



**DETERMINATION OF THE HAZARDOUS  
POTENTIAL OF A WASTE SAMPLE**

**Prepared for  
Mobile Chem Labs, Inc.**

**Prepared by  
EA Engineering, Science, and Technology, Inc.  
Western Regional Operations**

30 June 1989  
70008.01

EA performed a static, acute screening test on two soil samples (Sample #069100 and 069101) received from Mobile Chem Labs, Inc., Lafayette, California.

#### Test Methodology

An initial screening bioassay was performed to determine if the sample should be designated as a hazardous waste. The sample was tested using juvenile fathead minnows (Pimephales promelas) in the manner prescribed by the California Department of Fish and Game Water Pollution Control Laboratory (Polisini and Bartos 1987). Test conditions are summarized in Appendix A. Minnows were exposed to five weight/volume concentrations of the sample: 2,000, 1,750, 1,500, 1,250 and 1,000 mg/L. Dilution and control waters were a soft synthetic water formulated per EPA/600/4-85/014.

#### Test Results

No toxic response to the concentrations tested was demonstrated. No significant mortality occurred in any of the concentrations (Table 1). Water quality values are summarized in Table 2.

This sample qualifies for a nonhazardous designation per Section 66696 of California Code of Regulations Title 22 Division 4.

TABLE 1 SUMMARY OF SURVIVAL DATA FROM (Pimephales promelas)  
 4-DAY TOXICITY SCREENING TEST IN SOIL SAMPLE #069100

<u>Effluent Concentration (mg/L)</u>	<u>Proportion Surviving in Replicate Chambers</u>		<u>Average Survival (%)</u>
0 (Control)	1.00	0.90	95
1,000	1.00	1.00	100
1,250	1.00	1.00	100
1,500	1.00	1.00	100
1,750	1.00	0.90	95
2,000	1.00	1.00	100

TABLE 2 SUMMARY OF SURVIVAL DATA FROM (Pimephales promelas)  
 4-DAY TOXICITY SCREENING TEST IN SOIL SAMPLE #069101

<u>Effluent Concentration (mg/L)</u>	<u>Proportion Surviving in Replicate Chambers</u>		<u>Average Survival (%)</u>
0 (Control)	1.00	0.90	95
1,000	1.00	1.00	100
1,250	1.00	1.00	100
1,500	1.00	1.00	100
1,750	1.00	1.00	100
2,000	1.00	1.00	100

TABLE 3 SUMMARY OF WATER QUALITY MEASUREMENTS FOR THE Pimephales promelas  
4-DAY SURVIVAL TEST IN SOIL SAMPLE #069100

Test Concentration (percent effluent)	Mean Value ( $\pm$ SE)					
	pH	Temp (C)	DO (mg/L)	Hardness (mg/L)	Alkalinity (mg/L)	Conductivity (umhos/cm)
Control	7.03 $\pm 0.21$	19.8 $\pm 0.36$	8.0 $\pm 0.55$	65.0 $\pm 3.4$	65.0 $\pm 3.4$	159.0 $\pm 6.4$
1,000 mg/L	7.53 $\pm 0.05$	19.6 $\pm 0.22$	8.2 $\pm 0.45$			
1,250 mg/L	7.47 $\pm 0.05$	19.6 $\pm 0.20$	8.1 $\pm 0.56$			
1,500 mg/L	7.48 $\pm 0.06$	19.6 $\pm 0.20$	8.0 $\pm 0.69$			
1,750 mg/L	7.48 $\pm 0.07$	19.6 $\pm 0.18$	7.9 $\pm 0.70$			
2,000 mg/L	7.47 $\pm 0.07$	19.6 $\pm 0.20$	8.0 $\pm 0.67$	71.8 $\pm 6.4$	65.0 $\pm 3.4$	172.0 $\pm 8.3$

TABLE 4 SUMMARY OF WATER QUALITY MEASUREMENTS FOR THE Pimephales promelas  
4-DAY SURVIVAL TEST IN SOIL SAMPLE #069101

Test Concentration (percent effluent)	Mean Value ( $\pm$ SE)					
	pH	Temp (C)	DO (mg/L)	Hardness (mg/L)	Alkalinity (mg/L)	Conductivity (umhos/cm)
Control	7.03 $\pm 0.21$	19.8 $\pm 0.36$	8.0 $\pm 0.55$	65.0 $\pm 3.4$	65.0 $\pm 3.4$	159.0 $\pm 6.4$
1,000 mg/L	7.19 $\pm 0.02$	19.6 $\pm 0.27$	8.2 $\pm 0.53$			
1,250 mg/L	7.30 $\pm 0.03$	19.6 $\pm 0.23$	8.2 $\pm 0.50$			
1,500 mg/L	7.38 $\pm 0.05$	19.6 $\pm 0.24$	8.0 $\pm 0.66$			
1,750 mg/L	7.42 $\pm 0.07$	19.6 $\pm 0.24$	8.2 $\pm 0.56$			
2,000 mg/L	7.43 $\pm 0.06$	19.6 $\pm 0.24$	8.0 $\pm 0.46$	71.8 $\pm 3.4$	65.0 $\pm 3.4$	172.0 $\pm 13.0$

APPENDIX A

Toxicity Test Condition Summaries





# NONRENEWAL ACUTE RENEWAL TOXICITY TEST

Client: Mohale Chem Labs      Test Container: ZS GAL      Organism: Fishhead Minnow      Beginning Date: 6/21/89      Time: 1400  
 Project No: 1200801      Test Volume: 2 LITERS      Scientific Name: Pimephales promelas      Ending Date: 6/25/89      Time: 1800  
 Test Article: 5.01 Sample      Test Duration: 16 hrs      Lot No: 2881-02B      Test Temp. Range: 10.0 - 22.0  
 QC Test No: N/A      Dilution Water: EPA Salt      Source: Live Tankwater from      Test Salinity: 0  
 Sample No: 2169102      Reference Toxicant: N/A      Age of Test Organisms: 1-2 weeks      Acclimation Temp. Range: 15-20°C  
 Test: Static or Flow-thru      Acclimation (days): 7 days

Conc. of %	Cont. No.	Number of Live Organisms					Dissolved Oxygen (mg/l)					Temperature (°C)					pH				
		0	24	48	72	96	24	48	72	96	24	48	72	96	0	24	48	72	96		
C		10	10	10	9	9	8.7	6.6	9.3	8.4	7.6	19.1	19.6	18.7	19.9	72.0	7.61	7.43	6.92	3.59	7.63
1000	1	10	10	10	10	10	8.1	5.4	9.3	8.5	7.4	19.4	20.3	18.7	21.7	20.0	7.11	7.09	6.84	6.93	7.12
1250	2	10	10	10	10	10	8.5	6.1	9.0	8.5	8.0	19.3	19.8	18.9	19.9	20.1	7.53	7.35	7.60	7.60	7.66
1500	1	10	10	10	10	10	8.9	6.9	9.2	8.5	8.0	19.4	19.8	18.3	19.9	20.1	7.48	7.31	7.56	7.61	7.60
1750	2	10	10	10	10	10	8.7	6.1	9.2	8.7	8.1	19.5	19.8	18.9	19.8	20.0	7.47	7.29	7.56	7.57	7.57
2000	1	10	10	10	10	10	8.5	5.9	9.1	8.7	8.2	19.5	19.7	18.9	19.9	20.1	7.44	7.27	7.54	7.57	7.48
	2	10	10	10	10	10	8.4	5.2	9.1	8.8	8.1	19.5	19.7	18.9	19.8	20.1	7.45	7.27	7.54	7.57	7.53
	1	10	10	10	10	10	8.6	5.5	9.2	8.8	8.0	19.5	19.7	18.9	19.7	20.1	7.43	7.25	7.55	7.59	7.61
	2	10	10	10	10	10	8.7	5.7	9.1	8.7	7.6	19.5	19.7	18.9	19.7	20.0	7.42	7.23	7.54	7.57	7.65
	1	10	10	10	10	10	8.6	4.7	9.0	8.6	8.0	19.5	19.7	18.9	19.8	20.0	7.42	7.22	7.54	7.56	7.59
	2	10	10	10	10	10	8.7	5.2	9.1	8.8	8.0	19.5	19.6	18.9	19.8	20.0	7.40	7.20	7.54	7.59	7.57
	1	10	10	10	10	10	8.7	5.6	9.0	8.6	8.1	19.5	19.6	18.9	19.8	20.1	7.42	7.21	7.54	7.60	7.61
	2	10	10	10	10	10	8.7	5.6	9.0	8.6	8.1	19.5	19.6	18.9	19.8	20.1	7.42	7.21	7.54	7.60	7.61

Investigator Instrument No.	Alkalinity (mg/l)					Hardness (mg/l)					Salinity (ppt)					Conductivity (µmhos/cm)					Residual Chlorine (µg/l)					Ammonia (mg/l)					
	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	
Control	1400	1400	1400	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Highest Effluent	1400	1400	1400	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500

\* larger secondary

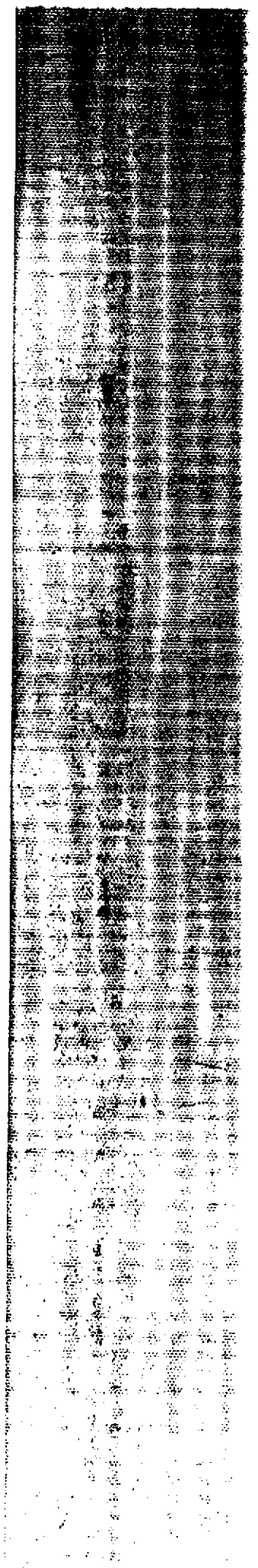
97W

# NONRENEWAL ACUTE RENEWAL TOXICITY TEST

Client: McCool's Chain      Test Container: 2.5 GAL      Organism: Eastern Minnow      Beginning Date: 6/21/89      Time: 1400  
 Project No: 100000001      Test Volume: 2 LITERS      Scientific Name: Pimephales promelas      Ending Date: 6/28/89      Time: 1500  
 QC Test No: 50.1 Sample      Test Duration: 96 hr      Lot No: FHX 0028      Test Temp. Range: 20-33°C  
 Sample No: 06910/      Dilution Water: EPB Soft      Source: State University Fla      Test Salinity: 0  
 Reference Toxicant: NA      Age of Test Organisms: 2-50 days      Acclimation Temp. Range: 20-25°C  
 Test: Static or Flow thru      Acclimation (days): 7

Conc. or %	Cont. No.	Number of Live Organisms						Dissolved Oxygen (mg/l)						Temperature (°C)						pH										
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96				
C		10	10	10	10	10	8.1	8.4	9.3	8.5	8.4	19.4	20.3	18.7	21.7	20.0	7.11	7.09	6.84	6.93	7.12									
1000	1	10	10	10	10	10	8.7	8.6	9.3	8.7	8.5	19.1	19.6	18.7	19.7	20.0	7.61	7.43	6.97	7.39	7.63									
1250	2	10	10	10	10	10	8.6	8.1	9.2	8.7	8.6	19.4	20.0	18.7	20.0	20.1	7.13	7.16	7.08	7.18	7.14									
1500	1	10	10	10	10	10	8.7	8.6	9.1	8.6	8.4	19.3	19.9	18.8	19.9	20.1	7.21	7.21	7.19	7.29	7.30									
1750	1	10	10	10	10	10	8.5	8.7	9.2	8.4	8.3	19.3	19.9	18.7	19.9	20.0	7.27	7.25	7.37	7.43	7.35									
2000	1	10	10	10	10	10	8.7	8.7	9.3	8.6	8.2	19.3	19.9	18.8	19.9	20.1	7.28	7.22	7.42	7.50	7.56									
	2	10	10	10	10	10	8.6	8.6	9.3	8.7	8.4	19.4	19.9	18.8	19.8	20.1	7.31	7.23	7.43	7.55	7.59									
	1	10	10	10	10	10	8.5	8.5	9.3	8.2	8.2	19.4	19.9	18.7	19.8	20.0	7.33	7.23	7.42	7.55	7.55									
	2	10	10	10	10	10	8.6	8.6	9.3	8.4	8.0	19.4	19.9	18.8	19.8	20.0	7.35	7.23	7.48	7.56	7.57									
Investigator	MJG																													
Instrument No.																														
Time		1400	1400	1500	1500	1500	1430	1400	1500	1500	1500	1430	1400	1500	1500	1430	1400	1500	1500	1500	1400	1400	1500	1500	1500					

150 MB





EA ENGINEERING,  
SCIENCE, AND  
TECHNOLOGY, INC.

LENGTH-WEIGHT DATA SHEET

135 A Mason Circle  
Concord, CA. 94520

Project No's: 70008.01 Investigator: Chance  
 Test Species: Fathead Minnow Date/Time: 6-26-99 1000  
 Lot No. FHM-08

Individual Number	Weight (g)	Standard Length (mm)
1	0.4344	34
2	0.3264	32
3	0.3926	33
4	0.4777	36
5	0.2852	32
6	0.5223	38
7	0.4710	39
8	0.3193	35
9	0.3295	35
10	0.4119	37
11	0.4843	38
12	0.3094	34
13	0.5675	39
14	0.2619	33
15	0.3284	34
16	0.2834	34
17	0.1997	30
18	0.4820	38
19	0.2466	32
20	0.3703	36

Range: 282 - 568 35.0 32.0 - 39.0  
 Mean: .376 35.0  
 S.D. ± .100 12.6