7C0106 ND	Prepared: 03/02/17 09:33 20	ng/l	10	03/07/17 22:06	Analyst: EFC M-04
Bifenthrin	20	20	ng/l	10	03/07/17 22:06	M-04
Cyfluthrin	ND	20	ng/l	10	03/07/17 22:06	M-04
Cypermethrin	ND	20	ng/l	10	03/07/17 22:06	M-04
Deltamethrin/Tralomethrin	ND	20	ng/l	10	03/07/17 22:06	M-04
Dichloran	ND	20	ng/l	10	03/07/17 22:06	M-04
Fenpropathrin (Danitol)	ND	20	ng/l	10	03/07/17 22:06	M-04
Fenvalerate/Esfenvalerate	ND	20	ng/l	10	03/07/17 22:06	M-04



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Pacific Ridgeline - Ventura CA  
1891 Goodyear Avenue, Suite 621  
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# Certificate of Analysis

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**Reported:**

03/16/2017 16:25

**Project Manager:** Scott Jordan

## Sample Results

(Continued)

Sample: LAILG-NGA-178-3  
7B21176-01 (Water)

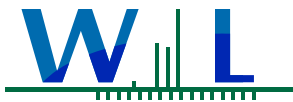
Sampled: 02/17/17 12:40 by Scott Jordan

(Continued)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Pyrethroid Pesticides by EPA 8270M (Continued)</b>						
L-Cyhalothrin	ND	20	ng/l	10	03/07/17 22:06	M-04
Pendimethalin	ND	20	ng/l	10	03/07/17 22:06	M-04
Permethrin	ND	50	ng/l	10	03/07/17 22:06	M-04
Prallethrin	ND	20	ng/l	10	03/07/17 22:06	M-04
Sumithrin (Phenothrin)	ND	100	ng/l	10	03/07/17 22:06	M-04
Tefluthrin	ND	20	ng/l	10	03/07/17 22:06	M-04
<i>Surrogate(s)</i>						
Perylene-d12	66% Conc: 166	2-205			03/07/17 22:06	M-04
Triphenyl phosphate	87% Conc: 218	6-222			03/07/17 22:06	M-04

### Semivolatile Organic Compounds by GC/MS

Method: EPA 525.2	Batch ID: W7B1396	Prepared: 02/23/17 09:21	Analyst: EFC
Azinphos methyl (Guthion)	ND	50 ng/l	1 02/28/17 22:02 M-02
Bolstar	ND	50 ng/l	1 02/28/17 22:02 M-02
Chlorpyrifos	ND	50 ng/l	1 02/28/17 22:02 M-02
Coumaphos	ND	50 ng/l	1 02/28/17 22:02 M-02
Demeton-o	ND	50 ng/l	1 02/28/17 22:02 M-02
Demeton-s	ND	50 ng/l	1 02/28/17 22:02 M-02
Diazinon	ND	50 ng/l	1 02/28/17 22:02 M-02
Dichlorvos	ND	50 ng/l	1 02/28/17 22:02 M-02
Dimethoate	ND	50 ng/l	1 02/28/17 22:02 M-02
Disulfoton	ND	50 ng/l	1 02/28/17 22:02 M-02
Ethoprop	ND	50 ng/l	1 02/28/17 22:02 M-02
Ethyl parathion	ND	50 ng/l	1 02/28/17 22:02 M-02
Fensulfthion	ND	50 ng/l	1 02/28/17 22:02 M-02
Fenthion	ND	50 ng/l	1 02/28/17 22:02 M-02
Malathion	ND	50 ng/l	1 02/28/17 22:02 M-02
Merphos	ND	50 ng/l	1 02/28/17 22:02 M-02
Methyl parathion	ND	50 ng/l	1 02/28/17 22:02 M-02
Mevinphos	ND	50 ng/l	1 02/28/17 22:02 M-02
Naled	ND	50 ng/l	1 02/28/17 22:02 M-02
Phorate	ND	50 ng/l	1 02/28/17 22:02 M-02
Ronnel	ND	50 ng/l	1 02/28/17 22:02 M-02
Stirophos	ND	50 ng/l	1 02/28/17 22:02 M-02
Tokuthion (Prothiofos)	ND	50 ng/l	1 02/28/17 22:02 M-02
Trichloronate	ND	50 ng/l	1 02/28/17 22:02 M-02
<i>Surrogate(s)</i>			
1,3-Dimethyl-2-nitrobenzene	89% Conc: 2220	76-128	02/28/17 22:02 M-02



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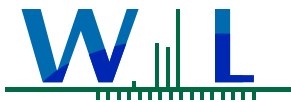
(Continued)

Sample: LAILG-NGA-178-3  
7B21176-01 (Water)

Sampled: 02/17/17 12:40 by Scott Jordan

(Continued)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Semivolatile Organic Compounds by GC/MS (Continued)</b>						
<i>Triphenyl phosphate</i>	166% Conc: 4150	40-163			02/28/17 22:02	M-02, S-GC



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**Project Manager:** Scott Jordan

## Sample Results

(Continued)

Sample: LAILG-NGA-158-1  
7B21176-02 (Water)

Sampled: 02/17/17 14:03 by Scott Jordan

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Anions by IC, EPA Method 300.0</b>						
<b>Method:</b> EPA 300.0		<b>Batch ID:</b> W7B1295		<b>Prepared:</b> 02/22/17 08:46		<b>Analyst:</b> jan
Chloride, Total	1.9	0.50	mg/l	1	02/22/17 11:50	
Sulfate as SO4	20	0.50	mg/l	1	02/22/17 11:50	

### Chlorinated Pesticides and/or PCBs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Method:</b> EPA 608						
<b>Batch ID:</b> W7B1462						
<b>Prepared:</b> 02/24/17 09:46						
<b>Analyst:</b> rmr						
2,4'-DDD	ND	25	ng/l	5	03/07/17 23:23	M-04
2,4'-DDE	ND	25	ng/l	5	03/07/17 23:23	M-04
2,4'-DDT	ND	25	ng/l	5	03/07/17 23:23	M-04
4,4'-DDD	ND	25	ng/l	5	03/07/17 23:23	M-04
4,4'-DDE	ND	25	ng/l	5	03/07/17 23:23	M-04
4,4'-DDT	ND	25	ng/l	5	03/07/17 23:23	M-04
Aldrin	ND	25	ng/l	5	03/07/17 23:23	M-04
alpha-BHC	ND	25	ng/l	5	03/07/17 23:23	M-04
alpha-Chlordane	ND	25	ng/l	5	03/07/17 23:23	M-04
Aroclor 1016	ND	500	ng/l	5	03/07/17 23:23	M-04
Aroclor 1221	ND	500	ng/l	5	03/07/17 23:23	M-04
Aroclor 1232	ND	500	ng/l	5	03/07/17 23:23	M-04
Aroclor 1242	ND	500	ng/l	5	03/07/17 23:23	M-04
Aroclor 1248	ND	500	ng/l	5	03/07/17 23:23	M-04
Aroclor 1254	ND	500	ng/l	5	03/07/17 23:23	M-04
Aroclor 1260	ND	500	ng/l	5	03/07/17 23:23	M-04
beta-BHC	ND	25	ng/l	5	03/07/17 23:23	M-04
Chlordane (tech)	ND	500	ng/l	5	03/07/17 23:23	M-04
cis-Nonachlor	ND	25	ng/l	5	03/07/17 23:23	M-04
delta-BHC	ND	25	ng/l	5	03/07/17 23:23	M-04
Dieldrin	ND	25	ng/l	5	03/07/17 23:23	M-04
Endosulfan I	ND	25	ng/l	5	03/07/17 23:23	M-04
Endosulfan II	ND	25	ng/l	5	03/07/17 23:23	M-04
Endosulfan sulfate	ND	25	ng/l	5	03/07/17 23:23	M-04
Endrin	ND	25	ng/l	5	03/07/17 23:23	M-04
Endrin aldehyde	ND	25	ng/l	5	03/07/17 23:23	M-04
gamma-BHC (Lindane)	ND	25	ng/l	5	03/07/17 23:23	M-04
gamma-Chlordane	ND	25	ng/l	5	03/07/17 23:23	M-04
Heptachlor	ND	25	ng/l	5	03/07/17 23:23	M-04
Heptachlor epoxide	ND	25	ng/l	5	03/07/17 23:23	M-04
Methoxychlor	ND	25	ng/l	5	03/07/17 23:23	M-04
Mirex	ND	25	ng/l	5	03/07/17 23:23	M-04



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Reported:

03/16/2017 16:25

Project Manager: Scott Jordan

## Sample Results

(Continued)

Sample: LAILG-NGA-158-1  
7B21176-02 (Water)

Sampled: 02/17/17 14:03 by Scott Jordan

(Continued)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Chlorinated Pesticides and/or PCBs (Continued)</b>						
Toxaphene	ND	2500	ng/l	5	03/07/17 23:23	M-04
trans-Nonachlor	ND	25	ng/l	5	03/07/17 23:23	M-04
<i>Surrogate(s)</i>						
Decachlorobiphenyl	55% Conc: 54.6	0.1-118			03/07/17 23:23	M-04
Tetrachloro-meta-xylene	53% Conc: 52.7	12-117			03/07/17 23:23	M-04

### Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Method: EPA 350.1 Ammonia as N	Batch ID: W7B1304 0.18	Prepared: 02/22/17 09:29 0.10	mg/l	1	02/24/17 18:56	Analyst: mnq
Method: EPA 353.2 NO2+NO3 as N	Batch ID: W7B1310 550	Prepared: 02/22/17 10:20 100	ug/l	1	02/22/17 13:48	Analyst: AJK
Method: EPA 365.1 o-Phosphate as P	Batch ID: W7B1322 0.19	Prepared: 02/22/17 11:30 0.0040	mg/l	2	02/22/17 15:01	Analyst: nat **
o-Phosphate as P, dissolved	190	4.0	ug/l	2	02/22/17 15:01	**
Method: EPA 365.1 Phosphorus as P, Total	Batch ID: W7B1367 0.60	Prepared: 02/22/17 17:50 0.050	mg/l	5	02/24/17 22:04	Analyst: Station22
Method: EPA 365.1 Phosphorus, Dissolved	Batch ID: W7B1408 0.29	Prepared: 02/23/17 11:52 0.020	mg/l	2	02/27/17 20:12	Analyst: nat
Method: SM 2540C Total Dissolved Solids	Batch ID: W7B1340 38	Prepared: 02/22/17 12:35 10	mg/l	1	02/22/17 18:20	Analyst: ymt
Method: SM 2540D Total Suspended Solids	Batch ID: W7B1391 110	Prepared: 02/23/17 09:13 5	mg/l	1	02/23/17 12:40	Analyst: ajk

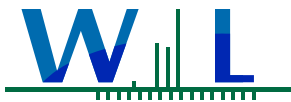
### Metals by EPA 200 Series Methods

Method: EPA 200.7 Calcium Hardness as CaCO3	Batch ID: [CALC] 29.5	Prepared: 02/24/17 13:24 0.250	mg/l	1	03/02/17 15:20	Analyst: JCK
Method: EPA 200.7 Calcium, Total	Batch ID: W7B1483 11.8	Prepared: 02/24/17 13:24 0.100	mg/l	1	03/02/17 15:20	Analyst: JCK
Method: EPA 200.8 Copper, Total	Batch ID: W7B1484 39	Prepared: 02/24/17 13:32 0.50	ug/l	1	03/03/17 12:12	Analyst: rrl

### Pyrethroid Pesticides by EPA 8270M

Method: EPA 8270M Allethrin	Batch ID: W7C0106 ND	Prepared: 03/02/17 09:33 40	ng/l	20	03/07/17 22:40	Analyst: EFC M-04
Bifenthrin	ND	40	ng/l	20	03/07/17 22:40	M-04
Cyfluthrin	ND	40	ng/l	20	03/07/17 22:40	M-04
Cypermethrin	ND	40	ng/l	20	03/07/17 22:40	M-04
Deltamethrin/Tralomethrin	54	40	ng/l	20	03/07/17 22:40	M-04
Dichloran	ND	40	ng/l	20	03/07/17 22:40	M-04
Fenpropathrin (Danitol)	ND	40	ng/l	20	03/07/17 22:40	M-04
Fenvalerate/Esfenvalerate	ND	40	ng/l	20	03/07/17 22:40	M-04





WECK LABORATORIES, INC.

Pacific Ridgeline - Ventura CA  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

# Certificate of Analysis

FINAL REPORT

**Project Number:** Nursery Growers Association

**Reported:**

03/16/2017 16:25

**Project Manager:** Scott Jordan

## Sample Results

(Continued)

Sample: LAILG-NGA-158-1  
7B21176-02 (Water)

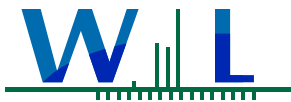
Sampled: 02/17/17 14:03 by Scott Jordan

(Continued)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Pyrethroid Pesticides by EPA 8270M (Continued)</b>						
L-Cyhalothrin	ND	40	ng/l	20	03/07/17 22:40	M-04
Pendimethalin	ND	40	ng/l	20	03/07/17 22:40	M-04
Permethrin	ND	100	ng/l	20	03/07/17 22:40	M-04
Prallethrin	ND	40	ng/l	20	03/07/17 22:40	M-04
Sumithrin (Phenothrin)	ND	200	ng/l	20	03/07/17 22:40	M-04
Tefluthrin	ND	40	ng/l	20	03/07/17 22:40	M-04
<i>Surrogate(s)</i>						
Perylene-d12	71% Conc: 177	2-205			03/07/17 22:40	M-04
Triphenyl phosphate	84% Conc: 210	6-222			03/07/17 22:40	M-04

### Semivolatile Organic Compounds by GC/MS

Method: EPA 525.2	Batch ID: W7B1396	Prepared: 02/23/17 09:21	Analyst: EFC
Azinphos methyl (Guthion)	ND	50 ng/l	1 02/28/17 22:28 M-02
Bolstar	ND	50 ng/l	1 02/28/17 22:28 M-02
Chlorpyrifos	ND	50 ng/l	1 02/28/17 22:28 M-02
Coumaphos	ND	50 ng/l	1 02/28/17 22:28 M-02
Demeton-o	ND	50 ng/l	1 02/28/17 22:28 M-02
Demeton-s	ND	50 ng/l	1 02/28/17 22:28 M-02
Diazinon	ND	50 ng/l	1 02/28/17 22:28 M-02
Dichlorvos	ND	50 ng/l	1 02/28/17 22:28 M-02
Dimethoate	ND	50 ng/l	1 02/28/17 22:28 M-02
Disulfoton	ND	50 ng/l	1 02/28/17 22:28 M-02
Ethoprop	ND	50 ng/l	1 02/28/17 22:28 M-02
Ethyl parathion	ND	50 ng/l	1 02/28/17 22:28 M-02
Fensulfthion	ND	50 ng/l	1 02/28/17 22:28 M-02
Fenthion	ND	50 ng/l	1 02/28/17 22:28 M-02
Malathion	ND	50 ng/l	1 02/28/17 22:28 M-02
Merphos	ND	50 ng/l	1 02/28/17 22:28 M-02
Methyl parathion	ND	50 ng/l	1 02/28/17 22:28 M-02
Mevinphos	ND	50 ng/l	1 02/28/17 22:28 M-02
Naled	ND	50 ng/l	1 02/28/17 22:28 M-02
Phorate	ND	50 ng/l	1 02/28/17 22:28 M-02
Ronnel	ND	50 ng/l	1 02/28/17 22:28 M-02
Stirophos	ND	50 ng/l	1 02/28/17 22:28 M-02
Tokuthion (Prothiofos)	ND	50 ng/l	1 02/28/17 22:28 M-02
Trichloronate	ND	50 ng/l	1 02/28/17 22:28 M-02
<i>Surrogate(s)</i>			
1,3-Dimethyl-2-nitrobenzene	91% Conc: 2280	76-128	02/28/17 22:28 M-02
Triphenyl phosphate	115% Conc: 2880	40-163	02/28/17 22:28 M-02



WECK LABORATORIES, INC.

Pacific Ridgeline - Ventura CA  
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# Certificate of Analysis

FINAL REPORT

**Project Number:** Nursery Growers Association

**Reported:**

03/16/2017 16:25

**Project Manager:** Scott Jordan

## Sample Results

(Continued)

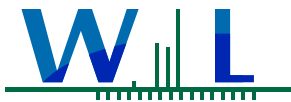
Sample: LAILG-NGA-124-8  
7B21176-03 (Water)

Sampled: 02/17/17 14:45 by Scott Jordan

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Anions by IC, EPA Method 300.0</b>						
<b>Method:</b> EPA 300.0	<b>Batch ID:</b> W7B1295	<b>Prepared:</b> 02/22/17 08:46				<b>Analyst:</b> jan
Chloride, Total	7.6	0.50	mg/l	1	02/22/17 11:50	
Sulfate as SO4	70	0.50	mg/l	1	02/22/17 11:50	

### Chlorinated Pesticides and/or PCBs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Method:</b> EPA 608						
<b>Batch ID:</b> W7B1462						
<b>Prepared:</b> 02/24/17 09:46						
<b>Analyst:</b> rmr						
2,4'-DDD	ND	50	ng/l	10	03/07/17 23:54	M-04
2,4'-DDE	ND	50	ng/l	10	03/07/17 23:54	M-04
2,4'-DDT	ND	50	ng/l	10	03/07/17 23:54	M-04
4,4'-DDD	ND	50	ng/l	10	03/07/17 23:54	M-04
4,4'-DDE	ND	50	ng/l	10	03/07/17 23:54	M-04
4,4'-DDT	ND	50	ng/l	10	03/07/17 23:54	M-04
Aldrin	ND	50	ng/l	10	03/07/17 23:54	M-04
alpha-BHC	ND	50	ng/l	10	03/07/17 23:54	M-04
alpha-Chlordane	ND	50	ng/l	10	03/07/17 23:54	M-04
Aroclor 1016	ND	1000	ng/l	10	03/07/17 23:54	M-04
Aroclor 1221	ND	1000	ng/l	10	03/07/17 23:54	M-04
Aroclor 1232	ND	1000	ng/l	10	03/07/17 23:54	M-04
Aroclor 1242	ND	1000	ng/l	10	03/07/17 23:54	M-04
Aroclor 1248	ND	1000	ng/l	10	03/07/17 23:54	M-04
Aroclor 1254	ND	1000	ng/l	10	03/07/17 23:54	M-04
Aroclor 1260	ND	1000	ng/l	10	03/07/17 23:54	M-04
beta-BHC	ND	50	ng/l	10	03/07/17 23:54	M-04
Chlordane (tech)	ND	1000	ng/l	10	03/07/17 23:54	M-04
cis-Nonachlor	ND	50	ng/l	10	03/07/17 23:54	M-04
delta-BHC	ND	50	ng/l	10	03/07/17 23:54	M-04
Dieldrin	ND	50	ng/l	10	03/07/17 23:54	M-04
Endosulfan I	ND	50	ng/l	10	03/07/17 23:54	M-04
Endosulfan II	ND	50	ng/l	10	03/07/17 23:54	M-04
Endosulfan sulfate	ND	50	ng/l	10	03/07/17 23:54	M-04
Endrin	ND	50	ng/l	10	03/07/17 23:54	M-04
Endrin aldehyde	ND	50	ng/l	10	03/07/17 23:54	M-04
gamma-BHC (Lindane)	ND	50	ng/l	10	03/07/17 23:54	M-04
gamma-Chlordane	ND	50	ng/l	10	03/07/17 23:54	M-04
Heptachlor	ND	50	ng/l	10	03/07/17 23:54	M-04
Heptachlor epoxide	ND	50	ng/l	10	03/07/17 23:54	M-04
Methoxychlor	ND	50	ng/l	10	03/07/17 23:54	M-04
Mirex	ND	50	ng/l	10	03/07/17 23:54	M-04



WECK LABORATORIES, INC.

Pacific Ridgeline - Ventura CA  
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Ventura, CA 93003

# Certificate of Analysis

FINAL REPORT

Project Number: Nursery Growers Association

Reported:

03/16/2017 16:25

Project Manager: Scott Jordan

## Sample Results

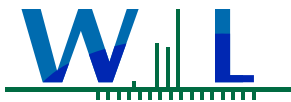
(Continued)

Sample: LAILG-NGA-124-8  
7B21176-03 (Water)

Sampled: 02/17/17 14:45 by Scott Jordan

(Continued)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Chlorinated Pesticides and/or PCBs (Continued)</b>						
Toxaphene	ND	5000	ng/l	10	03/07/17 23:54	M-04
trans-Nonachlor	ND	50	ng/l	10	03/07/17 23:54	M-04
<i>Surrogate(s)</i>						
Decachlorobiphenyl	53% Conc: 53.2	0.1-118			03/07/17 23:54	M-04
Tetrachloro-meta-xylene	64% Conc: 64.0	12-117			03/07/17 23:54	M-04
<b>Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods</b>						
Method: EPA 350.1 Ammonia as N	Batch ID: W7B1304 0.50	Prepared: 02/22/17 09:29 0.10	mg/l	1	02/24/17 18:56	Analyst: mnq
Method: EPA 353.2 NO2+NO3 as N	Batch ID: W7B1310 3800	Prepared: 02/22/17 10:20 100	ug/l	1	02/22/17 13:50	Analyst: AJK
Method: EPA 365.1 o-Phosphate as P	Batch ID: W7B1322 0.76	Prepared: 02/22/17 11:30 0.010	mg/l	5	02/22/17 15:09	Analyst: nat **
o-Phosphate as P, dissolved	770	10	ug/l	5	02/22/17 15:09	**
Method: EPA 365.1 Phosphorus as P, Total	Batch ID: W7B1367 3.9	Prepared: 02/22/17 17:50 0.25	mg/l	5	02/24/17 22:05	Analyst: Station22
Method: EPA 365.1 Phosphorus, Dissolved	Batch ID: W7B1408 0.73	Prepared: 02/23/17 11:52 0.10	mg/l	5	02/27/17 20:14	Analyst: nat M-06
Method: SM 2540C Total Dissolved Solids	Batch ID: W7B1340 270	Prepared: 02/22/17 12:35 10	mg/l	1	02/22/17 18:20	Analyst: ymt
Method: SM 2540D Total Suspended Solids	Batch ID: W7B1392 740	Prepared: 02/23/17 09:15 5	mg/l	1	02/23/17 13:25	Analyst: ajk
<b>Metals by EPA 200 Series Methods</b>						
Method: EPA 200.7 Calcium Hardness as CaCO3	Batch ID: [CALC] 120	Prepared: 02/24/17 13:24 0.250	mg/l	1	03/02/17 15:23	Analyst: JCK
Method: EPA 200.7 Calcium, Total	Batch ID: W7B1483 48.1	Prepared: 02/24/17 13:24 0.100	mg/l	1	03/02/17 15:23	Analyst: JCK
Method: EPA 200.8 Copper, Total	Batch ID: W7B1484 120	Prepared: 02/24/17 13:32 2.5	ug/l	5	03/03/17 12:16	Analyst: rrl
<b>Pyrethroid Pesticides by EPA 8270M</b>						
Method: EPA 8270M Allethrin	Batch ID: W7C0106 ND	Prepared: 03/02/17 09:33 100	ng/l	50	03/07/17 23:14	Analyst: EFC M-04
Bifenthrin	3900	100	ng/l	50	03/07/17 23:14	M-04
Cyfluthrin	230	100	ng/l	50	03/07/17 23:14	M-04
Cypermethrin	ND	100	ng/l	50	03/07/17 23:14	M-04
Deltamethrin/Tralomethrin	ND	100	ng/l	50	03/07/17 23:14	M-04
Dichloran	ND	100	ng/l	50	03/07/17 23:14	M-04
Fenpropathrin (Danitol)	ND	100	ng/l	50	03/07/17 23:14	M-04
Fenvalerate/Esfenvalerate	ND	100	ng/l	50	03/07/17 23:14	M-04



WECK LABORATORIES, INC.

Pacific Ridgeline - Ventura CA  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

# Certificate of Analysis

FINAL REPORT

**Project Number:** Nursery Growers Association

**Reported:**

03/16/2017 16:25

**Project Manager:** Scott Jordan

## Sample Results

(Continued)

Sample: LAILG-NGA-124-8  
7B21176-03 (Water)

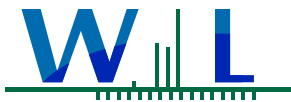
Sampled: 02/17/17 14:45 by Scott Jordan

(Continued)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Pyrethroid Pesticides by EPA 8270M (Continued)</b>						
L-Cyhalothrin	ND	100	ng/l	50	03/07/17 23:14	M-04
<b>Pendimethalin</b>	<b>760</b>	100	ng/l	50	03/07/17 23:14	M-04
Permethrin	ND	250	ng/l	50	03/07/17 23:14	M-04
Prallethrin	ND	100	ng/l	50	03/07/17 23:14	M-04
Sumithrin (Phenothrin)	ND	500	ng/l	50	03/07/17 23:14	M-04
Tefluthrin	ND	100	ng/l	50	03/07/17 23:14	M-04
<i>Surrogate(s)</i>						
<i>Perylene-d12</i>	58% Conc: 146	2-205			03/07/17 23:14	M-04
<i>Triphenyl phosphate</i>	72% Conc: 179	6-222			03/07/17 23:14	M-04

### Semivolatile Organic Compounds by GC/MS

Method: EPA 525.2	Batch ID: W7B1396	Prepared: 02/23/17 09:21	Analyst: EFC
Azinphos methyl (Guthion)	ND	50 ng/l	1 02/28/17 22:53 M-02
Bolstar	ND	50 ng/l	1 02/28/17 22:53 M-02
Chlorpyrifos	ND	50 ng/l	1 02/28/17 22:53 M-02
Coumaphos	ND	50 ng/l	1 02/28/17 22:53 M-02
Demeton-o	ND	50 ng/l	1 02/28/17 22:53 M-02
Demeton-s	ND	50 ng/l	1 02/28/17 22:53 M-02
Diazinon	ND	50 ng/l	1 02/28/17 22:53 M-02
Dichlorvos	ND	50 ng/l	1 02/28/17 22:53 M-02
Dimethoate	ND	50 ng/l	1 02/28/17 22:53 M-02
Disulfoton	ND	50 ng/l	1 02/28/17 22:53 M-02
Ethoprop	ND	50 ng/l	1 02/28/17 22:53 M-02
Ethyl parathion	ND	50 ng/l	1 02/28/17 22:53 M-02
Fensulfothion	ND	50 ng/l	1 02/28/17 22:53 M-02
Fenthion	ND	50 ng/l	1 02/28/17 22:53 M-02
Malathion	ND	50 ng/l	1 02/28/17 22:53 M-02
Merphos	ND	50 ng/l	1 02/28/17 22:53 M-02
Methyl parathion	ND	50 ng/l	1 02/28/17 22:53 M-02
Mevinphos	ND	50 ng/l	1 02/28/17 22:53 M-02
Naled	ND	50 ng/l	1 02/28/17 22:53 M-02
Phorate	ND	50 ng/l	1 02/28/17 22:53 M-02
Ronnel	ND	50 ng/l	1 02/28/17 22:53 M-02
Stirophos	ND	50 ng/l	1 02/28/17 22:53 M-02
Tokuthion (Prothiofos)	ND	50 ng/l	1 02/28/17 22:53 M-02
Trichloronate	ND	50 ng/l	1 02/28/17 22:53 M-02
<i>Surrogate(s)</i>			
<i>1,3-Dimethyl-2-nitrobenzene</i>	93% Conc: 2340	76-128	02/28/17 22:53 M-02
<i>Triphenyl phosphate</i>	130% Conc: 3250	40-163	02/28/17 22:53 M-02



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03/16/2017 16:25

**Project Manager:** Scott Jordan

## Sample Results

(Continued)

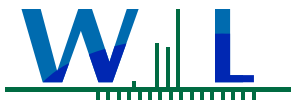
Sample: LAILG-NGA-202-1  
7B21176-04 (Water)

Sampled: 02/17/17 15:10 by Scott Jordan

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Anions by IC, EPA Method 300.0</b>						
<b>Method:</b> EPA 300.0		<b>Batch ID:</b> W7B1295		<b>Prepared:</b> 02/22/17 08:46		<b>Analyst:</b> jan
Chloride, Total	6.5	0.50	mg/l	1	02/22/17 11:50	
Sulfate as SO4	18	0.50	mg/l	1	02/22/17 11:50	

### Chlorinated Pesticides and/or PCBs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Method:</b> EPA 608						
<b>Batch ID:</b> W7B1462						
<b>Prepared:</b> 02/24/17 09:46						
<b>Analyst:</b> rmr						
2,4'-DDD	ND	25	ng/l	5	03/08/17 00:25	M-04
2,4'-DDE	ND	25	ng/l	5	03/08/17 00:25	M-04
2,4'-DDT	ND	25	ng/l	5	03/08/17 00:25	M-04
4,4'-DDD	ND	25	ng/l	5	03/08/17 00:25	M-04
4,4'-DDE	ND	25	ng/l	5	03/08/17 00:25	M-04
4,4'-DDT	ND	25	ng/l	5	03/08/17 00:25	M-04
Aldrin	ND	25	ng/l	5	03/08/17 00:25	M-04
alpha-BHC	ND	25	ng/l	5	03/08/17 00:25	M-04
alpha-Chlordane	ND	25	ng/l	5	03/08/17 00:25	M-04
Aroclor 1016	ND	500	ng/l	5	03/08/17 00:25	M-04
Aroclor 1221	ND	500	ng/l	5	03/08/17 00:25	M-04
Aroclor 1232	ND	500	ng/l	5	03/08/17 00:25	M-04
Aroclor 1242	ND	500	ng/l	5	03/08/17 00:25	M-04
Aroclor 1248	ND	500	ng/l	5	03/08/17 00:25	M-04
Aroclor 1254	ND	500	ng/l	5	03/08/17 00:25	M-04
Aroclor 1260	ND	500	ng/l	5	03/08/17 00:25	M-04
beta-BHC	ND	25	ng/l	5	03/08/17 00:25	M-04
Chlordane (tech)	ND	500	ng/l	5	03/08/17 00:25	M-04
cis-Nonachlor	ND	25	ng/l	5	03/08/17 00:25	M-04
delta-BHC	ND	25	ng/l	5	03/08/17 00:25	M-04
Dieldrin	ND	25	ng/l	5	03/08/17 00:25	M-04
Endosulfan I	ND	25	ng/l	5	03/08/17 00:25	M-04
Endosulfan II	ND	25	ng/l	5	03/08/17 00:25	M-04
Endosulfan sulfate	ND	25	ng/l	5	03/08/17 00:25	M-04
Endrin	ND	25	ng/l	5	03/08/17 00:25	M-04
Endrin aldehyde	ND	25	ng/l	5	03/08/17 00:25	M-04
gamma-BHC (Lindane)	ND	25	ng/l	5	03/08/17 00:25	M-04
gamma-Chlordane	ND	25	ng/l	5	03/08/17 00:25	M-04
Heptachlor	ND	25	ng/l	5	03/08/17 00:25	M-04
Heptachlor epoxide	ND	25	ng/l	5	03/08/17 00:25	M-04
Methoxychlor	ND	25	ng/l	5	03/08/17 00:25	M-04
Mirex	ND	25	ng/l	5	03/08/17 00:25	M-04



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Reported:

03/16/2017 16:25

Project Manager: Scott Jordan

## Sample Results

(Continued)

Sample: LAILG-NGA-202-1  
7B21176-04 (Water)

Sampled: 02/17/17 15:10 by Scott Jordan

(Continued)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Chlorinated Pesticides and/or PCBs (Continued)</b>						
Toxaphene	ND	2500	ng/l	5	03/08/17 00:25	M-04
trans-Nonachlor	ND	25	ng/l	5	03/08/17 00:25	M-04
<i>Surrogate(s)</i>						
Decachlorobiphenyl	48% Conc: 47.9	0.1-118			03/08/17 00:25	M-04
Tetrachloro-meta-xylene	52% Conc: 52.5	12-117			03/08/17 00:25	M-04

### Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

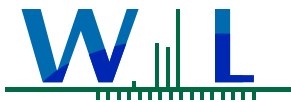
Method: EPA 350.1 Ammonia as N	Batch ID: W7B1304 0.11	Prepared: 02/22/17 09:29 0.10	mg/l	1	02/24/17 18:56	Analyst: mnq
Method: EPA 353.2 NO2+NO3 as N	Batch ID: W7B1310 1800	Prepared: 02/22/17 10:20 100	ug/l	1	02/22/17 13:53	Analyst: AJK
Method: EPA 365.1 o-Phosphate as P	Batch ID: W7B1322 0.46	Prepared: 02/22/17 11:30 0.010	mg/l	5	02/22/17 15:18	Analyst: nat **
o-Phosphate as P, dissolved	450	10	ug/l	5	02/22/17 15:18	**
Method: EPA 365.1 Phosphorus as P, Total	Batch ID: W7B1367 0.81	Prepared: 02/22/17 17:50 0.10	mg/l	5	02/24/17 22:07	Analyst: Station22
Method: EPA 365.1 Phosphorus, Dissolved	Batch ID: W7B1408 0.47	Prepared: 02/23/17 11:52 0.040	mg/l	2	02/27/17 20:15	Analyst: nat M-06
Method: SM 2540C Total Dissolved Solids	Batch ID: W7B1340 140	Prepared: 02/22/17 12:35 10	mg/l	1	02/22/17 18:20	Analyst: ymt
Method: SM 2540D Total Suspended Solids	Batch ID: W7B1392 130	Prepared: 02/23/17 09:15 5	mg/l	1	02/23/17 13:25	Analyst: ajk

### Metals by EPA 200 Series Methods

Method: EPA 200.7 Calcium Hardness as CaCO3	Batch ID: [CALC] 39.7	Prepared: 02/24/17 13:24 0.250	mg/l	1	03/02/17 15:26	Analyst: JCK
Method: EPA 200.7 Calcium, Total	Batch ID: W7B1483 15.9	Prepared: 02/24/17 13:24 0.100	mg/l	1	03/02/17 15:26	Analyst: JCK
Method: EPA 200.8 Copper, Total	Batch ID: W7B1484 38	Prepared: 02/24/17 13:32 0.50	ug/l	1	03/03/17 12:25	Analyst: rrl

### Pyrethroid Pesticides by EPA 8270M

Method: EPA 8270M Allethrin	Batch ID: W7C0106 ND	Prepared: 03/02/17 09:33 40	ng/l	20	03/07/17 23:47	Analyst: EFC M-04
Bifenthrin	42	40	ng/l	20	03/07/17 23:47	M-04
Cyfluthrin	ND	40	ng/l	20	03/07/17 23:47	M-04
Cypermethrin	ND	40	ng/l	20	03/07/17 23:47	M-04
Deltamethrin/Tralomethrin	ND	40	ng/l	20	03/07/17 23:47	M-04
Dichloran	ND	40	ng/l	20	03/07/17 23:47	M-04
Fenpropathrin (Danitol)	ND	40	ng/l	20	03/07/17 23:47	M-04
Fenvalerate/Esfenvalerate	ND	40	ng/l	20	03/07/17 23:47	M-04



WECK LABORATORIES, INC.

Pacific Ridgeline - Ventura CA  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

# Certificate of Analysis

FINAL REPORT

**Project Number:** Nursery Growers Association

**Reported:**

03/16/2017 16:25

**Project Manager:** Scott Jordan

## Sample Results

(Continued)

Sample: LAILG-NGA-202-1  
7B21176-04 (Water)

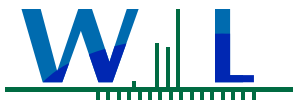
Sampled: 02/17/17 15:10 by Scott Jordan

(Continued)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Pyrethroid Pesticides by EPA 8270M (Continued)</b>						
L-Cyhalothrin	ND	40	ng/l	20	03/07/17 23:47	M-04
Pendimethalin	ND	40	ng/l	20	03/07/17 23:47	M-04
Permethrin	ND	100	ng/l	20	03/07/17 23:47	M-04
Prallethrin	ND	40	ng/l	20	03/07/17 23:47	M-04
Sumithrin (Phenothrin)	ND	200	ng/l	20	03/07/17 23:47	M-04
Tefluthrin	ND	40	ng/l	20	03/07/17 23:47	M-04
<i>Surrogate(s)</i>						
Perylene-d12	64% Conc: 160	2-205			03/07/17 23:47	M-04
Triphenyl phosphate	80% Conc: 199	6-222			03/07/17 23:47	M-04

### Semivolatile Organic Compounds by GC/MS

Method: EPA 525.2	Batch ID: W7B1396	Prepared: 02/23/17 09:21	Analyst: EFC
Azinphos methyl (Guthion)	ND	50 ng/l	1 02/28/17 23:19 M-02
Bolstar	ND	50 ng/l	1 02/28/17 23:19 M-02
Chlorpyrifos	ND	50 ng/l	1 02/28/17 23:19 M-02
Coumaphos	ND	50 ng/l	1 02/28/17 23:19 M-02
Demeton-o	ND	50 ng/l	1 02/28/17 23:19 M-02
Demeton-s	ND	50 ng/l	1 02/28/17 23:19 M-02
Diazinon	ND	50 ng/l	1 02/28/17 23:19 M-02
Dichlorvos	ND	50 ng/l	1 02/28/17 23:19 M-02
Dimethoate	ND	50 ng/l	1 02/28/17 23:19 M-02
Disulfoton	ND	50 ng/l	1 02/28/17 23:19 M-02
Ethoprop	ND	50 ng/l	1 02/28/17 23:19 M-02
Ethyl parathion	ND	50 ng/l	1 02/28/17 23:19 M-02
Fensulfthion	ND	50 ng/l	1 02/28/17 23:19 M-02
Fenthion	ND	50 ng/l	1 02/28/17 23:19 M-02
Malathion	ND	50 ng/l	1 02/28/17 23:19 M-02
Merphos	ND	50 ng/l	1 02/28/17 23:19 M-02
Methyl parathion	ND	50 ng/l	1 02/28/17 23:19 M-02
Mevinphos	ND	50 ng/l	1 02/28/17 23:19 M-02
Naled	ND	50 ng/l	1 02/28/17 23:19 M-02
Phorate	ND	50 ng/l	1 02/28/17 23:19 M-02
Ronnel	ND	50 ng/l	1 02/28/17 23:19 M-02
Stirophos	ND	50 ng/l	1 02/28/17 23:19 M-02
Tokuthion (Prothiofos)	ND	50 ng/l	1 02/28/17 23:19 M-02
Trichloronate	ND	50 ng/l	1 02/28/17 23:19 M-02
<i>Surrogate(s)</i>			
1,3-Dimethyl-2-nitrobenzene	88% Conc: 2190	76-128	02/28/17 23:19 M-02



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## Sample Results

(Continued)

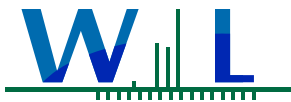
Sample: LAILG-NGA-202-1  
7B21176-04 (Water)

Sampled: 02/17/17 15:10 by Scott Jordan

(Continued)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Semivolatile Organic Compounds by GC/MS (Continued)</b>						
<i>Triphenyl phosphate</i>	165% Conc: 4120	40-163			02/28/17 23:19	M-02, S-GC





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**Reported:**

03/16/2017 16:25

**Project Manager:** Scott Jordan

## Sample Results

(Continued)

Sample: LAILG-NGA-150-7  
7B21176-05 (Water)

Sampled: 02/17/17 16:10 by Scott Jordan

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Anions by IC, EPA Method 300.0</b>						
<b>Method:</b> EPA 300.0	<b>Batch ID:</b> W7B1295	<b>Prepared:</b> 02/22/17 08:46				<b>Analyst:</b> jan
Chloride, Total	10	0.50	mg/l	1	02/22/17 11:50	
Sulfate as SO4	54	0.50	mg/l	1	02/22/17 11:50	

### Chlorinated Pesticides and/or PCBs

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Method:</b> EPA 608						
<b>Batch ID:</b> W7B1462						
<b>Prepared:</b> 02/24/17 09:46						
<b>Analyst:</b> rmr						
2,4'-DDD	ND	25	ng/l	5	03/08/17 00:55	M-04
2,4'-DDE	ND	25	ng/l	5	03/08/17 00:55	M-04
2,4'-DDT	ND	25	ng/l	5	03/08/17 00:55	M-04
4,4'-DDD	ND	25	ng/l	5	03/08/17 00:55	M-04
4,4'-DDE	ND	25	ng/l	5	03/08/17 00:55	M-04
4,4'-DDT	ND	25	ng/l	5	03/08/17 00:55	M-04
Aldrin	ND	25	ng/l	5	03/08/17 00:55	M-04
alpha-BHC	ND	25	ng/l	5	03/08/17 00:55	M-04
alpha-Chlordane	ND	25	ng/l	5	03/08/17 00:55	M-04
Aroclor 1016	ND	500	ng/l	5	03/08/17 00:55	M-04
Aroclor 1221	ND	500	ng/l	5	03/08/17 00:55	M-04
Aroclor 1232	ND	500	ng/l	5	03/08/17 00:55	M-04
Aroclor 1242	ND	500	ng/l	5	03/08/17 00:55	M-04
Aroclor 1248	ND	500	ng/l	5	03/08/17 00:55	M-04
Aroclor 1254	ND	500	ng/l	5	03/08/17 00:55	M-04
Aroclor 1260	ND	500	ng/l	5	03/08/17 00:55	M-04
beta-BHC	ND	25	ng/l	5	03/08/17 00:55	M-04
Chlordane (tech)	ND	500	ng/l	5	03/08/17 00:55	M-04
cis-Nonachlor	ND	25	ng/l	5	03/08/17 00:55	M-04
delta-BHC	ND	25	ng/l	5	03/08/17 00:55	M-04
Dieldrin	ND	25	ng/l	5	03/08/17 00:55	M-04
Endosulfan I	ND	25	ng/l	5	03/08/17 00:55	M-04
Endosulfan II	ND	25	ng/l	5	03/08/17 00:55	M-04
Endosulfan sulfate	ND	25	ng/l	5	03/08/17 00:55	M-04
Endrin	ND	25	ng/l	5	03/08/17 00:55	M-04
Endrin aldehyde	ND	25	ng/l	5	03/08/17 00:55	M-04
gamma-BHC (Lindane)	ND	25	ng/l	5	03/08/17 00:55	M-04
gamma-Chlordane	ND	25	ng/l	5	03/08/17 00:55	M-04
Heptachlor	ND	25	ng/l	5	03/08/17 00:55	M-04
Heptachlor epoxide	ND	25	ng/l	5	03/08/17 00:55	M-04
Methoxychlor	ND	25	ng/l	5	03/08/17 00:55	M-04
Mirex	ND	25	ng/l	5	03/08/17 00:55	M-04



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Project Manager: Scott Jordan

## Sample Results

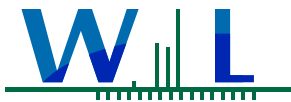
(Continued)

Sample: LAILG-NGA-150-7  
7B21176-05 (Water)

Sampled: 02/17/17 16:10 by Scott Jordan

(Continued)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Chlorinated Pesticides and/or PCBs (Continued)</b>						
Toxaphene	ND	2500	ng/l	5	03/08/17 00:55	M-04
trans-Nonachlor	ND	25	ng/l	5	03/08/17 00:55	M-04
<i>Surrogate(s)</i>						
Decachlorobiphenyl	60% Conc: 60.1	0.1-118			03/08/17 00:55	M-04
Tetrachloro-meta-xylene	53% Conc: 53.3	12-117			03/08/17 00:55	M-04
<b>Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods</b>						
Method: EPA 350.1 Ammonia as N	Batch ID: W7B1304 1.4	Prepared: 02/22/17 09:29 0.20	mg/l	2	02/24/17 18:56	Analyst: mnq
Method: EPA 353.2 NO2+NO3 as N	Batch ID: W7B1310 11000	Prepared: 02/22/17 10:20 100	ug/l	1	02/22/17 13:55	Analyst: AJK
Method: EPA 365.1 o-Phosphate as P	Batch ID: W7B1322 3.3	Prepared: 02/22/17 11:30 0.040	mg/l	20	02/22/17 15:24	Analyst: nat **
o-Phosphate as P, dissolved	3300	40	ug/l	20	02/22/17 15:24	**
Method: EPA 365.1 Phosphorus as P, Total	Batch ID: W7B1367 4.0	Prepared: 02/22/17 17:50 0.50	mg/l	5	02/24/17 22:08	Analyst: Station22
Method: EPA 365.1 Phosphorus, Dissolved	Batch ID: W7B1408 3.3	Prepared: 02/23/17 11:52 0.50	mg/l	5	02/27/17 20:19	Analyst: nat M-06
Method: SM 2540C Total Dissolved Solids	Batch ID: W7B1340 300	Prepared: 02/22/17 12:35 10	mg/l	1	02/22/17 18:20	Analyst: ymt
Method: SM 2540D Total Suspended Solids	Batch ID: W7B1392 180	Prepared: 02/23/17 09:15 5	mg/l	1	02/23/17 13:25	Analyst: ajk
<b>Metals by EPA 200 Series Methods</b>						
Method: EPA 200.7 Calcium Hardness as CaCO3	Batch ID: [CALC] 73.8	Prepared: 02/24/17 13:24 0.250	mg/l	1	03/02/17 15:29	Analyst: JCK
Method: EPA 200.7 Calcium, Total	Batch ID: W7B1483 29.6	Prepared: 02/24/17 13:24 0.100	mg/l	1	03/02/17 15:29	Analyst: JCK
Method: EPA 200.8 Copper, Total	Batch ID: W7B1484 57	Prepared: 02/24/17 13:32 0.50	ug/l	1	03/03/17 12:29	Analyst: rrl
<b>Pyrethroid Pesticides by EPA 8270M</b>						
Method: EPA 8270M Allethrin	Batch ID: W7C0106 ND	Prepared: 03/02/17 09:33 20	ng/l	10	03/08/17 00:21	Analyst: EFC M-04
Bifenthrin	3900	100	ng/l	50	03/08/17 11:05	M-04
Cyfluthrin	ND	20	ng/l	10	03/08/17 00:21	M-04
Cypermethrin	ND	20	ng/l	10	03/08/17 00:21	M-04
Deltamethrin/Tralomethrin	ND	20	ng/l	10	03/08/17 00:21	M-04
Dichloran	ND	20	ng/l	10	03/08/17 00:21	M-04
Fenpropathrin (Danitol)	670	20	ng/l	10	03/08/17 00:21	M-04
Fenvalerate/Esfenvalerate	ND	20	ng/l	10	03/08/17 00:21	M-04



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## Sample Results

(Continued)

Sample: LAILG-NGA-150-7  
7B21176-05 (Water)

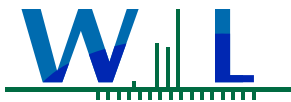
Sampled: 02/17/17 16:10 by Scott Jordan

(Continued)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>Pyrethroid Pesticides by EPA 8270M (Continued)</b>						
L-Cyhalothrin	ND	20	ng/l	10	03/08/17 00:21	M-04
Pendimethalin	ND	20	ng/l	10	03/08/17 00:21	M-04
<b>Permethrin</b>	<b>1900</b>	50	ng/l	10	03/08/17 00:21	M-04
Prallethrin	ND	20	ng/l	10	03/08/17 00:21	M-04
Sumithrin (Phenothrin)	ND	100	ng/l	10	03/08/17 00:21	M-04
Tefluthrin	ND	20	ng/l	10	03/08/17 00:21	M-04
<i>Surrogate(s)</i>						
<i>Perylene-d12</i>	58% Conc: 146	2-205			03/08/17 00:21	M-04
<i>Triphenyl phosphate</i>	90% Conc: 224	6-222			03/08/17 00:21	M-04

### Semivolatile Organic Compounds by GC/MS

Method: EPA 525.2	Batch ID: W7B1396	Prepared: 02/23/17 09:21	Analyst: EFC
Azinphos methyl (Guthion)	ND	50 ng/l	1 02/28/17 23:45 M-02
Bolstar	ND	50 ng/l	1 02/28/17 23:45 M-02
Chlorpyrifos	ND	50 ng/l	1 02/28/17 23:45 M-02
Coumaphos	ND	50 ng/l	1 02/28/17 23:45 M-02
Demeton-o	ND	50 ng/l	1 02/28/17 23:45 M-02
Demeton-s	ND	50 ng/l	1 02/28/17 23:45 M-02
Diazinon	ND	50 ng/l	1 02/28/17 23:45 M-02
Dichlorvos	ND	50 ng/l	1 02/28/17 23:45 M-02
Dimethoate	ND	50 ng/l	1 02/28/17 23:45 M-02
Disulfoton	ND	50 ng/l	1 02/28/17 23:45 M-02
Ethoprop	ND	50 ng/l	1 02/28/17 23:45 M-02
Ethyl parathion	ND	50 ng/l	1 02/28/17 23:45 M-02
Fensulfothion	ND	50 ng/l	1 02/28/17 23:45 M-02
Fenthion	ND	50 ng/l	1 02/28/17 23:45 M-02
Malathion	ND	50 ng/l	1 02/28/17 23:45 M-02
Merphos	ND	50 ng/l	1 02/28/17 23:45 M-02
Methyl parathion	ND	50 ng/l	1 02/28/17 23:45 M-02
Mevinphos	ND	50 ng/l	1 02/28/17 23:45 M-02
Naled	ND	50 ng/l	1 02/28/17 23:45 M-02
Phorate	ND	50 ng/l	1 02/28/17 23:45 M-02
Ronnel	ND	50 ng/l	1 02/28/17 23:45 M-02
Stirophos	ND	50 ng/l	1 02/28/17 23:45 M-02
Tokuthion (Prothiofos)	ND	50 ng/l	1 02/28/17 23:45 M-02
Trichloronate	ND	50 ng/l	1 02/28/17 23:45 M-02
<i>Surrogate(s)</i>			
<i>1,3-Dimethyl-2-nitrobenzene</i>	88% Conc: 2210	76-128	02/28/17 23:45 M-02
<i>Triphenyl phosphate</i>	120% Conc: 3010	40-163	02/28/17 23:45 M-02



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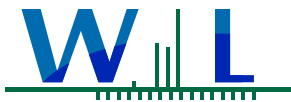
03/16/2017 16:25

Project Manager: Scott Jordan

## Quality Control Results

Anions by IC, EPA Method 300.0

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7B1295 - EPA 300.0</b>										
<b>Blank (W7B1295-BLK1)</b>				<b>Prepared &amp; Analyzed: 02/22/17</b>						
Chloride, Total	ND	0.50	mg/l							
Sulfate as SO4	ND	0.50	mg/l							
<b>LCS (W7B1295-BS1)</b>				<b>Prepared &amp; Analyzed: 02/22/17</b>						
Chloride, Total	10.2	0.50	mg/l	10.0		102	90-110			
Sulfate as SO4	9.22	0.50	mg/l	10.1		91	90-110			
<b>Matrix Spike (W7B1295-MS1)</b>				<b>Source: 7B16019-01</b>			<b>Prepared &amp; Analyzed: 02/22/17</b>			
Chloride, Total	103	5.0	mg/l	100	ND	103	76-118			
Sulfate as SO4	89.0	5.0	mg/l	101	ND	88	78-111			
<b>Matrix Spike (W7B1295-MS2)</b>				<b>Source: 7B16085-01</b>			<b>Prepared &amp; Analyzed: 02/22/17</b>			
Chloride, Total	197	5.0	mg/l	100	94.9	102	76-118			
Sulfate as SO4	318	5.0	mg/l	101	220	97	78-111			
<b>Matrix Spike Dup (W7B1295-MSD1)</b>				<b>Source: 7B16019-01</b>			<b>Prepared &amp; Analyzed: 02/22/17</b>			
Chloride, Total	103	5.0	mg/l	100	ND	103	76-118	0	20	
Sulfate as SO4	90.0	5.0	mg/l	101	ND	89	78-111	1	20	
<b>Matrix Spike Dup (W7B1295-MSD2)</b>				<b>Source: 7B16085-01</b>			<b>Prepared &amp; Analyzed: 02/22/17</b>			
Chloride, Total	198	5.0	mg/l	100	94.9	103	76-118	0.7	20	
Sulfate as SO4	321	5.0	mg/l	101	220	99	78-111	0.7	20	



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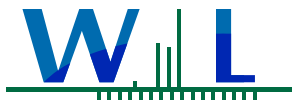
**Project Manager:** Scott Jordan

## Quality Control Results

(Continued)

Chlorinated Pesticides and/or PCBs

Analyte	Result	MRL	Units	Spike	Source	%REC		RPD		Qualifier
				Level	Result	%REC	Limits	RPD	Limit	
<b>Batch: W7B1462 - EPA 608</b>										
<b>Blank (W7B1462-BLK1)</b>				<b>Prepared: 02/24/17 Analyzed: 03/07/17</b>						
2,4'-DDD	ND	5.0	ng/l							
2,4'-DDE	ND	5.0	ng/l							
2,4'-DDT	ND	5.0	ng/l							
4,4'-DDD	ND	5.0	ng/l							
4,4'-DDE	ND	5.0	ng/l							
4,4'-DDT	ND	5.0	ng/l							
Aldrin	ND	5.0	ng/l							
alpha-BHC	ND	5.0	ng/l							
alpha-Chlordane	ND	5.0	ng/l							
Aroclor 1016	ND	100	ng/l							
Aroclor 1221	ND	100	ng/l							
Aroclor 1232	ND	100	ng/l							
Aroclor 1242	ND	100	ng/l							
Aroclor 1248	ND	100	ng/l							
Aroclor 1254	ND	100	ng/l							
Aroclor 1260	ND	100	ng/l							
beta-BHC	ND	5.0	ng/l							
Chlordane (tech)	ND	100	ng/l							
cis-Nonachlor	ND	5.0	ng/l							
delta-BHC	ND	5.0	ng/l							
Dieldrin	ND	5.0	ng/l							
Endosulfan I	ND	5.0	ng/l							
Endosulfan II	ND	5.0	ng/l							
Endosulfan sulfate	ND	5.0	ng/l							
Endrin	ND	5.0	ng/l							
Endrin aldehyde	ND	5.0	ng/l							
gamma-BHC (Lindane)	ND	5.0	ng/l							
gamma-Chlordane	ND	5.0	ng/l							
Heptachlor	ND	5.0	ng/l							
Heptachlor epoxide	ND	5.0	ng/l							
Methoxychlor	ND	5.0	ng/l							
Mirex	ND	5.0	ng/l							
Toxaphene	ND	500	ng/l							
trans-Nonachlor	ND	5.0	ng/l							
<i>Surrogate(s)</i>										
Decachlorobiphenyl		91.6	ng/l	100		92	0.1-118			
Tetrachloro-meta-xylene		75.9	ng/l	100		76	12-117			



WECK LABORATORIES, INC.

Pacific Ridgeline - Ventura CA  
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# Certificate of Analysis

FINAL REPORT

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Reported:

03/16/2017 16:25

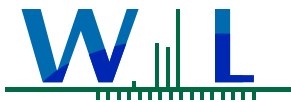
Project Manager: Scott Jordan

## Quality Control Results

(Continued)

Chlorinated Pesticides and/or PCBs (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7B1462 - EPA 608 (Continued)</b>										
<b>LCS (W7B1462-BS1)</b>				<b>Prepared: 02/24/17 Analyzed: 03/07/17</b>						
4,4'-DDD	100	5.0	ng/l	100		100	42-133			
4,4'-DDE	91.5	5.0	ng/l	100		92	33-126			
4,4'-DDT	106	5.0	ng/l	100		106	35-147			
Aldrin	92.6	5.0	ng/l	100		93	18-117			
alpha-BHC	78.5	5.0	ng/l	100		78	47-119			
beta-BHC	99.2	5.0	ng/l	100		99	53-123			
delta-BHC	96.3	5.0	ng/l	100		96	51-123			
Dieldrin	97.4	5.0	ng/l	100		97	48-123			
Endosulfan I	87.7	5.0	ng/l	100		88	14-131			
Endosulfan II	74.6	5.0	ng/l	100		75	40-121			
Endosulfan sulfate	86.7	5.0	ng/l	100		87	44-140			
Endrin	123	5.0	ng/l	100		123	40-143			
Endrin aldehyde	71.5	5.0	ng/l	100		72	18-136			
gamma-BHC (Lindane)	90.7	5.0	ng/l	100		91	49-117			
Heptachlor	103	5.0	ng/l	100		103	31-130			
Heptachlor epoxide	98.3	5.0	ng/l	100		98	49-122			
<i>Surrogate(s)</i>										
Decachlorobiphenyl		96.0	ng/l	100		96	0.1-118			
Tetrachloro-meta-xylene		84.7	ng/l	100		85	12-117			
<b>LCS Dup (W7B1462-BS1)</b>				<b>Prepared: 02/24/17 Analyzed: 03/07/17</b>						
4,4'-DDD	103	5.0	ng/l	100		103	42-133	3	30	
4,4'-DDE	90.4	5.0	ng/l	100		90	33-126	1	30	
4,4'-DDT	107	5.0	ng/l	100		107	35-147	1	30	
Aldrin	87.5	5.0	ng/l	100		88	18-117	6	30	
alpha-BHC	75.7	5.0	ng/l	100		76	47-119	4	30	
beta-BHC	95.2	5.0	ng/l	100		95	53-123	4	30	
delta-BHC	91.4	5.0	ng/l	100		91	51-123	5	30	
Dieldrin	91.7	5.0	ng/l	100		92	48-123	6	30	
Endosulfan I	83.0	5.0	ng/l	100		83	14-131	5	30	
Endosulfan II	77.9	5.0	ng/l	100		78	40-121	4	30	
Endosulfan sulfate	89.3	5.0	ng/l	100		89	44-140	3	30	
Endrin	118	5.0	ng/l	100		118	40-143	4	30	
Endrin aldehyde	77.0	5.0	ng/l	100		77	18-136	7	30	
gamma-BHC (Lindane)	84.9	5.0	ng/l	100		85	49-117	7	30	
Heptachlor	93.9	5.0	ng/l	100		94	31-130	9	30	
Heptachlor epoxide	91.2	5.0	ng/l	100		91	49-122	8	30	
<i>Surrogate(s)</i>										



WECK LABORATORIES, INC.

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**Project Manager:** Scott Jordan

## Quality Control Results

(Continued)

Chlorinated Pesticides and/or PCBs (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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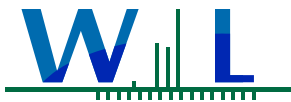
Batch: W7B1462 - EPA 608 (Continued)

LCS Dup (W7B1462-BSD1)

Prepared: 02/24/17 Analyzed: 03/07/17

*Surrogate(s)*

Decachlorobiphenyl	99.4	ng/l	100	99	0.1-118
Tetrachloro-meta-xylene	80.5	ng/l	100	80	12-117



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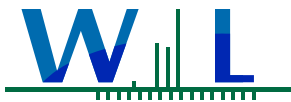
## Quality Control Results

(Continued)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7B1304 - EPA 350.1</b>										
<b>Blank (W7B1304-BLK1)</b>				<b>Prepared: 02/22/17 Analyzed: 02/24/17</b>						
Ammonia as N	ND	0.10	mg/l							
<b>Blank (W7B1304-BLK2)</b>				<b>Prepared: 02/22/17 Analyzed: 02/24/17</b>						
Ammonia as N	ND	0.10	mg/l							
<b>LCS (W7B1304-BS1)</b>				<b>Prepared: 02/22/17 Analyzed: 02/24/17</b>						
Ammonia as N	0.252	0.10	mg/l	0.250		101	90-110			
<b>LCS (W7B1304-BS2)</b>				<b>Prepared: 02/22/17 Analyzed: 02/24/17</b>						
Ammonia as N	0.262	0.10	mg/l	0.250		105	90-110			
<b>Matrix Spike (W7B1304-MS1)</b>				<b>Source: 7B15007-05</b>			<b>Prepared: 02/22/17 Analyzed: 02/24/17</b>			
Ammonia as N	0.267	0.10	mg/l	0.250	ND	107	90-110			
<b>Matrix Spike (W7B1304-MS2)</b>				<b>Source: 7B15007-06</b>			<b>Prepared: 02/22/17 Analyzed: 02/24/17</b>			
Ammonia as N	0.241	0.10	mg/l	0.250	ND	96	90-110			
<b>Matrix Spike Dup (W7B1304-MSD1)</b>				<b>Source: 7B15007-05</b>			<b>Prepared: 02/22/17 Analyzed: 02/24/17</b>			
Ammonia as N	0.267	0.10	mg/l	0.250	ND	107	90-110	0.03	15	
<b>Matrix Spike Dup (W7B1304-MSD2)</b>				<b>Source: 7B15007-06</b>			<b>Prepared: 02/22/17 Analyzed: 02/24/17</b>			
Ammonia as N	0.238	0.10	mg/l	0.250	ND	95	90-110	1	15	
<b>Batch: W7B1310 - EPA 353.2</b>										
<b>Blank (W7B1310-BLK1)</b>				<b>Prepared &amp; Analyzed: 02/22/17</b>						
NO2+NO3 as N	ND	100	ug/l							





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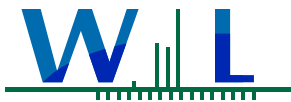
**Project Manager:** Scott Jordan

## Quality Control Results

(Continued)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7B1310 - EPA 353.2 (Continued)</b>										
<b>LCS (W7B1310-BS1)</b> Prepared & Analyzed: 02/22/17										
NO2+NO3 as N	978	100	ug/l	1000		98	90-110			
<b>Matrix Spike (W7B1310-MS1)</b> Source: 7B21070-02 Prepared & Analyzed: 02/22/17										
NO2+NO3 as N	2250	100	ug/l	2000	310	97	90-110			
<b>Matrix Spike (W7B1310-MS2)</b> Source: 7B21070-03 Prepared & Analyzed: 02/22/17										
NO2+NO3 as N	2240	100	ug/l	2000	381	93	90-110			
<b>Matrix Spike Dup (W7B1310-MSD1)</b> Source: 7B21070-02 Prepared & Analyzed: 02/22/17										
NO2+NO3 as N	2230	100	ug/l	2000	310	96	90-110	0.9	20	
<b>Matrix Spike Dup (W7B1310-MSD2)</b> Source: 7B21070-03 Prepared & Analyzed: 02/22/17										
NO2+NO3 as N	2260	100	ug/l	2000	381	94	90-110	0.5	20	
<b>Batch: W7B1322 - EPA 365.1</b>										
<b>Blank (W7B1322-BLK1)</b> Prepared & Analyzed: 02/22/17										
o-Phosphate as P	ND	0.0020	mg/l							
o-Phosphate as P, dissolved	ND	2.0	ug/l							
<b>LCS (W7B1322-BS1)</b> Prepared & Analyzed: 02/22/17										
o-Phosphate as P	0.0481	0.0020	mg/l	0.0500		96	90-110			
o-Phosphate as P, dissolved	48.1	2.0	ug/l	50.0		96	90-110			
<b>Matrix Spike (W7B1322-MS1)</b> Source: 7B21176-02 Prepared & Analyzed: 02/22/17										
o-Phosphate as P	0.236	0.0040	mg/l	0.0500	0.188	97	90-110			
o-Phosphate as P, dissolved	236	4.0	ug/l	50.0	188	96	90-110			



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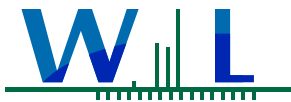
**Project Manager:** Scott Jordan

## Quality Control Results

(Continued)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7B1322 - EPA 365.1 (Continued)</b>										
<b>Matrix Spike Dup (W7B1322-MSD1)</b>			<b>Source: 7B21176-02</b>			<b>Prepared &amp; Analyzed: 02/22/17</b>				
o-Phosphate as P	0.236	0.0040	mg/l	0.0500	0.188	97	90-110	0	20	
o-Phosphate as P, dissolved	236	4.0	ug/l	50.0	188	96	90-110	0	20	
<b>Batch: W7B1340 - SM 2540C</b>										
<b>Blank (W7B1340-BLK1)</b>						<b>Prepared &amp; Analyzed: 02/22/17</b>				
Total Dissolved Solids	ND	10	mg/l							
<b>LCS (W7B1340-BS1)</b>						<b>Prepared &amp; Analyzed: 02/22/17</b>				
Total Dissolved Solids	838	10	mg/l	824		102	96-102			
<b>Duplicate (W7B1340-DUP1)</b>			<b>Source: 7B17074-02</b>			<b>Prepared &amp; Analyzed: 02/22/17</b>				
Total Dissolved Solids	2870	10	mg/l		2910			2	10	
<b>Duplicate (W7B1340-DUP2)</b>			<b>Source: 7B21176-01</b>			<b>Prepared &amp; Analyzed: 02/22/17</b>				
Total Dissolved Solids	746	10	mg/l		717			4	10	
<b>Batch: W7B1367 - EPA 365.1</b>										
<b>Blank (W7B1367-BLK1)</b>						<b>Prepared: 02/22/17 Analyzed: 02/24/17</b>				
Phosphorus as P, Total	ND	0.010	mg/l							
<b>LCS (W7B1367-BS1)</b>						<b>Prepared: 02/22/17 Analyzed: 02/24/17</b>				
Phosphorus as P, Total	0.0508	0.010	mg/l	0.0500		102	90-110			
<b>Duplicate (W7B1367-DUP1)</b>			<b>Source: 7B21054-01</b>			<b>Prepared: 02/22/17 Analyzed: 02/24/17</b>				
Phosphorus as P, Total	0.00211	0.010	mg/l		0.00245			15	20	



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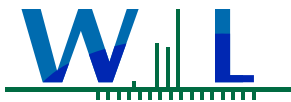
Project Manager: Scott Jordan

## Quality Control Results

(Continued)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7B1367 - EPA 365.1 (Continued)</b>										
<b>Matrix Spike (W7B1367-MS1)</b>		<b>Source: 7B21062-01</b>			<b>Prepared: 02/22/17 Analyzed: 02/24/17</b>					
Phosphorus as P, Total	0.675	0.050	mg/l	0.0500	0.650	50	90-110			MS-02
<b>Matrix Spike (W7B1367-MS2)</b>		<b>Source: 7B21054-01</b>			<b>Prepared: 02/22/17 Analyzed: 02/24/17</b>					
Phosphorus as P, Total	0.0500	0.010	mg/l	0.0500	0.00245	95	90-110			
<b>Matrix Spike Dup (W7B1367-MSD1)</b>		<b>Source: 7B21062-01</b>			<b>Prepared: 02/22/17 Analyzed: 02/24/17</b>					
Phosphorus as P, Total	0.685	0.050	mg/l	0.0500	0.650	70	90-110	1	20	MS-02
<b>Matrix Spike Dup (W7B1367-MSD2)</b>		<b>Source: 7B21054-01</b>			<b>Prepared: 02/22/17 Analyzed: 02/24/17</b>					
Phosphorus as P, Total	0.0491	0.010	mg/l	0.0500	0.00245	93	90-110	2	20	
<b>Batch: W7B1391 - SM 2540D</b>										
<b>Blank (W7B1391-BLK1)</b>					<b>Prepared &amp; Analyzed: 02/23/17</b>					
Total Suspended Solids	ND	5	mg/l							
<b>LCS (W7B1391-BS1)</b>					<b>Prepared &amp; Analyzed: 02/23/17</b>					
Total Suspended Solids	60.0	5	mg/l	55.3		108	90-110			
<b>Duplicate (W7B1391-DUP1)</b>		<b>Source: 7B21095-01</b>			<b>Prepared &amp; Analyzed: 02/23/17</b>					
Total Suspended Solids	2.00	5	mg/l		3.00			40	20	R-03
<b>Duplicate (W7B1391-DUP2)</b>		<b>Source: 7B21169-01</b>			<b>Prepared &amp; Analyzed: 02/23/17</b>					
Total Suspended Solids	9.00	5	mg/l		8.00			12	20	
<b>Batch: W7B1392 - SM 2540D</b>										
<b>Blank (W7B1392-BLK1)</b>					<b>Prepared &amp; Analyzed: 02/23/17</b>					
Total Suspended Solids	ND	5	mg/l							



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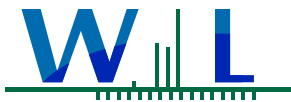
Project Manager: Scott Jordan

## Quality Control Results

(Continued)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7B1392 - SM 2540D (Continued)</b>										
<b>LCS (W7B1392-BS1)</b>										
Total Suspended Solids	55.0	5	mg/l	51.2		107	90-110			
<b>Prepared &amp; Analyzed: 02/23/17</b>										
<b>Duplicate (W7B1392-DUP1)</b>										
Total Suspended Solids	1.00	5	mg/l		1.00			0	20	
<b>Source: 7B21054-01</b>										
<b>Prepared &amp; Analyzed: 02/23/17</b>										
<b>Duplicate (W7B1392-DUP2)</b>										
Total Suspended Solids	312	5	mg/l		334			7	20	
<b>Source: 7B21062-01</b>										
<b>Prepared &amp; Analyzed: 02/23/17</b>										
<b>Batch: W7B1408 - EPA 365.1</b>										
<b>Blank (W7B1408-BLK1)</b>										
Phosphorus, Dissolved	ND	0.010	mg/l							
<b>Prepared: 02/23/17 Analyzed: 02/27/17</b>										
<b>LCS (W7B1408-BS1)</b>										
Phosphorus, Dissolved	0.0489	0.010	mg/l	0.0500		98	90-110			
<b>Prepared: 02/23/17 Analyzed: 02/27/17</b>										
<b>Duplicate (W7B1408-DUP1)</b>										
Phosphorus, Dissolved	ND	0.010	mg/l		ND				20	
<b>Source: 7B21054-01</b>										
<b>Prepared: 02/23/17 Analyzed: 02/27/17</b>										
<b>Matrix Spike (W7B1408-MS1)</b>										
Phosphorus, Dissolved	0.426	0.050	mg/l	0.0500	0.388	76	90-110			MS-02
<b>Source: 7B21062-01</b>										
<b>Prepared: 02/23/17 Analyzed: 02/27/17</b>										
<b>Matrix Spike (W7B1408-MS2)</b>										
Phosphorus, Dissolved	0.0495	0.010	mg/l	0.0500	ND	99	90-110			
<b>Source: 7B21054-01</b>										
<b>Prepared: 02/23/17 Analyzed: 02/27/17</b>										
<b>Matrix Spike Dup (W7B1408-MSD1)</b>										
Phosphorus, Dissolved	0.437	0.050	mg/l	0.0500	0.388	97	90-110	2	20	
<b>Source: 7B21062-01</b>										
<b>Prepared: 02/23/17 Analyzed: 02/27/17</b>										



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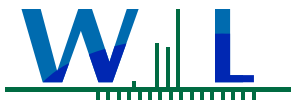
**Project Manager:** Scott Jordan

## Quality Control Results

(Continued)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7B1408 - EPA 365.1 (Continued)</b>										
<b>Matrix Spike Dup (W7B1408-MSD2)</b>			<b>Source: 7B21054-01</b>			<b>Prepared: 02/23/17 Analyzed: 02/27/17</b>				
Phosphorus, Dissolved	0.0490	0.010	mg/l	0.0500	ND	98	90-110	1	20	
<b>Batch: W7C0269 - EPA 365.1</b>										
<b>Blank (W7C0269-BLK1)</b>						<b>Prepared: 03/06/17 Analyzed: 03/07/17</b>				
Phosphorus as P, Total	ND	0.010	mg/l							
<b>LCS (W7C0269-BS1)</b>						<b>Prepared: 03/06/17 Analyzed: 03/07/17</b>				
Phosphorus as P, Total	0.0502	0.010	mg/l	0.0500		100	90-110			
<b>Matrix Spike (W7C0269-MS1)</b>			<b>Source: 7B21176-01</b>			<b>Prepared: 03/06/17 Analyzed: 03/07/17</b>				
Phosphorus as P, Total	14.6	1.2	mg/l	1.25	13.1	120	90-110			MS-02
<b>Matrix Spike Dup (W7C0269-MSD1)</b>			<b>Source: 7B21176-01</b>			<b>Prepared: 03/06/17 Analyzed: 03/07/17</b>				
Phosphorus as P, Total	14.6	1.2	mg/l	1.25	13.1	120	90-110	0	20	MS-02



WECK LABORATORIES, INC.

Pacific Ridgeline - Ventura CA  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

# Certificate of Analysis

FINAL REPORT

Project Number: Nursery Growers Association

Reported:

03/16/2017 16:25

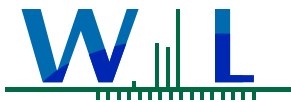
Project Manager: Scott Jordan

## Quality Control Results

(Continued)

Metals by EPA 200 Series Methods

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7B1483 - EPA 200.7</b>										
<b>Blank (W7B1483-BLK1)</b>				<b>Prepared: 02/24/17 Analyzed: 03/02/17</b>						
Calcium, Total	ND	0.100	mg/l							
<b>LCS (W7B1483-BS1)</b>				<b>Prepared: 02/24/17 Analyzed: 03/02/17</b>						
Calcium, Total	48.7	0.100	mg/l	50.2		97	85-115			
<b>Matrix Spike (W7B1483-MS1)</b>				<b>Source: 7B16057-02 Prepared: 02/24/17 Analyzed: 03/02/17</b>						
Calcium, Total	66.4	0.100	mg/l	50.2	18.7	95	70-130			
<b>Matrix Spike (W7B1483-MS2)</b>				<b>Source: 7B16057-03 Prepared: 02/24/17 Analyzed: 03/02/17</b>						
Calcium, Total	72.7	0.100	mg/l	50.2	26.4	92	70-130			
<b>Matrix Spike Dup (W7B1483-MSD1)</b>				<b>Source: 7B16057-02 Prepared: 02/24/17 Analyzed: 03/02/17</b>						
Calcium, Total	65.1	0.100	mg/l	50.2	18.7	92	70-130	2	30	
<b>Matrix Spike Dup (W7B1483-MSD2)</b>				<b>Source: 7B16057-03 Prepared: 02/24/17 Analyzed: 03/02/17</b>						
Calcium, Total	74.5	0.100	mg/l	50.2	26.4	96	70-130	2	30	
<b>Batch: W7B1484 - EPA 200.8</b>										
<b>Blank (W7B1484-BLK1)</b>				<b>Prepared: 02/24/17 Analyzed: 03/03/17</b>						
Copper, Total	0.652	0.50	ug/l							B-06
<b>LCS (W7B1484-BS1)</b>				<b>Prepared: 02/24/17 Analyzed: 03/03/17</b>						
Copper, Total	52.2	0.50	ug/l	50.0		104	85-115			
<b>Matrix Spike (W7B1484-MS1)</b>				<b>Source: 7B16057-04 Prepared: 02/24/17 Analyzed: 03/03/17</b>						
Copper, Total	49.7	0.50	ug/l	50.0	2.72	94	70-130			



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**Reported:**

03/16/2017 16:25

**Project Manager:** Scott Jordan

## Quality Control Results

(Continued)

Metals by EPA 200 Series Methods (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7B1484 - EPA 200.8 (Continued)</b>										
<b>Matrix Spike Dup (W7B1484-MSD1)</b>										
<b>Source: 7B16057-04</b>										
<b>Prepared: 02/24/17 Analyzed: 03/03/17</b>										
Copper, Total	52.0	0.50	ug/l	50.0	2.72	99	70-130	4	30	



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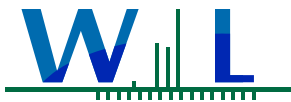
## Quality Control Results

(Continued)

Pyrethroid Pesticides by EPA 8270M

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7C0106 - EPA 8270M</b>										
<b>Blank (W7C0106-BLK1)</b>										
<b>Prepared: 03/02/17 Analyzed: 03/07/17</b>										
Allethrin	ND	2.0	ng/l							
Bifenthrin	ND	2.0	ng/l							
Cyfluthrin	ND	2.0	ng/l							
Cypermethrin	ND	2.0	ng/l							
Deltamethrin/Tralomethrin	ND	2.0	ng/l							
Dichloran	ND	2.0	ng/l							
Fenpropathrin (Danitol)	ND	2.0	ng/l							
Fenvalerate/Esfenvalerate	ND	2.0	ng/l							
L-Cyhalothrin	ND	2.0	ng/l							
Pendimethalin	ND	2.0	ng/l							
Permethrin	ND	5.0	ng/l							
Prallethrin	ND	2.0	ng/l							
Sumithrin (Phenothrin)	ND	10	ng/l							
Tefluthrin	ND	2.0	ng/l							
<i>Surrogate(s)</i>										
Perylene-d12		276	ng/l	250		110	2-205			
Triphenyl phosphate		245	ng/l	250		98	6-222			
<b>LCS (W7C0106-BS1)</b>										
<b>Prepared: 03/02/17 Analyzed: 03/07/17</b>										
Allethrin	34.6	2.0	ng/l	50.0		69	23-149			
Bifenthrin	37.4	2.0	ng/l	50.0		75	26-153			
Cyfluthrin	43.1	2.0	ng/l	50.0		86	3-168			
Cypermethrin	43.6	2.0	ng/l	50.0		87	2-169			
Deltamethrin/Tralomethrin	45.9	2.0	ng/l	50.0		92	0.1-252			
Dichloran	28.2	2.0	ng/l	50.0		56	53-161			
Fenpropathrin (Danitol)	41.6	2.0	ng/l	50.0		83	28-154			
Fenvalerate/Esfenvalerate	44.3	2.0	ng/l	50.0		89	35-133			
L-Cyhalothrin	37.7	2.0	ng/l	50.0		75	9-214			
Pendimethalin	28.4	2.0	ng/l	50.0		57	41-158			
Permethrin	43.3	5.0	ng/l	50.0		87	31-154			
Prallethrin	35.9	2.0	ng/l	50.0		72	28-143			
Sumithrin (Phenothrin)	63.8	10	ng/l	50.0		128	12-200			
Tefluthrin	31.9	2.0	ng/l	50.0		64	48-161			
<i>Surrogate(s)</i>										
Perylene-d12		246	ng/l	250		99	2-205			
Triphenyl phosphate		202	ng/l	250		81	6-222			





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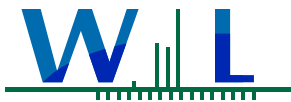
**Project Manager:** Scott Jordan

## Quality Control Results

(Continued)

Pyrethroid Pesticides by EPA 8270M (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limit	RPD	RPD Limit	Qualifier
<b>Batch: W7C0106 - EPA 8270M (Continued)</b>										
<b>LCS Dup (W7C0106-BSD1)</b>										
<b>Prepared: 03/02/17 Analyzed: 03/07/17</b>										
Allethrin	34.3	2.0	ng/l	50.0		69	23-149	0.6	30	
Bifenthrin	38.6	2.0	ng/l	50.0		77	26-153	3	30	
Cyfluthrin	44.1	2.0	ng/l	50.0		88	3-168	2	30	
Cypermethrin	44.6	2.0	ng/l	50.0		89	2-169	2	30	
Deltamethrin/Tralomethrin	49.6	2.0	ng/l	50.0		99	0.1-252	8	30	
Dichloran	29.8	2.0	ng/l	50.0		60	53-161	6	30	
Fenpropathrin (Danitol)	39.5	2.0	ng/l	50.0		79	28-154	5	30	
Fenvalerate/Esfenvalerate	49.4	2.0	ng/l	50.0		99	35-133	11	30	
L-Cyhalothrin	36.0	2.0	ng/l	50.0		72	9-214	5	30	
Pendimethalin	30.2	2.0	ng/l	50.0		60	41-158	6	30	
Permethrin	43.4	5.0	ng/l	50.0		87	31-154	0.1	30	
Prallethrin	35.5	2.0	ng/l	50.0		71	28-143	1	30	
Sumithrin (Phenothrin)	59.3	10	ng/l	50.0		119	12-200	7	30	
Tefluthrin	34.9	2.0	ng/l	50.0		70	48-161	9	30	
<i>Surrogate(s)</i>										
Perylene-d12		232	ng/l	250		93	2-205			
Triphenyl phosphate		224	ng/l	250		90	6-222			



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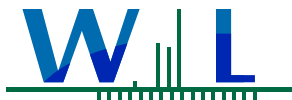
**Project Manager:** Scott Jordan

## Quality Control Results

(Continued)

Semivolatile Organic Compounds by GC/MS

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7B1396 - EPA 525.2</b>										
<b>Blank (W7B1396-BLK1)</b>										
<b>Prepared: 02/23/17 Analyzed: 02/28/17</b>										
Azinphos methyl (Guthion)	ND	10	ng/l							
Bolstar	ND	10	ng/l							
Chlorpyrifos	ND	10	ng/l							
Coumaphos	ND	10	ng/l							
Demeton-o	ND	10	ng/l							
Demeton-s	ND	10	ng/l							
Diazinon	ND	10	ng/l							
Dichlorvos	ND	10	ng/l							
Dimethoate	ND	10	ng/l							
Disulfoton	ND	10	ng/l							
Ethoprop	ND	10	ng/l							
Ethyl parathion	ND	10	ng/l							
Fensulfothion	ND	10	ng/l							
Fenthion	ND	10	ng/l							
Malathion	ND	10	ng/l							
Merphos	ND	10	ng/l							
Methyl parathion	ND	10	ng/l							
Mevinphos	ND	10	ng/l							
Naled	ND	10	ng/l							
Phorate	ND	10	ng/l							
Ronnel	ND	10	ng/l							
Stirophos	ND	10	ng/l							
Tokuthion (Prothiofos)	ND	10	ng/l							
Trichloronate	ND	10	ng/l							
<i>Surrogate(s)</i>										
1,3-Dimethyl-2-nitrobenzene		420	ng/l	500		84	76-128			
Triphenyl phosphate		526	ng/l	500		105	40-163			
<b>LCS (W7B1396-BS1)</b>										
<b>Prepared: 02/23/17 Analyzed: 02/28/17</b>										
Azinphos methyl (Guthion)	53.8	10	ng/l	50.0		108	0.1-188			
Bolstar	31.8	10	ng/l	50.0		64	11-166			
Chlorpyrifos	67.0	10	ng/l	50.0		134	37-169			
Coumaphos	65.4	10	ng/l	50.0		131	0.1-225			
Demeton-o	32.9	10	ng/l	50.0		66	0.1-211			
Demeton-s	55.4	10	ng/l	50.0		111	0.1-213			
Diazinon	53.1	10	ng/l	50.0		106	43-152			
Dichlorvos	46.3	10	ng/l	50.0		93	46-133			
Dimethoate	51.2	10	ng/l	50.0		102	10-234			



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## Quality Control Results

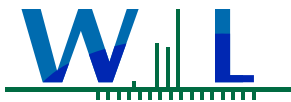
(Continued)

Semivolatle Organic Compounds by GC/MS (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7B1396 - EPA 525.2 (Continued)</b>										
<b>LCS (W7B1396-BS1)</b>										
				<b>Prepared: 02/23/17 Analyzed: 02/28/17</b>						
Disulfoton	35.8	10	ng/l	50.0		72	0.1-212			
Ethoprop	56.0	10	ng/l	50.0		112	53-163			
Ethyl parathion	90.8	10	ng/l	50.0		182	7-230			
Fensulfothion	42.2	10	ng/l	50.0		84	0.1-265			
Fenthion	45.7	10	ng/l	50.0		91	20-177			
Malathion	74.1	10	ng/l	50.0		148	14-175			
Merphos	48.9	10	ng/l	50.0		98	28-181			
Methyl parathion	94.9	10	ng/l	50.0		190	0.1-252			
Mevinphos	51.6	10	ng/l	50.0		103	14-202			
Naled	54.1	10	ng/l	50.0		108	0.1-240			
Phorate	54.5	10	ng/l	50.0		109	26-180			
Ronnel	57.0	10	ng/l	50.0		114	34-154			
Stirophos	78.0	10	ng/l	50.0		156	0.1-188			
Tokuthion (Prothiofos)	43.3	10	ng/l	50.0		87	23-159			
Trichloronate	67.3	10	ng/l	50.0		135	34-153			
<i>Surrogate(s)</i>										
1,3-Dimethyl-2-nitrobenzene		479	ng/l	500		96	76-128			
Triphenyl phosphate		557	ng/l	500		111	40-163			

<b>Matrix Spike (W7B1396-MS1)</b>										
			<b>Source: 7B13019-01</b>		<b>Prepared: 02/23/17 Analyzed: 02/28/17</b>					
Azinphos methyl (Guthion)	61.1	10	ng/l	50.0	ND	122	0.1-154			
Bolstar	50.7	10	ng/l	50.0	ND	101	4-184			
Chlorpyrifos	66.5	10	ng/l	50.0	ND	133	37-168			
Coumaphos	78.9	10	ng/l	50.0	ND	158	0.1-203			
Demeton-o	42.7	10	ng/l	50.0	ND	85	0.1-208			
Demeton-s	67.2	10	ng/l	50.0	ND	134	0.1-207			
Diazinon	59.4	10	ng/l	50.0	ND	119	36-153			
Dichlorvos	72.7	10	ng/l	50.0	ND	145	42-137			
Dimethoate	58.5	10	ng/l	50.0	ND	117	4-222			
Disulfoton	51.7	10	ng/l	50.0	ND	103	12-199			
Ethoprop	62.4	10	ng/l	50.0	ND	125	51-167			
Ethyl parathion	92.7	10	ng/l	50.0	ND	185	5-229			
Fensulfothion	47.8	10	ng/l	50.0	ND	96	0.1-316			
Fenthion	61.4	10	ng/l	50.0	ND	123	23-169			
Malathion	91.2	10	ng/l	50.0	ND	182	6-184			
Merphos	55.4	10	ng/l	50.0	ND	111	3-210			
Methyl parathion	106	10	ng/l	50.0	ND	212	0.1-249			
Mevinphos	53.6	10	ng/l	50.0	ND	107	25-189			

MS-05



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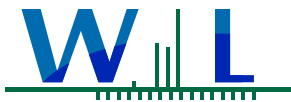
Project Manager: Scott Jordan

## Quality Control Results

(Continued)

### Semivolatile Organic Compounds by GC/MS (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Batch: W7B1396 - EPA 525.2 (Continued)</b>										
<b>Matrix Spike (W7B1396-MS1)</b>			<b>Source: 7B13019-01</b>			<b>Prepared: 02/23/17 Analyzed: 02/28/17</b>				
Naled	54.7	10	ng/l	50.0	ND	109	0.1-242			
Phorate	60.7	10	ng/l	50.0	ND	121	31-181			
Ronnel	52.5	10	ng/l	50.0	ND	105	29-153			
Stirophos	86.0	10	ng/l	50.0	ND	172	0.1-167			MS-05
Tokuthion (Prothiofos)	45.7	10	ng/l	50.0	ND	91	27-160			
Trichloronate	66.8	10	ng/l	50.0	ND	134	40-150			
<i>Surrogate(s)</i>										
1,3-Dimethyl-2-nitrobenzene		578	ng/l	500		116	76-128			
Triphenyl phosphate		484	ng/l	500		97	40-163			
<b>Matrix Spike Dup (W7B1396-MSD1)</b>			<b>Source: 7B13019-01</b>			<b>Prepared: 02/23/17 Analyzed: 02/28/17</b>				
Azinphos methyl (Guthion)	78.9	10	ng/l	50.0	ND	158	0.1-154	25	30	MS-05
Bolstar	60.9	10	ng/l	50.0	ND	122	4-184	18	30	
Chlorpyrifos	82.3	10	ng/l	50.0	ND	165	37-168	21	30	
Coumaphos	107	10	ng/l	50.0	ND	214	0.1-203	30	30	MS-05
Demeton-o	30.0	10	ng/l	50.0	ND	60	0.1-208	35	30	MS-05
Demeton-s	81.0	10	ng/l	50.0	ND	162	0.1-207	19	30	
Diazinon	59.4	10	ng/l	50.0	ND	119	36-153	0.02	30	
Dichlorvos	80.7	10	ng/l	50.0	ND	161	42-137	10	30	MS-05
Dimethoate	84.5	10	ng/l	50.0	ND	169	4-222	36	30	MS-05
Disulfoton	47.4	10	ng/l	50.0	ND	95	12-199	9	30	
Ethoprop	71.2	10	ng/l	50.0	ND	142	51-167	13	30	
Ethyl parathion	148	10	ng/l	50.0	ND	296	5-229	46	30	MS-05
Fensulfothion	66.1	10	ng/l	50.0	ND	132	0.1-316	32	30	MS-05
Fenthion	67.5	10	ng/l	50.0	ND	135	23-169	10	30	
Malathion	112	10	ng/l	50.0	ND	225	6-184	21	30	MS-05
Merphos	69.0	10	ng/l	50.0	ND	138	3-210	22	30	
Methyl parathion	147	10	ng/l	50.0	ND	293	0.1-249	32	30	MS-05
Mevinphos	55.0	10	ng/l	50.0	ND	110	25-189	3	30	
Naled	62.6	10	ng/l	50.0	ND	125	0.1-242	14	30	
Phorate	67.7	10	ng/l	50.0	ND	135	31-181	11	30	
Ronnel	67.5	10	ng/l	50.0	ND	135	29-153	25	30	
Stirophos	110	10	ng/l	50.0	ND	220	0.1-167	25	30	MS-05
Tokuthion (Prothiofos)	56.0	10	ng/l	50.0	ND	112	27-160	20	30	
Trichloronate	79.6	10	ng/l	50.0	ND	159	40-150	18	30	MS-05
<i>Surrogate(s)</i>										
1,3-Dimethyl-2-nitrobenzene		597	ng/l	500		119	76-128			
Triphenyl phosphate		551	ng/l	500		110	40-163			



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03/16/2017 16:25

**Project Manager:** Scott Jordan



## Notes and Definitions

Item	Definition
**	The recommended holding time for field filtering is only 15 minutes. The sample was filtered as soon as possible but it was filtered past holding time. However, the sample was analyzed within holding time.
B-06	This analyte was found in the method blank, which was possibly contaminated during sample preparation. The batch was accepted since this analyte was either not detected or more than 10 times of the blank value for all the samples in the batch.
M-02	Due to the nature of matrix interferences, sample was diluted prior to preparation. The MDL and MRL were raised due to the dilution.
M-04	Due to the nature of matrix interferences, sample extract was diluted prior to analysis. The MDL and MRL were raised due to the dilution.
M-06	Due to the high concentration of analyte inherent in the sample, sample was diluted prior to preparation. The MDL and MRL were raised due to this dilution.
MS-02	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
MS-05	The spike recovery and/or RPD were outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
R-03	The RPD is not applicable for result below the reporting limit (either ND or J value).
S-GC	Surrogate recovery outside of control limits due to a possible matrix effect. The data was accepted based on valid recovery of the remaining surrogate.
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Source	Sample that was matrix spiked or duplicated.
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ) and Detection Limit for Reporting (DLR)
MDA	Minimum Detectable Activity
NR	Not Reportable
TIC	Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB)

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS 002.



March 21, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms EPA-821-R-02-013*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

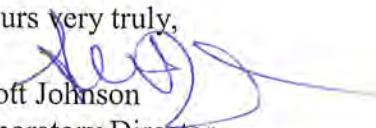
CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA-178-3
DATE RECEIVED:	21 Feb -17
ABC LAB. NO.:	PRI0217.263

#### CHRONIC FATHEAD LARVAE SURVIVAL & GROWTH BIOASSAY

SURVIVAL	NOEC =	100.00 %
	TU <sub>c</sub> =	1.00
	EC25 =	N/A
	EC50 =	N/A

GROWTH	NOEC =	100.00 %
	TU <sub>c</sub> =	1.00
	IC25 =	N/A
	IC50 =	N/A

Yours very truly,

  
Scott Johnson  
Laboratory Director

**CETIS Summary Report**

Report Date: 20 Mar-17 15:22 (p 1 of 1)  
 Test Code: PRI0217.263fml | 04-1678-1678

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 13-3060-5977	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:42	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:18	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 15-4269-6758	<b>Code:</b> PRI0217.263f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 12:40	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 3h (14.1 °C)	<b>Station:</b> LAILG-NGA-178-3	

**Single Comparison Summary**

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
00-5212-5748	7d Survival Rate	Equal Variance t Two-Sample Test	0.9330	100% passed 7d survival rate
05-8085-2430	Mean Dry Biomass-mg	Equal Variance t Two-Sample Test	0.3045	100% passed mean dry biomass-mg

**Test Acceptability**

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
00-5212-5748	7d Survival Rate	Control Resp	0.9667	0.8	>>	Yes	Passes Criteria
05-8085-2430	Mean Dry Biomass-mg	Control Resp	0.287	0.25	>>	Yes	Passes Criteria

**7d Survival Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.9667	0.9054	1.0000	0.9333	1.0000	0.0193	0.0385	3.98%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-3.45%

**Mean Dry Biomass-mg Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.287	0.2655	0.3085	0.274	0.306	0.006763	0.01353	4.71%	0.00%
100		4	0.2807	0.2501	0.3112	0.262	0.3007	0.009596	0.01919	6.84%	2.21%

**7d Survival Rate Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.9333	1.0000	0.9333	1.0000
100		1.0000	1.0000	1.0000	1.0000

**Mean Dry Biomass-mg Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.2847	0.306	0.2833	0.274
100		0.262	0.2933	0.2667	0.3007

**7d Survival Rate Binomials**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	14/15	15/15	14/15	15/15
100		15/15	15/15	15/15	15/15

**CETIS Analytical Report**

Report Date: 20 Mar-17 15:22 (p 1 of 4)  
 Test Code: PRI0217.263fml | 04-1678-1678

**Fathead Minnow 7-d Larval Survival and Growth Test** **Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 00-5212-5748	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 14 Mar-17 12:15	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 13-3060-5977	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:42	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:18	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 15-4269-6758	<b>Code:</b> PRI0217.263f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 12:40	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 3h (14.1 °C)	<b>Station:</b> LAILG-NGA-178-3	

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 7d survival rate	3.87%

**Equal Variance t Two-Sample Test**

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	-1.732	1.943	0.074	6	CDF	0.9330	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.9667	0.8	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.008672	0.008672	1	3	0.1340	Non-Significant Effect
Error	0.017344	0.0028907	6			
Total	0.026016		7			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Distribution	Anderson-Darling A2 Normality Test	0.6699	3.878	0.0804	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.25	0.3313	0.1599	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.8489	0.6451	0.0929	Normal Distribution

**7d Survival Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.9667	0.9054	1.0000	0.9667	0.9333	1.0000	0.0192	3.98%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-3.45%

**Angular (Corrected) Transformed Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.375	1.254	1.496	1.375	1.31	1.441	0.03802	5.53%	0.00%
100		4	1.441	1.441	1.442	1.441	1.441	1.441	0	0.00%	-4.79%

**7d Survival Rate Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.9333	1.0000	0.9333	1.0000
100		1.0000	1.0000	1.0000	1.0000

**Angular (Corrected) Transformed Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.31	1.441	1.31	1.441
100		1.441	1.441	1.441	1.441

**7d Survival Rate Binomials**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	14/15	15/15	14/15	15/15
100		15/15	15/15	15/15	15/15



**CETIS Analytical Report**

**Report Date:** 20 Mar-17 15:22 (p 2 of 4)

**Test Code:** PRI0217.263fml | 04-1678-1678

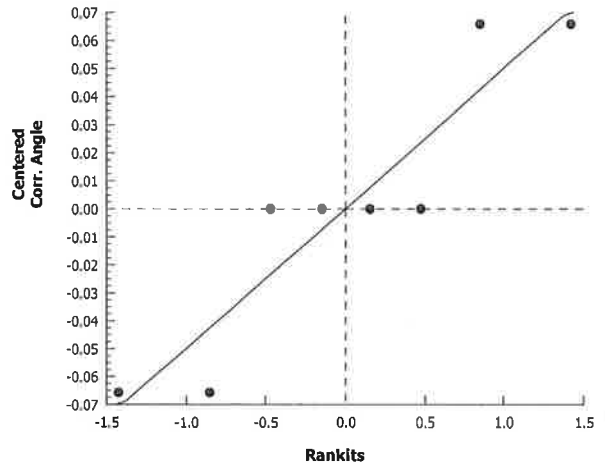
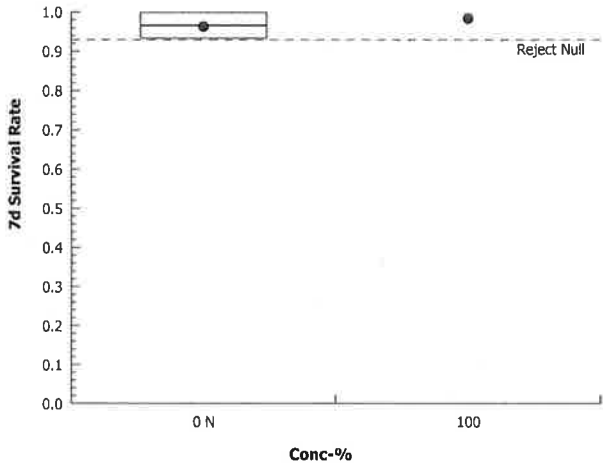
**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**Analysis ID:** 00-5212-5748      **Endpoint:** 7d Survival Rate  
**Analyzed:** 14 Mar-17 12:15      **Analysis:** Parametric-Two Sample

**CETIS Version:** CETISv1.9.2  
**Official Results:** Yes

**Graphics**



**CETIS Analytical Report**

Report Date: 20 Mar-17 15:22 (p 3 of 4)

Test Code: PRI0217.263fml | 04-1678-1678

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 05-8085-2430	<b>Endpoint:</b> Mean Dry Biomass-mg	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 14 Mar-17 12:15	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 13-3060-5977	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:42	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:18	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 15-4269-6758	<b>Code:</b> PRI0217.263f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 12:40	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 3h (14.1 °C)	<b>Station:</b> LAILG-NGA-178-3	

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% passed mean dry biomass-mg	7.95%

**Equal Variance t Two-Sample Test**

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	0.5395	1.943	0.023	6	CDF	0.3045	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.287	0.25	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	8.022E-05	8.022E-05	1	0.2911	0.6090	Non-Significant Effect
Error	0.0016538	0.0002756	6			
Total	0.001734		7			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	2.483	13.75	0.1662	Equal Variances
Variances	Mod Levene Equality of Variance Test	2.215	13.75	0.1872	Equal Variances
Variances	Variance Ratio F Test	2.013	47.47	0.5801	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.4339	3.878	0.3061	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1853	0.3313	0.7110	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.8918	0.6451	0.2432	Normal Distribution

**Mean Dry Biomass-mg Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.287	0.2655	0.3085	0.284	0.274	0.306	0.006763	4.71%	0.00%
100		4	0.2807	0.2501	0.3112	0.28	0.262	0.3007	0.009596	6.84%	2.21%

**Mean Dry Biomass-mg Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.2847	0.306	0.2833	0.274
100		0.262	0.2933	0.2667	0.3007

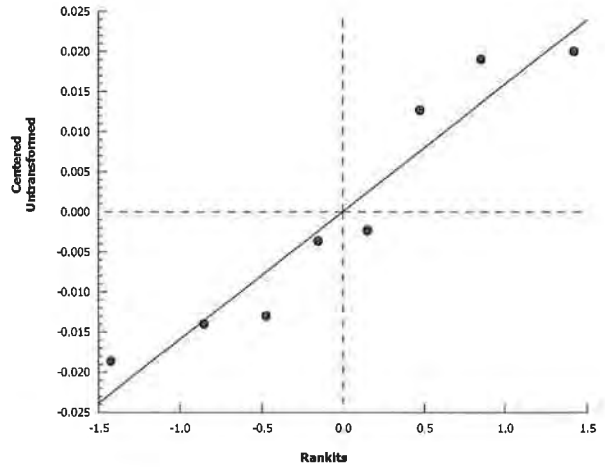
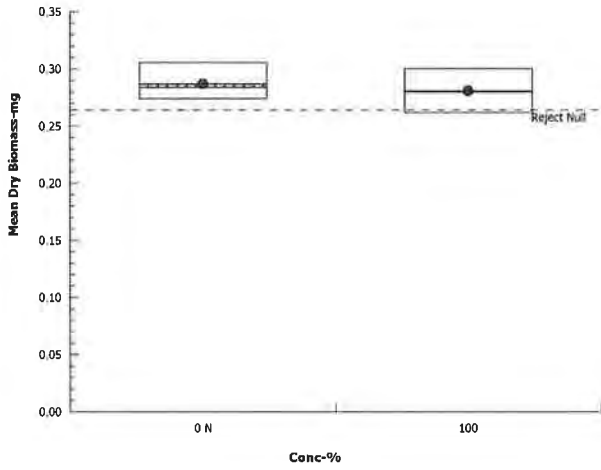
Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 05-8085-2430      Endpoint: Mean Dry Biomass-mg  
Analyzed: 14 Mar-17 12:15      Analysis: Parametric-Two Sample

CETIS Version: CETISv1.9.2  
Official Results: Yes

Graphics



# CETIS Measurement Report

Report Date: 20 Mar-17 15:22 (p 1 of 2)  
 Test Code: PRI0217.263fml | 04-1678-1678

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 13-3060-5977	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:42	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:18	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 15-4269-6758	<b>Code:</b> PRI0217.263f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 12:40	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 3h (14.1 °C)	<b>Station:</b> LAILG-NGA-178-3	

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	61.12	60.83	61.42	61	62	0.125	0.3536	0.58%	0
100		8	18	18	18	18	18	0	0	0.0%	0
Overall		16	39.56	27.7	51.43	18	62	5.568	22.27	56.29%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	336.9	316.3	357.4	300	388	8.694	24.59	7.3%	0
100		8	360.1	284.3	436	305	509	32.08	90.74	25.2%	0
Overall		16	348.5	313.7	383.3	300	509	16.33	65.34	18.75%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.887	7.596	8.179	7.5	8.5	0.1231	0.3482	4.42%	0
100		8	8.175	7.654	8.696	7.5	9.5	0.2202	0.6228	7.62%	0
Overall		16	8.031	7.76	8.303	7.5	9.5	0.1274	0.5095	6.34%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	88.75	86.98	90.52	88	94	0.75	2.121	2.39%	0
100		8	58	58	58	58	58	0	0	0.0%	0
Overall		16	73.38	64.88	81.87	58	94	3.986	15.95	21.73%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.713	7.362	8.063	7.1	8.3	0.1481	0.419	5.43%	0
100		8	7.337	7.177	7.498	7.1	7.6	0.06797	0.1923	2.62%	0
Overall		16	7.525	7.328	7.722	7.1	8.3	0.09242	0.3697	4.91%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.0%	0
100		8	24.04	23.95	24.13	24	24.3	0.03751	0.1061	0.44%	0
Overall		16	24.02	23.98	24.06	24	24.3	0.01875	0.075	0.31%	0 (0%)

# CETIS Measurement Report

Report Date: 20 Mar-17 15:22 (p 2 of 2)  
 Test Code: PRI0217.263fml | 04-1678-1678

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	62	61	61	61	61	61	61	61
100		18	18	18	18	18	18	18	18

### Conductivity-µmhos

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	300	333	345	327	328	338	336	388
100		505	509	311	312	315	317	307	305

### Dissolved Oxygen-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.5	7.6	8.3	7.7	7.9	7.9	7.7	8.5
100		7.6	7.5	9.5	8.3	8	7.9	8.4	8.2

### Hardness (CaCO3)-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	94	88	88	88	88	88	88	88
100		58	58	58	58	58	58	58	58

### pH-Units

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.4	7.4	8.3	7.1	8	8.1	7.5	7.9
100		7.1	7.2	7.5	7.1	7.3	7.5	7.4	7.6

### Temperature-°C

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	24	24	24	24	24	24	24	24
100		24	24.3	24	24	24	24	24	24



March 21, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* EPA-821-R-02-013. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

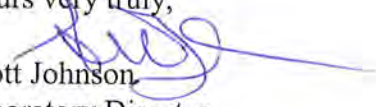
CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA-178-3
DATE RECEIVED:	21 Feb -17
ABC LAB. NO.:	PRI0217.263

#### **CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY**

SURVIVAL	NOEC =	100.00 %
	TU <sub>c</sub> =	1.00
	EC25 =	N/A
	EC50 =	N/A %

REPRODUCTION	NOEC =	100.00 %
	TU <sub>c</sub> =	1.00
	IC25 =	N/A
	IC50 =	N/A

Yours very truly,

  
Scott Johnson  
Laboratory Director

**CETIS Summary Report**

Report Date: 20 Mar-17 15:22 (p 1 of 1)  
 Test Code: PRI0217.263cer | 11-4700-8704

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

Batch ID: 00-5768-6649      Test Type: Reproduction-Survival (7d)      Analyst:  
 Start Date: 21 Feb-17 15:42      Protocol: EPA/821/R-02-013 (2002)      Diluent: Laboratory Water  
 Ending Date: 28 Feb-17 14:18      Species: Ceriodaphnia dubia      Brine: Not Applicable  
 Duration: 6d 23h      Source: Aquatic Biosystems, CO      Age:

Sample ID: 08-0860-7044      Code: PRI0217.263c      Client: Pacific Ridgeline, Inc.  
 Sample Date: 17 Feb-17 12:40      Material: Sample Water      Project: LA Irrigated Lands Group (LAILG)-NG  
 Receipt Date: 21 Feb-17 14:40      Source: Bioassay Report  
 Sample Age: 4d 3h (14.1 °C)      Station: LAILG-NGA-178-3

**Single Comparison Summary**

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
10-6848-8505	7d Survival Rate	Fisher Exact Test	1.0000	100% passed 7d survival rate
00-0580-8164	Reproduction	Equal Variance t Two-Sample Test	0.3127	100% passed reproduction

**Test Acceptability**

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
10-6848-8505	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
00-0580-8164	Reproduction	Control Resp	37.6	15	>>	Yes	Passes Criteria

**7d Survival Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

**Reproduction Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	37.6	32.34	42.86	23	48	2.325	7.351	19.55%	0.00%
100		10	35.8	29.51	42.09	20	45	2.78	8.791	24.56%	4.79%

**7d Survival Rate Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

**Reproduction Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	43	44	43	37	37	23	31	48	37	33
100		43	39	32	38	45	20	21	40	42	38

**7d Survival Rate Binomials**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

**CETIS Analytical Report**

Report Date: 20 Mar-17 15:22 (p 1 of 2)

Test Code: PRI0217.263cer | 11-4700-8704

**Ceriodaphnia 7-d Survival and Reproduction Test**

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 00-0580-8164	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 14 Mar-17 12:19	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 00-5768-6649	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:42	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:18	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 08-0860-7044	<b>Code:</b> PRI0217.263c	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 12:40	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 3h (14.1 °C)	<b>Station:</b> LAILG-NGA-178-3	

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% passed reproduction	16.71%

**Equal Variance t Two-Sample Test**

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	0.4967	1.734	6.284	18	CDF	0.3127	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	37.6	15	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	16.2	16.2	1	0.2467	0.6254	Non-Significant Effect
Error	1182	65.6667	18			
Total	1198.2		19			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	0.4121	8.285	0.5290	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.05339	8.285	0.8199	Equal Variances
Variances	Variance Ratio F Test	1.43	6.541	0.6026	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.8431	3.878	0.0298	Normal Distribution
Distribution	D'Agostino Kurtosis Test	0.14	2.576	0.8886	Normal Distribution
Distribution	D'Agostino Skewness Test	1.751	2.576	0.0800	Normal Distribution
Distribution	D'Agostino-Pearson K2 Omnibus Test	3.085	9.21	0.2139	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1697	0.2235	0.1362	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.8973	0.866	0.0368	Normal Distribution

**Reproduction Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	37.6	32.34	42.86	37	23	48	2.325	19.55%	0.00%
100		10	35.8	29.51	42.09	38.5	20	45	2.78	24.56%	4.79%

**Reproduction Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	43	44	43	37	37	23	31	48	37	33
100		43	39	32	38	45	20	21	40	42	38



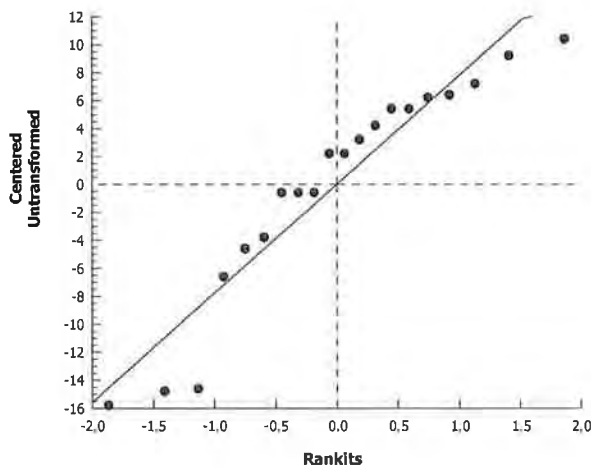
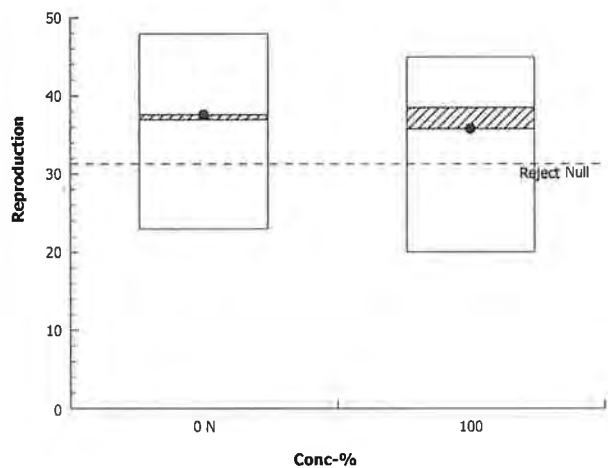
Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 00-0580-8164      Endpoint: Reproduction  
Analyzed: 14 Mar-17 12:19      Analysis: Parametric-Two Sample

CETIS Version: CETISv1.9.2  
Official Results: Yes

Graphics





# CETIS Measurement Report

Report Date: 20 Mar-17 15:22 (p 1 of 2)

Test Code: PRI0217.263cer | 11-4700-8704

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 00-5768-6649	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:42	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:18	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>

<b>Sample ID:</b> 08-0860-7044	<b>Code:</b> PRI0217.263c	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 12:40	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 3h (14.1 °C)	<b>Station:</b> LAILG-NGA-178-3	

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	61.12	60.83	61.42	61	62	0.125	0.3536	0.58%	0
100		8	18	18	18	18	18	0	0	0.0%	0
Overall		16	39.56	27.7	51.43	18	62	5.568	22.27	56.29%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	336.9	316.3	357.4	300	388	8.694	24.59	7.3%	0
100		8	360.1	284.3	436	305	509	32.08	90.74	25.2%	0
Overall		16	348.5	313.7	383.3	300	509	16.33	65.34	18.75%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.887	7.596	8.179	7.5	8.5	0.1231	0.3482	4.42%	0
100		8	8.175	7.654	8.696	7.5	9.5	0.2202	0.6228	7.62%	0
Overall		16	8.031	7.76	8.303	7.5	9.5	0.1274	0.5095	6.34%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	88.75	86.98	90.52	88	94	0.75	2.121	2.39%	0
100		8	58	58	58	58	58	0	0	0.0%	0
Overall		16	73.38	64.88	81.87	58	94	3.986	15.95	21.73%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.713	7.362	8.063	7.1	8.3	0.1481	0.419	5.43%	0
100		8	7.337	7.177	7.498	7.1	7.6	0.06797	0.1923	2.62%	0
Overall		16	7.525	7.328	7.722	7.1	8.3	0.09242	0.3697	4.91%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.0%	0
100		8	24.04	23.95	24.13	24	24.3	0.03751	0.1061	0.44%	0
Overall		16	24.02	23.98	24.06	24	24.3	0.01875	0.075	0.31%	0 (0%)

# CETIS Measurement Report

Report Date: 20 Mar-17 15:22 (p 2 of 2)  
 Test Code: PRI0217.263cer | 11-4700-8704

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

### Alkalinity (CaCO<sub>3</sub>)-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	62	61	61	61	61	61	61	61
100		18	18	18	18	18	18	18	18

### Conductivity-µmhos

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	300	333	345	327	328	338	336	388
100		505	509	311	312	315	317	307	305

### Dissolved Oxygen-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.5	7.6	8.3	7.7	7.9	7.9	7.7	8.5
100		7.6	7.5	9.5	8.3	8	7.9	8.4	8.2

### Hardness (CaCO<sub>3</sub>)-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	94	88	88	88	88	88	88	88
100		58	58	58	58	58	58	58	58

### pH-Units

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.4	7.4	8.3	7.1	8	8.1	7.5	7.9
100		7.1	7.2	7.5	7.1	7.3	7.5	7.4	7.6

### Temperature-°C

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	24	24	24	24	24	24	24	24
100		24	24.3	24	24	24	24	24	24



March 21, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* EPA-821-R-02-013. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA-178-3
DATE RECEIVED:	21 Feb -17
ABC LAB. NO.:	PRI0217.263

#### CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY


NOEC = 100.00 %

TUc = 1.00

IC25 = N/A

IC50 = N/A

Yours very truly,

  
Scott Johnson  
Laboratory Director

**CETIS Summary Report**

**Report Date:** 20 Mar-17 15:23 (p 1 of 1)  
**Test Code:** PRI0217.263sel | 15-6821-3819

**Selenastrum Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 17-4592-4989	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 16:32	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 25 Feb-17 14:50	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Duration:</b> 94h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 08-6317-4230	<b>Code:</b> PRI0217.263s	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 12:40	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 4h (14.1 °C)	<b>Station:</b> LAILG-NGA-178-3	

**Single Comparison Summary**

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
07-3872-7439	Cell Density	Equal Variance t Two-Sample Test	0.9459	100% passed cell density

**Test Acceptability**

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
07-3872-7439	Cell Density	Control CV	0.0468	<<	0.2	Yes	Passes Criteria
07-3872-7439	Cell Density	Control Resp	1.32E+6	1000000	>>	Yes	Passes Criteria

**Cell Density Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.319E+6	1.221E+6	1.417E+6	1.234E+6	1.367E+6	3.086E+4	6.172E+4	4.68%	0.00%
100		4	1.446E+6	1.255E+6	1.637E+6	1.329E+6	1.594E+6	5.997E+4	1.199E+5	8.29%	-9.65%

**Cell Density Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.234E+6	1.312E+6	1.367E+6	1.362E+6
100		1.594E+6	1.371E+6	1.490E+6	1.329E+6

# CETIS Analytical Report

Report Date: 20 Mar-17 15:23 (p 1 of 2)  
 Test Code: PRI0217.263sel | 15-6821-3819

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 07-3872-7439	<b>Endpoint:</b> Cell Density	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 14 Mar-17 13:01	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 17-4592-4989	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 16:32	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 25 Feb-17 14:50	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Duration:</b> 94h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 08-6317-4230	<b>Code:</b> PRI0217.263s	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 12:40	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 4h (14.1 °C)	<b>Station:</b> LAILG-NGA-178-3	

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% passed cell density	9.94%

## Equal Variance t Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	-1.887	1.943	1E+05	6	CDF	0.9459	Non-Significant Effect

## Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control CV	0.0468	<<	0.2	Yes	Passes Criteria
Control Resp	1.32E+6	1000000	>>	Yes	Passes Criteria

## ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	3.239E+10	3.239E+10	1	3.56	0.1081	Non-Significant Effect
Error	5.458E+10	9.097E+09	6			
Total	8.697E+10		7			

## Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	3.243	13.75	0.1218	Equal Variances
Variances	Mod Levene Equality of Variance Test	2.604	13.75	0.1577	Equal Variances
Variances	Variance Ratio F Test	3.777	47.47	0.3040	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.35	3.878	0.4768	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1879	0.3313	0.6787	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9364	0.6451	0.5759	Normal Distribution

## Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.319E+6	1.221E+6	1.417E+6	1.337E+6	1.234E+6	1.367E+6	3.086E+4	4.68%	0.00%
100		4	1.446E+6	1.255E+6	1.637E+6	1.430E+6	1.329E+6	1.594E+6	5.997E+4	8.29%	-9.65%

## Cell Density Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.234E+6	1.312E+6	1.367E+6	1.362E+6
100		1.594E+6	1.371E+6	1.490E+6	1.329E+6

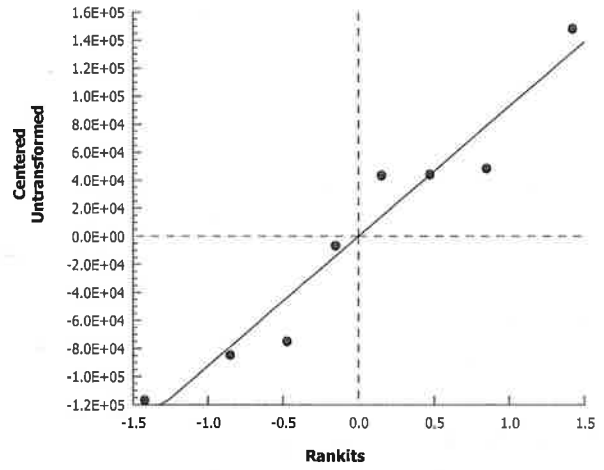
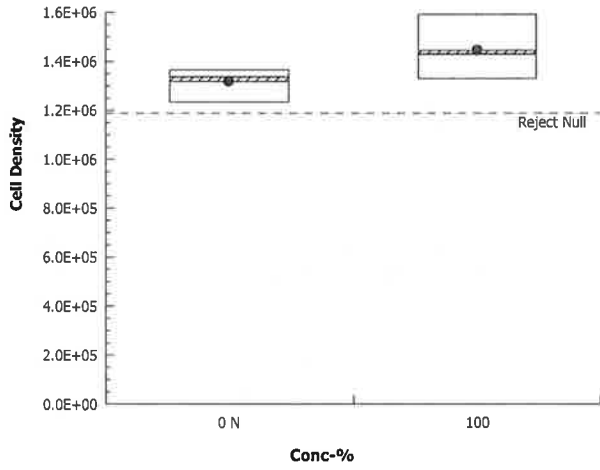
Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 07-3872-7439    Endpoint: Cell Density  
Analyzed: 14 Mar-17 13:01    Analysis: Parametric-Two Sample

CETIS Version: CETISv1.9.2  
Official Results: Yes

Graphics





# CETIS Measurement Report

**Report Date:** 20 Mar-17 15:23 (p 1 of 2)  
**Test Code:** PRI0217.263sel | 15-6821-3819

## Selenastrum Growth Test

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 17-4592-4989	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 16:32	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 25 Feb-17 14:50	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Duration:</b> 94h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>

<b>Sample ID:</b> 08-6317-4230	<b>Code:</b> PRI0217.263s	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 12:40	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 4h (14.1 °C)	<b>Station:</b> LAILG-NGA-178-3	

### Alkalinity (CaCO<sub>3</sub>)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	66			66	66	0	0	0.0%	0
100		1	142			142	142	0	0	0.0%	0
<b>Overall</b>		2	104	-378.8	586.8	66	142	38	53.74	51.67%	0 (0%)

### Conductivity-μmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	427	406.2	447.8	408	444	7.497	16.76	3.93%	0
100		5	1141	1129	1153	1129	1152	4.398	9.834	0.86%	0
<b>Overall</b>		10	783.9	514.6	1053	408	1152	119	376.4	48.02%	0 (0%)

### Hardness (CaCO<sub>3</sub>)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	98			98	98	0	0	0.0%	0
100		1	275			275	275	0	0	0.0%	0
<b>Overall</b>		2	186.5	-938	1311	98	275	88.5	125.2	67.11%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.66	7.518	7.802	7.5	7.8	0.05099	0.114	1.49%	0
100		5	7.92	7.698	8.142	7.8	8.2	0.08	0.1789	2.26%	0
<b>Overall</b>		10	7.79	7.649	7.931	7.5	8.2	0.06227	0.1969	2.53%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	24.24	23.93	24.55	24	24.5	0.1122	0.251	1.04%	0
100		5	24.24	23.93	24.55	24	24.5	0.1122	0.251	1.04%	0
<b>Overall</b>		10	24.24	24.07	24.41	24	24.5	0.07483	0.2366	0.98%	0 (0%)

# CETIS Measurement Report

Report Date: 20 Mar-17 15:23 (p 2 of 2)  
Test Code: PRI0217.263sel | 15-6821-3819

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	1
0	N	66
100		142

### Conductivity-µmhos

Conc-%	Code	1	2	3	4	5
0	N	435	438	444	408	410
100		1136	1129	1137	1152	1150

### Hardness (CaCO3)-mg/L

Conc-%	Code	1
0	N	98
100		275

### pH-Units

Conc-%	Code	1	2	3	4	5
0	N	7.6	7.7	7.5	7.7	7.8
100		8.2	8	7.8	7.8	7.8

### Temperature-°C

Conc-%	Code	1	2	3	4	5
0	N	24.2	24	24	24.5	24.5
100		24.2	24	24	24.5	24.5

March 21, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms EPA-821-R-02-013*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:


CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA158-1
DATE RECEIVED:	21 Feb -17
ABC LAB. NO.:	PRI0217.264

#### CHRONIC FATHEAD LARVAE SURVIVAL & GROWTH BIOASSAY

SURVIVAL	NOEC =	100.00 %
	TU <sub>c</sub> =	1.00
	EC25 =	N/A
	EC50 =	N/A

GROWTH	NOEC =	100.00 %
	TU <sub>c</sub> =	1.00
	IC25 =	N/A
	IC50 =	N/A

Yours very truly,

  
Scott Johnson  
Laboratory Director

**CETIS Summary Report**

Report Date: 20 Mar-17 15:23 (p 1 of 1)  
 Test Code: PRI0217.264fml | 03-7903-6985

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 01-6203-1668	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:44	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:21	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 15-0335-0629	<b>Code:</b> PRI0217.264f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 14:03	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 2h (16.8 °C)	<b>Station:</b> LAILG-NGA158-1	

**Single Comparison Summary**

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
21-1371-3602	7d Survival Rate	Equal Variance t Two-Sample Test	0.9330	100% passed 7d survival rate
07-9527-1659	Mean Dry Biomass-mg	Equal Variance t Two-Sample Test	0.6275	100% passed mean dry biomass-mg

**Test Acceptability**

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
21-1371-3602	7d Survival Rate	Control Resp	0.9667	0.8	>>	Yes	Passes Criteria
07-9527-1659	Mean Dry Biomass-mg	Control Resp	0.287	0.25	>>	Yes	Passes Criteria

**7d Survival Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.9667	0.9054	1.0000	0.9333	1.0000	0.0193	0.0385	3.98%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-3.45%

**Mean Dry Biomass-mg Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.287	0.2655	0.3085	0.274	0.306	0.006763	0.01353	4.71%	0.00%
100		4	0.2915	0.2554	0.3276	0.2693	0.322	0.01135	0.0227	7.79%	-1.57%

**7d Survival Rate Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.9333	1.0000	0.9333	1.0000
100		1.0000	1.0000	1.0000	1.0000

**Mean Dry Biomass-mg Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.2847	0.306	0.2833	0.274
100		0.322	0.2693	0.2807	0.294

**7d Survival Rate Binomials**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	14/15	15/15	14/15	15/15
100		15/15	15/15	15/15	15/15

**CETIS Analytical Report**

Report Date: 20 Mar-17 15:23 (p 1 of 4)  
 Test Code: PRI0217.264fml | 03-7903-6985

Fathead Minnow 7-d Larval Survival and Growth Test				Aquatic Bioassay & Consulting Labs, Inc.			
Analysis ID: 21-1371-3602	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.2					
Analyzed: 14 Mar-17 12:28	Analysis: Parametric-Two Sample	Official Results: Yes					
Batch ID: 01-6203-1668	Test Type: Growth-Survival (7d)	Analyst:					
Start Date: 21 Feb-17 15:44	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water					
Ending Date: 28 Feb-17 14:21	Species: Pimephales promelas	Brine: Not Applicable					
Duration: 6d 23h	Source: Aquatic Biosystems, CO	Age:					
Sample ID: 15-0335-0629	Code: PRI0217.264f	Client: Pacific Ridgeline, Inc.					
Sample Date: 17 Feb-17 14:03	Material: Sample Water	Project: LA Irrigated Lands Group (LAILG)-NG					
Receipt Date: 21 Feb-17 14:40	Source: Bioassay Report						
Sample Age: 4d 2h (16.8 °C)	Station: LAILG-NGA158-1						

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 7d survival rate	3.87%

**Equal Variance t Two-Sample Test**

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	-1.732	1.943	0.074	6	CDF	0.9330	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.9667	0.8	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.008672	0.008672	1	3	0.1340	Non-Significant Effect
Error	0.017344	0.0028907	6			
Total	0.026016		7			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Distribution	Anderson-Darling A2 Normality Test	0.6699	3.878	0.0804	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.25	0.3313	0.1599	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.8489	0.6451	0.0929	Normal Distribution

**7d Survival Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.9667	0.9054	1.0000	0.9667	0.9333	1.0000	0.0192	3.98%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-3.45%

**Angular (Corrected) Transformed Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.375	1.254	1.496	1.375	1.31	1.441	0.03802	5.53%	0.00%
100		4	1.441	1.441	1.442	1.441	1.441	1.441	0	0.00%	-4.79%

**7d Survival Rate Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.9333	1.0000	0.9333	1.0000
100		1.0000	1.0000	1.0000	1.0000

**Angular (Corrected) Transformed Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.31	1.441	1.31	1.441
100		1.441	1.441	1.441	1.441

**7d Survival Rate Binomials**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	14/15	15/15	14/15	15/15
100		15/15	15/15	15/15	15/15

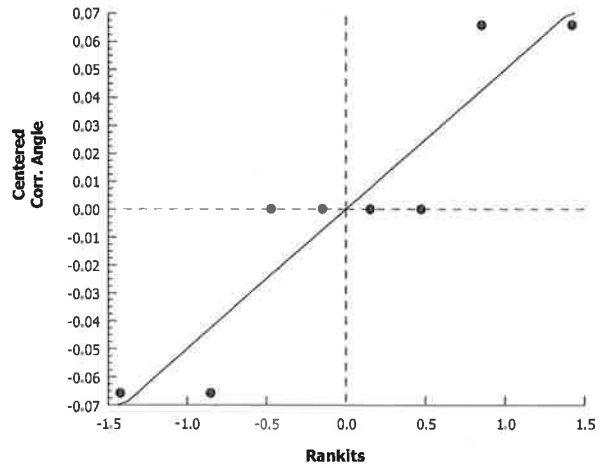
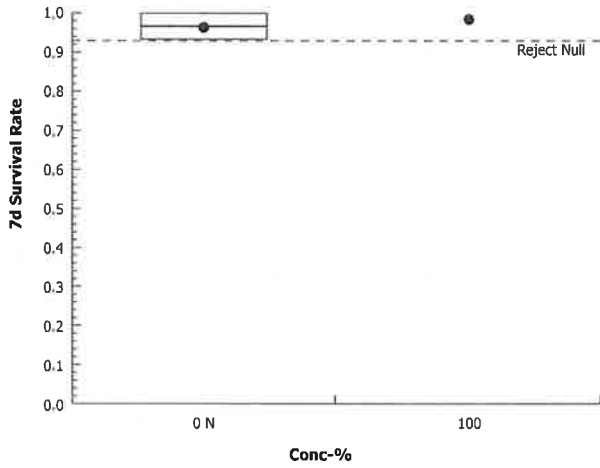
Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 21-1371-3602    Endpoint: 7d Survival Rate  
Analyzed: 14 Mar-17 12:28    Analysis: Parametric-Two Sample

CETIS Version: CETISv1.9.2  
Official Results: Yes

Graphics



**CETIS Analytical Report**

Report Date: 20 Mar-17 15:23 (p 3 of 4)  
 Test Code: PRI0217.264fml | 03-7903-6985

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 07-9527-1659	<b>Endpoint:</b> Mean Dry Biomass-mg	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 14 Mar-17 12:28	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 01-6203-1668	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:44	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:21	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 15-0335-0629	<b>Code:</b> PRI0217.264f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 14:03	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 2h (16.8 °C)	<b>Station:</b> LAILG-NGA158-1	

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% passed mean dry biomass-mg	8.94%

**Equal Variance t Two-Sample Test**

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	-0.3406	1.943	0.026	6	CDF	0.6275	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.287	0.25	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	4.05E-05	4.05E-05	1	0.116	0.7450	Non-Significant Effect
Error	0.0020941	0.0003490	6			
Total	0.0021346		7			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	0.9129	13.75	0.3762	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.961	13.75	0.3648	Equal Variances
Variances	Variance Ratio F Test	2.815	47.47	0.4179	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.3204	3.878	0.5537	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1925	0.3313	0.6212	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9413	0.6451	0.6240	Normal Distribution

**Mean Dry Biomass-mg Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.287	0.2655	0.3085	0.284	0.274	0.306	0.006763	4.71%	0.00%
100		4	0.2915	0.2554	0.3276	0.2873	0.2693	0.322	0.01135	7.79%	-1.57%

**Mean Dry Biomass-mg Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.2847	0.306	0.2833	0.274
100		0.322	0.2693	0.2807	0.294

**CETIS Analytical Report**

Report Date: 20 Mar-17 15:23 (p 4 of 4)  
Test Code: PRI0217.264fml | 03-7903-6985

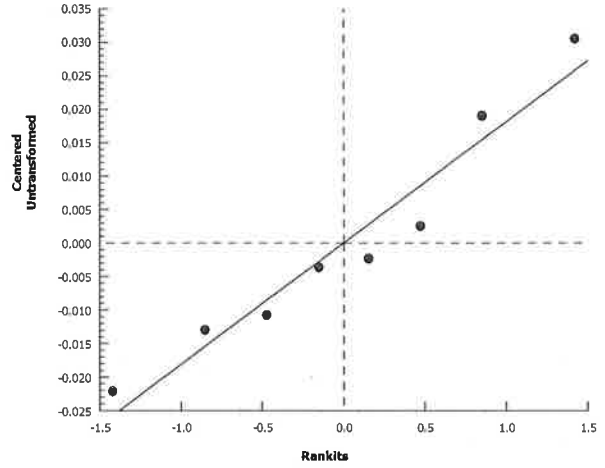
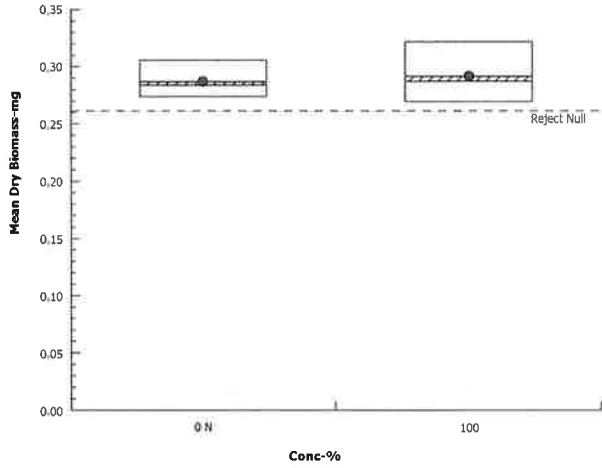
**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID: 07-9527-1659    Endpoint: Mean Dry Biomass-mg  
Analyzed: 14 Mar-17 12:28    Analysis: Parametric-Two Sample

CETIS Version: CETISv1.9.2  
Official Results: Yes

**Graphics**





# CETIS Measurement Report

Report Date: 20 Mar-17 15:23 (p 1 of 2)  
 Test Code: PRI0217.264fml | 03-7903-6985

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 01-6203-1668	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:44	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:21	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 15-0335-0629	<b>Code:</b> PRI0217.264f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 14:03	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 2h (16.8 °C)	<b>Station:</b> LAILG-NGA158-1	

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	61.12	60.83	61.42	61	62	0.125	0.3536	0.58%	0
100		8	13	13	13	13	13	0	0	0.0%	0
Overall		16	37.06	23.82	50.31	13	62	6.213	24.85	67.06%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	336.9	316.3	357.4	300	388	8.694	24.59	7.3%	0
100		8	93.12	86.22	100	87	108	2.918	8.254	8.86%	0
Overall		16	215	147.3	282.7	87	388	31.78	127.1	59.12%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.887	7.596	8.179	7.5	8.5	0.1231	0.3482	4.42%	0
100		8	7.988	7.703	8.272	7.6	8.6	0.1202	0.3399	4.26%	0
Overall		16	7.938	7.758	8.117	7.5	8.6	0.0841	0.3364	4.24%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	88.75	86.98	90.52	88	94	0.75	2.121	2.39%	0
100		8	35	35	35	35	35	0	0	0.0%	0
Overall		16	61.88	47.06	76.69	35	94	6.949	27.79	44.92%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.713	7.362	8.063	7.1	8.3	0.1481	0.419	5.43%	0
100		8	7.575	7.398	7.752	7.3	7.9	0.075	0.2121	2.8%	0
Overall		16	7.644	7.469	7.819	7.1	8.3	0.08214	0.3286	4.30%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.0%	0
100		8	24.06	23.91	24.21	24	24.5	0.0625	0.1768	0.73%	0
Overall		16	24.03	23.96	24.1	24	24.5	0.03125	0.125	0.52%	0 (0%)





March 21, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* EPA-821-R-02-013. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

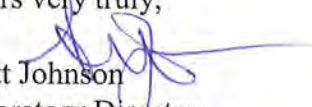
CLIENT: Pacific Ridgeline  
SAMPLE I.D.: LAILG-NGA158-1  
DATE RECEIVED: 21 Feb -17  
ABC LAB. NO.: PRI0217.264

#### **CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY**

SURVIVAL      NOEC =      100.00 %  
                    TUc    =      1.00  
                    EC25 =      N/A  
                    EC50 =      N/A %

REPRODUCTION      NOEC =      100.00 %  
                            TUc    =      1.00  
                            IC25 =      N/A  
                            IC50 =      N/A

Yours very truly,

  
Scott Johnson  
Laboratory Director

**CETIS Summary Report**

Report Date: 20 Mar-17 15:24 (p 1 of 1)  
 Test Code: PRI0217.264cer | 01-2480-5560

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**Batch ID:** 08-5761-6568      **Test Type:** Reproduction-Survival (7d)      **Analyst:**  
**Start Date:** 21 Feb-17 15:44      **Protocol:** EPA/821/R-02-013 (2002)      **Diluent:** Laboratory Water  
**Ending Date:** 28 Feb-17 14:21      **Species:** Ceriodaphnia dubia      **Brine:** Not Applicable  
**Duration:** 6d 23h      **Source:** Aquatic Biosystems, CO      **Age:**

**Sample ID:** 02-8770-9456      **Code:** PRI0217.264c      **Client:** Pacific Ridgeline, Inc.  
**Sample Date:** 17 Feb-17 14:03      **Material:** Sample Water      **Project:** LA Irrigated Lands Group (LAILG)-NG  
**Receipt Date:** 21 Feb-17 14:40      **Source:** Bioassay Report  
**Sample Age:** 4d 2h (16.8 °C)      **Station:** LAILG-NGA158-1

**Single Comparison Summary**

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
01-2465-4059	7d Survival Rate	Fisher Exact Test	1.0000	100% passed 7d survival rate
12-0571-4952	Reproduction	Equal Variance t Two-Sample Test	0.1164	100% passed reproduction

**Test Acceptability**

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
01-2465-4059	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
12-0571-4952	Reproduction	Control Resp	37.6	15	>>	Yes	Passes Criteria

**7d Survival Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

**Reproduction Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	37.6	32.34	42.86	23	48	2.325	7.351	19.55%	0.00%
100		10	34.1	30.43	37.77	28	42	1.622	5.131	15.05%	9.31%

**7d Survival Rate Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

**Reproduction Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	43	44	43	37	37	23	31	48	37	33
100		42	39	32	36	29	28	33	41	32	29

**7d Survival Rate Binomials**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

**CETIS Analytical Report**

Report Date: 20 Mar-17 15:24 (p 1 of 2)  
 Test Code: PRI0217.264cer | 01-2480-5560

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 12-0571-4952	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 14 Mar-17 12:33	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 08-5761-6568	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:44	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:21	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 02-8770-9456	<b>Code:</b> PRI0217.264c	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 14:03	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 2h (16.8 °C)	<b>Station:</b> LAILG-NGA158-1	

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% passed reproduction	13.07%

**Equal Variance t Two-Sample Test**

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	1.235	1.734	4.916	18	CDF	0.1164	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	37.6	15	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	61.25	61.25	1	1.524	0.2329	Non-Significant Effect
Error	723.3	40.1833	18			
Total	784.55		19			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	0.5587	8.285	0.4644	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.5195	8.285	0.4803	Equal Variances
Variances	Variance Ratio F Test	2.053	6.541	0.2988	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.4042	3.878	0.3591	Normal Distribution
Distribution	D'Agostino Kurtosis Test	0.3077	2.576	0.7583	Normal Distribution
Distribution	D'Agostino Skewness Test	0.697	2.576	0.4858	Normal Distribution
Distribution	D'Agostino-Pearson K2 Omnibus Test	0.5804	9.21	0.7481	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1387	0.2235	0.4021	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9593	0.866	0.5307	Normal Distribution

**Reproduction Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	37.6	32.34	42.86	37	23	48	2.325	19.55%	0.00%
100		10	34.1	30.43	37.77	32.5	28	42	1.622	15.05%	9.31%

**Reproduction Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	43	44	43	37	37	23	31	48	37	33
100		42	39	32	36	29	28	33	41	32	29

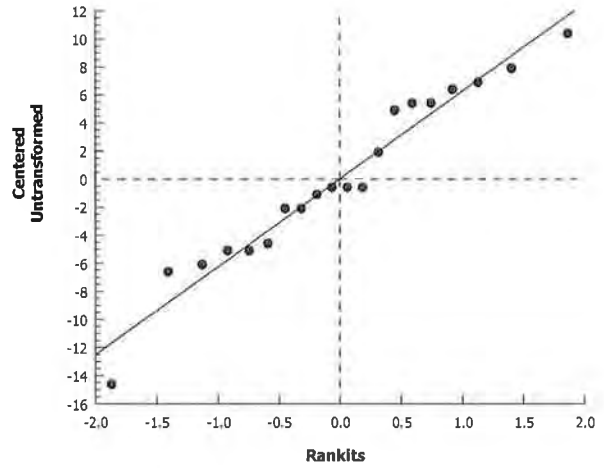
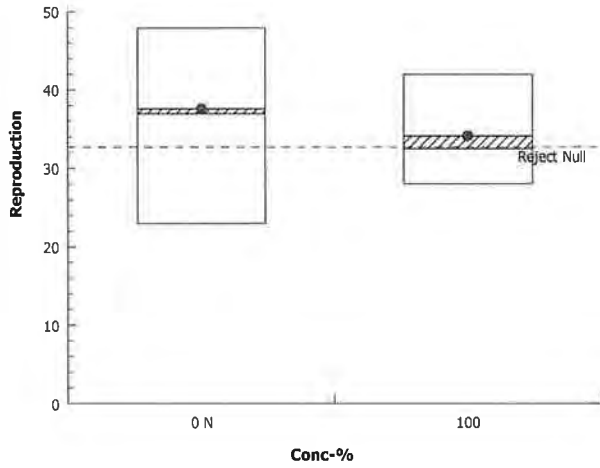
Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 12-0571-4952      Endpoint: Reproduction  
Analyzed: 14 Mar-17 12:33      Analysis: Parametric-Two Sample

CETIS Version: CETISv1.9.2  
Official Results: Yes

Graphics





# CETIS Measurement Report

Report Date: 20 Mar-17 15:24 (p 1 of 2)  
 Test Code: PRI0217.264cer | 01-2480-5560

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 08-5761-6568      Test Type: Reproduction-Survival (7d)  
 Start Date: 21 Feb-17 15:44      Protocol: EPA/821/R-02-013 (2002)  
 Ending Date: 28 Feb-17 14:21      Species: Ceriodaphnia dubia  
 Duration: 6d 23h      Source: Aquatic Biosystems, CO

Analyst:  
 Diluent: Laboratory Water  
 Brine: Not Applicable  
 Age:

Sample ID: 02-8770-9456      Code: PRI0217.264c  
 Sample Date: 17 Feb-17 14:03      Material: Sample Water  
 Receipt Date: 21 Feb-17 14:40      Source: Bioassay Report  
 Sample Age: 4d 2h (16.8 °C)      Station: LAILG-NGA158-1

Client: Pacific Ridgeline, Inc.  
 Project: LA Irrigated Lands Group (LAILG)-NG

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	61.12	60.83	61.42	61	62	0.125	0.3536	0.58%	0
100		8	13	13	13	13	13	0	0	0.0%	0
Overall		16	37.06	23.82	50.31	13	62	6.213	24.85	67.06%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	336.9	316.3	357.4	300	388	8.694	24.59	7.3%	0
100		8	93.12	86.22	100	87	108	2.918	8.254	8.86%	0
Overall		16	215	147.3	282.7	87	388	31.78	127.1	59.12%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.887	7.596	8.179	7.5	8.5	0.1231	0.3482	4.42%	0
100		8	7.988	7.703	8.272	7.6	8.6	0.1202	0.3399	4.26%	0
Overall		16	7.938	7.758	8.117	7.5	8.6	0.0841	0.3364	4.24%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	88.75	86.98	90.52	88	94	0.75	2.121	2.39%	0
100		8	35	35	35	35	35	0	0	0.0%	0
Overall		16	61.88	47.06	76.69	35	94	6.949	27.79	44.92%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.713	7.362	8.063	7.1	8.3	0.1481	0.419	5.43%	0
100		8	7.575	7.398	7.752	7.3	7.9	0.075	0.2121	2.8%	0
Overall		16	7.644	7.469	7.819	7.1	8.3	0.08214	0.3286	4.30%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.0%	0
100		8	24.06	23.91	24.21	24	24.5	0.0625	0.1768	0.73%	0
Overall		16	24.03	23.96	24.1	24	24.5	0.03125	0.125	0.52%	0 (0%)





March 21, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms EPA-821-R-02-013*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA158-1
DATE RECEIVED:	21 Feb -17
ABC LAB. NO.:	PRI0217.264

### CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY

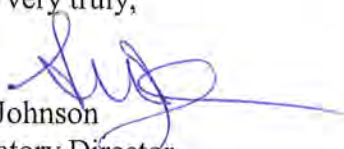
NOEC = <100.00 %

TUc = >1.00

IC25 = N/A

IC50 = N/A

Yours very truly,

  
Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 20 Mar-17 15:24 (p 1 of 1)  
 Test Code: PRI0217.264sel | 09-5738-0063

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 17-2751-9645	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 16:33	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 25 Feb-17 15:00	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Duration:</b> 94h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 15-6590-4408	<b>Code:</b> PRI0217.264s	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 14:03	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 2h (16.8 °C)	<b>Station:</b> LAILG-NGA158-1	

## Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
06-7503-4734	Cell Density	Equal Variance t Two-Sample Test	4.5E-06	100% failed cell density

## Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
06-7503-4734	Cell Density	Control CV	0.0468	<<	0.2	Yes	Passes Criteria
06-7503-4734	Cell Density	Control Resp	1.32E+6	1000000	>>	Yes	Passes Criteria

## Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.319E+6	1.221E+6	1.417E+6	1.234E+6	1.367E+6	3.086E+4	6.172E+4	4.68%	0.00%
100		4	8.645E+5	8.284E+5	9.006E+5	8.360E+5	8.860E+5	1.133E+4	2.266E+4	2.62%	34.45%

## Cell Density Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.234E+6	1.312E+6	1.367E+6	1.362E+6
100		8.790E+5	8.570E+5	8.860E+5	8.360E+5



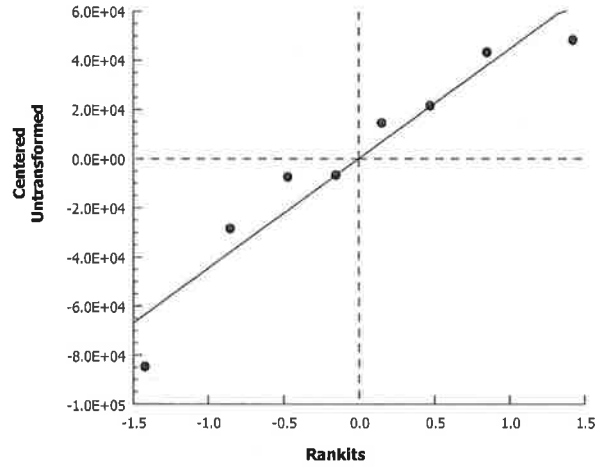
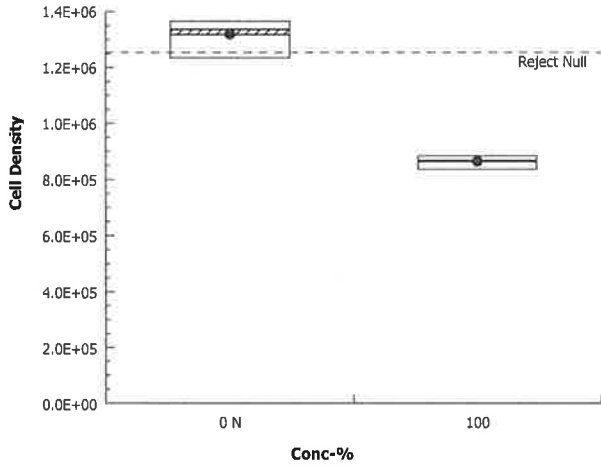
Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 06-7503-4734     Endpoint: Cell Density  
Analyzed: 14 Mar-17 13:04     Analysis: Parametric-Two Sample

CETIS Version: CETISv1.9.2  
Official Results: Yes

Graphics





# CETIS Measurement Report

Report Date: 20 Mar-17 15:24 (p 2 of 2)  
Test Code: PRI0217.264sel | 09-5738-0063

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	1
0	N	66
100		30

### Conductivity-µmhos

Conc-%	Code	1	2	3	4	5
0	N	435	438	444	408	410
100		202	220	243	265	262

### Hardness (CaCO3)-mg/L

Conc-%	Code	1
0	N	98
100		69

### pH-Units

Conc-%	Code	1	2	3	4	5
0	N	7.6	7.7	7.5	7.7	7.8
100		8	8.3	8.2	7.9	7.8

### Temperature-°C

Conc-%	Code	1	2	3	4	5
0	N	24.2	24	24	24.5	24.5
100		24.2	24	24	24.5	24.5



March 21, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* EPA-821-R-02-013. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

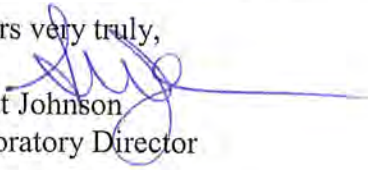
CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA124-8
DATE RECEIVED:	21 Feb -17
ABC LAB. NO.:	PRI0217.265

#### **CHRONIC FATHEAD LARVAE SURVIVAL & GROWTH BIOASSAY**

SURVIVAL	NOEC =	100.00 %
	TUc =	1.00
	EC25 =	N/A
	EC50 =	N/A

GROWTH	NOEC =	100.00 %
	TUc =	1.00
	IC25 =	N/A
	IC50 =	N/A

Yours very truly,

  
Scott Johnson  
Laboratory Director



**CETIS Summary Report**

Report Date: 20 Mar-17 15:26 (p 1 of 1)  
 Test Code: PRI0217.265fml | 06-1286-0276

**Fathead Minnow 7-d Larval Survival and Growth Test**

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 15-6420-1341      Test Type: Growth-Survival (7d)      Analyst:  
 Start Date: 21 Feb-17 15:46      Protocol: EPA/821/R-02-013 (2002)      Diluent: Laboratory Water  
 Ending Date: 28 Feb-17 14:30      Species: Pimephales promelas      Brine: Not Applicable  
 Duration: 6d 23h      Source: Aquatic Biosystems, CO      Age:

Sample ID: 09-7909-8609      Code: PRI0217.265f      Client: Pacific Ridgeline, Inc.  
 Sample Date: 17 Feb-17 14:45      Material: Sample Water      Project: LA Irrigated Lands Group (LAILG)-NG  
 Receipt Date: 21 Feb-17 14:40      Source: Bioassay Report  
 Sample Age: 4d 1h (15.6 °C)      Station: LAILG-NGA124-8

**Single Comparison Summary**

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
18-6054-2031	7d Survival Rate	Equal Variance t Two-Sample Test	0.0953	100% passed 7d survival rate
20-1286-4152	Mean Dry Biomass-mg	Equal Variance t Two-Sample Test	0.8133	100% passed mean dry biomass-mg

**Test Acceptability**

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
18-6054-2031	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
20-1286-4152	Mean Dry Biomass-mg	Control Resp	0.2878	0.25	>>	Yes	Passes Criteria

**7d Survival Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		4	0.9333	0.7833	1.0000	0.8000	1.0000	0.0471	0.0943	10.10%	6.67%

**Mean Dry Biomass-mg Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.2878	0.2422	0.3334	0.262	0.3287	0.01433	0.02867	9.96%	0.00%
100		4	0.3133	0.2423	0.3843	0.2527	0.3507	0.02231	0.04461	14.24%	-8.86%

**7d Survival Rate Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
100		0.9333	1.0000	1.0000	0.8000

**Mean Dry Biomass-mg Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.262	0.2833	0.2773	0.3287
100		0.3073	0.3427	0.3507	0.2527

**7d Survival Rate Binomials**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
100		14/15	15/15	15/15	12/15

**CETIS Analytical Report**

Report Date: 20 Mar-17 15:26 (p 1 of 4)  
 Test Code: PRI0217.265fml | 06-1286-0276

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 18-6054-2031	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 14 Mar-17 12:37	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 15-6420-1341	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:46	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:30	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 09-7909-8609	<b>Code:</b> PRI0217.265f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 14:45	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 1h (15.6 °C)	<b>Station:</b> LAILG-NGA124-8	

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 7d survival rate	7.79%

**Equal Variance t Two-Sample Test**

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	1.476	1.943	0.153	6	CDF	0.0953	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	1	0.8	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0271309	0.0271309	1	2.177	0.1905	Non-Significant Effect
Error	0.074763	0.0124605	6			
Total	0.101894		7			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	7.94	13.75	0.0304	Equal Variances
Variances	Mod Levene Equality of Variance Test	5.294	13.75	0.0610	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.9364	3.878	0.0177	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.3164	0.3313	0.0179	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.7954	0.6451	0.0256	Normal Distribution

**7d Survival Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	0.9333	0.7833	1.0000	0.9667	0.8000	1.0000	0.0471	10.10%	6.67%

**Angular (Corrected) Transformed Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.441	1.441	1.442	1.441	1.441	1.441	0	0.00%	0.00%
100		4	1.325	1.074	1.576	1.375	1.107	1.441	0.07893	11.92%	8.08%

**7d Survival Rate Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
100		0.9333	1.0000	1.0000	0.8000

**Angular (Corrected) Transformed Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.441	1.441	1.441	1.441
100		1.31	1.441	1.441	1.107

CETIS Analytical Report

Report Date: 20 Mar-17 15:26 (p 2 of 4)  
Test Code: PRI0217.265fml | 06-1286-0276

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

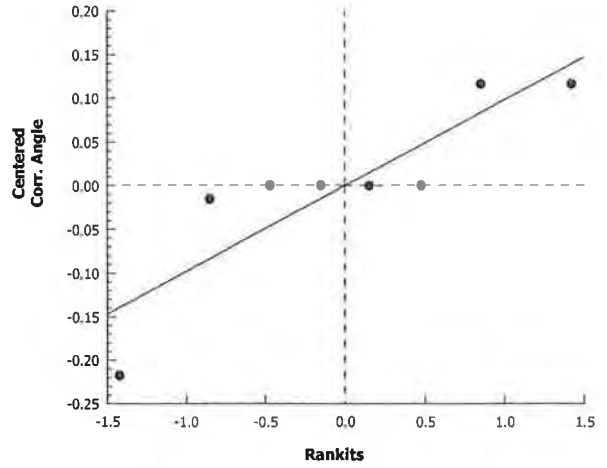
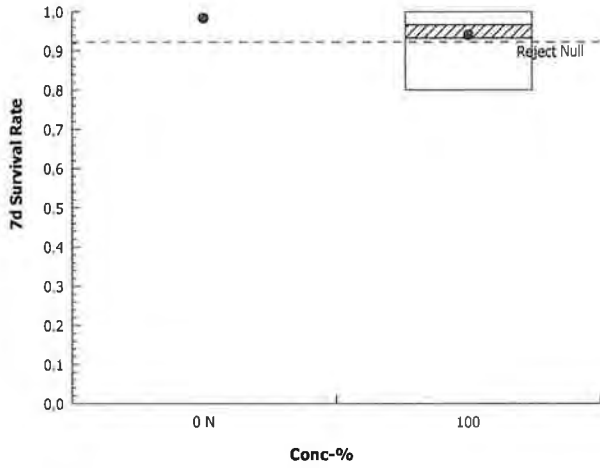
Analysis ID: 18-6054-2031      Endpoint: 7d Survival Rate  
Analyzed: 14 Mar-17 12:37      Analysis: Parametric-Two Sample

CETIS Version: CETISv1.9.2  
Official Results: Yes

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
100		14/15	15/15	15/15	12/15

Graphics



**CETIS Analytical Report**

**Report Date:** 20 Mar-17 15:26 (p 3 of 4)  
**Test Code:** PRI0217.265fml | 06-1286-0276

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 20-1286-4152	<b>Endpoint:</b> Mean Dry Biomass-mg	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 14 Mar-17 12:37	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 15-6420-1341	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:46	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:30	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 09-7909-8609	<b>Code:</b> PRI0217.265f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 14:45	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 1h (15.6 °C)	<b>Station:</b> LAILG-NGA124-8	

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% passed mean dry biomass-mg	17.90%

**Equal Variance t Two-Sample Test**

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	-0.9618	1.943	0.052	6	CDF	0.8133	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.2878	0.25	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0013005	0.0013005	1	0.925	0.3733	Non-Significant Effect
Error	0.0084359	0.001406	6			
Total	0.0097364		7			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	0.8614	13.75	0.3891	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.8022	13.75	0.4049	Equal Variances
Variances	Variance Ratio F Test	2.422	47.47	0.4866	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.344	3.878	0.4916	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1766	0.3313	0.8289	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9275	0.6451	0.4933	Normal Distribution

**Mean Dry Biomass-mg Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.2878	0.2422	0.3334	0.2803	0.262	0.3287	0.01433	9.96%	0.00%
100		4	0.3133	0.2423	0.3843	0.325	0.2527	0.3507	0.02231	14.24%	-8.86%

**Mean Dry Biomass-mg Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.262	0.2833	0.2773	0.3287
100		0.3073	0.3427	0.3507	0.2527

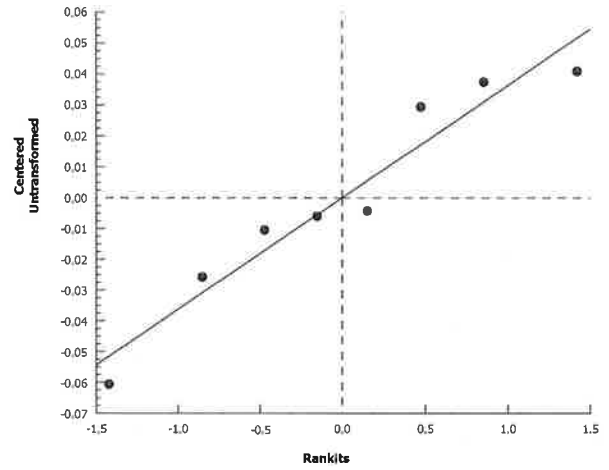
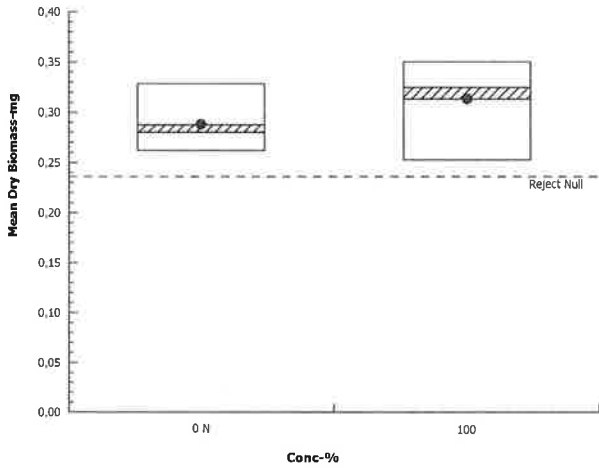
Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 20-1286-4152 Endpoint: Mean Dry Biomass-mg  
 Analyzed: 14 Mar-17 12:37 Analysis: Parametric-Two Sample

CETIS Version: CETISv1.9.2  
 Official Results: Yes

Graphics



# CETIS Measurement Report

Report Date: 20 Mar-17 15:26 (p 1 of 2)  
 Test Code: PRI0217.265fml | 06-1286-0276

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 15-6420-1341	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:46	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:30	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 09-7909-8609	<b>Code:</b> PRI0217.265f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 14:45	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 1h (15.6 °C)	<b>Station:</b> LAILG-NGA124-8	

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	61.12	60.83	61.42	61	62	0.125	0.3536	0.58%	0
100		8	64	64	64	64	64	0	0	0.0%	0
Overall		16	62.56	61.76	63.36	61	64	0.376	1.504	2.40%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	336.9	316.3	357.4	300	388	8.694	24.59	7.3%	0
100		8	355.2	332.4	378.1	335	403	9.684	27.39	7.71%	0
Overall		16	346.1	331.7	360.4	300	403	6.719	26.88	7.77%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.887	7.596	8.179	7.5	8.5	0.1231	0.3482	4.42%	0
100		8	8.037	7.692	8.383	7.5	8.6	0.1463	0.4138	5.15%	0
Overall		16	7.962	7.761	8.164	7.5	8.6	0.09437	0.3775	4.74%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	88.75	86.98	90.52	88	94	0.75	2.121	2.39%	0
100		8	85	85	85	85	85	0	0	0.0%	0
Overall		16	86.88	85.59	88.16	85	94	0.6047	2.419	2.78%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.713	7.362	8.063	7.1	8.3	0.1481	0.419	5.43%	0
100		8	7.025	6.909	7.141	6.8	7.2	0.0491	0.1389	1.98%	0
Overall		16	7.369	7.121	7.617	6.8	8.3	0.1164	0.4658	6.32%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.0%	0
100		8	24.08	23.9	24.25	24	24.6	0.075	0.2121	0.88%	0
Overall		16	24.04	23.96	24.12	24	24.6	0.0375	0.15	0.62%	0 (0%)

**CETIS Measurement Report**Report Date: 20 Mar-17 15:26 (p 2 of 2)  
Test Code: PRI0217.265fml | 06-1286-0276**Fathead Minnow 7-d Larval Survival and Growth Test**

Aquatic Bioassay &amp; Consulting Labs, Inc.

**Alkalinity (CaCO<sub>3</sub>)-mg/L**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	62	61	61	61	61	61	61	61
100		64	64	64	64	64	64	64	64

**Conductivity-µmhos**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	300	333	345	327	328	338	336	388
100		403	393	340	338	335	336	340	357

**Dissolved Oxygen-mg/L**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.5	7.6	8.3	7.7	7.9	7.9	7.7	8.5
100		7.5	7.7	8.6	8.5	8	7.9	8.4	7.7

**Hardness (CaCO<sub>3</sub>)-mg/L**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	94	88	88	88	88	88	88	88
100		85	85	85	85	85	85	85	85

**pH-Units**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.4	7.4	8.3	7.1	8	8.1	7.5	7.9
100		7	7.1	6.9	6.8	7	7.2	7	7.2

**Temperature-°C**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	24	24	24	24	24	24	24	24
100		24	24.6	24	24	24	24	24	24



March 21, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms EPA-821-R-02-013*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

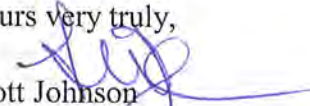
CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA124-8
DATE RECEIVED:	21 Feb -17
ABC LAB. NO.:	PRI0217.265

#### **CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY**

SURVIVAL	NOEC =	100.00 %
	TUc =	1.00
	EC25 =	N/A
	EC50 =	N/A %

REPRODUCTION	NOEC =	100.00 %
	TUc =	1.00
	IC25 =	N/A
	IC50 =	N/A

Yours very truly,

  
Scott Johnson  
Laboratory Director



# CETIS Summary Report

Report Date: 20 Mar-17 15:26 (p 1 of 1)  
 Test Code: PRI0217.265cer | 02-3038-6001

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 06-9088-5395	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:46	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:30	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 03-5294-0495	<b>Code:</b> PRI0217.265c	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 14:45	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 1h (15.6 °C)	<b>Station:</b> LAILG-NGA124-8	

### Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
05-9836-4242	7d Survival Rate	Fisher Exact Test	1.0000	100% passed 7d survival rate
02-8726-9270	Reproduction	Equal Variance t Two-Sample Test	0.7644	100% passed reproduction

### Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
05-9836-4242	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
02-8726-9270	Reproduction	Control Resp	37.6	15	>>	Yes	Passes Criteria

### 7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

### Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	37.6	32.34	42.86	23	48	2.325	7.351	19.55%	0.00%
100		10	39.6	36.42	42.78	32	47	1.408	4.452	11.24%	-5.32%

### 7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

### Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	43	44	43	37	37	23	31	48	37	33
100		47	38	40	42	39	32	33	41	42	42

### 7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

**CETIS Analytical Report**

Report Date: 20 Mar-17 15:26 (p 1 of 2)  
 Test Code: PRI0217.265cer | 02-3038-6001

Ceriodaphnia 7-d Survival and Reproduction Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 02-8726-9270	Endpoint: Reproduction	CETIS Version: CETISv1.9.2	Analyzed: 14 Mar-17 12:41	Analysis: Parametric-Two Sample	Official Results: Yes
Batch ID: 06-9088-5395	Test Type: Reproduction-Survival (7d)	Analyst:	Start Date: 21 Feb-17 15:46	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 28 Feb-17 14:30	Species: Ceriodaphnia dubia	Brine: Not Applicable	Duration: 6d 23h	Source: Aquatic Biosystems, CO	Age:
Sample ID: 03-5294-0495	Code: PRI0217.265c	Client: Pacific Ridgeline, Inc.	Sample Date: 17 Feb-17 14:45	Material: Sample Water	Project: LA Irrigated Lands Group (LAILG)-NG
Receipt Date: 21 Feb-17 14:40	Source: Bioassay Report		Sample Age: 4d 1h (15.6 °C)	Station: LAILG-NGA124-8	

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% passed reproduction	12.53%

**Equal Variance t Two-Sample Test**

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	-0.7359	1.734	4.713	18	CDF	0.7644	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	37.6	15	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	20	20	1	0.5415	0.4713	Non-Significant Effect
Error	664.8	36.9333	18			
Total	684.8		19			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	1.788	8.285	0.1978	Equal Variances
Variances	Mod Levene Equality of Variance Test	1.542	8.285	0.2303	Equal Variances
Variances	Variance Ratio F Test	2.726	6.541	0.1512	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.3725	3.878	0.4244	Normal Distribution
Distribution	D'Agostino Kurtosis Test	0.858	2.576	0.3909	Normal Distribution
Distribution	D'Agostino Skewness Test	1.185	2.576	0.2362	Normal Distribution
Distribution	D'Agostino-Pearson K2 Omnibus Test	2.139	9.21	0.3431	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1596	0.2235	0.2004	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9645	0.866	0.6360	Normal Distribution

**Reproduction Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	37.6	32.34	42.86	37	23	48	2.325	19.55%	0.00%
100		10	39.6	36.42	42.78	40.5	32	47	1.408	11.24%	-5.32%

**Reproduction Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	43	44	43	37	37	23	31	48	37	33
100		47	38	40	42	39	32	33	41	42	42





# CETIS Measurement Report

Report Date: 20 Mar-17 15:26 (p 1 of 2)  
 Test Code: PRI0217.265cer | 02-3038-6001

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 06-9088-5395	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:46	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:30	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 03-5294-0495	<b>Code:</b> PRI0217.265c	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 14:45	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 1h (15.6 °C)	<b>Station:</b> LAILG-NGA124-8	

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	61.12	60.83	61.42	61	62	0.125	0.3536	0.58%	0
100		8	64	64	64	64	64	0	0	0.0%	0
Overall		16	62.56	61.76	63.36	61	64	0.376	1.504	2.40%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	336.9	316.3	357.4	300	388	8.694	24.59	7.3%	0
100		8	355.2	332.4	378.1	335	403	9.684	27.39	7.71%	0
Overall		16	346.1	331.7	360.4	300	403	6.719	26.88	7.77%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.887	7.596	8.179	7.5	8.5	0.1231	0.3482	4.42%	0
100		8	8.037	7.692	8.383	7.5	8.6	0.1463	0.4138	5.15%	0
Overall		16	7.962	7.761	8.164	7.5	8.6	0.09437	0.3775	4.74%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	88.75	86.98	90.52	88	94	0.75	2.121	2.39%	0
100		8	85	85	85	85	85	0	0	0.0%	0
Overall		16	86.88	85.59	88.16	85	94	0.6047	2.419	2.78%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.713	7.362	8.063	7.1	8.3	0.1481	0.419	5.43%	0
100		8	7.025	6.909	7.141	6.8	7.2	0.0491	0.1389	1.98%	0
Overall		16	7.369	7.121	7.617	6.8	8.3	0.1164	0.4658	6.32%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.0%	0
100		8	24.08	23.9	24.25	24	24.6	0.075	0.2121	0.88%	0
Overall		16	24.04	23.96	24.12	24	24.6	0.0375	0.15	0.62%	0 (0%)

**CETIS Measurement Report**

Report Date: 20 Mar-17 15:26 (p 2 of 2)  
 Test Code: PRI0217.265cer | 02-3038-6001

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**Alkalinity (CaCO3)-mg/L**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	62	61	61	61	61	61	61	61
100		64	64	64	64	64	64	64	64

**Conductivity-µmhos**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	300	333	345	327	328	338	336	388
100		403	393	340	338	335	336	340	357

**Dissolved Oxygen-mg/L**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.5	7.6	8.3	7.7	7.9	7.9	7.7	8.5
100		7.5	7.7	8.6	8.5	8	7.9	8.4	7.7

**Hardness (CaCO3)-mg/L**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	94	88	88	88	88	88	88	88
100		85	85	85	85	85	85	85	85

**pH-Units**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.4	7.4	8.3	7.1	8	8.1	7.5	7.9
100		7	7.1	6.9	6.8	7	7.2	7	7.2

**Temperature-°C**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	24	24	24	24	24	24	24	24
100		24	24.6	24	24	24	24	24	24



March 21, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms EPA-821-R-02-013*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA124-8
DATE RECEIVED:	21 Feb -17
ABC LAB. NO.:	PRI0217.265

#### **CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY**

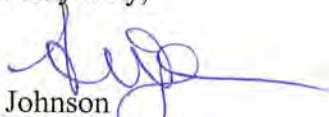
NOEC = <100.00 %

TUc = >1.00

IC25 = N/A

IC50 = N/A

Yours very truly,



Scott Johnson  
Laboratory Director

**CETIS Summary Report**

Report Date: 20 Mar-17 15:27 (p 1 of 1)

Test Code: PRI0217.265sel | 20-7026-0569

**Selenastrum Growth Test**

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 05-9173-9395	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 16:34	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 25 Feb-17 15:10	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Duration:</b> 95h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 13-7845-8764	<b>Code:</b> PRI0217.265s	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 14:45	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 2h (15.6 °C)	<b>Station:</b> LAILG-NGA124-8	

**Single Comparison Summary**

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
03-5104-3570	Cell Density	Equal Variance t Two-Sample Test	1.2E-05	100% failed cell density

**Test Acceptability**

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
03-5104-3570	Cell Density	Control CV	0.0468	<<	0.2	Yes	Passes Criteria
03-5104-3570	Cell Density	Control Resp	1.32E+6	1000000	>>	Yes	Passes Criteria

**Cell Density Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.319E+6	1.221E+6	1.417E+6	1.234E+6	1.367E+6	3.086E+4	6.172E+4	4.68%	0.00%
100		4	8.300E+5	7.396E+5	9.204E+5	7.570E+5	8.830E+5	2.842E+4	5.683E+4	6.85%	37.06%

**Cell Density Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.234E+6	1.312E+6	1.367E+6	1.362E+6
100		8.140E+5	8.830E+5	8.660E+5	7.570E+5



**CETIS Analytical Report**

Report Date: 20 Mar-17 15:27 (p 1 of 2)

Test Code: PRI0217.265sel | 20-7026-0569

Selenastrum Growth Test		Aquatic Bioassay & Consulting Labs, Inc.	
Analysis ID: 03-5104-3570	Endpoint: Cell Density	CETIS Version: CETISv1.9.2	
Analyzed: 14 Mar-17 13:07	Analysis: Parametric-Two Sample	Official Results: Yes	
Batch ID: 05-9173-9395	Test Type: Cell Growth	Analyst:	
Start Date: 21 Feb-17 16:34	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water	
Ending Date: 25 Feb-17 15:10	Species: Selenastrum capricornutum	Brine: Not Applicable	
Duration: 95h	Source: Aquatic Biosystems, CO	Age:	
Sample ID: 13-7845-8764	Code: PRI0217.265s	Client: Pacific Ridgeline, Inc.	
Sample Date: 17 Feb-17 14:45	Material: Sample Water	Project: LA Irrigated Lands Group (LAILG)-NG	
Receipt Date: 21 Feb-17 14:40	Source: Bioassay Report		
Sample Age: 4d 2h (15.6 °C)	Station: LAILG-NGA124-8		

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% failed cell density	6.18%

Equal Variance t Two-Sample Test									
Control	vs	Control II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100*	11.65	1.943	81510	6	CDF	1.2E-05	Significant Effect

Test Acceptability Criteria		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control CV	0.0468	<<	0.2	Yes	Passes Criteria
Control Resp	1.32E+6	1000000	>>	Yes	Passes Criteria

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	4.778E+11	4.778E+11	1	135.7	2.4E-05	Significant Effect
Error	2.112E+10	3.519E+09	6			
Total	4.989E+11		7			

Distributional Tests						
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)	
Variances	Levene Equality of Variance Test	0.003887	13.75	0.9523	Equal Variances	
Variances	Mod Levene Equality of Variance Test	0.00286	13.75	0.9591	Equal Variances	
Variances	Variance Ratio F Test	1.179	47.47	0.8954	Equal Variances	
Distribution	Anderson-Darling A2 Normality Test	0.561	3.878	0.1506	Normal Distribution	
Distribution	Kolmogorov-Smirnov D Test	0.2439	0.3313	0.1890	Normal Distribution	
Distribution	Shapiro-Wilk W Normality Test	0.8565	0.6451	0.1109	Normal Distribution	

Cell Density Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.319E+6	1.221E+6	1.417E+6	1.337E+6	1.234E+6	1.367E+6	3.086E+4	4.68%	0.00%
100		4	8.300E+5	7.396E+5	9.204E+5	8.400E+5	7.570E+5	8.830E+5	2.842E+4	6.85%	37.06%

Cell Density Detail					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.234E+6	1.312E+6	1.367E+6	1.362E+6
100		8.140E+5	8.830E+5	8.660E+5	7.570E+5



# CETIS Measurement Report

Report Date: 20 Mar-17 15:27 (p 1 of 2)

Test Code: PRI0217.265sel | 20-7026-0569

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 05-9173-9395	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 16:34	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 25 Feb-17 15:10	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Duration:</b> 95h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 13-7845-8764	<b>Code:</b> PRI0217.265s	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 14:45	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 2h (15.6 °C)	<b>Station:</b> LAILG-NGA124-8	

## Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	66			66	66	0	0	0.0%	0
100		1	66			66	66	0	0	0.0%	0
Overall		2	66	66	66	66	66	0	0	0.00%	0 (0%)

## Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	427	406.2	447.8	408	444	7.497	16.76	3.93%	0
100		5	340.2	338.6	341.8	339	342	0.5831	1.304	0.38%	0
Overall		10	383.6	349.9	417.3	339	444	14.89	47.1	12.28%	0 (0%)

## Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	98			98	98	0	0	0.0%	0
100		1	111			111	111	0	0	0.0%	0
Overall		2	104.5	21.91	187.1	98	111	6.5	9.192	8.80%	0 (0%)

## pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.66	7.518	7.802	7.5	7.8	0.05099	0.114	1.49%	0
100		5	7.9	7.596	8.204	7.6	8.2	0.1095	0.2449	3.1%	0
Overall		10	7.78	7.623	7.937	7.5	8.2	0.0696	0.2201	2.83%	0 (0%)

## Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	24.24	23.93	24.55	24	24.5	0.1122	0.251	1.04%	0
100		5	24.24	23.93	24.55	24	24.5	0.1122	0.251	1.04%	0
Overall		10	24.24	24.07	24.41	24	24.5	0.07483	0.2366	0.98%	0 (0%)

# CETIS Measurement Report

Report Date: 20 Mar-17 15:27 (p 2 of 2)  
Test Code: PRI0217.265sel | 20-7026-0569

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

### Alkalinity (CaCO<sub>3</sub>)-mg/L

Conc-%	Code	1
0	N	66
100		66

### Conductivity-µmhos

Conc-%	Code	1	2	3	4	5
0	N	435	438	444	408	410
100		342	341	340	339	339

### Hardness (CaCO<sub>3</sub>)-mg/L

Conc-%	Code	1
0	N	98
100		111

### pH-Units

Conc-%	Code	1	2	3	4	5
0	N	7.6	7.7	7.5	7.7	7.8
100		8.2	8	8	7.6	7.7

### Temperature-°C

Conc-%	Code	1	2	3	4	5
0	N	24.2	24	24	24.5	24.5
100		24.2	24	24	24.5	24.5



March 21, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms EPA-821-R-02-013*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:


CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA202-1
DATE RECEIVED:	21 Feb -17
ABC LAB. NO.:	PRI0217.266

#### CHRONIC FATHEAD LARVAE SURVIVAL & GROWTH BIOASSAY

SURVIVAL	NOEC =	100.00 %
	TU <sub>c</sub> =	1.00
	EC25 =	N/A
	EC50 =	N/A

GROWTH	NOEC =	100.00 %
	TU <sub>c</sub> =	1.00
	IC25 =	N/A
	IC50 =	N/A

Yours very truly,

  
Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 20 Mar-17 15:30 (p 1 of 1)  
 Test Code: PRI0217.266fml | 18-2281-4275

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 18-3664-9399	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:48	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:33	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 11-3397-0116	<b>Code:</b> PRI0217.266f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 15:10	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 1h (17 °C)	<b>Station:</b> LAILG-NGA202-1	

### Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
20-0903-2955	7d Survival Rate	Wilcoxon Rank Sum Two-Sample Test	1.0000	100% passed 7d survival rate
18-3750-3774	Mean Dry Biomass-mg	Equal Variance t Two-Sample Test	0.4180	100% passed mean dry biomass-mg

### Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
20-0903-2955	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
18-3750-3774	Mean Dry Biomass-mg	Control Resp	0.2878	0.25	>>	Yes	Passes Criteria

### 7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

### Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.2878	0.2422	0.3334	0.262	0.3287	0.01433	0.02867	9.96%	0.00%
100		4	0.2845	0.2663	0.3027	0.276	0.3013	0.005705	0.01141	4.01%	1.16%

### 7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

### Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.262	0.2833	0.2773	0.3287
100		0.28	0.2807	0.276	0.3013

### 7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
100		15/15	15/15	15/15	15/15

# CETIS Analytical Report

Report Date: 20 Mar-17 15:30 (p 1 of 4)  
 Test Code: PRI0217.266fml | 18-2281-4275

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 20-0903-2955	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 14 Mar-17 12:46	<b>Analysis:</b> Nonparametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 18-3664-9399	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:48	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:33	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 11-3397-0116	<b>Code:</b> PRI0217.266f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 15:10	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 1h (17 °C)	<b>Station:</b> LAILG-NGA202-1	

Data Transform	Alt Hyp	Comparison Result
Angular (Corrected)	C > T	100% passed 7d survival rate

### Wilcoxon Rank Sum Two-Sample Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	18	n/a	1	6	Exact	1.0000	Non-Significant Effect

### Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	1	0.8	>>	Yes	Passes Criteria

### ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	65540	<1.0E-37	Significant Effect
Error	0	0	6			
Total	0		7			

### 7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

### Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.441	1.441	1.442	1.441	1.441	1.441	0	0.00%	0.00%
100		4	1.441	1.441	1.442	1.441	1.441	1.441	0	0.00%	0.00%

### 7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

### Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.441	1.441	1.441	1.441
100		1.441	1.441	1.441	1.441

### 7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
100		15/15	15/15	15/15	15/15

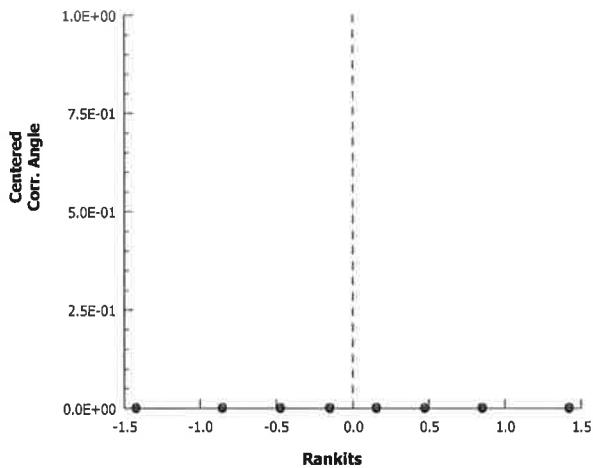
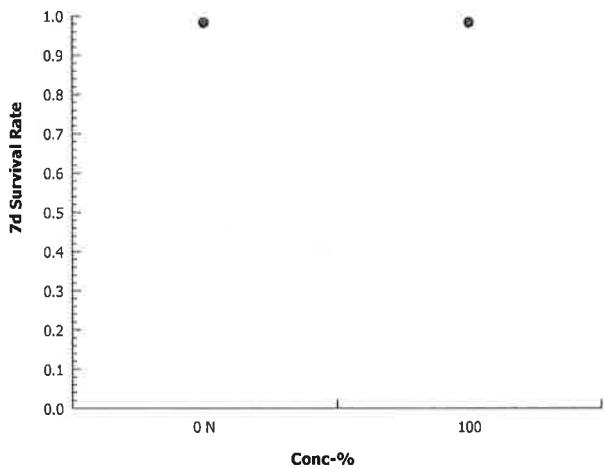
Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

**Analysis ID:** 20-0903-2955     **Endpoint:** 7d Survival Rate  
**Analyzed:** 14 Mar-17 12:46     **Analysis:** Nonparametric-Two Sample

**CETIS Version:** CETISv1.9.2  
**Official Results:** Yes

Graphics





**CETIS Analytical Report**

Report Date: 20 Mar-17 15:30 (p 3 of 4)

Test Code: PRI0217.266fml | 18-2281-4275

<b>Fathead Minnow 7-d Larval Survival and Growth Test</b>			<b>Aquatic Bioassay &amp; Consulting Labs, Inc.</b>		
Analysis ID: 18-3750-3774	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.9.2			
Analyzed: 14 Mar-17 12:46	Analysis: Parametric-Two Sample	Official Results: Yes			
Batch ID: 18-3664-9399	Test Type: Growth-Survival (7d)	Analyst:			
Start Date: 21 Feb-17 15:48	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 28 Feb-17 14:33	Species: Pimephales promelas	Brine: Not Applicable			
Duration: 6d 23h	Source: Aquatic Biosystems, CO	Age:			
Sample ID: 11-3397-0116	Code: PRI0217.266f	Client: Pacific Ridgeline, Inc.			
Sample Date: 17 Feb-17 15:10	Material: Sample Water	Project: LA Irrigated Lands Group (LAILG)-NG			
Receipt Date: 21 Feb-17 14:40	Source: Bioassay Report				
Sample Age: 4d 1h (17 °C)	Station: LAILG-NGA202-1				

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% passed mean dry biomass-mg	10.41%

**Equal Variance t Two-Sample Test**

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	0.2161	1.943	0.03	6	CDF	0.4180	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.2878	0.25	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.222E-05	2.222E-05	1	0.04669	0.8361	Non-Significant Effect
Error	0.0028558	0.000476	6			
Total	0.002878		7			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	1.909	13.75	0.2163	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.9833	13.75	0.3597	Equal Variances
Variances	Variance Ratio F Test	6.312	47.47	0.1645	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.6756	3.878	0.0778	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.3253	0.3313	0.0127	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.8684	0.6451	0.1455	Normal Distribution

**Mean Dry Biomass-mg Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.2878	0.2422	0.3334	0.2803	0.262	0.3287	0.01433	9.96%	0.00%
100		4	0.2845	0.2663	0.3027	0.2803	0.276	0.3013	0.005705	4.01%	1.16%

**Mean Dry Biomass-mg Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.262	0.2833	0.2773	0.3287
100		0.28	0.2807	0.276	0.3013

# CETIS Analytical Report

Report Date: 20 Mar-17 15:30 (p 4 of 4)  
Test Code: PRI0217.266fml | 18-2281-4275

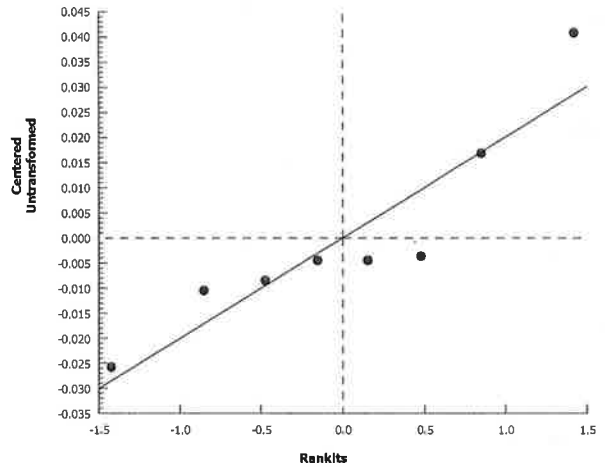
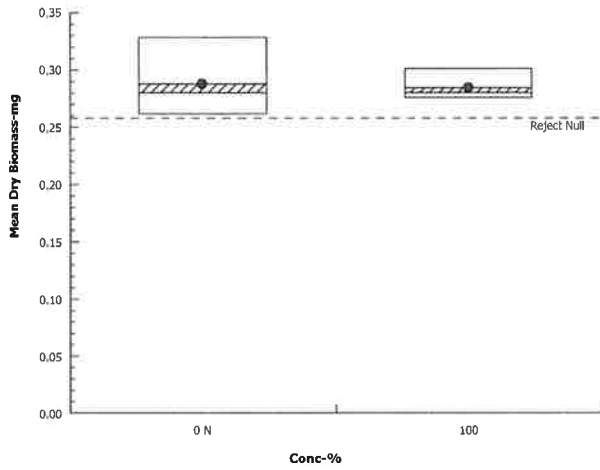
Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 18-3750-3774      Endpoint: Mean Dry Biomass-mg  
Analyzed: 14 Mar-17 12:46      Analysis: Parametric-Two Sample

CETIS Version: CETISv1.9.2  
Official Results: Yes

## Graphics



# CETIS Measurement Report

Report Date: 20 Mar-17 15:30 (p 1 of 2)  
 Test Code: PRI0217.266fml | 18-2281-4275

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 18-3664-9399	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:48	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:33	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 11-3397-0116	<b>Code:</b> PRI0217.266f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 15:10	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 1h (17 °C)	<b>Station:</b> LAILG-NGA202-1	

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	61.12	60.83	61.42	61	62	0.125	0.3536	0.58%	0
100		8	25	25	25	25	25	0	0	0.0%	0
Overall		16	43.06	33.12	53	25	62	4.664	18.66	43.32%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	336.9	316.3	357.4	300	388	8.694	24.59	7.3%	0
100		8	146.6	131.7	161.6	131	186	6.327	17.9	12.21%	0
Overall		16	241.8	188.2	295.3	131	388	25.1	100.4	41.54%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.887	7.596	8.179	7.5	8.5	0.1231	0.3482	4.42%	0
100		8	8.038	7.7	8.375	7.6	8.9	0.1426	0.4033	5.02%	0
Overall		16	7.963	7.764	8.161	7.5	8.9	0.09304	0.3722	4.67%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	88.75	86.98	90.52	88	94	0.75	2.121	2.39%	0
100		8	63	63	63	63	63	0	0	0.0%	0
Overall		16	75.88	68.75	83	63	94	3.344	13.38	17.63%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.713	7.362	8.063	7.1	8.3	0.1481	0.419	5.43%	0
100		8	7.363	7.208	7.517	7.1	7.6	0.06529	0.1847	2.51%	0
Overall		16	7.538	7.345	7.73	7.1	8.3	0.09031	0.3612	4.79%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.0%	0
100		8	24.1	23.86	24.34	24	24.8	0.1	0.2828	1.17%	0
Overall		16	24.05	23.94	24.16	24	24.8	0.05	0.2	0.83%	0 (0%)

**CETIS Measurement Report**

**Report Date:** 20 Mar-17 15:30 (p 2 of 2)  
**Test Code:** PRI0217.266fml | 18-2281-4275

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**Alkalinity (CaCO3)-mg/L**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	62	61	61	61	61	61	61	61
100		25	25	25	25	25	25	25	25

**Conductivity-µmhos**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	300	333	345	327	328	338	336	388
100		141	144	186	131	133	136	145	157

**Dissolved Oxygen-mg/L**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.5	7.6	8.3	7.7	7.9	7.9	7.7	8.5
100		8	7.8	8.9	8	7.9	7.8	8.3	7.6

**Hardness (CaCO3)-mg/L**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	94	88	88	88	88	88	88	88
100		63	63	63	63	63	63	63	63

**pH-Units**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.4	7.4	8.3	7.1	8	8.1	7.5	7.9
100		7.3	7.5	7.1	7.1	7.4	7.5	7.4	7.6

**Temperature-°C**

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	24	24	24	24	24	24	24	24
100		24	24.8	24	24	24	24	24	24

March 21, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms EPA-821-R-02-013*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA202-1
DATE RECEIVED:	21 Feb -17
ABC LAB. NO.:	PRI0217.266

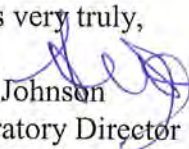
#### **CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY**

SURVIVAL	NOEC =	100.00 %
	TUc =	1.00
	EC25 =	N/A
	EC50 =	N/A %

REPRODUCTION	NOEC =	100.00 %
	TUc =	1.00
	IC25 =	N/A
	IC50 =	N/A

Yours very truly,

Scott Johnson  
Laboratory Director



# CETIS Summary Report

Report Date: 20 Mar-17 15:31 (p 1 of 1)  
 Test Code: PRI0217.266cer | 20-9896-1824

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 17-7895-0686      Test Type: Reproduction-Survival (7d)      Analyst:  
 Start Date: 21 Feb-17 15:48      Protocol: EPA/821/R-02-013 (2002)      Diluent: Laboratory Water  
 Ending Date: 28 Feb-17 14:33      Species: Ceriodaphnia dubia      Brine: Not Applicable  
 Duration: 6d 23h      Source: Aquatic Biosystems, CO      Age:

Sample ID: 07-9647-6820      Code: PRI0217.266c      Client: Pacific Ridgeline, Inc.  
 Sample Date: 17 Feb-17 15:10      Material: Sample Water      Project: LA Irrigated Lands Group (LAILG)-NG  
 Receipt Date: 21 Feb-17 14:40      Source: Bioassay Report  
 Sample Age: 4d 1h (17 °C)      Station: LAILG-NGA202-1

### Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
13-0071-6488	7d Survival Rate	Fisher Exact Test	1.0000	100% passed 7d survival rate
09-7488-7863	Reproduction	Equal Variance t Two-Sample Test	0.0704	100% passed reproduction

### Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
13-0071-6488	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
09-7488-7863	Reproduction	Control Resp	37.6	15	>>	Yes	Passes Criteria

### 7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

### Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	37.6	32.34	42.86	23	48	2.325	7.351	19.55%	0.00%
100		10	33	28.76	37.24	25	41	1.874	5.925	17.96%	12.23%

### 7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

### Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	43	44	43	37	37	23	31	48	37	33
100		28	26	38	39	39	32	41	29	33	25

### 7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

**CETIS Analytical Report**

Report Date: 20 Mar-17 15:31 (p 1 of 2)  
 Test Code: PRI0217.266cer | 20-9896-1824

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 09-7488-7863	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 14 Mar-17 12:49	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 17-7895-0686	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:48	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:33	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 07-9647-6820	<b>Code:</b> PRI0217.266c	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 15:10	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 1h (17 °C)	<b>Station:</b> LAILG-NGA202-1	

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% passed reproduction	13.77%

**Equal Variance t Two-Sample Test**

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	1.541	1.734	5.178	18	CDF	0.0704	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	37.6	15	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	105.8	105.8	1	2.373	0.1408	Non-Significant Effect
Error	802.4	44.5778	18			
Total	908.2		19			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	0.09825	8.285	0.7575	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.05395	8.285	0.8189	Equal Variances
Variances	Variance Ratio F Test	1.539	6.541	0.5307	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.5101	3.878	0.2009	Normal Distribution
Distribution	D'Agostino Kurtosis Test	0.2529	2.576	0.8004	Normal Distribution
Distribution	D'Agostino Skewness Test	0.7743	2.576	0.4388	Normal Distribution
Distribution	D'Agostino-Pearson K2 Omnibus Test	0.6635	9.21	0.7177	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1792	0.2235	0.0919	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9514	0.866	0.3896	Normal Distribution

**Reproduction Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	37.6	32.34	42.86	37	23	48	2.325	19.55%	0.00%
100		10	33	28.76	37.24	32.5	25	41	1.874	17.96%	12.23%

**Reproduction Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	43	44	43	37	37	23	31	48	37	33
100		28	26	38	39	39	32	41	29	33	25

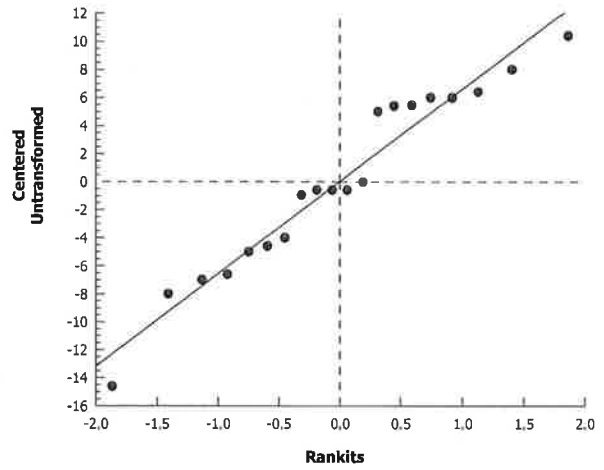
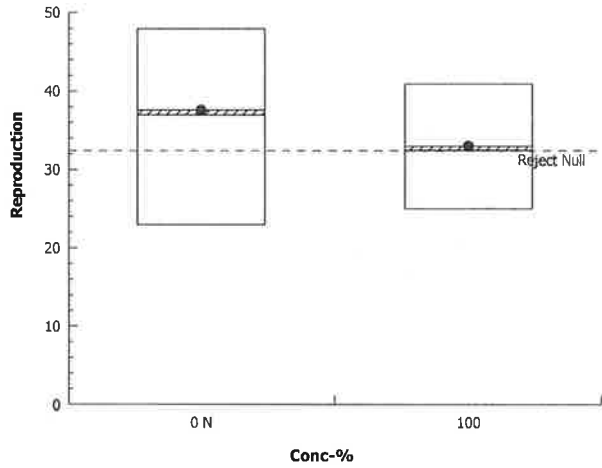
**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**Analysis ID:** 09-7488-7863    **Endpoint:** Reproduction  
**Analyzed:** 14 Mar-17 12:49    **Analysis:** Parametric-Two Sample

**CETIS Version:** CETISv1.9.2  
**Official Results:** Yes

**Graphics**





**CETIS Analytical Report**

Report Date: 20 Mar-17 15:31 (p 1 of 1)  
 Test Code: PRI0217.266cer | 20-9896-1824

**Ceriodaphnia 7-d Survival and Reproduction Test**

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 13-0071-6488	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 14 Mar-17 12:50	<b>Analysis:</b> Single 2x2 Contingency Table	<b>Official Results:</b> Yes
<b>Batch ID:</b> 17-7895-0686	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:48	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:33	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 07-9647-6820	<b>Code:</b> PRI0217.266c	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 15:10	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 1h (17 °C)	<b>Station:</b> LAILG-NGA202-1	

Data Transform	Alt Hyp	Comparison Result
Untransformed	C > T	100% passed 7d survival rate

**Fisher Exact Test**

Control	vs	Group	Test Stat	P-Type	P-Value	Decision(α:5%)
Negative Control		100	1.0000	Exact	1.0000	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	1	0.8	>>	Yes	Passes Criteria

**Data Summary**

Conc-%	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	N	10	0	10	1	0	0.0%
100		10	0	10	1	0	0.0%

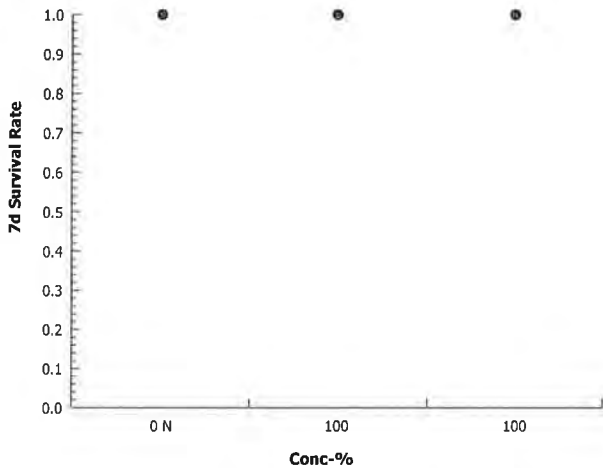
**7d Survival Rate Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

**7d Survival Rate Binomials**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

**Graphics**



# CETIS Measurement Report

Report Date: 20 Mar-17 15:31 (p 1 of 2)  
 Test Code: PRI0217.266cer | 20-9896-1824

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 17-7895-0686      Test Type: Reproduction-Survival (7d)  
 Start Date: 21 Feb-17 15:48      Protocol: EPA/821/R-02-013 (2002)  
 Ending Date: 28 Feb-17 14:33      Species: Ceriodaphnia dubia  
 Duration: 6d 23h      Source: Aquatic Biosystems, CO

Analyst:  
 Diluent: Laboratory Water  
 Brine: Not Applicable  
 Age:

Sample ID: 07-9647-6820      Code: PRI0217.266c  
 Sample Date: 17 Feb-17 15:10      Material: Sample Water  
 Receipt Date: 21 Feb-17 14:40      Source: Bioassay Report  
 Sample Age: 4d 1h (17 °C)      Station: LAILG-NGA202-1

Client: Pacific Ridgeline, Inc.  
 Project: LA Irrigated Lands Group (LAILG)-NG

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	61.12	60.83	61.42	61	62	0.125	0.3536	0.58%	0
100		8	25	25	25	25	25	0	0	0.0%	0
Overall		16	43.06	33.12	53	25	62	4.664	18.66	43.32%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	336.9	316.3	357.4	300	388	8.694	24.59	7.3%	0
100		8	146.6	131.7	161.6	131	186	6.327	17.9	12.21%	0
Overall		16	241.8	188.2	295.3	131	388	25.1	100.4	41.54%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.887	7.596	8.179	7.5	8.5	0.1231	0.3482	4.42%	0
100		8	8.038	7.7	8.375	7.6	8.9	0.1426	0.4033	5.02%	0
Overall		16	7.963	7.764	8.161	7.5	8.9	0.09304	0.3722	4.67%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	88.75	86.98	90.52	88	94	0.75	2.121	2.39%	0
100		8	63	63	63	63	63	0	0	0.0%	0
Overall		16	75.88	68.75	83	63	94	3.344	13.38	17.63%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.713	7.362	8.063	7.1	8.3	0.1481	0.419	5.43%	0
100		8	7.363	7.208	7.517	7.1	7.6	0.06529	0.1847	2.51%	0
Overall		16	7.538	7.345	7.73	7.1	8.3	0.09031	0.3612	4.79%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.0%	0
100		8	24.1	23.86	24.34	24	24.8	0.1	0.2828	1.17%	0
Overall		16	24.05	23.94	24.16	24	24.8	0.05	0.2	0.83%	0 (0%)

# CETIS Measurement Report

Report Date: 20 Mar-17 15:31 (p 2 of 2)  
Test Code: PRI0217.266cer | 20-9896-1824

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

### Alkalinity (CaCO<sub>3</sub>)-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	62	61	61	61	61	61	61	61
100		25	25	25	25	25	25	25	25

### Conductivity-µmhos

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	300	333	345	327	328	338	336	388
100		141	144	186	131	133	136	145	157

### Dissolved Oxygen-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.5	7.6	8.3	7.7	7.9	7.9	7.7	8.5
100		8	7.8	8.9	8	7.9	7.8	8.3	7.6

### Hardness (CaCO<sub>3</sub>)-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	94	88	88	88	88	88	88	88
100		63	63	63	63	63	63	63	63

### pH-Units

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.4	7.4	8.3	7.1	8	8.1	7.5	7.9
100		7.3	7.5	7.1	7.1	7.4	7.5	7.4	7.6

### Temperature-°C

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	24	24	24	24	24	24	24	24
100		24	24.8	24	24	24	24	24	24



March 21, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* EPA-821-R-02-013. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA202-1
DATE RECEIVED:	21 Feb -17
ABC LAB. NO.:	PRI0217.266

#### CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY

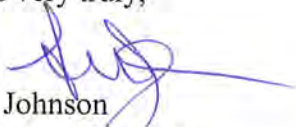
NOEC = <100.00 %

TUc = >1.00

IC25 = N/A

IC50 = N/A

Yours very truly,

  
Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 20 Mar-17 15:31 (p 1 of 1)  
 Test Code: PRI0217.266sel | 12-1649-1698

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 15-4092-7822	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 16:35	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 25 Feb-17 15:20	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Duration:</b> 95h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 14-2031-2075	<b>Code:</b> PRI0217.266s	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 15:10	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 1h (17 °C)	<b>Station:</b> LAILG-NGA202-1	

## Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
09-0980-4427	Cell Density	Equal Variance t Two-Sample Test	2.0E-05	100% failed cell density

## Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
09-0980-4427	Cell Density	Control CV	0.0468	<<	0.2	Yes	Passes Criteria
09-0980-4427	Cell Density	Control Resp	1.32E+6	1000000	>>	Yes	Passes Criteria

## Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.319E+6	1.221E+6	1.417E+6	1.234E+6	1.367E+6	3.086E+4	6.172E+4	4.68%	0.00%
100		4	9.845E+5	9.680E+5	1.001E+6	9.750E+5	9.990E+5	5.172E+3	1.034E+4	1.05%	25.35%

## Cell Density Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.234E+6	1.312E+6	1.367E+6	1.362E+6
100		9.750E+5	9.840E+5	9.990E+5	9.800E+5

**CETIS Analytical Report**

Report Date: 20 Mar-17 15:31 (p 1 of 2)  
 Test Code: PRI0217.266sel | 12-1649-1698

Selenastrum Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 09-0980-4427	Endpoint: Cell Density	CETIS Version: CETISv1.9.2			
Analyzed: 14 Mar-17 13:10	Analysis: Parametric-Two Sample	Official Results: Yes			
Batch ID: 15-4092-7822	Test Type: Cell Growth	Analyst:			
Start Date: 21 Feb-17 16:35	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 25 Feb-17 15:20	Species: Selenastrum capricornutum	Brine: Not Applicable			
Duration: 95h	Source: Aquatic Biosystems, CO	Age:			
Sample ID: 14-2031-2075	Code: PRI0217.266s	Client: Pacific Ridgeline, Inc.			
Sample Date: 17 Feb-17 15:10	Material: Sample Water	Project: LA Irrigated Lands Group (LAILG)-NG			
Receipt Date: 21 Feb-17 14:40	Source: Bioassay Report				
Sample Age: 4d 1h (17 °C)	Station: LAILG-NGA202-1				

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% failed cell density	4.61%

**Equal Variance t Two-Sample Test**

Control	vs	Control II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100*	10.68	1.943	60800	6	CDF	2.0E-05	Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control CV	0.0468	<<	0.2	Yes	Passes Criteria
Control Resp	1.32E+6	1000000	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.234E+11	2.234E+11	1	114.1	4.0E-05	Significant Effect
Error	1.175E+10	1.958E+09	6			
Total	2.352E+11		7			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	5.619	13.75	0.0555	Equal Variances
Variances	Mod Levene Equality of Variance Test	3.972	13.75	0.0933	Equal Variances
Variances	Variance Ratio F Test	35.6	47.47	0.0152	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.5766	3.878	0.1377	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.2833	0.3313	0.0579	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.8701	0.6451	0.1512	Normal Distribution

**Cell Density Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.319E+6	1.221E+6	1.417E+6	1.337E+6	1.234E+6	1.367E+6	3.086E+4	4.68%	0.00%
100		4	9.845E+5	9.680E+5	1.001E+6	9.820E+5	9.750E+5	9.990E+5	5.172E+3	1.05%	25.35%

**Cell Density Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.234E+6	1.312E+6	1.367E+6	1.362E+6
100		9.750E+5	9.840E+5	9.990E+5	9.800E+5

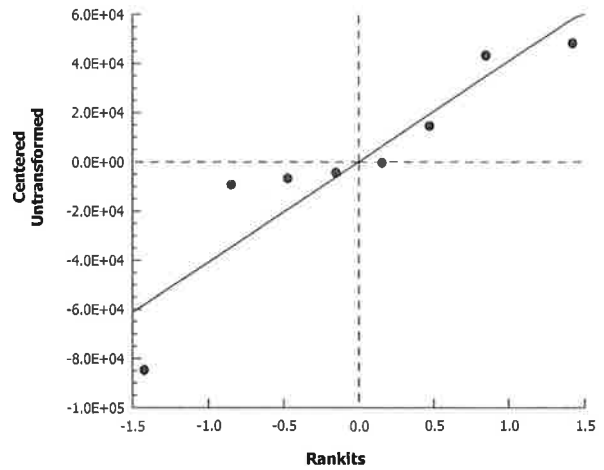
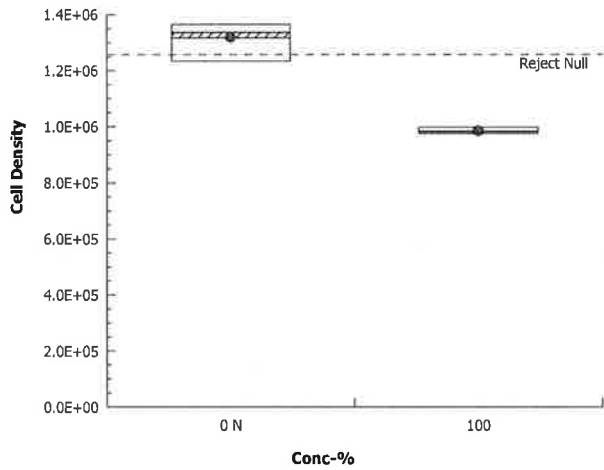
**Selenastrum Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID: 09-0980-4427      Endpoint: Cell Density  
 Analyzed: 14 Mar-17 13:10      Analysis: Parametric-Two Sample

CETIS Version: CETISv1.9.2  
 Official Results: Yes

**Graphics**







# CETIS Measurement Report

Report Date: 20 Mar-17 15:31 (p 2 of 2)  
Test Code: PRI0217.266sel | 12-1649-1698

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	1
0	N	66
100		41

### Conductivity-µmhos

Conc-%	Code	1	2	3	4	5
0	N	435	438	444	408	410
100		231	235	236	243	248

### Hardness (CaCO3)-mg/L

Conc-%	Code	1
0	N	98
100		72

### pH-Units

Conc-%	Code	1	2	3	4	5
0	N	7.6	7.7	7.5	7.7	7.8
100		8.1	7.8	7.9	7.5	7.6

### Temperature-°C

Conc-%	Code	1	2	3	4	5
0	N	24.2	24	24	24.5	24.5
100		24.2	24	24	24.5	24.5



March 21, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms EPA-821-R-02-013*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

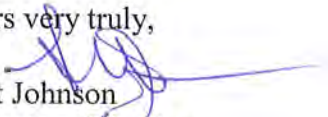
CLIENT: Pacific Ridgeline  
SAMPLE I.D.: LAILG-NGA150-7  
DATE RECEIVED: 21 Feb -17  
ABC LAB. NO.: PRI0217.267

#### **CHRONIC FATHEAD LARVAE SURVIVAL & GROWTH BIOASSAY**

SURVIVAL            NOEC =        100.00 %  
                          TU<sub>c</sub> =        1.00  
                          EC25 =        N/A  
                          EC50 =        N/A

GROWTH            NOEC =        100.00 %  
                          TU<sub>c</sub> =        1.00  
                          IC25 =        N/A  
                          IC50 =        N/A

Yours very truly,

  
Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 20 Mar-17 15:33 (p 1 of 1)

Test Code: PRI0217.267fml | 03-2955-2700

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 08-4048-2237	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:50	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:33	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 02-0305-6467	<b>Code:</b> PRI0217.267f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 16:10	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 96h (16.9 °C)	<b>Station:</b> LAILG-NGA150-7	

### Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
00-6055-6671	7d Survival Rate	Equal Variance t Two-Sample Test	0.1057	100% passed 7d survival rate
08-7743-8657	Mean Dry Biomass-mg	Equal Variance t Two-Sample Test	0.1237	100% passed mean dry biomass-mg

### Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
00-6055-6671	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
08-7743-8657	Mean Dry Biomass-mg	Control Resp	0.2878	0.25	>>	Yes	Passes Criteria

### 7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		4	0.9167	0.7159	1.0000	0.7333	1.0000	0.0631	0.1262	13.77%	8.33%

### Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.2878	0.2422	0.3334	0.262	0.3287	0.01433	0.02867	9.96%	0.00%
100		4	0.2582	0.2003	0.3161	0.204	0.282	0.01819	0.03638	14.09%	10.31%

### 7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	0.9333	0.7333

### Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.262	0.2833	0.2773	0.3287
100		0.282	0.2713	0.2753	0.204

### 7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
100		15/15	15/15	14/15	11/15

**CETIS Analytical Report**

Report Date: 20 Mar-17 15:33 (p 1 of 4)  
 Test Code: PRI0217.267fml | 03-2955-2700

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 00-6055-6671	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 14 Mar-17 12:53	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 08-4048-2237	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:50	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:33	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 02-0305-6467	<b>Code:</b> PRI0217.267f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 16:10	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 96h (16.9 °C)	<b>Station:</b> LAILG-NGA150-7	

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	100% passed 7d survival rate	9.82%

**Equal Variance t Two-Sample Test**

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	1.399	1.943	0.189	6	CDF	0.1057	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	1	0.8	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0371111	0.0371111	1	1.956	0.2114	Non-Significant Effect
Error	0.113838	0.018973	6			
Total	0.150949		7			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	6.197	13.75	0.0472	Equal Variances
Variances	Mod Levene Equality of Variance Test	3.747	13.75	0.1010	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	1.084	3.878	0.0078	Non-Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.375	0.3313	0.0015	Non-Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.7586	0.6451	0.0102	Normal Distribution

**7d Survival Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	0.9167	0.7159	1.0000	0.9667	0.7333	1.0000	0.0631	13.77%	8.33%

**Angular (Corrected) Transformed Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.441	1.441	1.442	1.441	1.441	1.441	0	0.00%	0.00%
100		4	1.305	0.9952	1.615	1.375	1.028	1.441	0.0974	14.93%	9.45%

**7d Survival Rate Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	0.9333	0.7333

**Angular (Corrected) Transformed Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.441	1.441	1.441	1.441
100		1.441	1.441	1.31	1.028

# CETIS Analytical Report

Report Date: 20 Mar-17 15:33 (p 2 of 4)  
 Test Code: PRI0217.267fml | 03-2955-2700

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

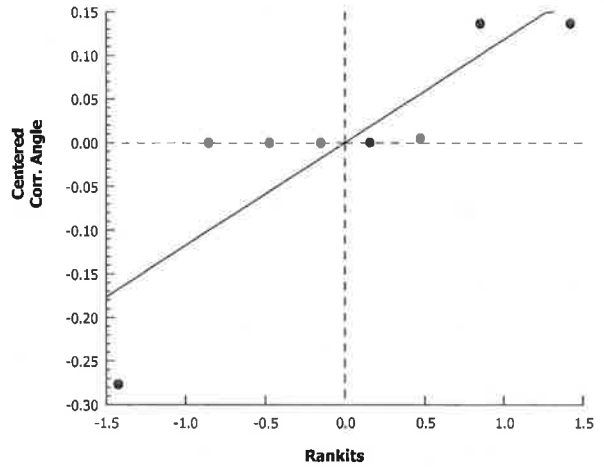
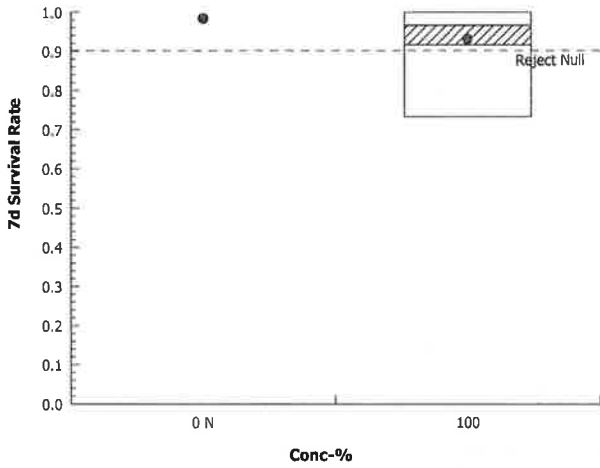
Analysis ID: 00-6055-6671      Endpoint: 7d Survival Rate  
 Analyzed: 14 Mar-17 12:53      Analysis: Parametric-Two Sample

CETIS Version: CETISv1.9.2  
 Official Results: Yes

**7d Survival Rate Binomials**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
100		15/15	15/15	14/15	11/15

**Graphics**



**CETIS Analytical Report**

**Report Date:** 20 Mar-17 15:33 (p 3 of 4)  
**Test Code:** PRI0217.267fml | 03-2955-2700

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 08-7743-8657	<b>Endpoint:</b> Mean Dry Biomass-mg	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 14 Mar-17 12:53	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 08-4048-2237	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:50	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:33	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 02-0305-6467	<b>Code:</b> PRI0217.267f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 16:10	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 96h (16.9 °C)	<b>Station:</b> LAILG-NGA150-7	

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% passed mean dry biomass-mg	15.63%

**Equal Variance t Two-Sample Test**

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100	1.281	1.943	0.045	6	CDF	0.1237	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.2878	0.25	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0017602	0.0017602	1	1.641	0.2475	Non-Significant Effect
Error	0.0064353	0.0010726	6			
Total	0.0081956		7			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	0.2908	13.75	0.6091	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.01427	13.75	0.9088	Equal Variances
Variances	Variance Ratio F Test	1.61	47.47	0.7050	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.2051	3.878	0.9137	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1679	0.3313	0.9533	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9706	0.6451	0.9028	Normal Distribution

**Mean Dry Biomass-mg Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.2878	0.2422	0.3334	0.2803	0.262	0.3287	0.01433	9.96%	0.00%
100		4	0.2582	0.2003	0.3161	0.2733	0.204	0.282	0.01819	14.09%	10.31%

**Mean Dry Biomass-mg Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.262	0.2833	0.2773	0.3287
100		0.282	0.2713	0.2753	0.204



# CETIS Measurement Report

Report Date: 20 Mar-17 15:33 (p 1 of 2)

Test Code: PRI0217.267fml | 03-2955-2700

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 08-4048-2237	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:50	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:33	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 02-0305-6467	<b>Code:</b> PRI0217.267f	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 16:10	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 96h (16.9 °C)	<b>Station:</b> LAILG-NGA150-7	

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	61.12	60.83	61.42	61	62	0.125	0.3536	0.58%	0
100		8	7	7	7	7	7	0	0	0.0%	0
Overall		16	34.06	19.17	48.96	7	62	6.988	27.95	82.06%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	88.75	86.98	90.52	88	94	0.75	2.121	2.39%	0
100		8	92	92	92	92	92	0	0	0.0%	0
Overall		16	90.38	89.19	91.56	88	94	0.5543	2.217	2.45%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.887	7.596	8.179	7.5	8.5	0.1231	0.3482	4.42%	0
100		8	7.6	7.085	8.115	6.9	8.8	0.2179	0.6164	8.11%	0
Overall		16	7.744	7.474	8.013	6.9	8.8	0.1265	0.5059	6.53%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	88.75	86.98	90.52	88	94	0.75	2.121	2.39%	0
100		8	92	92	92	92	92	0	0	0.0%	0
Overall		16	90.38	89.19	91.56	88	94	0.5543	2.217	2.45%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.713	7.362	8.063	7.1	8.3	0.1481	0.419	5.43%	0
100		8	6.863	6.722	7.003	6.6	7.1	0.05957	0.1685	2.46%	0
Overall		16	7.288	7.002	7.573	6.6	8.3	0.1341	0.5365	7.36%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.0%	0
100		8	24.04	23.95	24.13	24	24.3	0.03751	0.1061	0.44%	0
Overall		16	24.02	23.98	24.06	24	24.3	0.01875	0.075	0.31%	0 (0%)



# CETIS Measurement Report

Report Date: 20 Mar-17 15:33 (p 2 of 2)  
Test Code: PRI0217.267fml | 03-2955-2700

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

### Alkalinity (CaCO<sub>3</sub>)-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	62	61	61	61	61	61	61	61
100		7	7	7	7	7	7	7	7

### Conductivity-µmhos

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	94	88	88	88	88	88	88	88
100		92	92	92	92	92	92	92	92

### Dissolved Oxygen-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.5	7.6	8.3	7.7	7.9	7.9	7.7	8.5
100		6.9	7.9	8.8	7.5	7.4	7.5	7.9	6.9

### Hardness (CaCO<sub>3</sub>)-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	94	88	88	88	88	88	88	88
100		92	92	92	92	92	92	92	92

### pH-Units

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.4	7.4	8.3	7.1	8	8.1	7.5	7.9
100		6.7	7.1	6.9	6.6	6.8	7	6.8	7

### Temperature-°C

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	24	24	24	24	24	24	24	24
100		24	24.3	24	24	24	24	24	24



March 21, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms EPA-821-R-02-013*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

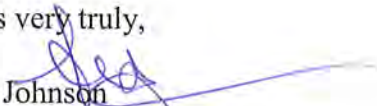
CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA150-7
DATE RECEIVED:	21 Feb -17
ABC LAB. NO.:	PRI0217.267

#### **CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY**

SURVIVAL	NOEC =	<100.00 %
	TU <sub>c</sub> =	>1.00
	EC25 =	N/A
	EC50 =	N/A %

REPRODUCTION	NOEC =	<100.00 %
	TU <sub>c</sub> =	>1.00
	IC25 =	N/A
	IC50 =	N/A

Yours very truly,

  
Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 21 Mar-17 15:50 (p 1 of 1)

Test Code: PRI0217.267cer | 03-1693-2839

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 02-8616-0849	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:50	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:33	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 17-1864-6985	<b>Code:</b> PRI0217.267c	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 16:10	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 96h (16.9 °C)	<b>Station:</b> LAILG-NGA150-7	

### Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
14-0747-2063	7d Survival Rate	Fisher Exact Test	5.4E-06	100% failed 7d survival rate
08-3251-1913	Reproduction	Wilcoxon Rank Sum Two-Sample Test	5.4E-06	100% failed reproduction

### Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
14-0747-2063	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
08-3251-1913	Reproduction	Control Resp	37.6	15	>>	Yes	Passes Criteria

### 7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%

### Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	37.6	32.34	42.86	23	48	2.325	7.351	19.55%	0.00%
100		10	0	0	0	0	0	0	0		100.00%

### 7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

### Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	43	44	43	37	37	23	31	48	37	33
100		0	0	0	0	0	0	0	0	0	0

### 7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1

# CETIS Analytical Report

Report Date: 21 Mar-17 15:50 (p 1 of 2)  
 Test Code: PRI0217.267cer | 03-1693-2839

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 08-3251-1913	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 21 Mar-17 15:48	<b>Analysis:</b> Nonparametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 02-8616-0849	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:50	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:33	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 17-1864-6985	<b>Code:</b> PRI0217.267c	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 16:10	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 96h (16.9 °C)	<b>Station:</b> LAILG-NGA150-7	

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% failed reproduction	10.72%

### Wilcoxon Rank Sum Two-Sample Test

Control	vs	Control II	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100*	55	n/a	0	18	Exact	5.4E-06	Significant Effect

### Test Acceptability Criteria

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	37.6	15	>>	Yes	Passes Criteria

### ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	7068.8	7068.8	1	261.6	<1.0E-37	Significant Effect
Error	486.4	27.0222	18			
Total	7555.2		19			

### Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	15.09	8.285	0.0011	Unequal Variances
Variances	Mod Levene Equality of Variance Test	13.23	8.285	0.0019	Unequal Variances
Distribution	Anderson-Darling A2 Normality Test	2.089	3.878	<1.0E-37	Non-Normal Distribution
Distribution	D'Agostino Kurtosis Test	2.328	2.576	0.0199	Normal Distribution
Distribution	D'Agostino Skewness Test	1.6	2.576	0.1096	Normal Distribution
Distribution	D'Agostino-Pearson K2 Omnibus Test	7.981	9.21	0.0185	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.3028	0.2235	4.0E-05	Non-Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.8228	0.866	0.0019	Non-Normal Distribution

### Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	37.6	32.34	42.86	37	23	48	2.325	19.55%	0.00%
100		10	0	0	0	0	0	0	0		100.00%

### Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	43	44	43	37	37	23	31	48	37	33
100		0	0	0	0	0	0	0	0	0	0

**CETIS Analytical Report**

**Report Date:** 21 Mar-17 15:50 (p 2 of 2)

**Test Code:** PRI0217.267cer | 03-1693-2839

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**Analysis ID:** 08-3251-1913

**Endpoint:** Reproduction

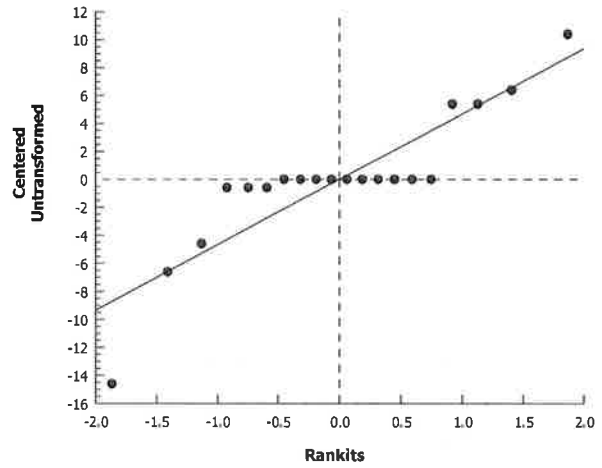
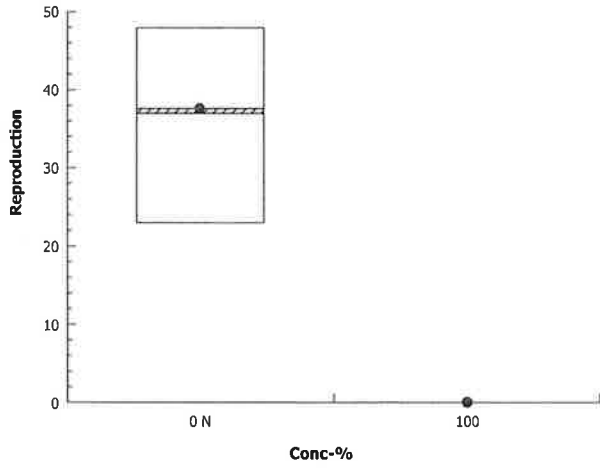
**CETIS Version:** CETISv1.9.2

**Analyzed:** 21 Mar-17 15:48

**Analysis:** Nonparametric-Two Sample

**Official Results:** Yes

**Graphics**



**CETIS Analytical Report**

Report Date: 21 Mar-17 15:50 (p 1 of 1)  
 Test Code: PRI0217.267cer | 03-1693-2839

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 14-0747-2063	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 21 Mar-17 15:48	<b>Analysis:</b> Single 2x2 Contingency Table	<b>Official Results:</b> Yes
<b>Batch ID:</b> 02-8616-0849	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:50	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:33	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 17-1864-6985	<b>Code:</b> PRI0217.267c	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 16:10	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 96h (16.9 °C)	<b>Station:</b> LAILG-NGA150-7	

<b>Data Transform</b>	<b>Alt Hyp</b>	<b>Comparison Result</b>
Untransformed	C > T	100% failed 7d survival rate

**Fisher Exact Test**

Control	vs	Control	Test Stat	P-Type	P-Value	Decision(α:5%)
Negative Control		100*	0.0000	Exact	5.4E-06	Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	1	0.8	>>	Yes	Passes Criteria

**Data Summary**

Conc-%	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	N	10	0	10	1	0	0.0%
100		0	10	10	0	1	100.0%

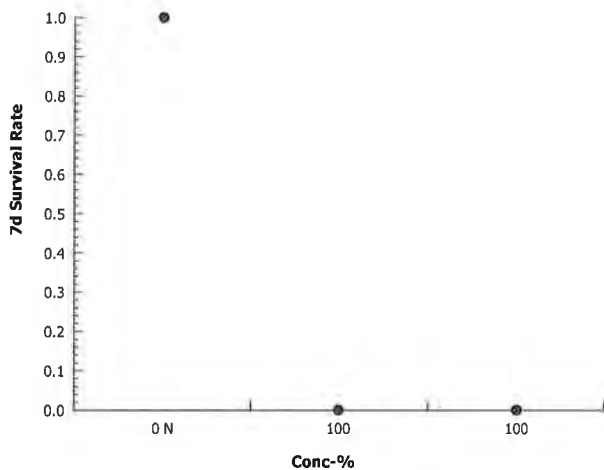
**7d Survival Rate Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

**7d Survival Rate Binomials**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1

**Graphics**



# CETIS Measurement Report

Report Date: 21 Mar-17 15:50 (p 1 of 2)

Test Code: PRI0217.267cer | 03-1693-2839

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 02-8616-0849	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 15:50	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 14:33	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 23h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 17-1864-6985	<b>Code:</b> PRI0217.267c	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 16:10	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 96h (16.9 °C)	<b>Station:</b> LAILG-NGA150-7	

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	61.12	60.83	61.42	61	62	0.125	0.3536	0.58%	0
100		8	7	7	7	7	7	0	0	0.0%	0
Overall		16	34.06	19.17	48.96	7	62	6.988	27.95	82.06%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	336.9	316.3	357.4	300	388	8.694	24.59	7.3%	0
100		8	277.9	268	287.8	266	292	4.189	11.85	4.26%	0
Overall		16	307.4	288.3	326.4	266	388	8.93	35.72	11.62%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.887	7.596	8.179	7.5	8.5	0.1231	0.3482	4.42%	0
100		8	7.6	7.085	8.115	6.9	8.8	0.2179	0.6164	8.11%	0
Overall		16	7.744	7.474	8.013	6.9	8.8	0.1265	0.5059	6.53%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	88.75	86.98	90.52	88	94	0.75	2.121	2.39%	0
100		8	92	92	92	92	92	0	0	0.0%	0
Overall		16	90.38	89.19	91.56	88	94	0.5543	2.217	2.45%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.838	7.541	8.134	7.4	8.3	0.1253	0.3543	4.52%	0
100		8	6.863	6.722	7.003	6.6	7.1	0.05957	0.1685	2.46%	0
Overall		16	7.35	7.046	7.654	6.6	8.3	0.1426	0.5704	7.76%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.0%	0
100		8	24.04	23.95	24.13	24	24.3	0.03751	0.1061	0.44%	0
Overall		16	24.02	23.98	24.06	24	24.3	0.01875	0.075	0.31%	0 (0%)

# CETIS Measurement Report

Report Date: 21 Mar-17 15:50 (p 2 of 2)  
 Test Code: PRI0217.267cer | 03-1693-2839

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	62	61	61	61	61	61	61	61
100		7	7	7	7	7	7	7	7

### Conductivity-µmhos

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	300	333	345	327	328	338	336	388
100		292	292	292	269	270	273	269	266

### Dissolved Oxygen-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.5	7.6	8.3	7.7	7.9	7.9	7.7	8.5
100		6.9	7.9	8.8	7.5	7.4	7.5	7.9	6.9

### Hardness (CaCO3)-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	94	88	88	88	88	88	88	88
100		92	92	92	92	92	92	92	92

### pH-Units

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.4	7.4	8.3	8.1	8	8.1	7.5	7.9
100		6.7	7.1	6.9	6.6	6.8	7	6.8	7

### Temperature-°C

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	24	24	24	24	24	24	24	24
100		24	24.3	24	24	24	24	24	24





March 21, 2017

Mr. Bryn Home  
Pacific Ridgeline  
1891 Goodyear Avenue, Suite 621  
Ventura, CA 93003

Dear Mr. Home:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms EPA-821-R-02-013*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT:	Pacific Ridgeline
SAMPLE I.D.:	LAILG-NGA150-7
DATE RECEIVED:	21 Feb -17
ABC LAB. NO.:	PRI0217.267

#### **CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY**

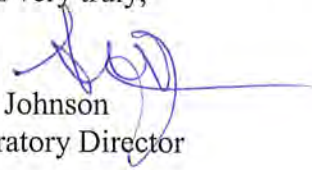
NOEC = <100.00 %

TUc = >1.00

IC25 = N/A

IC50 = N/A

Yours very truly,



Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 20 Mar-17 15:36 (p 1 of 1)

Test Code: PRI0217.267sel | 17-8670-7562

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 03-5139-3854	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 16:36	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 25 Feb-17 15:30	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Duration:</b> 95h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 03-4680-1275	<b>Code:</b> PRI0217.267s	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 16:10	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 0h (16.9 °C)	<b>Station:</b> LAILG-NGA150-7	

## Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
18-1053-2807	Cell Density	Equal Variance t Two-Sample Test	1.1E-06	100% failed cell density

## Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
18-1053-2807	Cell Density	Control CV	0.0468	<<	0.2	Yes	Passes Criteria
18-1053-2807	Cell Density	Control Resp	1.32E+6	1000000	>>	Yes	Passes Criteria

## Cell Density Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.319E+6	1.221E+6	1.417E+6	1.234E+6	1.367E+6	3.086E+4	6.172E+4	4.68%	0.00%
100		4	7.448E+5	7.119E+5	7.776E+5	7.140E+5	7.580E+5	1.031E+4	2.061E+4	2.77%	43.53%

## Cell Density Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.234E+6	1.312E+6	1.367E+6	1.362E+6
100		7.540E+5	7.580E+5	7.530E+5	7.140E+5

**CETIS Analytical Report**

Report Date: 20 Mar-17 15:36 (p 1 of 2)

Test Code: PRI0217.267sel | 17-8670-7562

**Selenastrum Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 18-1053-2807	<b>Endpoint:</b> Cell Density	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 14 Mar-17 13:13	<b>Analysis:</b> Parametric-Two Sample	<b>Official Results:</b> Yes
<b>Batch ID:</b> 03-5139-3854	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 16:36	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 25 Feb-17 15:30	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Duration:</b> 95h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 03-4680-1275	<b>Code:</b> PRI0217.267s	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 16:10	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 0h (16.9 °C)	<b>Station:</b> LAILG-NGA150-7	

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	100% failed cell density	4.79%

**Equal Variance t Two-Sample Test**

Control	vs	Control II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		100*	17.64	1.943	63220	6	CDF	1.1E-06	Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control CV	0.0468	<<	0.2	Yes	Passes Criteria
Control Resp	1.32E+6	1000000	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	6.59E+11	6.59E+11	1	311.3	2.1E-06	Significant Effect
Error	1.270E+10	2.117E+09	6			
Total	6.717E+11		7			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	3.272	13.75	0.1205	Equal Variances
Variances	Mod Levene Equality of Variance Test	2.615	13.75	0.1570	Equal Variances
Variances	Variance Ratio F Test	8.964	47.47	0.1046	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.4103	3.878	0.3476	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.2018	0.3313	0.5164	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9088	0.6451	0.3456	Normal Distribution

**Cell Density Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.319E+6	1.221E+6	1.417E+6	1.337E+6	1.234E+6	1.367E+6	3.086E+4	4.68%	0.00%
100		4	7.448E+5	7.119E+5	7.776E+5	7.535E+5	7.140E+5	7.580E+5	1.031E+4	2.77%	43.53%

**Cell Density Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.234E+6	1.312E+6	1.367E+6	1.362E+6
100		7.540E+5	7.580E+5	7.530E+5	7.140E+5

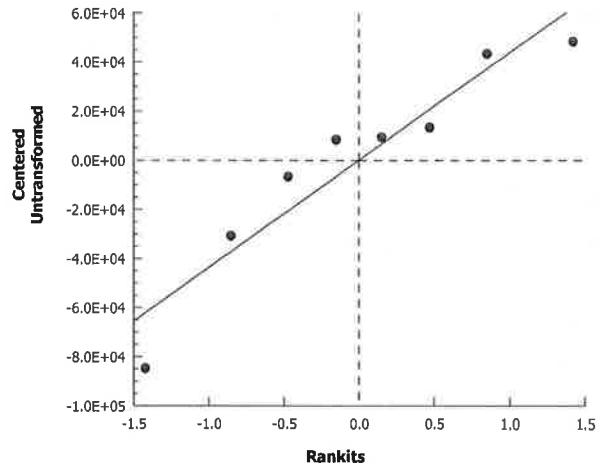
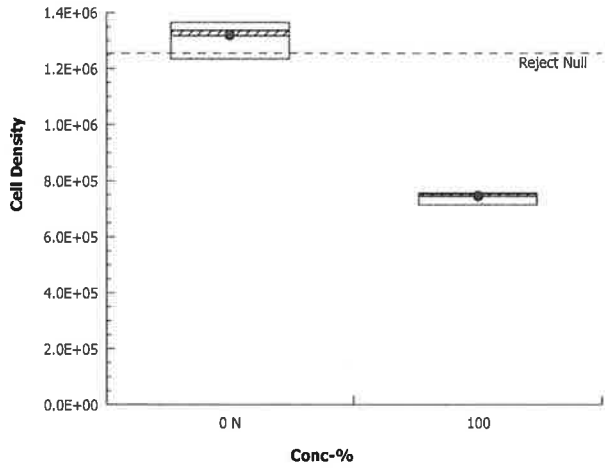
Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 18-1053-2807    Endpoint: Cell Density  
 Analyzed: 14 Mar-17 13:13    Analysis: Parametric-Two Sample

CETIS Version: CETISv1.9.2  
 Official Results: Yes

Graphics



# CETIS Measurement Report

Report Date: 20 Mar-17 15:36 (p 1 of 2)

Test Code: PRI0217.267sel | 17-8670-7562

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 03-5139-3854	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 16:36	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 25 Feb-17 15:30	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Duration:</b> 95h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>

<b>Sample ID:</b> 03-4680-1275	<b>Code:</b> PRI0217.267s	<b>Client:</b> Pacific Ridgeline, Inc.
<b>Sample Date:</b> 17 Feb-17 16:10	<b>Material:</b> Sample Water	<b>Project:</b> LA Irrigated Lands Group (LAILG)-NG
<b>Receipt Date:</b> 21 Feb-17 14:40	<b>Source:</b> Bioassay Report	
<b>Sample Age:</b> 4d 0h (16.9 °C)	<b>Station:</b> LAILG-NGA150-7	

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	66			66	66	0	0	0.0%	0
100		1	26			26	26	0	0	0.0%	0
Overall		2	46	-208.1	300.1	26	66	20	28.28	61.49%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	427	406.2	447.8	408	444	7.497	16.76	3.93%	0
100		5	333.8	332.4	335.2	333	335	0.4899	1.095	0.33%	0
Overall		10	380.4	344.4	416.4	333	444	15.93	50.38	13.24%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	98			98	98	0	0	0.0%	0
100		1	94			94	94	0	0	0.0%	0
Overall		2	96	70.59	121.4	94	98	2	2.828	2.95%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.66	7.518	7.802	7.5	7.8	0.05099	0.114	1.49%	0
100		5	7.44	7.329	7.551	7.3	7.5	0.04	0.08944	1.2%	0
Overall		10	7.55	7.442	7.658	7.3	7.8	0.04773	0.1509	2.00%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	24.24	23.93	24.55	24	24.5	0.1122	0.251	1.04%	0
100		5	24.24	23.93	24.55	24	24.5	0.1122	0.251	1.04%	0
Overall		10	24.24	24.07	24.41	24	24.5	0.07483	0.2366	0.98%	0 (0%)

# CETIS Measurement Report

Report Date: 20 Mar-17 15:36 (p 2 of 2)

Test Code: PRI0217.267sel | 17-8670-7562

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	1
0	N	66
100		26

### Conductivity-µmhos

Conc-%	Code	1	2	3	4	5
0	N	435	438	444	408	410
100		335	333	333	335	333

### Hardness (CaCO3)-mg/L

Conc-%	Code	1
0	N	98
100		94

### pH-Units

Conc-%	Code	1	2	3	4	5
0	N	7.6	7.7	7.5	7.7	7.8
100		7.5	7.4	7.5	7.3	7.5

### Temperature-°C

Conc-%	Code	1	2	3	4	5
0	N	24.2	24	24	24.5	24.5
100		24.2	24	24	24.5	24.5





1891 Goodyear Ave., Suite 621  
 Ventura, CA 93003  
 Tel 855-682-1802 • www.pacr.com

# CHAIN OF CUSTODY RECORD

CLIENT NAME / BILL TO:

PROJECT:

ANALYSES REQUESTED

SPECIAL HANDLING

Pacific Ridgeline  
 ADDRESS:

LA Irrigated Lands Group (LAILG) - NGA  
 ADDRESS:

1891 Goodyear Ave., Suite 621  
 Ventura Ca, 93003

PHONE: (855) 682-1802 Ext. 101

EMAIL: bryn@pacrl.com

PO#: N/A

PROJECT MANAGER:

SAMPLER:

Bryn Home

Scott Isolan

SAMPLE ID#	DATE SAMPLED	TIME SAMPLED	SAMPL TYPE	SAMPL DESCRIPTION/SITE LOCATION	# OF CONT.	Ceriodaphnia Dubia (7Day)	Fathead Minnow (7 Day)	Selanastrum (96 hr.)	COMMENTS:	
LAILG-NGA17-1	2/17/17	12:40	RW		2	X	X	X		
LAILG-NGA15B-1		14:03				X	X	X		
LAILG-NGA124-8		14:45				X	X	X		
LAILG-NGA1702-1		15:10				X	X	X		
LAILG-NGA150-7		16:10				X	X	X		
				Temp. deg. C =						
				Chlorine (mg/L) =						
				NH3 (mg/L) =						
				178-3-0.0, 158-1-0.0, 124-8-0.0, 202-1-0.0, 150-7-2.0						
				178-3-0.0, 158-1-0.0, 124-8-0.0, 202-1-0.0, 150-7-2.0						
RELINQUISHED BY:	DATE / TIME:		DATE / TIME:	RECEIVED BY:	SAMPLE CONDITION:				SAMPLE TYPE CODE:	
	2/21/17		1440		Actual Temperature:				AQ=Aqueous	
RELINQUISHED BY:	DATE / TIME:		DATE / TIME:	RECEIVED BY:	Received On Ice				NA= Non Aqueous	
					Preserved				SL= Sludge	
					Evidence Seals Present				DW= Drinking Water	
					Container Attacked				RW= Waste Water	
					Preserved at Lab				GW= Rain Water	
									SO= Soil	
									SW= Solid Waste	
									OL= Oil	
									OT= Other Matrix	

STANDARD  
 24 Hour Rush  
 48-72 Hour Rush  
 4 - 5 Day Rush  
 EDFE

**CHRONIC FATHEAD MINNOW SURVIVAL AND GROWTH BIOASSAY**

DATE: 21 February 2017

STANDARD TOXICANT: Copper Chloride

ENDPOINT: SURVIVAL

NOEC = 75.00 ug/l

EC25 = 112.50 ug/l

EC50 = >150.00 ug/l

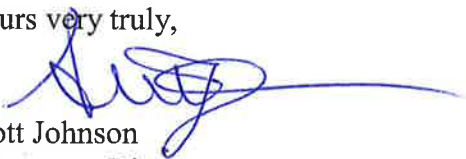
ENDPOINT: GROWTH

NOEC = 75.00 ug/l

IC25 = 51.89 ug/l

IC50 = 108.90 ug/l

Yours very truly,



Scott Johnson  
Laboratory Director



# CETIS Summary Report

Report Date: 07 Mar-17 14:10 (p 1 of 2)  
 Test Code: FML022117 | 07-3563-0398

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 19-4065-1991	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 11:40	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 09:40	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 11-9234-5492	<b>Code:</b> FML022117	<b>Client:</b> ABC Labs
<b>Sample Date:</b> 21 Feb-17 11:40	<b>Material:</b> Copper chloride	<b>Project:</b> REF TOX
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

### Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD	✓
20-9077-4083	7d Survival Rate	Steel Many-One Rank Sum Test	75	150	106.1		9.15%	✓
16-0580-4573	Mean Dry Biomass-mg	Steel Many-One Rank Sum Test	75	150	106.1		29.8%	✓

### Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	Level	µg/L	95% LCL	95% UCL	TU	✓
00-0410-4112	7d Survival Rate	Linear Interpolation (ICPIN)	EC5	45.4	23.43	97.98		
			EC10	67.6	39.97	103.4		
			EC15	84.38	47.85	117.4		
			EC20	98.44	55.56	140.9		
			EC25	112.5	77.76	n/a		
			EC40	>150	n/a	n/a		
18-1615-8074	Mean Dry Biomass-mg	Linear Interpolation (ICPIN)	IC5	3.584	n/a	74.71		✓
			IC10	7.168	n/a	110.5		✓
			IC15	13.32	n/a	121.5		✓
			IC20	38.14	n/a	118.2		✓
			IC25	51.89	n/a	121.3		✓
			IC40	88.47	n/a	134.4		✓
			IC50	108.9	48.64	146.8		✓

### Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits			Overlap	Decision
				Lower	Upper			
00-0410-4112	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria	
20-9077-4083	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria	
16-0580-4573	Mean Dry Biomass-mg	Control Resp	0.3333	0.25	>>	Yes	Passes Criteria	
18-1615-8074	Mean Dry Biomass-mg	Control Resp	0.3333	0.25	>>	Yes	Passes Criteria	
16-0580-4573	Mean Dry Biomass-mg	PMSD	0.2979	0.12	0.3	Yes	Passes Criteria	

### 7d Survival Rate Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
10		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
19		4	0.9833	0.9303	1.0000	0.9333	1.0000	0.0167	0.0333	3.39%	1.67%
38		4	0.9667	0.9054	1.0000	0.9333	1.0000	0.0193	0.0385	3.98%	3.33%
75		4	0.8833	0.7022	1.0000	0.7333	1.0000	0.0569	0.1139	12.89%	11.67%
150		4	0.6167	0.3814	0.8519	0.4667	0.8000	0.0739	0.1478	23.97%	38.33%

### Mean Dry Biomass-mg Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.3333	0.1248	0.5418	0.2553	0.5293	0.06551	0.131	39.31%	0.00%
10		4	0.2868	0.2653	0.3083	0.2693	0.3013	0.006757	0.01351	4.71%	13.95%
19		4	0.2773	0.2551	0.2996	0.2653	0.2947	0.006992	0.01398	5.04%	16.80%
38		4	0.2668	0.2535	0.2802	0.2553	0.2753	0.004193	0.008387	3.14%	19.95%
75		4	0.222	0.1438	0.3002	0.1507	0.2633	0.02457	0.04915	22.14%	33.40%
150		4	0.0995	0.06809	0.1309	0.07867	0.122	0.009871	0.01974	19.84%	70.15%

# CETIS Summary Report

Report Date: 07 Mar-17 14:10 (p 2 of 2)  
Test Code: FML022117 | 07-3563-0398

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

### 7d Survival Rate Detail

Conc- $\mu$ g/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
10		1.0000	1.0000	1.0000	1.0000
19		1.0000	1.0000	1.0000	0.9333
38		0.9333	1.0000	1.0000	0.9333
75		0.8667	1.0000	0.7333	0.9333
150		0.5333	0.8000	0.4667	0.6667

### Mean Dry Biomass-mg Detail

Conc- $\mu$ g/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.2787	0.27	0.2553	0.5293
10		0.292	0.2847	0.3013	0.2693
19		0.2653	0.2947	0.2667	0.2827
38		0.2693	0.2673	0.2753	0.2553
75		0.2367	0.2373	0.1507	0.2633
150		0.07867	0.1093	0.088	0.122

### 7d Survival Rate Binomials

Conc- $\mu$ g/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
10		15/15	15/15	15/15	15/15
19		15/15	15/15	15/15	14/15
38		14/15	15/15	15/15	14/15
75		13/15	15/15	11/15	14/15
150		8/15	12/15	7/15	10/15

# CETIS Analytical Report

Report Date: 07 Mar-17 14:10 (p 1 of 4)  
 Test Code: FML022117 | 07-3563-0398

Fathead Minnow 7-d Larval Survival and Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 20-9077-4083	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.2			
Analyzed: 07 Mar-17 14:09	Analysis: Nonparametric-Control vs Treatments	Official Results: Yes			
Batch ID: 19-4065-1991	Test Type: Growth-Survival (7d)	Analyst:			
Start Date: 21 Feb-17 11:40	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 28 Feb-17 09:40	Species: Pimephales promelas	Brine: Not Applicable			
Duration: 6d 22h	Source: Aquatic Biosystems, CO	Age:			
Sample ID: 11-9234-5492	Code: FML022117	Client: ABC Labs			
Sample Date: 21 Feb-17 11:40	Material: Copper chloride	Project: REF TOX			
Receipt Date:	Source: Reference Toxicant				
Sample Age: n/a	Station: REF TOX				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	75	150	106.1		9.15%

Steel Many-One Rank Sum Test									
Control	vs	Conc-µg/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		10	18	10	1	6	Asymp	0.8333	Non-Significant Effect
		19	16	10	1	6	Asymp	0.6105	Non-Significant Effect
		38	14	10	1	6	Asymp	0.3451	Non-Significant Effect
		75	12	10	1	6	Asymp	0.1424	Non-Significant Effect
		150*	10	10	0	6	Asymp	0.0417	Significant Effect

Test Acceptability Criteria		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	1	0.8	>>	Yes	Passes Criteria

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.855569	0.171114	5	15.67	5.2E-06	Significant Effect
Error	0.196585	0.0109214	18			
Total	1.05215		23			

Distributional Tests						
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)	
Variances	Levene Equality of Variance Test	5.913	4.248	0.0021	Unequal Variances	
Variances	Mod Levene Equality of Variance Test	4.729	4.248	0.0062	Unequal Variances	
Distribution	Anderson-Darling A2 Normality Test	0.8812	3.878	0.0240	Normal Distribution	
Distribution	D'Agostino Kurtosis Test	1.38	2.576	0.1675	Normal Distribution	
Distribution	D'Agostino Skewness Test	0.05022	2.576	0.9599	Normal Distribution	
Distribution	D'Agostino-Pearson K2 Omnibus Test	1.908	9.21	0.3852	Normal Distribution	
Distribution	Kolmogorov-Smirnov D Test	0.2083	0.2056	0.0084	Non-Normal Distribution	
Distribution	Shapiro-Wilk W Normality Test	0.9323	0.884	0.1095	Normal Distribution	

7d Survival Rate Summary											
Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
10		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
19		4	0.9833	0.9303	1.0000	1.0000	0.9333	1.0000	0.0167	3.39%	1.67%
38		4	0.9667	0.9054	1.0000	0.9667	0.9333	1.0000	0.0192	3.98%	3.33%
75		4	0.8833	0.7022	1.0000	0.9000	0.7333	1.0000	0.0569	12.89%	11.67%
150		4	0.6167	0.3814	0.8519	0.6000	0.4667	0.8000	0.0739	23.97%	38.33%



# CETIS Analytical Report

Report Date: 07 Mar-17 14:10 (p 3 of 4)  
 Test Code: FML022117 | 07-3563-0398

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 16-0580-4573	<b>Endpoint:</b> Mean Dry Biomass-mg	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 07 Mar-17 14:09	<b>Analysis:</b> Nonparametric-Control vs Treatments	<b>Official Results:</b> Yes
<b>Batch ID:</b> 19-4065-1991	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 11:40	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 09:40	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 11-9234-5492	<b>Code:</b> FML022117	<b>Client:</b> ABC Labs
<b>Sample Date:</b> 21 Feb-17 11:40	<b>Material:</b> Copper chloride	<b>Project:</b> REF TOX
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	75	150	106.1		29.79%

## Steel Many-One Rank Sum Test

Control	vs	Conc-µg/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		10	20	10	0	6	Asymp	0.9516	Non-Significant Effect
		19	18	10	0	6	Asymp	0.8333	Non-Significant Effect
		38	14.5	10	1	6	Asymp	0.4092	Non-Significant Effect
		75	11	10	0	6	Asymp	0.0805	Non-Significant Effect
		150*	10	10	0	6	Asymp	0.0417	Significant Effect

## Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.3333	0.25	>>	Yes	Passes Criteria
PMSD	0.2979	0.12	0.3	Yes	Passes Criteria

## ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.13093	0.0261859	5	7.694	5.0E-04	Significant Effect
Error	0.0612615	0.0034034	18			
Total	0.192191		23			

## Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	28.03	15.09	3.6E-05	Unequal Variances
Variances	Levene Equality of Variance Test	5.684	4.248	0.0026	Unequal Variances
Variances	Mod Levene Equality of Variance Test	0.8379	4.248	0.5401	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	2.018	3.878	<1.0E-37	Non-Normal Distribution
Distribution	D'Agostino Kurtosis Test	3.74	2.576	1.8E-04	Non-Normal Distribution
Distribution	D'Agostino Skewness Test	3.768	2.576	1.6E-04	Non-Normal Distribution
Distribution	D'Agostino-Pearson K2 Omnibus Test	28.19	9.21	7.9E-07	Non-Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.2481	0.2056	5.2E-04	Non-Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.7523	0.884	5.4E-05	Non-Normal Distribution

## Mean Dry Biomass-mg Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.3333	0.1248	0.5418	0.2743	0.2553	0.5293	0.06551	39.31%	0.00%
10		4	0.2868	0.2653	0.3083	0.2883	0.2693	0.3013	0.006757	4.71%	13.95%
19		4	0.2773	0.2551	0.2996	0.2747	0.2653	0.2947	0.006992	5.04%	16.80%
38		4	0.2668	0.2535	0.2802	0.2683	0.2553	0.2753	0.004193	3.14%	19.95%
75		4	0.222	0.1438	0.3002	0.237	0.1507	0.2633	0.02457	22.14%	33.40%
150		4	0.0995	0.06809	0.1309	0.09867	0.07867	0.122	0.009871	19.84%	70.15%

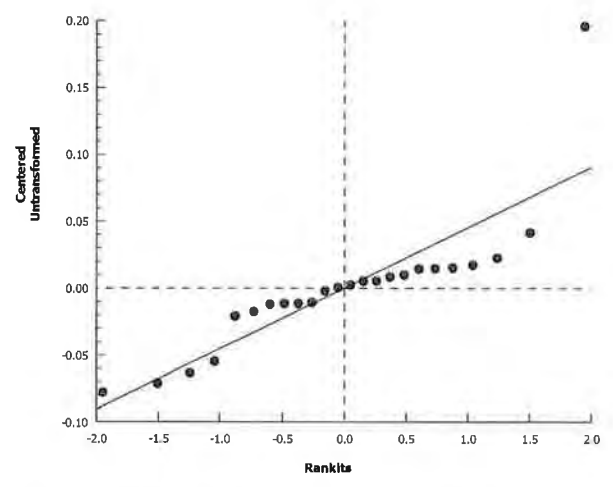
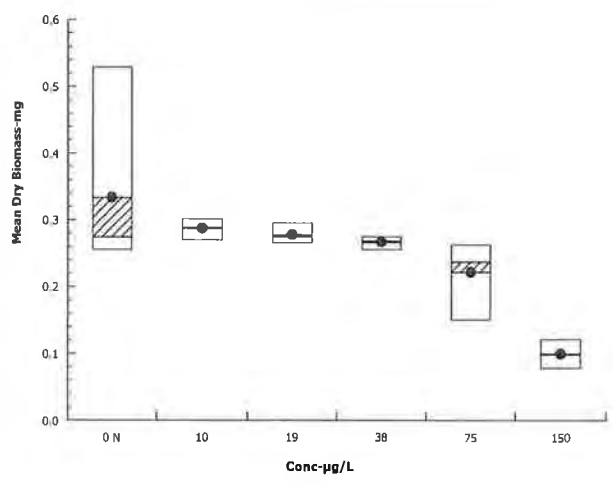
**Fathead Minnow 7-d Larval Survival and Growth Test** **Aquatic Bioassay & Consulting Labs, Inc.**

**Analysis ID:** 16-0580-4573      **Endpoint:** Mean Dry Biomass-mg      **CETIS Version:** CETISv1.9.2  
**Analyzed:** 07 Mar-17 14:09      **Analysis:** Nonparametric-Control vs Treatments      **Official Results:** Yes

**Mean Dry Biomass-mg Detail**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.2787	0.27	0.2553	0.5293
10		0.292	0.2847	0.3013	0.2693
19		0.2653	0.2947	0.2667	0.2827
38		0.2693	0.2673	0.2753	0.2553
75		0.2367	0.2373	0.1507	0.2633
150		0.07867	0.1093	0.088	0.122

**Graphics**



**CETIS Analytical Report**

Report Date: 07 Mar-17 14:10 (p 1 of 4)  
 Test Code: FML022117 | 07-3563-0398

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 00-0410-4112	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 07 Mar-17 14:09	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Official Results:</b> Yes
<b>Batch ID:</b> 19-4065-1991	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 21 Feb-17 11:40	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 28 Feb-17 09:40	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 11-9234-5492	<b>Code:</b> FML022117	<b>Client:</b> ABC Labs
<b>Sample Date:</b> 21 Feb-17 11:40	<b>Material:</b> Copper chloride	<b>Project:</b> REF TOX
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

**Linear Interpolation Options**

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

**Test Acceptability Criteria**

**TAC Limits**

Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	1	0.8	>>	Yes	Passes Criteria

**Point Estimates**

Level	µg/L	95% LCL	95% UCL
EC5	45.4	23.43	97.98
EC10	67.6	39.97	103.4
EC15	84.38	47.85	117.4
EC20	98.44	55.56	140.9
EC25	112.5	77.76	n/a
EC40	>150	n/a	n/a
EC50	>150	n/a	n/a

**7d Survival Rate Summary**

**Calculated Variate(A/B)**

Conc-µg/L	Code	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	N	4	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	60	60
10		4	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	60	60
19		4	0.9833	0.9333	1.0000	0.0167	0.0333	3.39%	1.67%	59	60
38		4	0.9667	0.9333	1.0000	0.0192	0.0385	3.98%	3.33%	58	60
75		4	0.8833	0.7333	1.0000	0.0569	0.1139	12.89%	11.67%	53	60
150		4	0.6167	0.4667	0.8000	0.0739	0.1478	23.97%	38.33%	37	60

**7d Survival Rate Detail**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
10		1.0000	1.0000	1.0000	1.0000
19		1.0000	1.0000	1.0000	0.9333
38		0.9333	1.0000	1.0000	0.9333
75		0.8667	1.0000	0.7333	0.9333
150		0.5333	0.8000	0.4667	0.6667

**7d Survival Rate Binomials**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
10		15/15	15/15	15/15	15/15
19		15/15	15/15	15/15	14/15
38		14/15	15/15	15/15	14/15
75		13/15	15/15	11/15	14/15
150		8/15	12/15	7/15	10/15







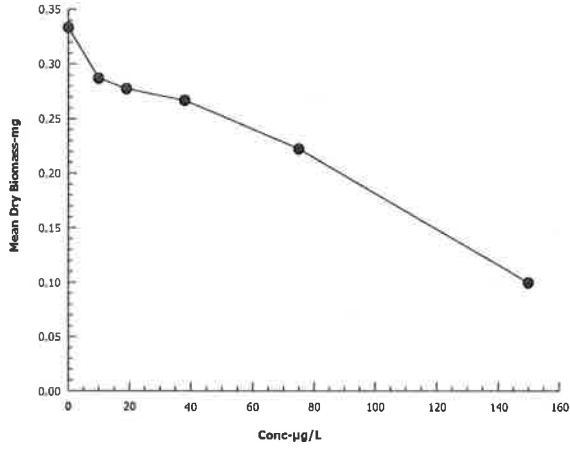
**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**Analysis ID:** 18-1615-8074      **Endpoint:** Mean Dry Biomass-mg  
**Analyzed:** 07 Mar-17 14:10      **Analysis:** Linear Interpolation (ICPIN)

**CETIS Version:** CETISv1.9.2  
**Official Results:** Yes

**Graphics**



# CETIS Measurement Report

Report Date: 07 Mar-17 14:10 (p 1 of 2)  
 Test Code: FML022117 | 07-3563-0398

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 19-4065-1991	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 21 Feb-17 11:40	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 28 Feb-17 09:40	Species: Pimephales promelas	Brine: Not Applicable
Duration: 6d 22h	Source: Aquatic Biosystems, CO	Age:
Sample ID: 11-9234-5492	Code: FML022117	Client: ABC Labs
Sample Date: 21 Feb-17 11:40	Material: Copper chloride	Project: REF TOX
Receipt Date:	Source: Reference Toxicant	
Sample Age: n/a	Station: REF TOX	

### Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	61.12	60.83	61.42	61	62	0.125	0.3536	0.58%	0
150		8	63	63	63	63	63	0	0	0.0%	0
Overall		16	62.06	61.53	62.59	61	63	0.2495	0.9979	1.61%	0 (0%)

### Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	336.9	316.3	357.4	300	388	8.694	24.59	7.3%	0
10		8	331.1	326.1	336.2	322	339	2.133	6.034	1.82%	0
19		8	331.5	328.4	334.6	326	336	1.309	3.703	1.12%	0
38		8	331.4	328.4	334.4	327	336	1.267	3.583	1.08%	0
75		8	331.1	328.4	333.8	326	334	1.141	3.227	0.97%	0
150		8	331.9	326.5	337.3	325	346	2.279	6.446	1.94%	0
Overall		48	332.3	329.2	335.4	300	388	1.524	10.56	3.18%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.887	7.596	8.179	7.5	8.5	0.1231	0.3482	4.42%	0
10		8	8.563	8.096	9.029	7.8	9.3	0.1972	0.5579	6.52%	0
19		8	8.55	8.071	9.029	7.7	9.3	0.2027	0.5732	6.7%	0
38		8	8.513	8.056	8.969	7.7	9.1	0.1931	0.5463	6.42%	0
75		8	8.538	8.042	9.033	7.7	9.3	0.2095	0.5927	6.94%	0
150		8	8.5	8.021	8.979	7.7	9.2	0.2027	0.5732	6.74%	0
Overall		48	8.425	8.261	8.589	7.5	9.3	0.08146	0.5644	6.70%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	88.75	86.98	90.52	88	94	0.75	2.121	2.39%	0
150		8	98	98	98	98	98	0	0	0.0%	0
Overall		16	93.38	90.72	96.03	88	98	1.248	4.992	5.35%	0 (0%)

### pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.713	7.362	8.063	7.1	8.3	0.1481	0.419	5.43%	0
10		8	7.713	7.483	7.942	7.3	8	0.09717	0.2748	3.56%	0
19		8	7.663	7.463	7.862	7.2	7.9	0.08438	0.2387	3.12%	0
38		8	7.638	7.477	7.798	7.3	7.8	0.06797	0.1923	2.52%	0
75		8	7.575	7.435	7.715	7.3	7.8	0.05901	0.1669	2.2%	0
150		8	7.6	7.491	7.709	7.4	7.8	0.04629	0.1309	1.72%	0
Overall		48	7.65	7.578	7.722	7.1	8.3	0.03561	0.2467	3.23%	0 (0%)



**CHRONIC CERIODAPHNIA SURVIVAL AND REPRODUCTION BIOASSAY**

DATE: 7 February - 2017

STANDARD TOXICANT: Copper Chloride

ENDPOINT: SURVIVAL

NOEC = 10.00 ug/l

EC25 = 14.17 ug/l

EC50 = 21.67 ug/l


ENDPOINT: REPRODUCTION

NOEC = 10.00 ug/l

IC25 = 16.06 ug/l

IC50 = 22.12 ug/l

Yours very truly,



Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 28 Feb-17 14:03 (p 1 of 2)  
 Test Code: CER020717 | 21-2318-8339

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 20-2943-3270	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 07 Feb-17 15:30	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 14 Feb-17 14:00	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 05-8899-6852	<b>Code:</b> CER020717	<b>Client:</b> Internal Lab
<b>Sample Date:</b> 07 Feb-17 15:30	<b>Material:</b> Copper chloride	<b>Project:</b>
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

## Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD	✓
20-6445-9731	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	10	30	17.32		n/a	✓
09-3448-2979	Reproduction	Steel Many-One Rank Sum Test	10	30	17.32		54.8%	✓

## Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	Level	µg/L	95% LCL	95% UCL	TU	✓
16-3042-6541	7d Survival Rate	Linear Interpolation (ICPIN)	EC5	2.7	0.6	11.5		✓
			EC10	9	1.2	13		✓
			EC15	11.17	1.8	14.5		✓
			EC20	12.67	2.4	16.4		✓
			EC25	14.17	4.5	18		✓
			EC40	18.67	10	24.67		✓
17-7098-0701	Reproduction	Linear Interpolation (ICPIN)	IC5	11.21	0.6809	11.53		
			IC10	12.42	1.362	13.06		
			IC15	13.64	2.043	14.58		
			IC20	14.85	2.724	16.11		
			IC25	16.06	4.221	17.64		
			IC40	19.7	9.563	22.33		
			IC50	22.12	14.15	25.62		

## Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits			Overlap	Decision
				Lower	Upper			
16-3042-6541	7d Survival Rate	Control Resp	0.9	0.8	>>	Yes	Passes Criteria	
20-6445-9731	7d Survival Rate	Control Resp	0.9	0.8	>>	Yes	Passes Criteria	
09-3448-2979	Reproduction	Control Resp	22	15	>>	Yes	Passes Criteria	
17-7098-0701	Reproduction	Control Resp	22	15	>>	Yes	Passes Criteria	
09-3448-2979	Reproduction	PMSD	0.548	0.13	0.47	Yes	Above Criteria	

## 7d Survival Rate Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	0.9000	0.6738	1.0000	0.0000	1.0000	0.1000	0.3162	35.14%	0.00%
3		10	0.8000	0.4984	1.0000	0.0000	1.0000	0.1333	0.4216	52.70%	11.11%
5		10	0.9000	0.6738	1.0000	0.0000	1.0000	0.1000	0.3162	35.14%	0.00%
10		10	0.8000	0.4984	1.0000	0.0000	1.0000	0.1333	0.4216	52.70%	11.11%
30		10	0.2000	0.0000	0.5016	0.0000	1.0000	0.1333	0.4216	210.82%	77.78%
50		10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%

## Reproduction Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	22	11.51	32.49	1	38	4.638	14.67	66.67%	0.00%
3		10	20.1	11.32	28.88	0	40	3.883	12.28	61.09%	8.64%
5		10	26.6	16.68	36.52	3	46	4.385	13.87	52.13%	-20.91%
10		10	24.9	14.15	35.65	0	45	4.753	15.03	60.36%	-13.18%
30		10	4.1	-0.8383	9.038	0	22	2.183	6.903	168.37%	81.36%
50		10	0.3	-0.1828	0.7828	0	2	0.2134	0.6749	224.98%	98.64%

**CETIS Summary Report**

Report Date: 28 Feb-17 14:03 (p 2 of 2)  
 Test Code: CER020717 | 21-2318-8339

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**7d Survival Rate Detail**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3		0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000
10		1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000
30		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
50		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

**Reproduction Detail**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	37	25	3	22	37	38	9	35	1	13
3		11	0	11	25	40	24	26	7	27	30
5		41	9	23	29	46	37	3	16	32	30
10		45	2	24	15	37	30	0	33	26	37
30		6	0	0	3	0	2	0	0	8	22
50		0	0	1	2	0	0	0	0	0	0

**7d Survival Rate Binomials**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	0/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
3		0/1	0/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
5		1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1
10		1/1	0/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1
30		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	1/1	1/1
50		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1

**CETIS Analytical Report**

Report Date: 28 Feb-17 14:02 (p 1 of 2)  
 Test Code: CER020717 | 21-2318-8339

**Ceriodaphnia 7-d Survival and Reproduction Test**

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 09-3448-2979	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 28 Feb-17 14:01	<b>Analysis:</b> Nonparametric-Control vs Treatments	<b>Official Results:</b> Yes
<b>Batch ID:</b> 20-2943-3270	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 07 Feb-17 15:30	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 14 Feb-17 14:00	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 05-8899-6852	<b>Code:</b> CER020717	<b>Client:</b> Internal Lab
<b>Sample Date:</b> 07 Feb-17 15:30	<b>Material:</b> Copper chloride	<b>Project:</b>
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	10	30	17.32		54.80%

**Steel Many-One Rank Sum Test**

Control	vs	Conc-µg/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		3	101.5	75	1	18	Asymp	0.7427	Non-Significant Effect
		5	114	75	3	18	Asymp	0.9629	Non-Significant Effect
		10	109	75	1	18	Asymp	0.9082	Non-Significant Effect
		30*	66	75	2	18	Asymp	0.0071	Significant Effect
		50*	56.5	75	1	18	Asymp	5.9E-04	Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	22	15	>>	Yes	Passes Criteria
PMSD	0.548	0.13	0.47	Yes	Above Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	6318.13	1263.63	5	9.111	2.5E-06	Significant Effect
Error	7489.2	138.689	54			
Total	13807.3		59			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	47.02	15.09	<1.0E-37	Unequal Variances
Variances	Levene Equality of Variance Test	5.95	3.377	1.9E-04	Unequal Variances
Variances	Mod Levene Equality of Variance Test	4.246	3.377	0.0025	Unequal Variances
Distribution	Anderson-Darling A2 Normality Test	0.717	3.878	0.0612	Normal Distribution
Distribution	D'Agostino Kurtosis Test	0.187	2.576	0.8516	Normal Distribution
Distribution	D'Agostino Skewness Test	1.107	2.576	0.2682	Normal Distribution
Distribution	D'Agostino-Pearson K2 Omnibus Test	1.261	9.21	0.5323	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1246	0.1331	0.0213	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9646	0.9459	0.0788	Normal Distribution

**Reproduction Summary**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	22	11.51	32.49	23.5	1	38	4.638	66.67%	0.00%
3		10	20.1	11.32	28.88	24.5	0	40	3.883	61.09%	8.64%
5		10	26.6	16.68	36.52	29.5	3	46	4.385	52.13%	-20.91%
10		10	24.9	14.15	35.65	28	0	45	4.753	60.36%	-13.18%
30		10	4.1	-0.8383	9.038	1	0	22	2.183	168.37%	81.36%
50		10	0.3	-0.1828	0.7828	0	0	2	0.2134	224.98%	98.64%





**CETIS Analytical Report**

Report Date: 28 Feb-17 14:02 (p 1 of 4)  
 Test Code: CER020717 | 21-2318-8339

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 16-3042-6541	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 28 Feb-17 14:00	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Official Results:</b> Yes
<b>Batch ID:</b> 20-2943-3270	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 07 Feb-17 15:30	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 14 Feb-17 14:00	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 05-8899-6852	<b>Code:</b> CER020717	<b>Client:</b> Internal Lab
<b>Sample Date:</b> 07 Feb-17 15:30	<b>Material:</b> Copper chloride	<b>Project:</b>
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

**Linear Interpolation Options**

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.9	0.8	>>	Yes	Passes Criteria

**Point Estimates**

Level	µg/L	95% LCL	95% UCL
EC5	2.7	0.6	11.5
EC10	9	1.2	13
EC15	11.17	1.8	14.5
EC20	12.67	2.4	16.4
EC25	14.17	4.5	18
EC40	18.67	10	24.67
EC50	21.67	15	30

**7d Survival Rate Summary**

**Calculated Variate(A/B)**

Conc-µg/L	Code	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	N	10	0.9000	0.0000	1.0000	0.1000	0.3162	35.14%	0.0%	9	10
3		10	0.8000	0.0000	1.0000	0.1333	0.4216	52.70%	11.11%	8	10
5		10	0.9000	0.0000	1.0000	0.1000	0.3162	35.14%	0.0%	9	10
10		10	0.8000	0.0000	1.0000	0.1333	0.4216	52.70%	11.11%	8	10
30		10	0.2000	0.0000	1.0000	0.1333	0.4216	210.80%	77.78%	2	10
50		10	0.0000	0.0000	0.0000	0.0000	0.0000		100.0%	0	10

**7d Survival Rate Detail**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3		0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000
10		1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000
30		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
50		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

**7d Survival Rate Binomials**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	0/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
3		0/1	0/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
5		1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1
10		1/1	0/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1
30		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	1/1	1/1
50		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1



**CETIS Analytical Report**

**Report Date:** 28 Feb-17 14:02 (p 3 of 4)  
**Test Code:** CER020717 | 21-2318-8339

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 17-7098-0701	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 28 Feb-17 14:01	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Official Results:</b> Yes
<b>Batch ID:</b> 20-2943-3270	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 07 Feb-17 15:30	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 14 Feb-17 14:00	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 05-8899-6852	<b>Code:</b> CER020717	<b>Client:</b> Internal Lab
<b>Sample Date:</b> 07 Feb-17 15:30	<b>Material:</b> Copper chloride	<b>Project:</b>
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

**Linear Interpolation Options**

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	22	15	>>	Yes	Passes Criteria

**Point Estimates**

Level	µg/L	95% LCL	95% UCL
IC5	11.21	0.6809	11.53
IC10	12.42	1.362	13.06
IC15	13.64	2.043	14.58
IC20	14.85	2.724	16.11
IC25	16.06	4.221	17.64
IC40	19.7	9.563	22.33
IC50	22.12	14.15	25.62

**Reproduction Summary**

Conc-µg/L	Code	Count	Calculated Variate						
			Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	22	1	38	4.638	14.67	66.67%	0.0%
3		10	20.1	0	40	3.883	12.28	61.09%	8.64%
5		10	26.6	3	46	4.385	13.87	52.13%	-20.91%
10		10	24.9	0	45	4.753	15.03	60.36%	-13.18%
30		10	4.1	0	22	2.183	6.903	168.40%	81.36%
50		10	0.3	0	2	0.2134	0.6749	225.00%	98.64%

**Reproduction Detail**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	37	25	3	22	37	38	9	35	1	13
3		11	0	11	25	40	24	26	7	27	30
5		41	9	23	29	46	37	3	16	32	30
10		45	2	24	15	37	30	0	33	26	37
30		6	0	0	3	0	2	0	0	8	22
50		0	0	1	2	0	0	0	0	0	0

**CETIS Analytical Report**

Report Date: 28 Feb-17 14:02 (p 4 of 4)  
Test Code: CER020717 | 21-2318-8339

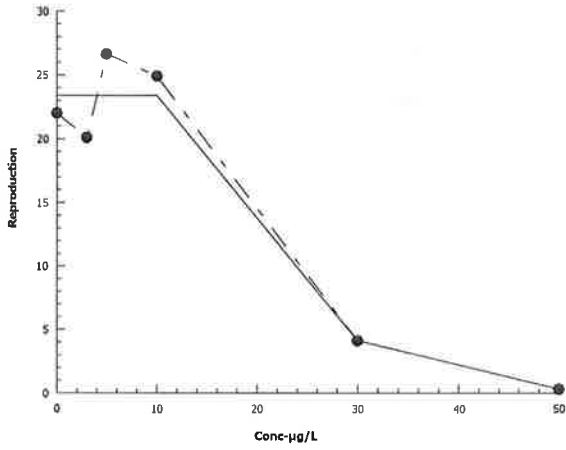
**Ceriodaphnia 7-d Survival and Reproduction Test**

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 17-7098-0701    Endpoint: Reproduction  
Analyzed: 28 Feb-17 14:01    Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISv1.9.2  
Official Results: Yes

**Graphics**



**CETIS Analytical Report**

Report Date: 28 Feb-17 14:02 (p 1 of 2)  
 Test Code: CER020717 | 21-2318-8339

Ceriodaphnia 7-d Survival and Reproduction Test				Aquatic Bioassay & Consulting Labs, Inc.			
Analysis ID: 20-6445-9731	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.2					
Analyzed: 28 Feb-17 14:00	Analysis: STP 2xK Contingency Tables	Official Results: Yes					
Batch ID: 20-2943-3270	Test Type: Reproduction-Survival (7d)	Analyst:					
Start Date: 07 Feb-17 15:30	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water					
Ending Date: 14 Feb-17 14:00	Species: Ceriodaphnia dubia	Brine: Not Applicable					
Duration: 6d 22h	Source: Aquatic Biosystems, CO	Age:					
Sample ID: 05-8899-6852	Code: CER020717	Client: Internal Lab					
Sample Date: 07 Feb-17 15:30	Material: Copper chloride	Project:					
Receipt Date:	Source: Reference Toxicant						
Sample Age: n/a	Station: REF TOX						

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Untransformed	C > T	10	30	17.32	

Fisher Exact/Bonferroni-Holm Test						
Control	vs	Group	Test Stat	P-Type	P-Value	Decision(α:5%)
Negative Control		3	0.5000	Exact	1.0000	Non-Significant Effect
		5	0.7632	Exact	0.7632	Non-Significant Effect
		10	0.5000	Exact	1.0000	Non-Significant Effect
		30*	0.0027	Exact	0.0110	Significant Effect
		50*	0.0001	Exact	3.0E-04	Significant Effect

Test Acceptability Criteria					
Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.9	0.8	>>	Yes	Passes Criteria

Data Summary							
Conc-µg/L	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	N	9	1	10	0.9	0.1	0.0%
3		8	2	10	0.8	0.2	11.11%
5		9	1	10	0.9	0.1	0.0%
10		8	2	10	0.8	0.2	11.11%
30		2	8	10	0.2	0.8	77.78%
50		0	10	10	0	1	100.0%

7d Survival Rate Detail											
Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3		0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000
10		1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000
30		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
50		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

7d Survival Rate Binomials											
Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	0/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
3		0/1	0/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
5		1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1
10		1/1	0/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1
30		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	1/1	1/1
50		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1

# CETIS Analytical Report

Report Date: 28 Feb-17 14:02 (p 2 of 2)  
Test Code: CER020717 | 21-2318-8339

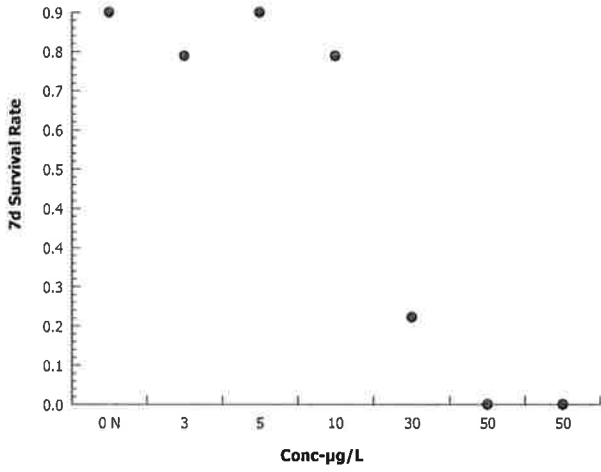
Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 20-6445-9731      Endpoint: 7d Survival Rate  
Analyzed: 28 Feb-17 14:00      Analysis: STP 2xK Contingency Tables

CETIS Version: CETISv1.9.2  
Official Results: Yes

## Graphics



# CETIS Measurement Report

Report Date: 28 Feb-17 14:02 (p 1 of 2)  
 Test Code: CER020717 | 21-2318-8339

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 20-2943-3270	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 07 Feb-17 15:30	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 14 Feb-17 14:00	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 6d 22h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 05-8899-6852	<b>Code:</b> CER020717	<b>Client:</b> Internal Lab
<b>Sample Date:</b> 07 Feb-17 15:30	<b>Material:</b> Copper chloride	<b>Project:</b>
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

### Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	63.5	63.05	63.95	63	64	0.189	0.5345	0.84%	0
50		6	63	63	63	63	63	0	0	0.0%	0
Overall		14	63.29	63.02	63.56	63	64	0.1253	0.4688	0.74%	0 (0%)

### Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	347.2	328.5	366	326	384	7.919	22.4	6.45%	0
3		8	343.1	331.6	354.6	323	364	4.868	13.77	4.01%	0
5		8	338	334.3	341.7	330	345	1.581	4.472	1.32%	0
10		8	338.9	334.6	343.1	334	347	1.787	5.055	1.49%	0
30		8	337.2	328.4	346.1	327	350	3.731	10.55	3.13%	0
50		6	342	330.9	353.1	328	351	4.336	10.62	3.11%	0
Overall		46	341	337.3	344.8	323	384	1.849	12.54	3.68%	0 (0%)

### Dissolved Oxygen-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.612	7.207	8.018	7	8.7	0.1716	0.4853	6.38%	0
3		8	7.8	7.29	8.31	7	8.7	0.2155	0.6094	7.81%	0
5		8	7.775	7.342	8.208	7	8.5	0.183	0.5175	6.66%	0
10		8	7.738	7.302	8.173	6.9	8.5	0.1841	0.5208	6.73%	0
30		8	7.738	7.335	8.14	7	8.3	0.17	0.4809	6.22%	0
50		6	7.717	7.201	8.233	7.1	8.3	0.2007	0.4916	6.37%	0
Overall		46	7.73	7.583	7.877	6.9	8.7	0.07295	0.4948	6.40%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	92	90.21	93.79	90	94	0.7559	2.138	2.32%	0
50		6	94	94	94	94	94	0	0	0.0%	0
Overall		14	92.86	91.77	93.94	90	94	0.5012	1.875	2.02%	0 (0%)

### pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	8.025	7.865	8.185	7.8	8.3	0.06748	0.1909	2.38%	0
3		8	7.9	7.727	8.073	7.6	8.2	0.07319	0.207	2.62%	0
5		8	7.863	7.658	8.067	7.5	8.2	0.08647	0.2446	3.11%	0
10		8	7.825	7.672	7.978	7.6	8.1	0.06478	0.1832	2.34%	0
30		8	7.8	7.652	7.948	7.6	8.1	0.06268	0.1773	2.27%	0
50		6	7.733	7.538	7.929	7.6	8.1	0.07601	0.1862	2.41%	0
Overall		46	7.863	7.801	7.925	7.5	8.3	0.03083	0.2091	2.66%	0 (0%)



**CETIS Measurement Report**

Report Date: 28 Feb-17 14:02 (p 2 of 2)  
 Test Code: CER020717 | 21-2318-8339

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**Temperature-°C**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24.11	23.88	24.35	24	24.8	0.09899	0.28	1.16%	0
3		8	24.08	23.93	24.22	24	24.5	0.06196	0.1752	0.73%	0
5		8	24.09	23.91	24.26	24	24.6	0.07425	0.21	0.87%	0
10		8	24.11	23.88	24.35	24	24.8	0.09899	0.28	1.16%	0
30		8	24.01	23.98	24.04	24	24.1	0.01249	0.03531	0.15%	0
50		6	24	24	24	24	24	0	0	0.0%	0
Overall		46	24.07	24.01	24.13	24	24.8	0.0288	0.1954	0.81%	0 (0%)

**Alkalinity (CaCO3)-mg/L**

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	64	64	64	64	63	63	63	63
50		63	63	63	63	63	63		

**Conductivity-µmhos**

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	381	384	333	326	335	338	336	345
3		323	338	339	338	333	359	351	364
5		330	345	342	339	337	338	335	338
10		334	347	345	341	334	335	336	339
30		335	349	350	350	328	330	327	329
50		331	351	351	351	328	340		

**Dissolved Oxygen-mg/L**

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	7	7.5	7.6	7.7	7.5	8.7	7.5	7.4
3		8.3	7	7.5	7.8	7.9	8.7	8.2	7
5		8.2	7	7.3	7.7	7.9	8.5	8.2	7.4
10		8.2	6.9	7.3	7.6	7.8	8.5	8.1	7.5
30		8.2	7	7.3	7.5	7.9	8.3	8.2	7.5
50		8.2	7.1	7.3	7.5	7.9	8.3		

**Hardness (CaCO3)-mg/L**

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	90	90	90	90	94	94	94	94
50		94	94	94	94	94	94		

**pH-Units**

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	7.9	8	7.8	7.9	7.9	8.3	8.3	8.1
3		7.6	7.8	7.8	7.8	7.8	8.2	8.1	8.1
5		7.5	7.7	7.8	7.8	7.7	8.2	8.1	8.1
10		7.6	7.7	7.7	7.8	7.7	8.1	8	8
30		7.6	7.7	7.7	7.7	7.7	8.1	8	7.9
50		7.6	7.7	7.7	7.7	7.6	8.1		

**Temperature-°C**

Conc-µg/L	Code	1	2	3	4	5	6	7	8
0	N	24	24	24	24	24	24.8	24.1	24
3		24	24	24	24	24	24.5	24.1	24
5		24	24	24	24	24	24.6	24.1	24
10		24	24	24	24	24	24.8	24.1	24
30		24	24	24	24	24	24	24.1	24
50		24	24	24	24	24	24		

**CHRONIC SELENASTRUM GROWTH BIOASSAY**

DATE: 2 February - 2017

STANDARD TOXICANT: Cadmium Chloride

NOEC = 40.00 ug/l

IC25 = 89.24 ug/l

IC50 = 135.10 ug/l

Yours very truly,



Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 15 Feb-17 15:17 (p 1 of 1)  
 Test Code: SEL020217 | 15-7507-1914

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 00-3510-0994	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 02 Feb-17 13:08	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 06 Feb-17 13:00	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Duration:</b> 96h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>
<b>Sample ID:</b> 14-2990-8990	<b>Code:</b> SEL020217s	<b>Client:</b> Internal Lab
<b>Sample Date:</b> 02 Feb-17 13:08	<b>Material:</b> Cadmium chloride	<b>Project:</b>
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant	
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX	

## Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD	✓
20-4050-2957	Cell Density	Dunnett Multiple Comparison Test	40	80	56.57		8.64%	

## Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	Level	µg/L	95% LCL	95% UCL	TU	✓
12-8217-0386	Cell Density	Linear Interpolation (ICPIN)	IC5	43.15	n/a	57.97		
			IC10	55.46	12.33	72.05		
			IC15	67.77	41.96	87.44		
			IC20	80.06	59.78	93.4		
			IC25	89.24	74.9	101.6		
			IC40	116.8	104.4	129.1		
			IC50	135.1	123.3	146.7		

## Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
12-8217-0386	Cell Density	Control CV	0.07165	<<	0.2	Yes	Passes Criteria
20-4050-2957	Cell Density	Control CV	0.07165	<<	0.2	Yes	Passes Criteria
12-8217-0386	Cell Density	Control Resp	1.14E+6	1000000	>>	Yes	Passes Criteria
20-4050-2957	Cell Density	Control Resp	1.14E+6	1000000	>>	Yes	Passes Criteria
20-4050-2957	Cell Density	PMSD	0.08638	0.091	0.29	Yes	Below Criteria

## Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.142E+6	1.012E+6	1.272E+6	1.037E+6	1.219E+6	4.091E+4	8.182E+4	7.16%	0.00%
20		4	1.104E+6	9.960E+5	1.213E+6	1.009E+6	1.156E+6	3.408E+4	6.817E+4	6.17%	3.28%
40		4	1.100E+6	9.916E+5	1.207E+6	1.035E+6	1.188E+6	3.390E+4	6.781E+4	6.17%	3.72%
80		4	9.140E+5	8.618E+5	9.662E+5	8.720E+5	9.510E+5	1.641E+4	3.281E+4	3.59%	19.96%
140		4	5.408E+5	4.619E+5	6.196E+5	5.020E+5	6.100E+5	2.479E+4	4.958E+4	9.17%	52.65%
180		4	2.200E+5	1.785E+5	2.615E+5	1.950E+5	2.430E+5	1.303E+4	2.606E+4	11.85%	80.74%

## Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.037E+6	1.119E+6	1.193E+6	1.219E+6
20		1.102E+6	1.009E+6	1.156E+6	1.151E+6
40		1.035E+6	1.060E+6	1.188E+6	1.115E+6
80		9.100E+5	8.720E+5	9.230E+5	9.510E+5
140		5.020E+5	5.080E+5	6.100E+5	5.430E+5
180		2.430E+5	2.420E+5	2.000E+5	1.950E+5

**CETIS Analytical Report**

Report Date: 15 Feb-17 15:17 (p 1 of 2)  
 Test Code: SEL020217 | 15-7507-1914

<b>Selenastrum Growth Test</b>			<b>Aquatic Bioassay &amp; Consulting Labs, Inc.</b>		
<b>Analysis ID:</b> 20-4050-2957	<b>Endpoint:</b> Cell Density	<b>CETIS Version:</b> CETISv1.9.2			
<b>Analyzed:</b> 14 Feb-17 7:57	<b>Analysis:</b> Parametric-Control vs Treatments	<b>Official Results:</b> Yes			
<b>Batch ID:</b> 00-3510-0994	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>			
<b>Start Date:</b> 02 Feb-17 13:08	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water			
<b>Ending Date:</b> 06 Feb-17 13:00	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable			
<b>Duration:</b> 96h	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>			
<b>Sample ID:</b> 14-2990-8990	<b>Code:</b> SEL020217s	<b>Client:</b> Internal Lab			
<b>Sample Date:</b> 02 Feb-17 13:08	<b>Material:</b> Cadmium chloride	<b>Project:</b>			
<b>Receipt Date:</b>	<b>Source:</b> Reference Toxicant				
<b>Sample Age:</b> n/a	<b>Station:</b> REF TOX				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	40	80	56.57		8.64%

Control	vs	Conc-µg/L	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		20	0.9151	2.407	98650	6	CDF	0.4598	Non-Significant Effect
		40	1.037	2.407	98650	6	CDF	0.4056	Non-Significant Effect
		80*	5.564	2.407	98650	6	CDF	9.0E-05	Significant Effect
		140*	14.67	2.407	98650	6	CDF	2.7E-05	Significant Effect
		180*	22.5	2.407	98650	6	CDF	2.7E-05	Significant Effect

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control CV	0.07165	<<	0.2	Yes	Passes Criteria
Control Resp	1.14E+6	1000000	>>	Yes	Passes Criteria
PMSD	0.08638	0.091	0.29	Yes	Below Criteria

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.831E+12	5.663E+11	5	168.6	<1.0E-37	Significant Effect
Error	6.046E+10	3.359E+09	18			
Total	2.892E+12		23			

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	4.568	15.09	0.4709	Equal Variances
Variances	Levene Equality of Variance Test	1.407	4.248	0.2686	Equal Variances
Variances	Mod Levene Equality of Variance Test	1.086	4.248	0.4011	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.1795	3.878	0.9730	Normal Distribution
Distribution	D'Agostino Kurtosis Test	0.2901	2.576	0.7717	Normal Distribution
Distribution	D'Agostino Skewness Test	0.4985	2.576	0.6181	Normal Distribution
Distribution	D'Agostino-Pearson K2 Omnibus Test	0.3327	9.21	0.8468	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.08134	0.2056	1.0000	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9787	0.884	0.8706	Normal Distribution

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.142E+6	1.012E+6	1.272E+6	1.156E+6	1.037E+6	1.219E+6	4.091E+4	7.16%	0.00%
20		4	1.104E+6	9.960E+5	1.213E+6	1.126E+6	1.009E+6	1.156E+6	3.408E+4	6.17%	3.28%
40		4	1.100E+6	9.916E+5	1.207E+6	1.088E+6	1.035E+6	1.188E+6	3.390E+4	6.17%	3.72%
80		4	9.140E+5	8.618E+5	9.662E+5	9.165E+5	8.720E+5	9.510E+5	1.641E+4	3.59%	19.96%
140		4	5.408E+5	4.619E+5	6.196E+5	5.255E+5	5.020E+5	6.100E+5	2.479E+4	9.17%	52.65%
180		4	2.200E+5	1.785E+5	2.615E+5	2.210E+5	1.950E+5	2.430E+5	1.303E+4	11.85%	80.74%

# CETIS Analytical Report

Report Date: 15 Feb-17 15:17 (p 2 of 2)  
 Test Code: SEL020217 | 15-7507-1914

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

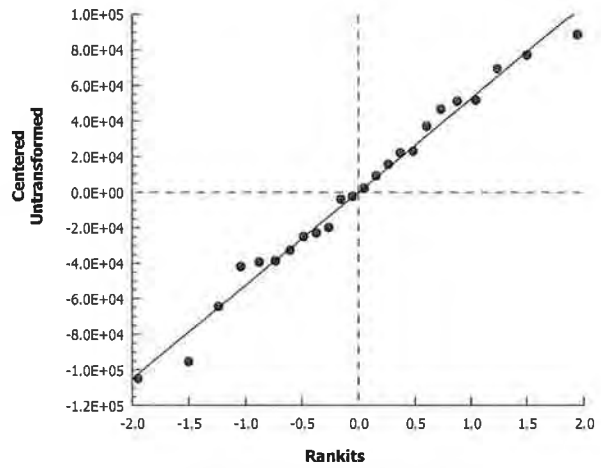
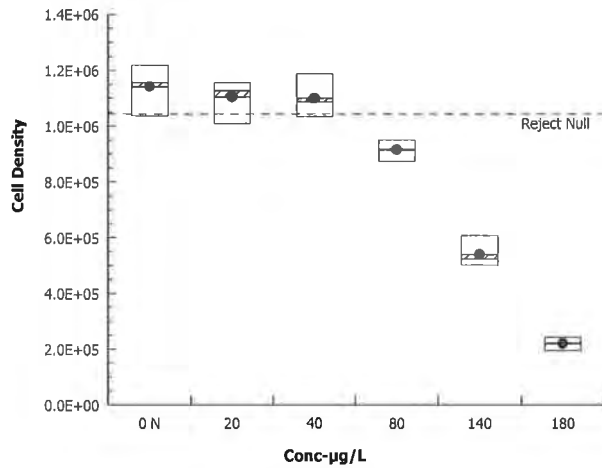
Analysis ID: 20-4050-2957      Endpoint: Cell Density  
 Analyzed: 14 Feb-17 7:57      Analysis: Parametric-Control vs Treatments

CETIS Version: CETISv1.9.2  
 Official Results: Yes

### Cell Density Detail

Conc- $\mu\text{g/L}$	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.037E+6	1.119E+6	1.193E+6	1.219E+6
20		1.102E+6	1.009E+6	1.156E+6	1.151E+6
40		1.035E+6	1.060E+6	1.188E+6	1.115E+6
80		9.100E+5	8.720E+5	9.230E+5	9.510E+5
140		5.020E+5	5.080E+5	6.100E+5	5.430E+5
180		2.430E+5	2.420E+5	2.000E+5	1.950E+5

### Graphics



# CETIS Analytical Report

Report Date: 15 Feb-17 15:17 (p 1 of 2)  
 Test Code: SEL020217 | 15-7507-1914

Selenastrum Growth Test		Aquatic Bioassay & Consulting Labs, Inc.	
Analysis ID: 12-8217-0386	Endpoint: Cell Density	CETIS Version: CETISv1.9.2	
Analyzed: 14 Feb-17 7:57	Analysis: Linear Interpolation (ICPIN)	Official Results: Yes	
Batch ID: 00-3510-0994	Test Type: Cell Growth	Analyst:	
Start Date: 02 Feb-17 13:08	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water	
Ending Date: 06 Feb-17 13:00	Species: Selenastrum capricornutum	Brine: Not Applicable	
Duration: 96h	Source: Aquatic Biosystems, CO	Age:	
Sample ID: 14-2990-8990	Code: SEL020217s	Client: Internal Lab	
Sample Date: 02 Feb-17 13:08	Material: Cadmium chloride	Project:	
Receipt Date:	Source: Reference Toxicant		
Sample Age: n/a	Station: REF TOX		

Linear Interpolation Options					
X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

Test Acceptability Criteria		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control CV	0.07165	<<	0.2	Yes	Passes Criteria
Control Resp	1.14E+6	1000000	>>	Yes	Passes Criteria

Point Estimates			
Level	µg/L	95% LCL	95% UCL
IC5	43.15	n/a	57.97
IC10	55.46	12.33	72.05
IC15	67.77	41.96	87.44
IC20	80.06	59.78	93.4
IC25	89.24	74.9	101.6
IC40	116.8	104.4	129.1
IC50	135.1	123.3	146.7

Cell Density Summary			Calculated Variate						
Conc-µg/L	Code	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.142E+6	1.037E+6	1.219E+6	4.091E+4	8.182E+4	7.17%	0.0%
20		4	1.104E+6	1.009E+6	1.156E+6	3.408E+4	6.817E+4	6.17%	3.28%
40		4	1.100E+6	1.035E+6	1.188E+6	3.390E+4	6.781E+4	6.17%	3.72%
80		4	9.140E+5	8.720E+5	9.510E+5	1.641E+4	3.281E+4	3.59%	19.96%
140		4	5.408E+5	5.020E+5	6.100E+5	2.479E+4	4.958E+4	9.17%	52.65%
180		4	2.200E+5	1.950E+5	2.430E+5	1.303E+4	2.606E+4	11.85%	80.74%

Cell Density Detail					
Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.037E+6	1.119E+6	1.193E+6	1.219E+6
20		1.102E+6	1.009E+6	1.156E+6	1.151E+6
40		1.035E+6	1.060E+6	1.188E+6	1.115E+6
80		9.100E+5	8.720E+5	9.230E+5	9.510E+5
140		5.020E+5	5.080E+5	6.100E+5	5.430E+5
180		2.430E+5	2.420E+5	2.000E+5	1.950E+5

# CETIS Analytical Report

Report Date: 15 Feb-17 15:17 (p 2 of 2)  
Test Code: SEL020217 | 15-7507-1914

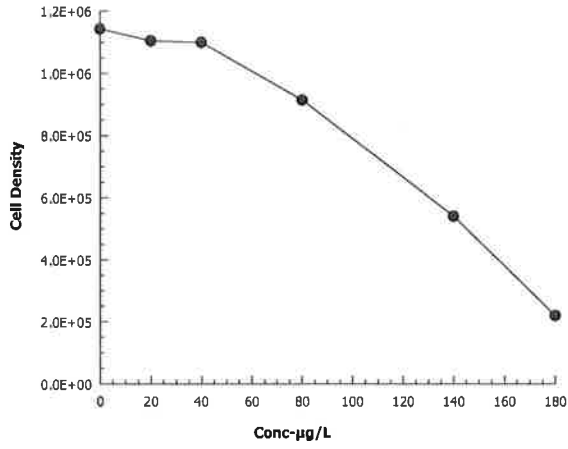
## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 12-8217-0386      Endpoint: Cell Density  
Analyzed: 14 Feb-17 7:57      Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISv1.9.2  
Official Results: Yes

### Graphics



**CETIS Measurement Report**

Report Date: 15 Feb-17 15:17 (p 1 of 2)  
 Test Code: SEL020217 | 15-7507-1914

Selenastrum Growth Test				Aquatic Bioassay & Consulting Labs, Inc.			
Batch ID:	00-3510-0994	Test Type:	Cell Growth	Analyst:			
Start Date:	02 Feb-17 13:08	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Laboratory Water		
Ending Date:	06 Feb-17 13:00	Species:	Selenastrum capricornutum	Brine:	Not Applicable		
Duration:	96h	Source:	Aquatic Biosystems, CO	Age:			
Sample ID:	14-2990-8990	Code:	SEL020217s	Client:	Internal Lab		
Sample Date:	02 Feb-17 13:08	Material:	Cadmium chloride	Project:			
Receipt Date:		Source:	Reference Toxicant				
Sample Age:	n/a	Station:	REF TOX				

**Alkalinity (CaCO3)-mg/L**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	68			68	68	0	0	0.0%	0
20		1	59			59	59	0	0	0.0%	0
40		1	51			51	51	0	0	0.0%	0
80		1	54			54	54	0	0	0.0%	0
140		1	58			58	58	0	0	0.0%	0
180		1	50			50	50	0	0	0.0%	0
Overall		6	56.67	49.72	63.62	50	68	2.704	6.623	11.69%	0 (0%)

**Conductivity-µmhos**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	444.6	432.8	456.4	434	460	4.238	9.476	2.13%	0
20		5	418.2	409.1	427.3	409	429	3.277	7.328	1.75%	0
40		5	413.4	409.1	417.7	410	418	1.536	3.435	0.83%	0
80		5	405.2	400.8	409.6	402	410	1.594	3.564	0.88%	0
140		5	383.8	379.2	388.4	379	388	1.655	3.701	0.96%	0
180		5	366.8	363.4	370.2	364	370	1.241	2.775	0.76%	0
Overall		30	405.3	395.7	415	364	460	4.718	25.84	6.38%	0 (0%)

**Hardness (CaCO3)-mg/L**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	88			88	88	0	0	0.0%	0
20		1	92			92	92	0	0	0.0%	0
40		1	93			93	93	0	0	0.0%	0
80		1	94			94	94	0	0	0.0%	0
140		1	95			95	95	0	0	0.0%	0
180		1	97			97	97	0	0	0.0%	0
Overall		6	93.17	89.95	96.38	88	97	1.249	3.061	3.29%	0 (0%)

**pH-Units**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.82	7.616	8.024	7.6	8	0.07348	0.1643	2.1%	0
20		5	7.82	7.764	7.876	7.8	7.9	0.02	0.04473	0.57%	0
40		5	7.8	7.799	7.801	7.8	7.8	0	0	0.0%	0
80		5	7.78	7.724	7.836	7.7	7.8	0.02001	0.04473	0.58%	0
140		5	7.74	7.672	7.808	7.7	7.8	0.0245	0.05478	0.71%	0
180		5	7.74	7.672	7.808	7.7	7.8	0.0245	0.05478	0.71%	0
Overall		30	7.783	7.754	7.813	7.6	8	0.01445	0.07915	1.02%	0 (0%)



# CETIS Measurement Report

Report Date: 15 Feb-17 15:17 (p 2 of 2)  
 Test Code: SEL020217 | 15-7507-1914

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

### Temperature-°C

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	24.1	24.01	24.19	24	24.2	0.03156	0.07056	0.29%	0
20		5	24.1	24.01	24.19	24	24.2	0.03156	0.07056	0.29%	0
40		5	24.1	24.01	24.19	24	24.2	0.03156	0.07056	0.29%	0
80		5	24.1	24.01	24.19	24	24.2	0.03156	0.07056	0.29%	0
140		5	24.1	24.01	24.19	24	24.2	0.03156	0.07056	0.29%	0
180		5	24.1	24.01	24.19	24	24.2	0.03156	0.07056	0.29%	0
Overall		30	24.1	24.08	24.12	24	24.2	0.01174	0.06433	0.27%	0 (0%)

### Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	1
0	N	68
20		59
40		51
80		54
140		58
180		50

### Conductivity-µmhos

Conc-µg/L	Code	1	2	3	4	5
0	N	434	442	444	443	460
20		409	415	418	420	429
40		414	410	410	415	418
80		402	403	403	408	410
140		379	381	385	388	386
180		364	364	367	369	370

### Hardness (CaCO3)-mg/L

Conc-µg/L	Code	1
0	N	88
20		92
40		93
80		94
140		95
180		97

### pH-Units

Conc-µg/L	Code	1	2	3	4	5
0	N	8	7.7	7.9	7.9	7.6
20		7.9	7.8	7.8	7.8	7.8
40		7.8	7.8	7.8	7.8	7.8
80		7.8	7.7	7.8	7.8	7.8
140		7.8	7.7	7.7	7.7	7.8
180		7.8	7.7	7.7	7.7	7.8

### Temperature-°C

Conc-µg/L	Code	1	2	3	4	5
0	N	24	24.1	24.1	24.1	24.2
20		24	24.1	24.1	24.1	24.2
40		24	24.1	24.1	24.1	24.2
80		24	24.1	24.1	24.1	24.2
140		24	24.1	24.1	24.1	24.2
180		24	24.1	24.1	24.1	24.2