



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1603359 B

Report Created for: Yolo County District Attorney's Office

120 W. Main Street, Suite C
Woodland, CA 95695

Project Contact: Heidi D'Agostino

Project P.O.:

Project Name: Fish Bioassay

Project Received: 03/07/2016

Analytical Report reviewed & approved for release on 06/29/2016 by:

Angela Rydelius,
Laboratory Manager

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





Glossary of Terms & Qualifier Definitions

Client: Yolo County District Attorney's Office
Project: Fish Bioassay
WorkOrder: 1603359

Glossary Abbreviation

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



Analytical Report

Client: Yolo County District Attorney's Office
Date Received: 3/7/16 17:17
Project: Fish Bioassay

WorkOrder: 1603359
Extraction Method: Polisini & Miller (CDFG 1988) (Haz.)
Analytical Method: Polisini & Miller (CDFG 1988) (Haz.)
Sample Matrix: Solid

Hazardous Waste 96-hr Definitive Bioassay w/ Fathead Minnows

Lab ID	1603359-021C		Species	<i>Pimephales promelas</i>		Avg. Length (mm)	33.196				
Client ID	401D		Common Name	Fathead Minnows		Avg. Weight (g)	0.29789				
Control Water Batch#	EPASW 028		Organism Supplier	Thomas Fish Co.		Max Weight (g)	0.3901				
Control Water	Soft Synthetic Water		Organism Log#	160623FHM		Min Weight (g)	0.2615				
			BatchID	122925		Test Location	WB7				
Concentration	Temperature (°C)		pH		Dissolved O ₂ (mg/L)		Specific Conductivity (µS/cm)		Survival		Comments
	A	B	A	B	A	B	A	B	A	B	
Control	20.3	20.3	7.58	7.67	8.10	8.00	161	160	10	10	Date: 6/23/2016
300 mg/L	20.3	20.3	8.09	8.14	8.10	8.10	165	164	10	10	Time: 03:20 PM
400 mg/L	20.3	20.3	8.21	8.26	8.10	8.10	165	166	10	10	Analyst: CP
500 mg/L	20.3	20.3	8.32	8.34	8.10	8.10	166	166	10	10	Meter ID: TM02
600 mg/L	20.3	20.3	8.38	8.40	8.10	8.00	167	167	10	10	
750 mg/L	20.3	20.3	8.45	8.44	8.10	8.10	168	169	10	10	
Control	20.0	20.0	7.43	7.38	8.30	8.00	170	169	10	10	Date: 6/24/2016
300 mg/L	20.0	20.0	7.50	7.48	7.80	7.50	174	173	10	10	Time: 09:00 AM
400 mg/L	20.0	20.0	7.50	7.54	7.50	7.70	174	175	10	10	Analyst: CP
500 mg/L	20.0	20.0	7.52	7.42	7.60	7.00	175	175	10	10	Meter ID: TM01
600 mg/L	20.0	20.0	7.43	7.68	7.00	8.20	177	176	10	10	
750 mg/L	20.0	20.0	7.55	7.65	7.80	8.00	179	179	9	10	
Control	19.8	19.8	7.60	7.50	8.40	8.30	172	172	10	10	Date: 6/25/2016
300 mg/L	19.8	19.8	7.87	7.50	8.20	6.00	176	175	10	10	Time: 11:20 AM
400 mg/L	19.8	19.8	7.35	7.43	5.70	6.90	175	177	10	10	Analyst: KR
500 mg/L	19.8	19.8	7.42	7.43	7.50	7.70	178	177	10	10	Meter ID: TM01
600 mg/L	19.8	19.8	7.49	7.56	8.00	8.20	178	178	10	10	
750 mg/L	19.8	19.8	7.52	7.51	8.20	8.10	181	181	9	10	
Control	20.1	20.1	7.80	7.56	8.20	7.90	176	174	10	10	Date: 6/26/2016
300 mg/L	20.1	20.1	7.38	7.39	8.00	7.90	177	175	10	10	Time: 10:45 AM
400 mg/L	20.1	20.1	7.36	7.32	7.60	7.30	174	177	10	10	Analyst: KR
500 mg/L	20.1	20.1	7.29	7.25	7.40	7.10	177	177	10	10	Meter ID: TM01
600 mg/L	20.1	20.1	7.36	7.44	7.70	8.00	177	178	10	10	
750 mg/L	20.1	20.1	7.44	7.34	7.90	7.30	178	180	9	10	
Control	20.2	20.2	7.79	7.66	8.40	8.40	178	177	10	10	Date: 6/27/2016
300 mg/L	20.2	20.2	7.45	7.48	8.00	8.00	178	177	10	10	Time: 03:30 PM
400 mg/L	20.2	20.2	7.38	7.37	7.60	7.60	175	178	10	10	Analyst: KR
500 mg/L	20.2	20.2	7.37	7.36	7.50	7.60	180	177	10	10	Meter ID: TM01
600 mg/L	20.2	20.2	7.47	7.52	8.00	8.20	178	177	10	10	
750 mg/L	20.2	20.2	7.43	7.44	7.90	7.50	178	180	9	10	

(Cont.)



Analytical Report

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Project: Fish Bioassay

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Control Water	Soft Synthetic Water	Organism Log#	160623FHM	Min Weight (g)	0.2615
		BatchID	122925	Test Location	WB7

	Initial		Final	
	Control	750 mg/L	Control	750 mg/L
Hardness (mg/L as CaCO ₃)	44	43	44	43
Alkalinity (mg/L as CaCO ₃)	32	37	37	35

FishID	1	2	3	4	5	6	7	8	9	10
Length (mm)	31.78	33.81	33.46	31.93	32.59	32.3	32.7	33.89	34.3	35.2
Weight (g)	0.274	0.279	0.3087	0.2672	0.2829	0.2615	0.3037	0.2914	0.3204	0.3901

Result: As the LC50 of this sample is greater than 500 mg/L, it should not be considered hazardous on the basis of aquatic toxicity per the guidance established in the Polisini Miller (CDFG 1988) protocol.

Comment: This test was conducted in order to confirm the results of test 1603359-021B.

96 LC50: >750 mg/L LC50 Method: N/A
 95% Lower Confident Limit: N/A 95% Upper Confident Limit: N/A

1534 Willow Pass Rd
 Pittsburg, CA 94565-1701
 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1603359 **B** ClientCode: YCDAO QuoteID: 4702

WaterTrax WriteOn EDF Excel Fax Email HardCopy ThirdParty J-flag

Report to:

Heidi D'Agostino
 Yolo County District Attorney's Office
 301 2nd Street
 Woodland, CA 95695
 (530) 666-8185 FAX:

Email: heidi.dagostino@yolocounty.org; Rachel.H
 cc/3rd Party:
 PO:
 ProjectNo: Fish Bioassay

Bill to:

Accounts Payable
 Yolo County District Attorney's Office
 301 2nd Street
 Woodland, CA 95695

Requested TAT: 10 days;

Date Received: 03/07/2016

Date Logged: 03/08/2016

Date Add-On: 06/28/2016

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)													
					1	2	3	4	5	6	7	8	9	10	11	12		
1603359-021	401D	Solid	3/7/2016 10:30	<input type="checkbox"/>	C													

Test Legend:

1	HWPP_DEF	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Jena Alfaro

Add-On Prepared By: Maria Venegas

Comments:

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