

Supplemental Report 1

Additional requested analyses have been added to the original report.



CALSCIENCE

WORK ORDER NUMBER: 13-12-2080

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: San Joaquin County District Attorney

Client Project Name: Bioassay Testing

Attention: Heidi D'Agostino
222 East Weber
Stockton, CA 95202-2709

Approved for release on 02/12/2014 by:
Danielle Gonsman
Project Manager

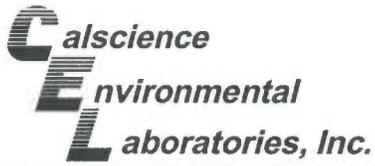
ResultLink ▶

Email your PM ▶



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

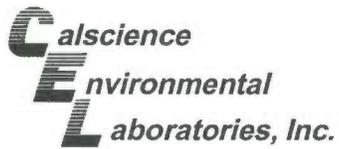




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Work Order Number: 13-12-2080

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CASE NARRATIVE
CalScience Work Order Number: 13-12-2080

Per client request on January 20, 2014, twenty-five samples were analyzed for the 96 Hour LC50 Aquatic Bioassay test. The additional requested results are presented within this supplemental report.

In addition, the laboratory re-tested sample 52B for the 96 Hour Acute Bioassay screening due to inconsistent results compared to other samples of a similar matrix. The revised results for sample 52B are presented within this report, along with LC50 Bioassay results, which are consistent with re-analysis results.


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Work Order Narrative

Work Order: 13-12-2080

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Condition Upon Receipt:

Samples were received under Chain of Custody (COC) on 12/31/13. They were assigned to Work Order 13-12-2080.

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

Holding Times:

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

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

Quality Control:

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

Additional Comments:

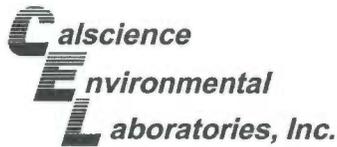
Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

New York NELAP air certification does not certify for all reported methods and analytes, reference the accredited items here: http://www.calscience.com/PDF/New_York.pdf

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

Subcontractor Information:

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



Sample Summary

Client: San Joaquin County District Attorney
222 East Weber
Stockton, CA 95202-2709

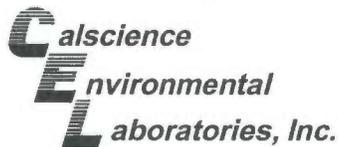
Work Order: 13-12-2080
Project Name: Bioassay Testing
PO Number:
Date/Time Received: 12/31/13 11:10
Number of Containers: 42

Attn: Heidi D'Agostino

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
21B	13-12-2080-1	12/23/13 12:00	1	Solid
22B	13-12-2080-2	12/23/13 12:00	1	Solid
23B	13-12-2080-3	12/23/13 12:00	1	Solid
24B	13-12-2080-4	12/23/13 12:00	1	Solid
25B	13-12-2080-5	12/23/13 12:00	1	Solid
26B	13-12-2080-6	12/23/13 12:00	1	Solid
27B	13-12-2080-7	12/23/13 12:00	1	Solid
28B	13-12-2080-8	12/23/13 12:00	1	Solid
29B	13-12-2080-9	12/23/13 12:00	1	Solid
30B	13-12-2080-10	12/23/13 12:00	1	Solid
31B	13-12-2080-11	12/23/13 12:00	1	Solid
32B	13-12-2080-12	12/23/13 12:00	1	Solid
33B	13-12-2080-13	12/23/13 12:00	1	Solid
34B	13-12-2080-14	12/23/13 12:00	1	Solid
35B	13-12-2080-15	12/23/13 12:00	1	Solid
36B	13-12-2080-16	12/23/13 12:00	1	Solid
37B	13-12-2080-17	12/23/13 12:00	1	Solid
38B	13-12-2080-18	12/23/13 12:00	1	Solid
39B	13-12-2080-19	12/23/13 12:00	1	Solid
40B	13-12-2080-20	12/23/13 12:00	1	Solid
41B	13-12-2080-21	12/23/13 12:00	1	Solid
42B	13-12-2080-22	12/23/13 12:00	1	Solid
43B	13-12-2080-23	12/23/13 12:00	1	Solid
44B	13-12-2080-24	12/23/13 12:00	1	Solid
45B	13-12-2080-25	12/23/13 12:00	1	Solid
46B	13-12-2080-26	12/23/13 12:00	1	Solid
47B	13-12-2080-27	12/23/13 12:00	1	Solid
48B	13-12-2080-28	12/23/13 12:00	1	Solid
49B	13-12-2080-29	12/23/13 12:00	1	Solid
50B	13-12-2080-30	12/23/13 12:00	1	Solid
51B	13-12-2080-31	12/23/13 12:00	1	Solid
52B	13-12-2080-32	12/23/13 12:00	1	Solid
53B	13-12-2080-33	12/23/13 12:00	1	Solid
54B	13-12-2080-34	12/23/13 12:00	1	Solid
55B	13-12-2080-35	12/23/13 12:00	1	Solid
56B	13-12-2080-36	12/23/13 12:00	1	Solid
57B	13-12-2080-37	12/23/13 12:00	1	Solid
58B	13-12-2080-38	12/23/13 12:00	1	Solid
59B	13-12-2080-39	12/23/13 12:00	1	Solid
60B	13-12-2080-40	12/23/13 12:00	1	Solid
61B	13-12-2080-41	12/23/13 12:00	1	Solid
62B	13-12-2080-42	12/23/13 12:00	1	Solid

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Analytical Report

San Joaquin County District Attorney
222 East Weber
Stockton, CA 95202-2709

Date Received: 12/31/13
Work Order: 13-12-2080
Preparation: N/A
Method: CA Fish and Game
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 14:00:00	Test End:	01/06/14 14:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.79 units	Conductivity:	910 umhos/cm
Dissolved Oxygen (D.O.):	7.24 mg/L	Alkalinity:	192 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
21B	13-12-2080-1-A	12/23/13	Solid	01/02/14	01/06/14 14:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	0	%
Bioassay 250 mg/L (% Mortality)	0	%

Laboratory Notes

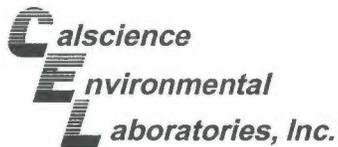
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	21.50
Upper 95% confidence limit:	21.90
Lower 95% confidence limit:	21.20

SRT: Standard Reference Toxicant.



Analytical Report

San Joaquin County District Attorney
222 East Weber
Stockton, CA 95202-2709

Date Received: 12/31/13
Work Order: 13-12-2080
Preparation: N/A
Method: CA Fish and Game
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 14:00:00	Test End:	01/06/14 14:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.74 units	Conductivity:	910 umhos/cm
Dissolved Oxygen (D.O.):	7.18 mg/L	Alkalinity:	196 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
22B	13-12-2080-2-A	12/23/13	Solid	01/02/14	01/06/14 14:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	0	%
Bioassay 250 mg/L (% Mortality)	0	%

Laboratory Notes

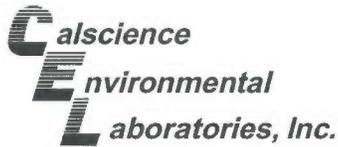
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	21.50
Upper 95% confidence limit:	21.90
Lower 95% confidence limit:	21.20

SRT: Standard Reference Toxicant.



Analytical Report

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222 East Weber
Stockton, CA 95202-2709

Date Received: 12/31/13
Work Order: 13-12-2080
Preparation: N/A
Method: CA Fish and Game

Project: Bioassay Testing

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Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 14:00:00	Test End:	01/06/14 14:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.72 units	Conductivity:	912 umhos/cm
Dissolved Oxygen (D.O.):	7.23 mg/L	Alkalinity:	192 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
23B	13-12-2080-3-A	12/23/13	Solid	01/02/14	01/06/14 14:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	0	%
Bioassay 250 mg/L (% Mortality)	0	%

Laboratory Notes

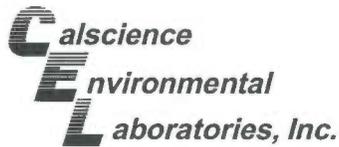
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	21.50
Upper 95% confidence limit:	21.90
Lower 95% confidence limit:	21.20

SRT: Standard Reference Toxicant.



Analytical Report

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Date Received: 12/31/13
Work Order: 13-12-2080
Preparation: N/A
Method: CA Fish and Game
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 14:00:00	Test End:	01/06/14 14:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.69 units	Conductivity:	918 umhos/cm
Dissolved Oxygen (D.O.):	7.18 mg/L	Alkalinity:	198 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
24B	13-12-2080-4-A	12/23/13	Solid	01/02/14	01/06/14 14:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	30	%

Laboratory Notes

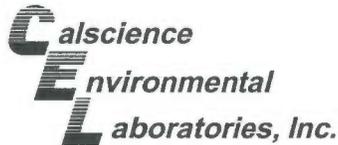
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	21.50
Upper 95% confidence limit:	21.90
Lower 95% confidence limit:	21.20

SRT: Standard Reference Toxicant.



Analytical Report

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222 East Weber
Stockton, CA 95202-2709

Date Received: 12/31/13
Work Order: 13-12-2080
Preparation: N/A
Method: CA Fish and Game

Project: Bioassay Testing

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Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 14:00:00	Test End:	01/06/14 14:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.5 units	Conductivity:	940 umhos/cm
Dissolved Oxygen (D.O.):	7.22 mg/L	Alkalinity:	198 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
25B	13-12-2080-5-A	12/23/13	Solid	01/02/14	01/06/14 14:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	10	%

Laboratory Notes

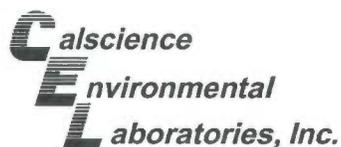
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	21.50
Upper 95% confidence limit:	21.90
Lower 95% confidence limit:	21.20

SRT: Standard Reference Toxicant.



Analytical Report

San Joaquin County District Attorney
222 East Weber
Stockton, CA 95202-2709

Date Received: 12/31/13
Work Order: 13-12-2080
Preparation: N/A
Method: CA Fish and Game
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 14:00:00	Test End:	01/06/14 14:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.55 units	Conductivity:	940 umhos/cm
Dissolved Oxygen (D.O.):	7.22 mg/L	Alkalinity:	196 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
26B	13-12-2080-6-A	12/23/13	Solid	01/02/14	01/06/14 14:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	0	%
Bioassay 250 mg/L (% Mortality)	0	%

Laboratory Notes

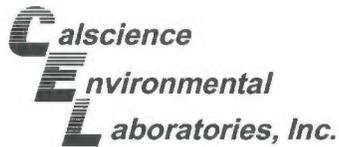
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	21.50
Upper 95% confidence limit:	21.90
Lower 95% confidence limit:	21.20

SRT: Standard Reference Toxicant.



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Date Received: 12/31/13
Work Order: 13-12-2080
Preparation: N/A
Method: CA Fish and Game
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 14:00:00	Test End:	01/06/14 14:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.44 units	Conductivity:	888 umhos/cm
Dissolved Oxygen (D.O.):	7.18 mg/L	Alkalinity:	190 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
27B	13-12-2080-7-A	12/23/13	Solid	01/02/14	01/06/14 14:00:00	
<u>Parameter</u>	<u>Result</u>	<u>Units</u>				
Bioassay 750 mg/L (% Mortality)	0	%				
Bioassay 250 mg/L (% Mortality)	0	%				

Laboratory Notes

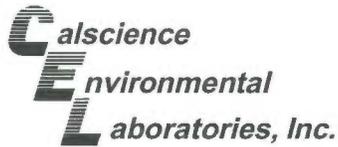
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	21.50
Upper 95% confidence limit:	21.90
Lower 95% confidence limit:	21.20

SRT: Standard Reference Toxicant.



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Stockton, CA 95202-2709

Date Received: 12/31/13
Work Order: 13-12-2080
Preparation: N/A
Method: CA Fish and Game

Project: Bioassay Testing

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Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 14:00:00	Test End:	01/06/14 14:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.54 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.24 mg/L	Alkalinity:	188 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
28B	13-12-2080-8-A	12/23/13	Solid	01/02/14	01/06/14 14:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	0	%
Bioassay 250 mg/L (% Mortality)	0	%

Laboratory Notes

Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	21.50
Upper 95% confidence limit:	21.90
Lower 95% confidence limit:	21.20

SRT: Standard Reference Toxicant.



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Date Received: 12/31/13
Work Order: 13-12-2080
Preparation: N/A
Method: CA Fish and Game
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 14:00:00	Test End:	01/06/14 14:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.9 °C
pH:	7.5 units	Conductivity:	996 umhos/cm
Dissolved Oxygen (D.O.):	7.16 mg/L	Alkalinity:	192 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
29B	13-12-2080-9-A	12/23/13	Solid	01/02/14	01/06/14 14:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	100	%

Laboratory Notes

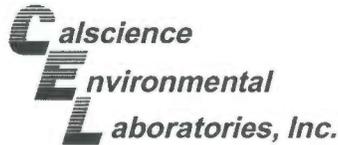
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	21.50
Upper 95% confidence limit:	21.90
Lower 95% confidence limit:	21.20

SRT: Standard Reference Toxicant.



Analytical Report

San Joaquin County District Attorney
222 East Weber
Stockton, CA 95202-2709

Date Received: 12/31/13
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Preparation: N/A
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 14:00:00	Test End:	01/06/14 14:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.47 units	Conductivity:	914 umhos/cm
Dissolved Oxygen (D.O.):	7.25 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
30B	13-12-2080-10-A	12/23/13	Solid	01/02/14	01/06/14 14:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	0	%
Bioassay 250 mg/L (% Mortality)	0	%

Laboratory Notes

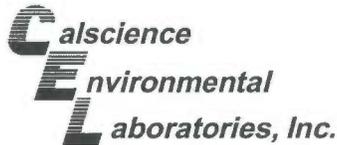
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	21.50
Upper 95% confidence limit:	21.90
Lower 95% confidence limit:	21.20

SRT: Standard Reference Toxicant.



Analytical Report

San Joaquin County District Attorney
222 East Weber
Stockton, CA 95202-2709

Date Received: 12/31/13
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 14:00:00	Test End:	01/06/14 14:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.53 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.25 mg/L	Alkalinity:	192 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
31B	13-12-2080-11-A	12/23/13	Solid	01/02/14	01/06/14 14:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	0	%
Bioassay 250 mg/L (% Mortality)	0	%

Laboratory Notes

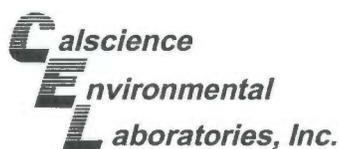
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	21.50
Upper 95% confidence limit:	21.90
Lower 95% confidence limit:	21.20

SRT: Standard Reference Toxicant.



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Stockton, CA 95202-2709

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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 14:00:00	Test End:	01/06/14 14:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.52 units	Conductivity:	906 umhos/cm
Dissolved Oxygen (D.O.):	7.35 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
32B	13-12-2080-12-A	12/23/13	Solid	01/02/14	01/06/14 14:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	0	%
Bioassay 250 mg/L (% Mortality)	0	%

Laboratory Notes

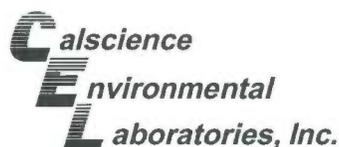
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	21.50
Upper 95% confidence limit:	21.90
Lower 95% confidence limit:	21.20

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 14:00:00	Test End:	01/06/14 14:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.52 units	Conductivity:	908 umhos/cm
Dissolved Oxygen (D.O.):	7.45 mg/L	Alkalinity:	190 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
33B	13-12-2080-13-A	12/23/13	Solid	01/02/14	01/06/14 14:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	0	%
Bioassay 250 mg/L (% Mortality)	0	%

Laboratory Notes

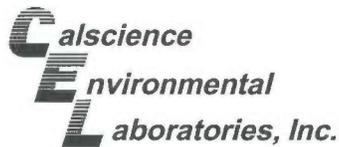
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	21.50
Upper 95% confidence limit:	21.90
Lower 95% confidence limit:	21.20

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 14:00:00	Test End:	01/06/14 14:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.9 °C
pH:	7.4 units	Conductivity:	910 umhos/cm
Dissolved Oxygen (D.O.):	7.55 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
34B	13-12-2080-14-A	12/23/13	Solid	01/02/14	01/06/14 14:00:00	
<u>Parameter</u>	<u>Result</u>	<u>Units</u>				
Bioassay 750 mg/L (% Mortality)	0	%				
Bioassay 250 mg/L (% Mortality)	0	%				

Laboratory Notes

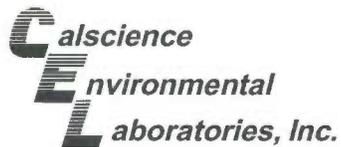
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	21.50
Upper 95% confidence limit:	21.90
Lower 95% confidence limit:	21.20

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 14:00:00	Test End:	01/06/14 14:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.9 °C
pH:	7.48 units	Conductivity:	906 umhos/cm
Dissolved Oxygen (D.O.):	7.54 mg/L	Alkalinity:	190 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
35B	13-12-2080-15-A	12/23/13	Solid	01/02/14	01/06/14 14:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	0	%
Bioassay 250 mg/L (% Mortality)	0	%

Laboratory Notes

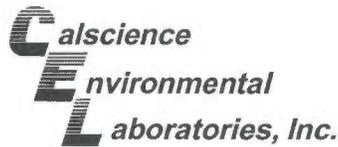
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	21.50
Upper 95% confidence limit:	21.90
Lower 95% confidence limit:	21.20

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	13 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 14:00:00	Test End:	01/06/14 14:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.9 °C
pH:	7.54 units	Conductivity:	910 umhos/cm
Dissolved Oxygen (D.O.):	7.48 mg/L	Alkalinity:	192 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
36B	13-12-2080-16-A	12/23/13	Solid	01/02/14	01/06/14 14:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	0	%
Bioassay 250 mg/L (% Mortality)	0	%

Laboratory Notes

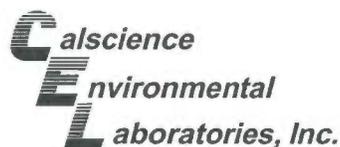
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	21.50
Upper 95% confidence limit:	21.90
Lower 95% confidence limit:	21.20

SRT: Standard Reference Toxicant.



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San Joaquin County District Attorney
222 East Weber
Stockton, CA 95202-2709

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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 14:00:00	Test End:	01/06/14 14:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.43 units	Conductivity:	948 umhos/cm
Dissolved Oxygen (D.O.):	7.54 mg/L	Alkalinity:	190 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
37B	13-12-2080-17-A	12/23/13	Solid	01/02/14	01/06/14 14:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	0	%

Laboratory Notes

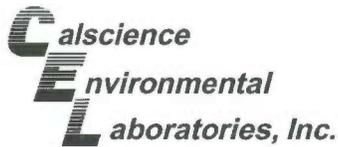
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	21.50
Upper 95% confidence limit:	21.90
Lower 95% confidence limit:	21.20

SRT: Standard Reference Toxicant.



Analytical Report

San Joaquin County District Attorney
222 East Weber
Stockton, CA 95202-2709

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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 14:00:00	Test End:	01/06/14 14:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.54 units	Conductivity:	962 umhos/cm
Dissolved Oxygen (D.O.):	7.45 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
38B	13-12-2080-18-A	12/23/13	Solid	01/02/14	01/06/14 14:00:00	
<u>Parameter</u>	<u>Result</u>	<u>Units</u>				
Bioassay 750 mg/L (% Mortality)	0	%				
Bioassay 250 mg/L (% Mortality)	0	%				

Laboratory Notes

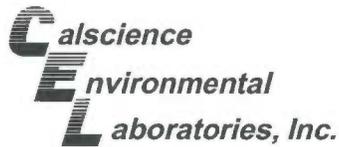
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	21.50
Upper 95% confidence limit:	21.90
Lower 95% confidence limit:	21.20

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 14:00:00	Test End:	01/06/14 14:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.55 units	Conductivity:	980 umhos/cm
Dissolved Oxygen (D.O.):	7.55 mg/L	Alkalinity:	196 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
39B	13-12-2080-19-A	12/23/13	Solid	01/02/14	01/06/14 14:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	0	%
Bioassay 250 mg/L (% Mortality)	0	%

Laboratory Notes

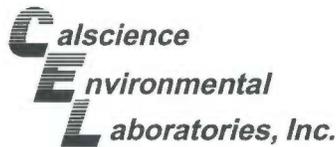
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	21.50
Upper 95% confidence limit:	21.90
Lower 95% confidence limit:	21.20

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 14:00:00	Test End:	01/06/14 14:01:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.6 units	Conductivity:	984 umhos/cm
Dissolved Oxygen (D.O.):	7.48 mg/L	Alkalinity:	196 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
40B	13-12-2080-20-A	12/23/13	Solid	01/02/14	01/06/14 14:01:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	0	%
Bioassay 250 mg/L (% Mortality)	0	%

Laboratory Notes

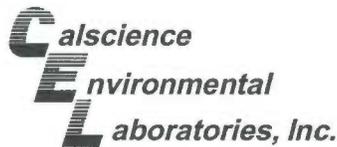
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	21.50
Upper 95% confidence limit:	21.90
Lower 95% confidence limit:	21.20

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 16:00:00	Test End:	01/06/14 16:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.61 units	Conductivity:	984 umhos/cm
Dissolved Oxygen (D.O.):	7.26 mg/L	Alkalinity:	196 mg/L
Hardness:	41 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
41B	13-12-2080-21-A	12/23/13	Solid	01/02/14	01/06/14 16:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	100	%

Laboratory Notes

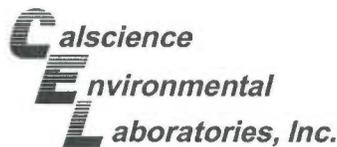
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.30
Upper 95% confidence limit:	25.80
Lower 95% confidence limit:	22.70

SRT: Standard Reference Toxicant.



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 Preparation: N/A
 Method: CA Fish and Game
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 16:00:00	Test End:	01/06/14 16:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.55 units	Conductivity:	986 umhos/cm
Dissolved Oxygen (D.O.):	7.23 mg/L	Alkalinity:	194 mg/L
Hardness:	41 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
42B	13-12-2080-22-A	12/23/13	Solid	01/02/14	01/06/14 16:00:00	

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	100	%

Laboratory Notes

Sample received after recommended holding time.

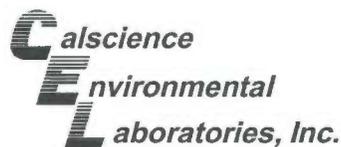
All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.30
Upper 95% confidence limit:	25.80
Lower 95% confidence limit:	22.70

SRT: Standard Reference Toxicant.





Analytical Report

San Joaquin County District Attorney
222 East Weber
Stockton, CA 95202-2709

Date Received: 12/31/13
Work Order: 13-12-2080
Preparation: N/A
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 16:00:00	Test End:	01/06/14 16:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.56 units	Conductivity:	989 umhos/cm
Dissolved Oxygen (D.O.):	7.2 mg/L	Alkalinity:	192 mg/L
Hardness:	41 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
43B	13-12-2080-23-A	12/23/13	Solid	01/02/14	01/06/14 16:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	100	%

Laboratory Notes

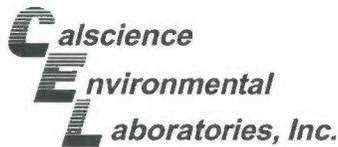
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.30
Upper 95% confidence limit:	25.80
Lower 95% confidence limit:	22.70

SRT: Standard Reference Toxicant.



Analytical Report

San Joaquin County District Attorney
222 East Weber
Stockton, CA 95202-2709

Date Received: 12/31/13
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Method: CA Fish and Game
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 16:00:00	Test End:	01/06/14 16:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.57 units	Conductivity:	992 umhos/cm
Dissolved Oxygen (D.O.):	7.21 mg/L	Alkalinity:	196 mg/L
Hardness:	41 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
44B	13-12-2080-24-A	12/23/13	Solid	01/02/14	01/06/14 16:00:00	
<u>Parameter</u>	<u>Result</u>	<u>Units</u>				
Bioassay 750 mg/L (% Mortality)	100	%				
Bioassay 250 mg/L (% Mortality)	100	%				

Laboratory Notes

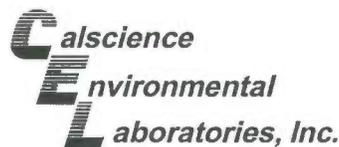
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.30
Upper 95% confidence limit:	25.80
Lower 95% confidence limit:	22.70

SRT: Standard Reference Toxicant.



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Stockton, CA 95202-2709

Date Received: 12/31/13
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 16:00:00	Test End:	01/06/14 16:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.58 units	Conductivity:	992 umhos/cm
Dissolved Oxygen (D.O.):	7.17 mg/L	Alkalinity:	198 mg/L
Hardness:	41 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
45B	13-12-2080-25-A	12/23/13	Solid	01/02/14	01/06/14 16:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	100	%

Laboratory Notes

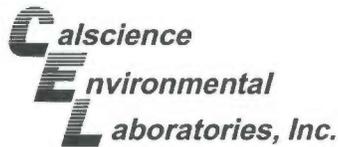
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.30
Upper 95% confidence limit:	25.80
Lower 95% confidence limit:	22.70

SRT: Standard Reference Toxicant.



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222 East Weber
Stockton, CA 95202-2709

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Preparation: N/A
Method: CA Fish and Game
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 16:00:00	Test End:	01/06/14 16:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.61 units	Conductivity:	996 umhos/cm
Dissolved Oxygen (D.O.):	7.17 mg/L	Alkalinity:	194 mg/L
Hardness:	41 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
46B	13-12-2080-26-A	12/23/13	Solid	01/02/14	01/06/14 16:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	100	%

Laboratory Notes

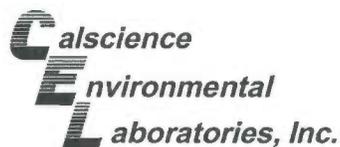
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.30
Upper 95% confidence limit:	25.80
Lower 95% confidence limit:	22.70

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 16:00:00	Test End:	01/06/14 16:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.52 units	Conductivity:	990 umhos/cm
Dissolved Oxygen (D.O.):	7.22 mg/L	Alkalinity:	194 mg/L
Hardness:	41 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
47B	13-12-2080-27-A	12/23/13	Solid	01/02/14	01/06/14 16:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	100	%

Laboratory Notes

Sample received after recommended holding time.

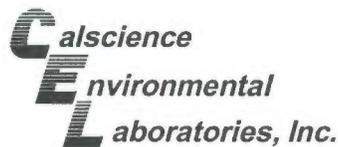
All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.30
Upper 95% confidence limit:	25.80
Lower 95% confidence limit:	22.70

SRT: Standard Reference Toxicant.





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 Preparation: N/A
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 16:00:00	Test End:	01/06/14 16:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.56 units	Conductivity:	994 umhos/cm
Dissolved Oxygen (D.O.):	7.15 mg/L	Alkalinity:	190 mg/L
Hardness:	41 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
48B	13-12-2080-28-A	12/23/13	Solid	01/02/14	01/06/14 16:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	100	%

Laboratory Notes

Sample received after recommended holding time.

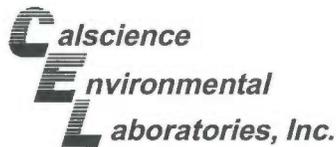
All testing was within method protocol.

LC 50 Results

SRT sample (mg/L): 24.30
 Upper 95% confidence limit: 25.80
 Lower 95% confidence limit: 22.70

SRT: Standard Reference Toxicant.





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Preparation: N/A
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 16:00:00	Test End:	01/06/14 16:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.51 units	Conductivity:	990 umhos/cm
Dissolved Oxygen (D.O.):	7.25 mg/L	Alkalinity:	190 mg/L
Hardness:	41 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
49B	13-12-2080-29-A	12/23/13	Solid	01/02/14	01/06/14 16:00:00	
<u>Parameter</u>	<u>Result</u>	<u>Units</u>				
Bioassay 750 mg/L (% Mortality)	100	%				
Bioassay 250 mg/L (% Mortality)	100	%				

Laboratory Notes

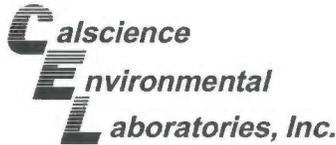
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.30
Upper 95% confidence limit:	25.80
Lower 95% confidence limit:	22.70

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 16:00:00	Test End:	01/06/14 16:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.55 units	Conductivity:	996 umhos/cm
Dissolved Oxygen (D.O.):	7.17 mg/L	Alkalinity:	196 mg/L
Hardness:	41 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
50B	13-12-2080-30-A	12/23/13	Solid	01/02/14	01/06/14 16:00:00	
Parameter	Result	Units				
Bioassay 750 mg/L (% Mortality)	100	%				
Bioassay 250 mg/L (% Mortality)	100	%				

Laboratory Notes

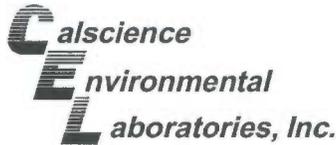
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.30
Upper 95% confidence limit:	25.80
Lower 95% confidence limit:	22.70

SRT: Standard Reference Toxicant.



Analytical Report

San Joaquin County District Attorney
222 East Weber
Stockton, CA 95202-2709

Date Received: 12/31/13
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 16:00:00	Test End:	01/06/14 16:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.57 units	Conductivity:	994 umhos/cm
Dissolved Oxygen (D.O.):	7.15 mg/L	Alkalinity:	195 mg/L
Hardness:	41 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
51B	13-12-2080-31-A	12/23/13	Solid	01/02/14	01/06/14 16:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	100	%

Laboratory Notes

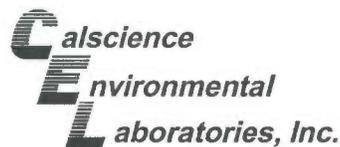
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.30
Upper 95% confidence limit:	25.80
Lower 95% confidence limit:	22.70

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	44 mm	Mean Weight:	0.48 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/24/14 13:59:00	Test End:	01/27/14 14:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.7 °C
pH:	8.36 units	Conductivity:	920 umhos/cm
Dissolved Oxygen (D.O.):	7.21 mg/L	Alkalinity:	208 mg/L
Hardness:	42 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
52B	13-12-2080-32-A	12/23/13	Solid	01/24/14	01/27/14 14:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	100	%

Laboratory Notes

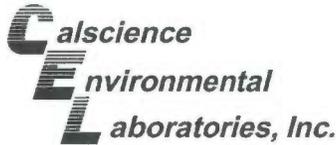
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	25.00
Upper 95% confidence limit:	25.30
Lower 95% confidence limit:	24.70

SRT: Standard Reference Toxicant.



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Preparation: N/A
Method: CA Fish and Game
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 16:00:00	Test End:	01/06/14 16:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.57 units	Conductivity:	998 umhos/cm
Dissolved Oxygen (D.O.):	7.16 mg/L	Alkalinity:	196 mg/L
Hardness:	41 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
53B	13-12-2080-33-A	12/23/13	Solid	01/02/14	01/06/14 16:00:00	
Parameter	Result	Units				
Bioassay 750 mg/L (% Mortality)	100	%				
Bioassay 250 mg/L (% Mortality)	100	%				

Laboratory Notes

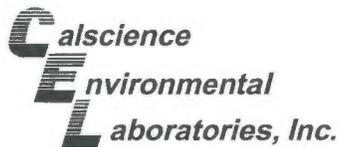
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.30
Upper 95% confidence limit:	25.80
Lower 95% confidence limit:	22.70

SRT: Standard Reference Toxicant.



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Preparation: N/A
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 16:00:00	Test End:	01/06/14 16:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.58 units	Conductivity:	999 umhos/cm
Dissolved Oxygen (D.O.):	7.16 mg/L	Alkalinity:	198 mg/L
Hardness:	41 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
54B	13-12-2080-34-A	12/23/13	Solid	01/02/14	01/06/14 16:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	100	%

Laboratory Notes

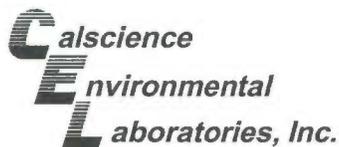
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.30
Upper 95% confidence limit:	25.80
Lower 95% confidence limit:	22.70

SRT: Standard Reference Toxicant.



Analytical Report

San Joaquin County District Attorney
 222 East Weber
 Stockton, CA 95202-2709

Date Received: 12/31/13
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Test Species: Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length: 43 mm	Mean Weight: 0.46 g
Sample Collected: 12/23/13 12:00:00	Sample Received: 12/31/13 11:10:00	
Test Start: 01/02/14 16:00:00	Test End: 01/06/14 16:00:00	

Initial Water Quality Parameters

Residual Chlorine: < 0.01 mg/L	Temperature: 19.8 °C
pH: 7.5 units	Conductivity: 908 umhos/cm
Dissolved Oxygen (D.O.): 7.18 mg/L	Alkalinity: 190 mg/L
Hardness: 41 mg/L	Ammonia: N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
55B	13-12-2080-35-A	12/23/13	Solid	01/02/14	01/06/14 16:00:00	

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	100	%

Laboratory Notes

Sample received after recommended holding time.

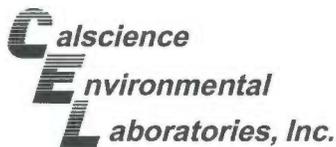
All testing was within method protocol.

LC 50 Results

SRT sample (mg/L): 24.30
 Upper 95% confidence limit: 25.80
 Lower 95% confidence limit: 22.70

SRT: Standard Reference Toxicant.

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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 16:00:00	Test End:	01/06/14 16:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.47 units	Conductivity:	902 umhos/cm
Dissolved Oxygen (D.O.):	7.25 mg/L	Alkalinity:	192 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
56B	13-12-2080-36-A	12/23/13	Solid	01/02/14	01/06/14 16:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	5	%

Laboratory Notes

Sample received after recommended holding time.

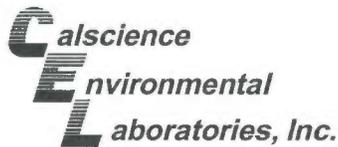
All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.30
Upper 95% confidence limit:	25.80
Lower 95% confidence limit:	22.70

SRT: Standard Reference Toxicant.





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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 16:00:00	Test End:	01/06/14 16:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.54 units	Conductivity:	946 umhos/cm
Dissolved Oxygen (D.O.):	7.17 mg/L	Alkalinity:	190 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
57B	13-12-2080-37-A	12/23/13	Solid	01/02/14	01/06/14 16:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	10	%

Laboratory Notes

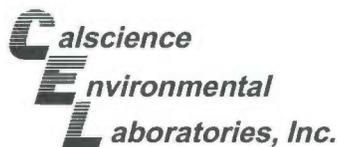
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.30
Upper 95% confidence limit:	25.80
Lower 95% confidence limit:	22.70

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 16:00:00	Test End:	01/06/14 16:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.56 units	Conductivity:	970 umhos/cm
Dissolved Oxygen (D.O.):	7.17 mg/L	Alkalinity:	194 mg/L
Hardness:	41 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
58B	13-12-2080-38-A	12/23/13	Solid	01/02/14	01/06/14 16:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	100	%

Laboratory Notes

Sample received after recommended holding time.

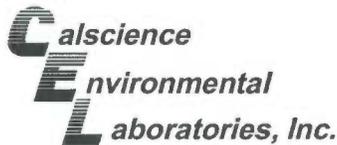
All testing was within method protocol.

LC 50 Results

SRT sample (mg/L): 24.30
 Upper 95% confidence limit: 25.80
 Lower 95% confidence limit: 22.70

SRT: Standard Reference Toxicant.

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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 16:00:00	Test End:	01/06/14 16:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.56 units	Conductivity:	984 umhos/cm
Dissolved Oxygen (D.O.):	7.18 mg/L	Alkalinity:	196 mg/L
Hardness:	41 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
59B	13-12-2080-39-A	12/23/13	Solid	01/02/14	01/06/14 16:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	100	%

Laboratory Notes

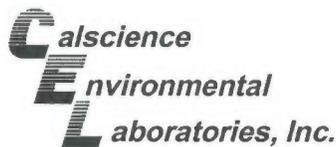
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.30
Upper 95% confidence limit:	25.80
Lower 95% confidence limit:	22.70

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 16:00:00	Test End:	01/06/14 16:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.51 units	Conductivity:	992 umhos/cm
Dissolved Oxygen (D.O.):	7.12 mg/L	Alkalinity:	198 mg/L
Hardness:	41 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
60B	13-12-2080-40-A	12/23/13	Solid	01/02/14	01/06/14 16:00:00	

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	100	%

Laboratory Notes

Sample received after recommended holding time.

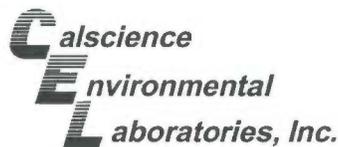
All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.30
Upper 95% confidence limit:	25.80
Lower 95% confidence limit:	22.70

SRT: Standard Reference Toxicant.

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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 18:00:00	Test End:	01/06/14 18:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.47 units	Conductivity:	980 umhos/cm
Dissolved Oxygen (D.O.):	7.16 mg/L	Alkalinity:	198 mg/L
Hardness:	41 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
61B	13-12-2080-41-A	12/23/13	Solid	01/02/14	01/06/14 18:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	100	%

Laboratory Notes

Sample received after recommended holding time.

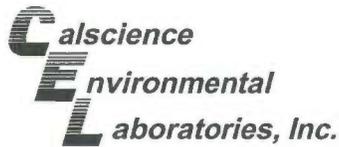
All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.80
Upper 95% confidence limit:	26.20
Lower 95% confidence limit:	23.40

SRT: Standard Reference Toxicant.

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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/02/14 18:00:00	Test End:	01/06/14 18:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.44 units	Conductivity:	908 umhos/cm
Dissolved Oxygen (D.O.):	7.14 mg/L	Alkalinity:	190 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
62B	13-12-2080-42-A	12/23/13	Solid	01/02/14	01/06/14 18:00:00	

Parameter	Result	Units
Bioassay 750 mg/L (% Mortality)	100	%
Bioassay 250 mg/L (% Mortality)	100	%

Laboratory Notes

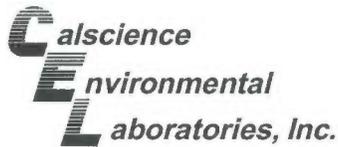
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.80
Upper 95% confidence limit:	26.20
Lower 95% confidence limit:	23.40

SRT: Standard Reference Toxicant.



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222 East Weber
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Date Received: 12/31/13
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/22/14 13:00:00	Test End:	01/26/14 13:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.84 units	Conductivity:	910 umhos/cm
Dissolved Oxygen (D.O.):	7.14 mg/L	Alkalinity:	196 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
24B	13-12-2080-4	12/23/13	Solid	01/22/14	01/26/14 13:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	505	mg/L

Laboratory Notes

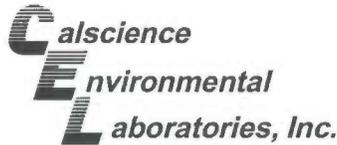
All testing was within method protocol.

Sample received after recommended holding time.

LC 50 Results

SRT sample (mg/L):	24.80	Sample (mg/L):	505.0
Upper 95% confidence limit:	26.20	Upper 95% confidence limit:	511.0
Lower 95% confidence limit:	23.40	Lower 95% confidence limit:	500.0

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/22/14 13:00:00	Test End:	01/26/14 13:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.84 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.18 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
25B	13-12-2080-5	12/23/13	Solid	01/22/14	01/26/14 13:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	604	mg/L

Laboratory Notes

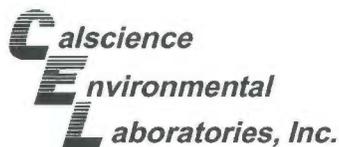
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.80	Sample (mg/L):	604.0
Upper 95% confidence limit:	26.20	Upper 95% confidence limit:	629.0
Lower 95% confidence limit:	23.40	Lower 95% confidence limit:	578.0

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (Pimephales Promelas)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/22/14 13:00:00	Test End:	01/26/14 13:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.85 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.12 mg/L	Alkalinity:	196 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
29B	13-12-2080-9	12/23/13	Solid	01/22/14	01/26/14 13:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	122	mg/L

Laboratory Notes

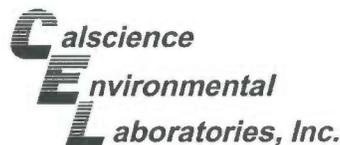
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.80	Sample (mg/L):	122.0
Upper 95% confidence limit:	26.20	Upper 95% confidence limit:	134.0
Lower 95% confidence limit:	23.40	Lower 95% confidence limit:	110.0

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/22/14 13:00:00	Test End:	01/26/14 13:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.86 units	Conductivity:	910 umhos/cm
Dissolved Oxygen (D.O.):	7.14 mg/L	Alkalinity:	198 mg/L
Hardness:	42 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
37B	13-12-2080-17	12/23/13	Solid	01/22/14	01/26/14 13:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	408	mg/L

Laboratory Notes

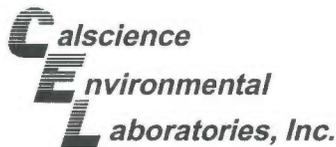
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.80	Sample (mg/L):	408.0
Upper 95% confidence limit:	26.20	Upper 95% confidence limit:	436.0
Lower 95% confidence limit:	23.40	Lower 95% confidence limit:	378.0

SRT: Standard Reference Toxicant.



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Preparation: N/A
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/22/14 13:00:00	Test End:	01/26/14 13:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.85 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.12 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
41B	13-12-2080-21	12/23/13	Solid	01/22/14	01/26/14 13:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	15.0	mg/L

Laboratory Notes

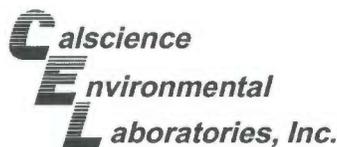
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.80	Sample (mg/L):	15.00
Upper 95% confidence limit:	26.20	Upper 95% confidence limit:	15.30
Lower 95% confidence limit:	23.40	Lower 95% confidence limit:	14.80

SRT: Standard Reference Toxicant.



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 Stockton, CA 95202-2709

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Project: Bioassay Testing

Test Species: Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length: 43 mm	Mean Weight: 0.46 g
Sample Collected: 12/23/13 12:00:00	Sample Received: 12/31/13 11:10:00	
Test Start: 01/22/14 13:00:00	Test End: 01/26/14 13:00:00	

Initial Water Quality Parameters

Residual Chlorine: < 0.01 mg/L	Temperature: 19.8 °C
pH: 7.84 units	Conductivity: 900 umhos/cm
Dissolved Oxygen (D.O.): 7.18 mg/L	Alkalinity: 194 mg/L
Hardness: 40 mg/L	Ammonia: N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
42B	13-12-2080-22	12/23/13	Solid	01/22/14	01/26/14 13:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	15.4	mg/L

Laboratory Notes

Sample received after recommended holding time.

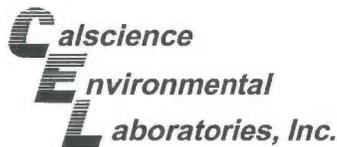
All testing was within method protocol.

LC 50 Results

SRT sample (mg/L): 24.80	Sample (mg/L): 15.40
Upper 95% confidence limit: 26.20	Upper 95% confidence limit: 15.70
Lower 95% confidence limit: 23.40	Lower 95% confidence limit: 15.10

SRT: Standard Reference Toxicant.





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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/22/14 13:00:00	Test End:	01/26/14 13:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.85 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.14 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
43B	13-12-2080-23	12/23/13	Solid	01/22/14	01/26/14 13:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	23.8	mg/L

Laboratory Notes

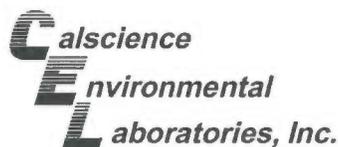
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.80	Sample (mg/L):	23.80
Upper 95% confidence limit:	26.20	Upper 95% confidence limit:	24.20
Lower 95% confidence limit:	23.40	Lower 95% confidence limit:	23.40

SRT: Standard Reference Toxicant.



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 Method: CA Fish and Game
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/22/14 13:00:00	Test End:	01/26/14 13:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.86 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.13 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
44B	13-12-2080-24	12/23/13	Solid	01/22/14	01/26/14 13:00:00	

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Bioassay Definitive LC50	41.2	mg/L

Laboratory Notes

Sample received after recommended holding time.

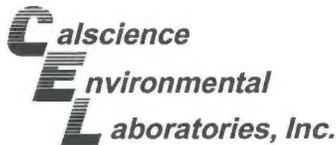
All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.80	Sample (mg/L):	41.20
Upper 95% confidence limit:	26.20	Upper 95% confidence limit:	43.90
Lower 95% confidence limit:	23.40	Lower 95% confidence limit:	38.30

SRT: Standard Reference Toxicant.

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Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/22/14 13:00:00	Test End:	01/26/14 13:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.87 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.14 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
45B	13-12-2080-25	12/23/13	Solid	01/22/14	01/26/14 13:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	34.9	mg/L

Laboratory Notes

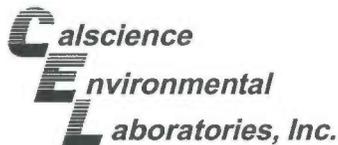
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.80	Sample (mg/L):	34.90
Upper 95% confidence limit:	26.20	Upper 95% confidence limit:	35.30
Lower 95% confidence limit:	23.40	Lower 95% confidence limit:	34.40

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/22/14 13:00:00	Test End:	01/26/14 13:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.86 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.14 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
46B	13-12-2080-26	12/23/13	Solid	01/22/14	01/26/14 13:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	29.7	mg/L

Laboratory Notes

Sample received after recommended holding time.

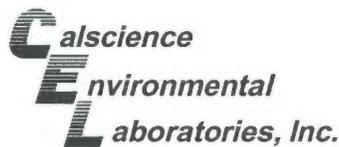
All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.80	Sample (mg/L):	29.70
Upper 95% confidence limit:	26.20	Upper 95% confidence limit:	32.30
Lower 95% confidence limit:	23.40	Lower 95% confidence limit:	26.80

SRT: Standard Reference Toxicant.





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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/22/14 13:00:00	Test End:	01/26/14 13:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.84 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.15 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
47B	13-12-2080-27	12/23/13	Solid	01/22/14	01/26/14 13:00:00	

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Bioassay Definitive LC50	60.7	mg/L

Laboratory Notes

Sample received after recommended holding time.

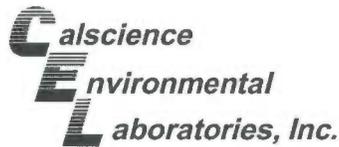
All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.80	Sample (mg/L):	60.70
Upper 95% confidence limit:	26.20	Upper 95% confidence limit:	61.80
Lower 95% confidence limit:	23.40	Lower 95% confidence limit:	59.70

SRT: Standard Reference Toxicant.

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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/22/14 13:00:00	Test End:	01/26/14 13:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.87 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.19 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
48B	13-12-2080-28	12/23/13	Solid	01/22/14	01/26/14 13:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	64.1	mg/L

Laboratory Notes

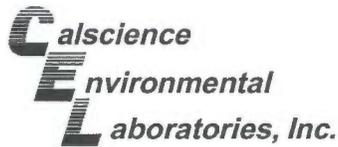
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.80	Sample (mg/L):	64.10
Upper 95% confidence limit:	26.20	Upper 95% confidence limit:	64.60
Lower 95% confidence limit:	23.40	Lower 95% confidence limit:	53.50

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/22/14 13:00:00	Test End:	01/26/14 13:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.86 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.13 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
49B	13-12-2080-29	12/23/13	Solid	01/22/14	01/26/14 13:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	90.9	mg/L

Laboratory Notes

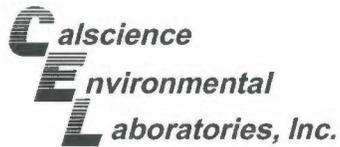
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.80	Sample (mg/L):	90.90
Upper 95% confidence limit:	26.20	Upper 95% confidence limit:	96.90
Lower 95% confidence limit:	23.40	Lower 95% confidence limit:	84.60

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	43 mm	Mean Weight:	0.46 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/22/14 13:00:00	Test End:	01/26/14 13:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.8 °C
pH:	7.85 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.12 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
50B	13-12-2080-30	12/23/13	Solid	01/22/14	01/26/14 13:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	90.8	mg/L

Laboratory Notes

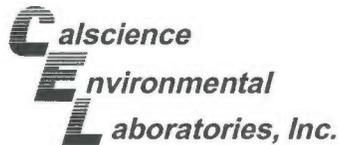
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	24.80	Sample (mg/L):	90.80
Upper 95% confidence limit:	26.20	Upper 95% confidence limit:	96.50
Lower 95% confidence limit:	23.40	Lower 95% confidence limit:	84.80

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	44 mm	Mean Weight:	0.48 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/27/14 12:00:00	Test End:	01/31/14 12:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.7 °C
pH:	7.85 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.19 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
51B	13-12-2080-31	12/23/13	Solid	01/27/14	01/31/14 12:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	63.7	mg/L

Laboratory Notes

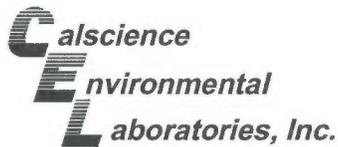
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	22.50	Sample (mg/L):	63.70
Upper 95% confidence limit:	23.90	Upper 95% confidence limit:	68.50
Lower 95% confidence limit:	21.10	Lower 95% confidence limit:	59.70

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	44 mm	Mean Weight:	0.48 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/27/14 12:00:00	Test End:	01/31/14 12:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.7 °C
pH:	8.27 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.17 mg/L	Alkalinity:	214 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
52B	13-12-2080-32	12/23/13	Solid	01/27/14	01/31/14 12:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	119	mg/L

Laboratory Notes

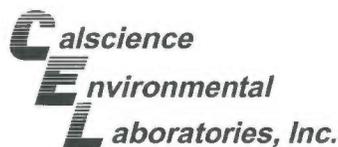
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	22.50	Sample (mg/L):	119.0
Upper 95% confidence limit:	23.90	Upper 95% confidence limit:	132.0
Lower 95% confidence limit:	21.10	Lower 95% confidence limit:	107.0

SRT: Standard Reference Toxicant.



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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	44 mm	Mean Weight:	0.48 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/27/14 12:00:00	Test End:	01/31/14 12:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.7 °C
pH:	7.84 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.22 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
53B	13-12-2080-33-A	12/23/13	Solid	01/27/14	01/31/14 12:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	8.12	mg/L

Laboratory Notes

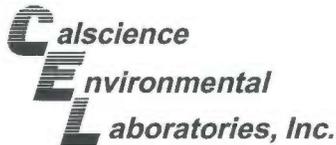
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	22.50	Sample (mg/L):	8.120
Upper 95% confidence limit:	23.90	Upper 95% confidence limit:	9.370
Lower 95% confidence limit:	21.10	Lower 95% confidence limit:	6.820

SRT: Standard Reference Toxicant.



Analytical Report

San Joaquin County District Attorney
222 East Weber
Stockton, CA 95202-2709

Date Received: 12/31/13
Work Order: 13-12-2080
Preparation: N/A
Method: CA Fish and Game
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	44 mm	Mean Weight:	0.48 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/27/14 12:00:00	Test End:	01/31/14 12:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.7 °C
pH:	7.83 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.16 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
54B	13-12-2080-34	12/23/13	Solid	01/27/14	01/31/14 12:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	10.7	mg/L

Laboratory Notes

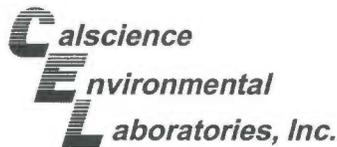
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	22.50	Sample (mg/L):	10.70
Upper 95% confidence limit:	23.90	Upper 95% confidence limit:	12.20
Lower 95% confidence limit:	21.10	Lower 95% confidence limit:	8.990

SRT: Standard Reference Toxicant.



Analytical Report

San Joaquin County District Attorney
222 East Weber
Stockton, CA 95202-2709

Date Received: 12/31/13
Work Order: 13-12-2080
Preparation: N/A
Method: CA Fish and Game
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	44 mm	Mean Weight:	0.48 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/27/14 12:00:00	Test End:	01/31/14 12:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.7 °C
pH:	7.85 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.15 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
55B	13-12-2080-35	12/23/13	Solid	01/27/14	01/31/14 12:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	15.7	mg/L

Laboratory Notes

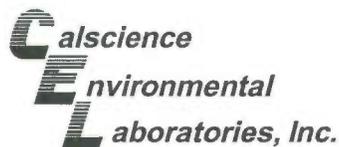
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	22.50	Sample (mg/L):	15.70
Upper 95% confidence limit:	23.90	Upper 95% confidence limit:	16.40
Lower 95% confidence limit:	21.10	Lower 95% confidence limit:	15.10

SRT: Standard Reference Toxicant.



Analytical Report

San Joaquin County District Attorney
 222 East Weber
 Stockton, CA 95202-2709

Date Received: 12/31/13
 Work Order: 13-12-2080
 Preparation: N/A
 Method: CA Fish and Game
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Project: Bioassay Testing

Test Species: Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length: 44 mm	Mean Weight: 0.48 g
Sample Collected: 12/23/13 12:00:00	Sample Received: 12/31/13 11:10:00	
Test Start: 01/27/14 12:00:00	Test End: 01/31/14 12:00:00	

Initial Water Quality Parameters

Residual Chlorine: < 0.01 mg/L	Temperature: 19.7 °C
pH: 7.83 units	Conductivity: 900 umhos/cm
Dissolved Oxygen (D.O.): 7.17 mg/L	Alkalinity: 194 mg/L
Hardness: 40 mg/L	Ammonia: N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
56B	13-12-2080-36	12/23/13	Solid	01/27/14	01/31/14 12:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	117	mg/L

Laboratory Notes

Sample received after recommended holding time.

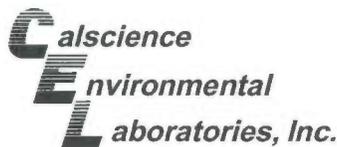
All testing was within method protocol.

LC 50 Results

SRT sample (mg/L): 22.50	Sample (mg/L): 117.0
Upper 95% confidence limit: 23.90	Upper 95% confidence limit: 119.0
Lower 95% confidence limit: 21.10	Lower 95% confidence limit: 114.0

SRT: Standard Reference Toxicant.

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Analytical Report

San Joaquin County District Attorney
 222 East Weber
 Stockton, CA 95202-2709

Date Received: 12/31/13
 Work Order: 13-12-2080
 Preparation: N/A
 Method: CA Fish and Game
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	44 mm	Mean Weight:	0.48 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/27/14 12:00:00	Test End:	01/31/14 12:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.7 °C
pH:	7.85 units	Conductivity:	910 umhos/cm
Dissolved Oxygen (D.O.):	7.17 mg/L	Alkalinity:	200 mg/L
Hardness:	42 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
57B	13-12-2080-37	12/23/13	Solid	01/27/14	01/31/14 12:00:00	

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Bioassay Definitive LC50	360	mg/L

Laboratory Notes

Sample received after recommended holding time.

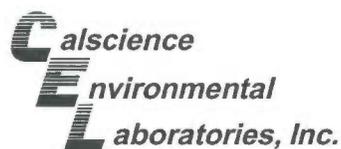
All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	22.50	Sample (mg/L):	360.0
Upper 95% confidence limit:	23.90	Upper 95% confidence limit:	389.0
Lower 95% confidence limit:	21.10	Lower 95% confidence limit:	335.0

SRT: Standard Reference Toxicant.





Analytical Report

San Joaquin County District Attorney
222 East Weber
Stockton, CA 95202-2709

Date Received: 12/31/13
Work Order: 13-12-2080
Preparation: N/A
Method: CA Fish and Game
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	44 mm	Mean Weight:	0.48 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/27/14 12:00:00	Test End:	01/31/14 12:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.7 °C
pH:	7.84 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.15 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
58B	13-12-2080-38	12/23/13	Solid	01/27/14	01/31/14 12:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	11.7	mg/L

Laboratory Notes

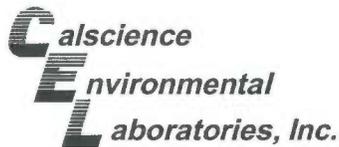
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	22.50	Sample (mg/L):	11.70
Upper 95% confidence limit:	23.90	Upper 95% confidence limit:	12.80
Lower 95% confidence limit:	21.10	Lower 95% confidence limit:	10.70

SRT: Standard Reference Toxicant.



Analytical Report

San Joaquin County District Attorney
222 East Weber
Stockton, CA 95202-2709

Date Received: 12/31/13
Work Order: 13-12-2080
Preparation: N/A
Method: CA Fish and Game
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	44 mm	Mean Weight:	0.48 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/27/14 12:00:00	Test End:	01/31/14 12:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.7 °C
pH:	7.84 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.19 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
59B	13-12-2080-39	12/23/13	Solid	01/27/14	01/31/14 12:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	62	mg/L

Laboratory Notes

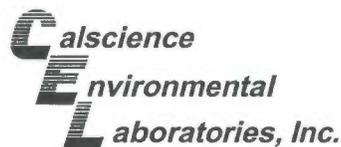
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	22.50	Sample (mg/L):	62.00
Upper 95% confidence limit:	23.90	Upper 95% confidence limit:	66.60
Lower 95% confidence limit:	21.10	Lower 95% confidence limit:	58.20

SRT: Standard Reference Toxicant.



Analytical Report

San Joaquin County District Attorney
222 East Weber
Stockton, CA 95202-2709

Date Received: 12/31/13
Work Order: 13-12-2080
Preparation: N/A
Method: CA Fish and Game
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	44 mm	Mean Weight:	0.48 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/27/14 12:00:00	Test End:	01/31/14 12:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.7 °C
pH:	7.83 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.17 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
60B	13-12-2080-40	12/23/13	Solid	01/27/14	01/31/14 12:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	92.7	mg/L

Laboratory Notes

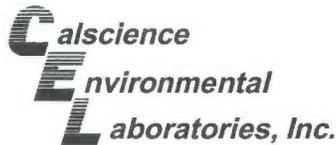
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	22.50	Sample (mg/L):	92.70
Upper 95% confidence limit:	23.90	Upper 95% confidence limit:	95.00
Lower 95% confidence limit:	21.10	Lower 95% confidence limit:	90.50

SRT: Standard Reference Toxicant.



Analytical Report

San Joaquin County District Attorney
222 East Weber
Stockton, CA 95202-2709

Date Received: 12/31/13
Work Order: 13-12-2080
Preparation: N/A
Method: CA Fish and Game
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	44 mm	Mean Weight:	0.48 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/27/14 12:00:00	Test End:	01/31/14 12:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.7 °C
pH:	7.82 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.19 mg/L	Alkalinity:	194 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
61B	13-12-2080-41	12/23/13	Solid	01/27/14	01/31/14 12:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	17.6	mg/L

Laboratory Notes

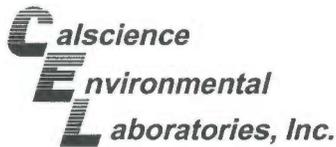
Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	22.50	Sample (mg/L):	17.60
Upper 95% confidence limit:	23.90	Upper 95% confidence limit:	19.40
Lower 95% confidence limit:	21.10	Lower 95% confidence limit:	16.00

SRT: Standard Reference Toxicant.



Analytical Report

San Joaquin County District Attorney
222 East Weber
Stockton, CA 95202-2709

Date Received: 12/31/13
Work Order: 13-12-2080
Preparation: N/A
Method: CA Fish and Game
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Project: Bioassay Testing

Test Species:	Fathead Minnow (<i>Pimephales Promelas</i>)	Mean Length:	44 mm	Mean Weight:	0.48 g
Sample Collected:	12/23/13 12:00:00	Sample Received:	12/31/13 11:10:00		
Test Start:	01/27/14 12:00:00	Test End:	01/31/14 12:00:00		

Initial Water Quality Parameters

Residual Chlorine:	< 0.01 mg/L	Temperature:	19.7 °C
pH:	7.84 units	Conductivity:	900 umhos/cm
Dissolved Oxygen (D.O.):	7.15 mg/L	Alkalinity:	196 mg/L
Hardness:	40 mg/L	Ammonia:	N/A

Sample Preparation

The sample was adjusted to test temperature.

Sample Adjustment During Analysis

No Supplemental aeration needed.

If needed, supplemental aeration to maintain required Dissolved Oxygen level is supplied via a low pressure oil-free pump connected to individual lines for each tank/chamber from a common manifold. Individual valves at each tank/chamber control the flow rate as required.

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date/Time Analyzed	QC Batch ID
62B	13-12-2080-42	12/23/13	Solid	01/27/14	01/31/14 12:00:00	

Parameter	Result	Units
Bioassay Definitive LC50	78.5	mg/L

Laboratory Notes

Sample received after recommended holding time.

All testing was within method protocol.

LC 50 Results

SRT sample (mg/L):	22.50	Sample (mg/L):	78.50
Upper 95% confidence limit:	23.90	Upper 95% confidence limit:	79.60
Lower 95% confidence limit:	21.10	Lower 95% confidence limit:	77.40

SRT: Standard Reference Toxicant.

Glossary of Terms and Qualifiers

Work Order: 13-12-2080

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

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

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

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



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SDS

**OFFICE OF THE DISTRICT ATTORNEY
SAN JOAQUIN COUNTY**

222 E. Weber Avenue, Suite 678, Stockton, CA 95202
P.O. Box 990, Stockton, California 95201
Telephone: (209) 468-2400 Fax: (209) 468-0314

13-12-2080

CHAIN OF CUSTODY RECORD

Testing Facility
Calscience Environmental Laboratories, Inc.
Facility address: 7440 Lincoln Way, Garden Grove, CA 92841-1427
Facility contact: Danielle Gonsman, Project Manager

Please send results to:
Name: Investigator Heidi D'Agostino
Email: heidi.dagostino@yoloocounty.org
Fax: 530-666-8423

L2 Sample Number	Description	Manufacturer	CVS Item#	UPC	Strength	Main Ingredient / Or Usage / NOTES	Date sampled	Time sampled	Sample container description				Required analysis	
									Method of sampling	Size of sample container (include units)	Type of sample container	Metal tube (MT) VOA (V) No (N)		Evidence tape: Yes (Y) No (N)
21B	EAS Lean Protein Powder	EAS / Myoplex	89322	07910832005	n/a	Whey Protein / Muscle/Energy/Immune Support	1/23/2013	11:00	n/a	200g (min)	P	N	N	X
22B	Milk Thistle	Nature's Bounty	239041	07431204549	250mg	Silymarin for liver function; also anti-oxidant			n/a	200g (min)	P	N	N	X
23B	Garlic	Nature's Bounty	239027	07431241682	2000mg	Heart/Cardiovascular; also anti-oxidant			n/a	200g (min)	P	N	N	X
24B	Ginkgo	Nature's Bounty	239028	07431204544	120mg	Circulation, memory; also anti-oxidant			n/a	200g (min)	P	N	N	X
25B	Saw Palmetto (softgel/s)	Nature's Way	704022	03367462800	95% Fatty Acids	Serenosa repens Prostate health			n/a	200g (min)	P	N	N	X
26B	Magnesium	Sundown Naturals	723289	03076830173	500mg	Bone & muscle health			n/a	200g (min)	P	N	N	X
27B	Potassium Gluconate	Nature's Bounty	148883	07431201110	595mg	Muscle activity, nerve transmission			n/a	200g (min)	P	N	N	X
28B	Cod Liver Oil	Radiance	501038	01733907743	1000mg	Vit A, D, E, Omega 3, Immune Health			n/a	200g (min)	P	N	N	X
29B	Zinc	Nature's Bounty	149328	07431202060	50mg	Immune System			n/a	200g (min)	P	N	N	X
30B	Alce	Nature's Way	923038	03367410150	550mg	Alce ferox (lutein), Fennel, Beet			n/a	200g (min)	P	N	N	X
31B	Biotin	Sundown Naturals	718217	03076818545	7500mcg	Promotes Energy Metabolism			n/a	200g (min)	P	N	N	X
32B	Red Yeast Rice	Nature's Bounty	711206	07431219989	600mg	Rice powder			n/a	200g (min)	P	N	N	X
33B	Echinacea	Nature's Bounty	328228	07431205569	400mg	Immune System			n/a	200g (min)	P	N	N	X
34B	Folic Acid	Radiance	500978	01733902843	800mcg	Cardiovascular health, Pre-natal			n/a	200g (min)	P	N	N	X
35B	L-Carnitine	Radiance	501060	01733901684	500mg	Assists in the breakdown of fat			n/a	200g (min)	P	N	N	X
36B	Ginseng	Nature's Bounty	256032	07431211932	50mg	Energy & Immune Function (Ginseng flavonoids)			n/a	200g (min)	P	N	N	X
37B	Ginger	Nature's Way	980660	03367413108	550mg	Digestion			n/a	200g (min)	P	N	N	X
38B	Ultimate Flora (Pro-biotic)	Renew Life	724030	06312575350	500mg cultures, 10 strains	Digestion / Immune Support			n/a	200g (min)	P	N	N	X
39B	5 Hour Energy Shape Inner Beauty Liquid Collagen with Biotin	5-Hour Brand	484226	071941050006	1.93 oz. "shot"	Energy			n/a	200g (min)	P	N	N	X
40B		Media Brands LLC		035046085643	16 oz.				n/a	200g (min)	P	N	N	X

NOTE: All Samples were taken at 222 E. Weber Ave., Room 678, Stockton, CA 95202

Relinquished by: Heidi D'Agostino PCOA 12/31/2013 11:0A Near & WOPED
 Received by: Preetha Lab. Tech. 12/31/13 11:10
 Relinquished by: _____
 Received by: _____
 Relinquished by: _____
 Received by: _____



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Please send results to:
 Name: Investigator Heidi D'Agostino
 Email: heidi.dagostino@yolocounty.org
 Fax: 530-666-8423

**OFFICE OF THE DISTRICT ATTORNEY
 SAN JOAQUIN COUNTY**
 222 E. Weber Avenue, Suite 678, Stockton, CA 95202
 P.O. Box 990, Stockton, California 95201
 Telephone: (209) 468-2400 Fax: (209) 468-0314



Testing Facility
 Facility name: Calcience Environmental Laboratories, Inc.
 Facility address: 7440 Lincoln Way, Garden Grove, CA 92841-1427

CHAIN OF CUSTODY RECORD

L2 Sample Number	Description	Manufacturer	UPC	Quantity	Main Ingredient / Or Usage / NOTES	Date sampled	Time sampled	Method of sampling: Composite (C) Grab (G)	Size of sample container (include units)	Type of sample container: Glass (G) Plastic (P) Metal tube (MT) VOA (V)	Evidence tape: Yes (Y) No (N)	Transported in cool: Yes (Y) No (N)	Required analysis
41B	A&H 2X LIQ. LAVENDER & LUNEN		3320009332	75 oz.		12/23/2013	1:00:00	n/a	200g (min)	P	N	N	X
42B	A&H LIQ. DET. 2X CLEAN BURST		3920009470	150 oz.				n/a	200g (min)	P	N	N	X
43B	GAIN 2X ORIGINAL FRESH LIQ. DETERG.		3700012784	50 oz.				n/a	200g (min)	P	N	N	X
44B	SOFT SCRUB W/ LEMON		2340000865	24 oz.				n/a	200g (min)	P	N	N	X
45B	IVORY LIQUID HAND SOAP ORIGINAL		3700040312	48 oz.				n/a	200g (min)	P	N	N	X
46B	PALMOLIVE ULTRA PURE AND CLEAR		3500046106	25 oz.				n/a	200g (min)	P	N	N	X
47B	GAIN LIQUID DISH ORIGINAL SCENT		3700086176	24 oz.				n/a	200g (min)	P	N	N	X
48B	SSL LIQUID DISHWASH LEMON		71754411703	40 oz. 188 oz.				n/a	200g (min)	P	N	N	X
49B	SUN 2X LIQ. TROPICAL BREEZE		7261370896	125 loads				n/a	200g (min)	P	N	N	X
50B	SUN BURST CLEAN & FRESH 2X		7261370809	45.4 oz.				n/a	200g (min)	P	N	N	X
51B	SUN LEMON LIQUID DISH SOAP		7261316008	20 oz.				n/a	200g (min)	P	N	N	X
52B	SUN STATIONS AUTO DISH GEL		7261324025	75 oz.				n/a	200g (min)	P	N	N	X
53B	TIDE LIQ. PODS OCEAN MIST		3700050962	27 oz., 31 ct.				n/a	200g (min)	P	N	N	X
54B	LYSOL TOILET BOWL CLEANER		1920002522	24 oz.				n/a	200g (min)	P	N	N	X
55B	PALMOLIVE ORIGINAL		3500046112	25 oz.				n/a	200g (min)	P	N	N	X
56B	CLOROX TOILET BOWL CLEANER BLECH G		4460030619	24 oz.				n/a	200g (min)	P	N	N	X
57B	CLOROX TOILET BOWL GREEN WORKS		4460000451	24 oz.				n/a	200g (min)	P	N	N	X
58B	DRANO PROFESSIONAL STRENGTH		1980040109	80 oz.				n/a	200g (min)	P	N	N	X
59B	SNUGGLE BLUE SPARKLE		7261346571	64 oz., 26 loads				n/a	200g (min)	P	N	N	X
60B	ALL OH-ACTIVE STAINLIFTERS WATER		7261346507	150 oz.				n/a	200g (min)	P	N	N	X

NOTE: All samples were taken at 222 E. Weber Ave., Room 678, Stockton, CA 95202

Relinquished by: Heidi D'Agostino Title: YCSA Date: 12/31/2013 Time: 11:00 A
 Received by: Priscilla - ea Lab. Tech. Date: 12/31/13 Time: 11:10
 Relinquished by: _____ Title: _____ Date: _____ Time: _____
 Received by: _____ Lab. Tech. Date: _____ Time: _____
 Relinquished by: _____ Title: _____ Date: _____ Time: _____
 Received by: _____ Lab. Tech. Date: _____ Time: _____



WORK ORDER #: **13-12-**2080

SAMPLE RECEIPT FORM

Cooler 0 of 0

CLIENT: San Joaquin County

DATE: 12/31/13

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

Temperature 15.9 °C - 0.2 °C (CF) = 15.7 °C Blank Sample

Sample(s) outside temperature criteria (PM/APM contacted by: 836).

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

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

Ambient Temperature: Air Filter Checked by: 836

CUSTODY SEALS INTACT:

Cooler _____ No (Not Intact) Not Present N/A Checked by: 836

Sample _____ No (Not Intact) Not Present Checked by: 802

SAMPLE CONDITION:

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

CONTAINER TYPE:

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

Aqueous: VOA VOAh VOAn₂ 125AGB 125AGBh 125AGBp 1AGB 1AGBna₂ 1AGBs

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

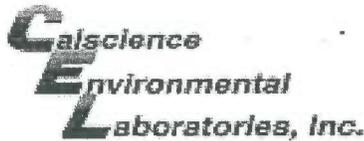
250PB 250PBn 125PB 125PBz_{na} 100PJ 100PJna₂ _____ _____ _____

Air: Tedlar® Canister Other: PB Trip Blank Lot#: _____ Labeled/Checked by: 802

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: 776

Preservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure z_{na}: ZnAc₂+NaOH f: Filtered Scanned by: 776

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WORK ORDER #: 13-12-2080

SAMPLE ANOMALY FORM

SAMPLES - CONTAINERS & LABELS:

- Sample(s) NOT RECEIVED but listed on COC
- Sample(s) received but NOT LISTED on COC
- Holding time expired – list sample ID(s) and test
- Insufficient quantities for analysis – list test
- Improper container(s) used – list test
- Improper preservative used – list test
- No preservative noted on COC or label – list test & notify lab
- Sample labels illegible – note test/container type
- Sample label(s) do not match COC – Note in comments
 - Sample ID
 - Date and/or Time Collected
 - Project Information
 - # of Container(s)
 - Analysis
- Sample container(s) compromised – Note in comments
 - Water present in sample container
 - Broken
- Sample container(s) not labeled
- Air sample container(s) compromised – Note in comments
 - Flat
 - Very low in volume
 - Leaking (Not transferred - duplicate bag submitted)
 - Leaking (transferred into Calscience Tedlar® Bag*)
 - Leaking (transferred into Client's Tedlar® Bag*)
- Other: _____

Comments:

(-1) to (-42) 96-hour fish bioassay expired.

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HEADSPACE – Containers with Bubble > 6mm or 1/4 inch:

Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Cont. received	Analysis

Comments: _____

*Transferred at Client's request.

Initial / Date: Boz 12/31/13