

Aqua Survey, Inc.

**TECHNICAL REPORT
TOXICOLOGICAL EVALUATION
OF
FRESHWATER SEDIMENTS COLLECTED FROM
POND A
LIBERTY INDUSTRIES FINISHING SITE
FARMINGDALE, N.Y.**

**DAMES AND MOORE
2325 MARYLAND ROAD
WILLOW GROVE, PA 19090**

February 8, 2000

ASI JOB #: 20-012

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Chironomus tentans

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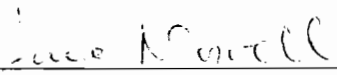
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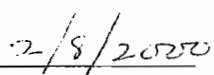
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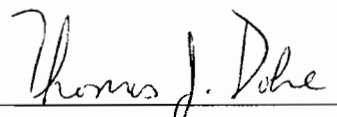
The report as well as all records and raw data were audited and found to be an accurate reflection of the study. Copies of raw data will be maintained by Aqua Survey, Inc, 499 Point Breeze Road, Flemington, New Jersey, 08822.



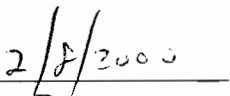
Jané Norvell
Quality Assurance Officer



Date



Thomas J. Dolce
Study Director



Date

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**TECHNICAL REPORT
TOXICOLOGICAL EVALUATION OF FRESHWATER SEDIMENTS
COLLECTED FROM
POND A
LIBERTY INDUSTRIES FINISHING SITE
FARMINGDALE, N.Y.**

AUTHOR

Thomas J. Dolce

STUDY INITIATION DATE

January 7, 2000

PERFORMING LABORATORY

**Aqua Survey, Inc.
499 Point Breeze Road
Flemington, New Jersey 08822**

SPONSOR

**Dames and Moore
2325 Maryland Road
Willow Grove, PA 19090**

LABORATORY PROJECT ID

ASI STUDY # 20-012

I. INTRODUCTION

The objective of this study was to provide data for use in an ecological risk assessment of sediment collected from Pond A, Liberty Industries Finishing Site, Farmingdale, N.Y.

A fourteen-day whole sediment toxicity test with the larvae of the midge, *Chironomus tentans* and a twenty-eight day whole sediment toxicity test with the amphipod, *Hyalella azteca* were conducted.

II. TEST ADMINISTRATION

A. Sponsor

Dames and Moore
2325 Maryland Road
Willow Grove, PA 19090

B. Testing Facility

Aqua Survey, Inc.
499 Point Breeze Road
Flemington, New Jersey 08822

C. Dates of Experimentation

Date of Study Exposure:	January 7, 2000
Date of Study Completion:	February 8, 2000

D. Study Participants

M. Stengel	Technician
Thomas J. Dolce	Study Director
G. Stephen Hornberger	Technician
Michelle Thomas	Technician
Chris Doyle	Technician
Kelly Wischner	Technician
Louis Miklowic	Technician
L. Freyer	Technician
Maureen Russell	Report Writer

III. MATERIALS AND METHODS

All sampling and testing were performed as defined in the USEPA documents, Methods for Measuring the Toxicity and Bioaccumulation of Sediment-Associated Contaminants with Freshwater Invertebrates (EPA/600/R-94/024, June 1994). The methods employed for this study followed guidelines outlined by American Society of Testing Materials, Standard Guide for Conducting Sediment Toxicity Tests with Freshwater Invertebrates, ASTM E1706-96 and Flowthrough or Static Renewal Test for Determining Acute or Chronic Toxicity of Sediments to Freshwater Midge Larvae (ASI/SOP/SED/101), and Flowthrough or Static Renewal Test for Determining Acute or Chronic Toxicity of Sediments to Freshwater Amphipods (ASI/SOP/SED/1620).

A. Sampling

Samples were collected by Dames and Moore personnel on December 16, 1999. The sediment samples were received for toxicity testing by Aqua Survey personnel on January 5, 2000.

Samples were received in good condition at ASI in Flemington, NJ and stored in the dark at 4°C. Upon arrival at ASI, all samples were logged in and assigned a unique sample number. Sample identification numbers are listed below.

SAMPLE ID#	ASI SAMPLE ID#
PA-10	20007
PA-13	20008
Control Pond Mud	20006

B. Toxicity Testing

Whole sediment toxicity was assessed through a 14-day exposure with larvae of the midge, *Chironomus tentans* and 28-day exposures with the amphipod *Hyaella azteca*, both of which are representative benthic species.

The *C. tentans* used in testing were cultured in-house at ASI. They were third instar hatched on December 30, 1999. Toxicity testing ran from January 7, 2000 to January 21, 2000. Sieved pond sediment from ASI property and rinsed fine silica sand were mixed in equal proportions and used as the control sediment. Moderately hard reconstituted water with vitamin B12 and selenium added was used as the overlay water.

The *H. azteca* used in testing were cultured in-house at ASI. They were 1-2 mm in length and were acclimated to test overlay (well) water and test temperature. Toxicity testing ran from January 7, 2000 to February 4, 2000. Pond sediment from ASI property was used as the control sediment. Well water was used as the overlay water.

Daily water quality and physical parameters were monitored as per EPA 600/R-94/024. Final live counts, mean weights, mean lengths and water quality parameter ranges can be found in Tables 1 through 12.

A Standard Reference Toxicant test was performed for *C. tentans* and *H. azteca*. The reference toxicant data were entered into a program based on currently accepted methods for calculating an LC_{50} . The Standard Reference Toxicant Test results are in the biological raw data section, along with a control charts.

IV. RESULTS AND DISCUSSION

A. Sample Preparation

All the samples prior to test initiation were sieved through a 0.5 millimeter sieve. Twenty-four hours before each test initiation, 100 ml of sample along with the control were set out in each beaker with eight replicates per sample and were covered with 175 ml of the appropriate overlay water. Organisms were added the following day.

B. Toxicity Testing with *Chironomus tentans*

The control survival was 89 percent, which is well above the 70% survival required for an acceptable test. The survival live count data can be found in Table 2.

Survival of organisms was 93 percent in sample PA-10 and 90 percent in sample PA-13. These samples were **NOT** found to be statistically significant for survival (acute endpoint).

Mean dry weights of organisms were calculated for surviving organisms and an ANOVA was run comparing mean weights of organisms in the samples to that of the mean weights of organisms in the control.

Both sediment samples (PA-10 and PA-13) were found to be statistically significant for growth (chronic endpoint) when compared to the control.

C. Toxicity Testing with *Hyaletta azteca*

The control survival was 91%, which is well above the 80% survival required for an acceptable test. In accordance with the EPA request, a count of survivors was done, but no count of carcasses could be obtained, since there were none present at the end of the test. Live count data can be found in Table 8. The raw data for the initial and final live count can be found in the Appendix.

Survival of organisms were calculated and an ANOVA was run comparing the survival of organisms in the samples to that of the survival of organisms in the control.

Survival of organisms was **78 percent in sample PA-10** and **64 percent in sample PA-13**. Survival of organisms in both sediment samples (PA-10 and PA-13) were found to be statistically significant (acute endpoint) when compared to the survival of organisms in the control sediment.

The mean length of organisms were as follows:

Control	2.93 mm
PA-10	2.79 mm
PA-13	2.78 mm

Table 1 SUMMARY - C. TENTANS, DRY WEIGHT AND SURVIVAL

Sample	Code	Chamber	Wt. Pan Empty (g)	Dry Wt. Org. + pan (g)	Dry Wt. of Org. (g)	No. Org.	% Survival	Wt. mg	Mean Wt. (mg)
Control Pond Mud 20006	0.1	20	0.9484	0.9573	0.0089	10		0.89	
	0.2	9	0.9464	0.9574	0.0110	8		1.38	
	0.3	12	0.9495	0.9584	0.0089	10		0.89	
	0.4	6	0.9457	0.9531	0.0074	10		0.74	
	0.5	5	0.9478	0.9540	0.0062	6		1.03	
	0.6	2	0.9467	0.9538	0.0071	9		0.79	
	0.7	10	0.9482	0.9588	0.0106	10		1.06	
	0.8	14	0.9480	0.9547	0.0067	8	89	0.84	0.95
PA-10 20007	1.1	16	0.9460	0.9539	0.0079	9		0.88	
	1.2	8	0.9441	0.9508	0.0067	10		0.67	
	1.3	17	0.9438	0.9495	0.0057	9		0.63	
	1.4	3	0.9480	0.9566	0.0086	9		0.96	
	1.5	19	0.9454	0.9531	0.0077	9		0.86	
	1.6	13	0.9477	0.9549	0.0072	10		0.72	
	1.7	23	0.9435	0.9521	0.0086	9		0.96	
	1.8	1	0.9428	0.9487	0.0059	9	93	0.66	0.79
PA-13 20008	2.1	21	0.9458	0.9522	0.0064	9		0.71	
	2.2	7	0.9466	0.9508	0.0042	6		0.70	
	2.3	24	0.9504	0.9556	0.0052	9		0.58	
	2.4	18	0.9420	0.9491	0.0071	10		0.71	
	2.5	4	0.9423	0.9476	0.0053	8		0.66	
	2.6	15	0.9469	0.9524	0.0055	10		0.55	
	2.7	22	0.9436	0.9488	0.0052	10		0.52	
	2.8	11	0.9468	0.9540	0.0072	10	90	0.72	0.64

*Significantly statistically lower than the control (p=0.05)

Table 2 14-Day Solid Phase Test			Species:	<i>C. tentans</i>
Initial Live Count: 10			Job #:	20-012
Position #	ID#	Sample	Final Live Count	Percent Survival
20	0.01	Control Pond Mud	10	
9	0.02	20006	8	
12	0.03		10	
6	0.04		10	
5	0.05		6	
2	0.06		9	
10	0.07		10	
14	0.08		8	89%
16	1.01	PA-10	9	
8	1.02	20007	10	
17	1.03		9	
3	1.04		9	
19	1.05		9	
13	1.06		10	
23	1.07		9	
1	1.08		9	93%
21	2.01	PA-13	9	
7	2.02	20008	6	
24	2.03		9	
18	2.04		10	
4	2.05		8	
15	2.06		10	
22	2.07		10	
11	2.08		10	90%

Table 3 14-Day Solid Phase Flowthrough Readings
Temperature (°C)

		Species: <i>C. tentans</i>																
		Job #:																
		20-012																
Position #	ID# Sample	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Low	High
20	0.01 Control Pond Mud	22.58	23.15	23.23	23.51	23.58	23.11	23.49	22.96	23.58	23.61	23.38	22.61	22.97	23.23	22.58		
9	0.02 20006	22.08	22.49	22.74	22.58	22.50	22.16	23.32	22.64	23.65	23.57	23.37	22.58	22.95	22.99	22.42		
12	0.03	22.45	23.21	23.30	23.55	23.54	23.08	23.37	23.06	23.49	23.58	23.37	22.80	22.98	23.07	22.51		
6	0.04	22.51	22.53	22.79	23.14	22.92	22.90	23.49	22.44	23.53	23.57	23.34	22.34	22.96	23.02	22.35		
5	0.05	22.10	22.16	22.36	22.70	22.41	22.71	23.37	22.22	23.49	23.46	23.35	22.10	22.93	23.02	22.27		
2	0.06	22.32	22.51	22.93	22.80	22.97	22.52	23.26	22.33	23.43	23.41	23.24	22.12	22.62	22.69	22.05		
10	0.07	22.45	22.87	23.03	23.00	23.02	22.59	23.40	22.81	23.60	23.60	23.39	22.70	23.05	23.03	22.45		
14	0.08	22.39	22.64	22.83	23.04	23.03	22.67	23.36	22.65	23.58	23.53	23.36	22.48	22.99	23.08	22.49	22.05	23.65
16	1.01 PA-10	22.50	23.13	23.21	23.55	23.57	23.09	23.36	23.04	23.60	23.56	23.34	22.70	22.82	23.13	22.48		
8	1.02 20007	22.38	22.97	23.14	23.58	23.50	23.04	23.34	22.73	23.49	23.55	23.36	22.64	22.85	22.94	22.42		
17	1.03	22.13	22.35	22.55	22.72	22.66	22.16	23.29	22.37	23.64	23.60	23.21	22.19	22.80	23.13	22.51		
3	1.04	22.14	22.66	22.99	23.03	23.22	22.62	23.10	22.52	23.45	23.46	23.20	22.26	22.62	22.75	22.11		
19	1.05	22.19	22.94	23.09	23.34	23.47	22.92	23.27	22.83	23.59	23.63	23.13	22.52	22.76	23.11	22.57		
13	1.06	22.21	22.29	22.59	22.79	22.51	22.36	23.26	22.41	23.53	23.55	23.15	22.33	22.64	22.81	22.54		
23	1.07	22.23	22.72	23.01	23.55	23.49	23.00	23.29	22.89	23.53	23.60	23.15	22.53	22.64	22.67	22.58	22.03	23.64
1	1.08	22.08	22.07	22.46	22.19	22.42	22.30	22.79	22.05	23.10	23.19	22.76	22.04	22.10	22.44	22.03		
21	2.01 PA-13	22.16	22.13	22.32	22.99	22.84	22.22	23.42	22.41	23.63	23.65	23.20	22.11	22.84	22.93	22.61		
7	2.02 20008	22.12	22.83	23.05	23.42	23.32	23.00	23.13	22.62	23.47	23.54	23.17	22.57	22.85	22.82	22.44		
24	2.03	22.52	22.97	23.12	23.66	23.61	23.15	23.43	23.01	23.53	23.53	23.21	22.59	22.74	22.79	22.54		
18	2.04	22.30	22.59	22.84	23.04	23.19	22.58	23.45	22.60	23.62	23.62	23.28	22.33	22.80	23.25	22.54		
4	2.05	22.40	22.79	23.02	23.25	23.41	22.79	23.14	22.70	23.45	23.39	23.25	22.42	22.77	22.83	22.20		
15	2.06	22.08	22.97	23.07	23.36	23.38	22.94	23.18	22.95	23.61	23.52	23.23	22.62	22.86	23.05	22.47		
22	2.07	22.53	22.34	22.75	23.32	23.25	22.60	23.35	22.65	23.55	23.64	23.25	22.39	22.80	23.00	22.59		
11	2.08	22.12	23.10	23.23	23.36	23.37	22.90	23.18	22.96	23.50	23.57	23.29	22.79	22.83	22.89	22.48	22.08	23.66
Range																		
22.03 23.66																		

Table 4 14-Day Solid Phase Flowthrough Readings																			
Dissolved Oxygen (mg/L)																			
Species: <i>C. tentans</i>																			
Job #:																			
20-012																			
Position #	ID#	Sample	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Low	High
20	0.01	Control Pond Mud	8.34	8.14	7.76	7.76	7.82	8.19	7.69	8.13	7.77	7.79	7.54	8.04	7.32	7.31	7.87		
9	0.02	20006	8.42	8.22	7.87	7.96	8.02	8.40	7.66	8.18	7.44	7.77	7.57	7.99	6.94	7.45	7.87		
12	0.03		8.37	8.07	7.75	7.75	7.79	8.18	7.74	8.08	7.55	7.77	7.75	7.95	7.38	7.55	7.84		
6	0.04		8.23	8.10	7.84	7.82	7.90	8.20	7.70	8.19	7.61	7.78	7.63	8.07	7.34	7.42	7.87		
5	0.05		8.32	8.17	7.94	7.91	8.00	8.24	7.72	8.22	7.62	7.80	7.55	8.12	7.19	7.34	7.88		
2	0.06		8.14	8.12	7.76	7.83	7.86	8.31	7.63	8.19	7.79	7.85	7.79	8.06	7.52	7.54	7.89		
10	0.07		8.34	8.13	7.81	7.87	7.90	8.30	7.67	8.14	7.45	7.76	7.66	7.96	7.14	7.50	7.85	6.94	8.42
14	0.08		8.41	8.23	7.87	7.88	7.93	8.30	7.73	8.19	7.63	7.81	7.40	8.05	7.32	7.53	7.85		
16	1.01	PA-10	8.40	8.13	7.77	7.75	7.82	8.20	7.73	8.11	7.69	7.81	7.50	7.99	7.41	7.50	7.88		
8	1.02	20007	8.30	8.03	7.77	7.73	7.78	8.17	7.67	8.14	7.61	7.79	7.52	8.02	6.75	7.45	7.86		
17	1.03		8.48	8.32	7.90	7.92	8.04	8.43	7.74	8.28	7.72	7.80	7.54	8.14	7.32	7.46	7.88		
3	1.04		8.23	8.07	7.75	7.78	7.81	8.27	7.73	8.15	7.79	7.83	7.70	8.03	6.82	7.29	7.89		
19	1.05		8.43	8.18	7.79	7.79	7.84	8.24	7.73	8.16	7.75	7.79	7.56	8.07	7.32	7.34	7.87		
13	1.06		8.44	8.31	7.92	7.93	8.05	8.38	7.75	8.25	7.60	7.79	7.35	8.09	7.43	7.60	7.83		
23	1.07		8.45	8.25	7.82	7.77	7.83	8.21	7.69	8.15	7.80	7.80	7.61	8.05	7.13	7.24	7.81		
1	1.08		8.17	8.23	7.85	7.95	7.97	8.40	7.67	8.28	7.85	7.95	7.86	8.09	7.76	7.56	7.99	6.75	8.48
21	2.01	PA-13	8.46	8.38	7.97	7.90	7.98	8.40	7.71	8.27	7.77	7.79	7.67	8.14	7.38	7.30	7.85		
7	2.02	20008	8.35	8.05	7.79	7.76	7.82	8.18	7.76	8.15	7.64	7.79	7.52	8.04	7.31	7.51	7.85		
24	2.03		8.38	8.19	7.79	7.73	7.80	8.17	7.66	8.11	7.80	7.81	7.53	8.03	7.08	7.21	7.82		
18	2.04		8.44	8.26	7.84	7.85	7.91	8.33	7.68	8.22	7.73	7.79	7.54	8.11	7.31	7.35	7.88		
4	2.05		8.20	8.04	7.74	7.73	7.76	8.22	7.71	8.11	7.70	7.84	7.51	8.00	6.94	7.24	7.89		
15	2.06		8.49	8.16	7.80	7.80	7.86	8.24	7.78	8.13	7.66	7.81	7.51	8.01	7.40	7.57	7.87		
22	2.07		8.37	8.34	7.88	7.82	7.89	8.31	7.64	8.21	7.79	7.79	7.66	8.08	7.38	7.29	7.83		
11	2.08		8.44	8.09	7.76	7.79	7.82	8.22	7.78	8.11	7.53	7.76	7.74	7.94	7.32	7.57	7.84	6.94	8.49
Range																			
6.75 8.49																			

Table 5 14-Day Solid Phase Flowthrough Readings

		Species: <i>C. tentans</i>																
		Job #: 20-012																
Position #	ID# Sample	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Low	High
20	0.01 Control Pond Mud	7.75	7.91	7.78	7.88	8.02	7.83	7.93	7.98	7.97	8.04	7.77	7.31	7.71	7.87	7.20		
9	0.02 20006	7.78	7.97	7.87	8.02	8.18	7.83	7.97	8.03	8.02	8.08	7.85	7.12	7.67	7.88	7.07		
12	0.03	7.78	7.96	7.85	7.97	8.13	7.83	7.98	8.04	8.02	8.08	7.86	7.16	7.73	7.91	7.11		
6	0.04	7.78	8.01	7.94	8.08	8.26	7.80	8.02	8.07	8.06	8.12	7.95	7.01	7.69	7.93	7.03		
5	0.05	7.80	8.02	7.98	8.10	8.31	7.82	8.01	8.09	8.07	8.13	7.94	6.99	7.68	7.92	7.02		
2	0.06	7.83	8.05	8.07	8.24	8.43	7.79	8.06	8.14	8.13	8.20	7.93	6.85	7.65	7.93	6.99		
10	0.07	7.77	7.96	7.85	7.98	8.14	7.81	7.98	8.03	8.01	8.05	7.87	7.13	7.70	7.90	7.08		
14	0.08	7.78	7.96	7.84	7.95	8.10	7.80	7.98	8.02	8.01	8.08	7.74	7.22	7.73	7.90	7.14	6.85	8.43
16	1.01 PA-10	7.79	7.96	7.84	7.95	8.09	7.84	7.97	8.02	8.00	8.06	7.77	7.24	7.74	7.90	7.15		
8	1.02 20007	7.80	8.00	7.92	8.06	8.22	7.84	7.98	8.07	8.04	8.10	7.86	7.04	7.68	7.90	7.05		
17	1.03	7.78	7.94	7.82	7.92	8.07	7.85	7.95	8.01	7.99	8.04	7.76	7.30	7.72	7.88	7.18		
3	1.04	7.82	8.04	8.05	8.20	8.39	7.81	8.04	8.13	8.11	8.18	7.93	6.86	7.66	7.92	6.99		
19	1.05	7.76	7.91	7.79	7.89	8.03	7.83	7.94	7.99	7.98	8.03	7.75	7.31	7.71	7.87	7.19		
13	1.06	7.78	7.98	7.86	7.97	8.13	7.84	7.97	8.04	8.02	8.09	7.76	7.23	7.73	7.93	7.12		
23	1.07	7.77	7.92	7.78	7.86	8.00	7.77	7.89	7.97	7.96	8.00	7.78	7.35	7.64	7.79	7.22		
1	1.08	7.90	8.14	8.14	8.34	8.60	7.80	8.05	8.14	8.16	8.26	7.93	6.79	7.62	7.93	6.99	6.79	8.60
21	2.01 PA-13	7.77	7.95	7.80	7.87	8.02	7.84	7.93	7.99	7.97	8.03	7.80	7.35	7.70	7.86	7.20		
7	2.02 20008	7.82	8.01	7.94	8.07	8.24	7.83	8.00	8.08	8.06	8.12	7.87	7.03	7.70	7.92	7.04		
24	2.03	7.75	7.90	7.77	7.85	7.99	7.82	7.88	7.97	7.95	8.00	7.79	7.36	7.62	7.78	7.22		
18	2.04	7.76	7.92	7.80	7.90	8.04	7.83	7.94	8.00	7.98	8.05	7.76	7.30	7.72	7.88	7.18		
4	2.05	7.81	8.03	8.03	8.18	8.36	7.82	8.03	8.12	8.08	8.16	7.94	6.89	7.66	7.91	7.01		
15	2.06	7.80	7.96	7.84	7.94	8.09	7.83	7.98	8.02	8.00	8.08	7.76	7.22	7.73	7.91	7.15		
22	2.07	7.77	7.93	7.80	7.87	8.01	7.84	7.93	7.98	7.96	8.02	7.80	7.36	7.71	7.86	7.21		
11	2.08	7.78	7.97	7.85	7.99	8.14	7.83	7.99	8.03	8.03	8.05	7.89	7.15	7.72	7.92	7.09	6.89	8.36
Range																	6.79	8.60

Table 6		14-Day Solid Phase Readings				Species: <i>C. tentans</i>			
		Job #:		20-012					
Position #	Sample	INITIAL				FINAL			
		Alkalinity	Hardness	Conductivity	NH3	Alkalinity	Hardness	Conductivity	NH3
Control Pond Mud	20006	52	84	283	0.09	56	88	305	0.14
PA-10	20007	52	80	288	0.77	44	76	280	0.31
PA-13	20008	48	78	286	0.91	56	84	295	0.97

ND = <0.08 mg/L
 Alkalinity = mg/L
 Hardness = mg/L
 Conductivity = µmho/cm
 NH3 = (mg/L) total ammonia

Table 7															SUMMARY - H. AZTECA LENGTHS (mm)														
Chamber ID	Code #	Sample	Organisms										Mean per rep.	Mean per conc.															
			1	2	3	4	5	6	7	8	9	10																	
18	0.01	Control	3.0	3.2	3.0	3.1	2.8	2.6	2.9	3.0	2.9			2.94															
23	0.02	Pond Mud	3.2	3.5	3.5	3.7	3.5	3.3	3.2	3.3	3.1	3.3		3.36															
4	0.03	20006	3.5	3.0	3.0	3.3	2.9	2.8	2.8	3.1				3.05															
15	0.04		3.0	3.0	2.9	3.4	2.9	3.0	2.6	2.4	3.1			2.92															
10	0.05		3.0	2.9	3.2	3.3	2.8	2.7	2.6	3.0				2.94															
7	0.06		2.4	2.7	2.8	3.0	2.5	2.6	2.7	2.9	2.5	2.6		2.67															
13	0.07		2.9	3.0	2.8	2.5	3.1	2.8	2.9	2.7	2.6			2.81															
2	0.08		2.6	2.5	2.7	2.8	2.9	2.9	3.1	2.4	2.8	2.7		2.74	2.93														
6	1.01	PA-10	2.6	2.5	2.9	2.9	2.8	2.5	2.8					2.71															
11	1.02	20007	2.1	2.4	2.8	2.7	2.7	2.7	2.4	2.6	2.3			2.52															
3	1.03		2.1	2.5	2.8	2.9	2.6	2.9	3.0	2.8	2.1			2.63															
14	1.04		3.6	3.0	2.5	2.4	2.6	2.8	3.0					2.84															
16	1.05		3.2	3.0	3.0	3.1	3.1	3.1	2.9	2.7				3.01															
17	1.06		2.8	2.8	2.3	2.2	2.9	3.0	2.9					2.70															
24	1.07		3.5	3.5	3.4	3.1	3.6	3.2	3.2					3.36															
5	1.08		3.0	2.8	1.9	2.2	2.5	2.4	2.2	3.0				2.50	2.79														
1	2.01	PA-13	3.0	2.6	2.4	2.1	2.6	2.5						2.53															
8	2.02	20008	2.8	3.0	2.6	3.0	2.9	3.2	2.6					2.87															
9	2.03		2.5	3.0	3.2	3.2	2.7							2.92															
20	2.04		2.9	2.4	3.0	2.5	2.6	2.7	2.4	2.7				2.65															
21	2.05		3.0	3.0	2.7	2.6	2.3	2.8	3.0	2.8	2.1			2.70															
12	2.06		2.4	2.6	3.0	2.5	3.0	2.4						2.65															
19	2.07		3.7	2.8										3.25															
22	2.08		3.0	3.0	3.0	2.8	2.5	2.5	2.3	2.2				2.66	2.78														

Table 8		28-Day Solid Phase Flowthrough Test		Species:	<i>H. azteca</i>
		Initial Live Count: 10		Job #:	20-012
Position #	ID#	Sample	Final Live Count	Percent Survival	
18	0.01	Control Pond Mud	9	91%	
23	0.02	20006	10		
4	0.03		8		
15	0.04		9		
10	0.05		8		
7	0.06		10		
13	0.07		9		
2	0.08		10		
6	1.01	PA-10	7	78% *	
11	1.02	20007	9		
3	1.03		9		
14	1.04		7		
16	1.05		8		
17	1.06		7		
24	1.07		7		
5	1.08		8		
1	2.01	PA-13	6	64% *	
8	2.02	20008	7		
9	2.03		5		
20	2.04		8		
21	2.05		9		
12	2.06		6		
19	2.07		2		
22	2.08		8		

*Significantly statistically lower than the control (p=0.05)

Table 9 28-Day Solid Phase Readings Temperature (°C)		Species: <i>H. azteca</i>															
		Job #:															
Position #	ID#	Sample	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
18	0.01	Control	22.81	23.55	23.06	23.08	23.05	22.72	23.50	22.71	23.69	23.69	23.38	22.41	23.10	22.96	22.61
23	0.02	Pond Mud	22.21	22.62	23.36	23.22	23.09	22.92	23.33	22.64	23.51	23.42	23.30	22.42	22.98	22.84	22.49
4	0.03	20006	22.19	22.89	23.62	22.98	23.58	22.95	23.56	22.78	23.69	23.65	23.35	22.52	23.02	23.04	22.54
15	0.04		22.34	22.56	23.47	23.43	23.42	23.00	23.42	23.02	23.65	23.67	23.37	22.68	22.98	22.97	22.62
10	0.05		22.70	23.50	23.14	22.86	23.23	22.62	23.51	22.94	23.60	23.65	23.39	22.30	23.08	23.04	22.61
7	0.06		22.17	22.79	23.39	23.39	23.44	22.77	23.54	22.65	23.46	23.59	23.32	22.49	23.01	23.03	22.51
13	0.07		22.60	23.45	22.97	22.80	22.64	22.07	23.31	22.55	23.41	23.71	23.37	22.14	23.07	23.00	22.57
2	0.08		22.50	23.32	23.42	23.24	23.14	22.48	23.51	22.23	23.48	23.61	23.28	22.37	23.08	22.91	22.39
6	1.01	PA-10	22.55	23.03	23.09	23.08	23.07	22.51	23.66	22.36	23.48	23.57	23.24	22.36	22.96	23.00	22.54
11	1.02	20007	22.34	22.75	23.37	23.25	23.52	22.96	23.45	23.11	23.59	23.65	23.28	22.46	22.97	22.97	22.28
3	1.03		22.04	22.55	23.54	22.81	23.38	22.72	23.51	22.46	23.58	23.67	23.37	22.42	23.02	22.99	22.47
14	1.04		22.83	23.56	23.27	23.10	23.09	22.63	23.45	22.81	23.60	23.65	23.31	22.53	22.95	22.93	22.56
16	1.05		22.75	23.06	23.60	23.78	23.68	23.22	23.43	23.12	23.67	23.67	23.34	22.76	22.96	22.98	22.63
17	1.06		22.34	23.39	22.77	22.71	22.64	22.18	23.34	22.26	23.67	23.69	23.30	22.20	22.98	22.91	22.60
24	1.07		22.60	22.88	23.49	23.44	23.38	23.12	23.42	22.88	23.49	23.45	23.25	22.58	22.94	22.84	22.51
5	1.08		22.63	22.60	22.68	22.77	22.58	22.16	23.45	22.11	23.47	23.60	23.23	22.08	22.95	22.98	22.57
1	2.01	PA-13	22.35	22.71	23.01	22.69	22.46	22.10	23.15	22.05	23.12	23.31	23.08	22.09	22.81	22.44	22.01
8	2.02	20008	22.60	23.08	23.55	23.57	23.62	22.99	23.55	22.89	23.49	23.64	23.36	22.53	23.03	23.07	22.56
9	2.03		22.41	23.35	22.79	22.49	22.69	22.15	23.43	22.53	23.54	23.67	23.39	22.11	23.02	23.07	22.60
20	2.04		22.91	22.89	23.49	23.57	23.58	23.05	23.43	23.16	23.61	23.58	23.27	22.66	22.91	22.79	22.48
21	2.05		22.13	23.23	22.84	22.62	22.31	22.08	23.22	22.33	23.50	23.55	23.24	22.07	22.91	22.77	22.46
12	2.06		22.74	23.18	23.52	23.46	23.65	23.14	23.35	23.21	23.47	23.66	23.32	22.53	23.01	22.97	22.44
19	2.07		22.91	22.35	23.35	23.39	23.39	23.04	23.40	23.01	23.63	23.66	23.31	22.59	22.92	22.81	22.54
22	2.08		22.29	23.39	23.15	22.89	22.67	22.50	23.34	22.44	23.52	23.58	23.22	22.26	22.94	22.84	22.46

Table 9 28-Day Solid Phase Readings
Temperature (°C)

		Species: <i>H. azteca</i>																
		Job #: 20-012																
Position #	ID#	Sample	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Low	High
18	0.01	Control	22.87	23.04	22.37	22.51	22.73	22.28	22.72	22.86	23.20	22.85	23.04	22.62	23.24	22.44		
23	0.02	Pond Mud	22.79	22.98	22.58	22.57	22.77	22.33	22.67	22.94	23.28	22.65	22.74	22.52	23.34	22.39		
4	0.03	20006	22.92	23.03	22.46	22.41	22.57	22.36	22.68	22.77	22.46	22.76	22.99	22.49	23.46	22.30		
15	0.04		22.84	23.03	22.63	22.52	22.75	22.31	22.79	22.81	23.20	22.67	22.89	22.45	23.38	22.41		
10	0.05		22.86	22.98	22.44	22.42	22.73	22.22	22.79	22.78	23.30	22.74	22.99	22.63	23.60	22.37		
7	0.06		22.90	22.98	22.31	22.51	22.66	22.42	22.59	22.78	22.77	22.69	22.85	22.61	23.68	22.24		
13	0.07		22.94	23.04	22.36	22.57	22.79	22.09	22.86	22.88	23.25	22.69	22.96	22.65	23.27	22.42		
2	0.08		22.79	22.90	22.26	22.31	22.05	22.23	22.67	22.76	22.37	22.68	22.80	22.06	23.76	22.10	22.05	23.76
6	1.01	PA-10	22.87	23.06	22.14	22.43	22.61	22.30	22.59	22.78	22.45	22.44	23.00	22.46	24.05	22.28		
11	1.02	20007	22.86	23.01	22.46	22.55	22.79	22.39	22.79	22.69	23.23	22.65	22.90	22.57	23.47	22.39		
3	1.03		22.89	23.00	22.35	22.44	22.37	22.29	22.72	22.80	22.40	22.69	22.70	22.32	23.66	22.21		
14	1.04		22.92	23.04	22.58	22.58	22.79	22.25	22.86	22.84	23.15	22.80	22.96	22.67	23.53	22.45		
16	1.05		22.86	23.01	22.68	22.27	22.71	22.35	22.76	22.83	23.22	22.82	22.95	22.32	23.70	22.41		
17	1.06		22.88	23.02	22.06	22.45	22.69	22.05	22.68	22.77	23.24	22.75	23.00	22.51	23.24	22.44		
24	1.07		22.82	22.97	22.66	22.63	22.75	22.46	22.70	22.91	23.39	22.68	22.90	22.55	23.33	22.43		
5	1.08		22.86	23.06	22.02	22.42	22.55	22.06	22.60	22.72	22.48	22.70	22.90	22.35	23.99	22.35	22.02	24.05
1	2.01	PA-13	22.33	22.37	22.06	22.17	22.10	22.02	22.23	22.49	22.24	22.32	22.63	22.07	23.87	22.02		
8	2.02	20008	22.88	22.93	22.44	22.45	22.69	22.50	22.66	22.85	23.24	22.76	22.44	22.68	23.64	22.24		
9	2.03		22.87	22.93	22.18	22.35	22.65	22.04	22.71	22.85	23.31	22.64	22.88	22.64	23.68	22.34		
20	2.04		22.74	22.96	22.70	22.53	22.69	22.55	22.67	22.81	23.20	22.81	22.88	22.67	23.27	22.48		
21	2.05		22.76	22.92	22.15	22.45	22.74	22.04	22.48	22.70	23.15	22.61	22.42	22.61	23.20	22.44		
12	2.06		22.89	23.00	22.51	22.53	22.80	22.46	22.95	22.92	23.30	22.77	22.97	22.64	23.93	22.38		
19	2.07		22.88	23.03	22.60	22.46	22.70	22.44	22.75	22.84	23.15	22.73	22.90	22.69	23.42	22.48		
22	2.08		22.74	22.94	22.44	22.45	22.73	22.20	22.55	22.87	23.23	22.84	22.95	22.58	23.30	22.39	22.01	23.93
Range																		
22.01 24.05																		

Table 10 28-Day Solid Phase Readings
 Dissolved Oxygen (mg/L) *H. azteca*
 Job #: 20-012

Position #	ID#	Sample	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
18	0.01	Control	8.31	7.89	7.60	7.65	7.69	8.17	7.54	8.07	7.50	7.57	7.50	8.03	7.35	7.19	4.37
23	0.02	Pond Mud	8.17	8.20	6.01	7.72	7.73	8.10	7.52	8.04	7.51	7.56	7.40	7.99	7.18	7.14	5.46
4	0.03	20006	8.26	8.19	7.64	7.77	7.77	8.06	7.55	7.96	7.67	7.64	7.71	7.86	7.46	7.29	6.26
15	0.04		8.44	8.07	7.50	7.64	7.55	8.12	7.61	8.03	7.59	7.54	7.52	7.93	7.34	7.17	4.67
10	0.05		8.29	8.09	7.70	7.83	7.79	8.16	7.54	8.02	7.62	7.55	7.50	8.00	7.23	7.14	4.15
7	0.06		8.36	8.24	7.69	7.72	7.77	8.11	7.51	8.05	7.67	7.59	7.54	7.91	7.07	7.07	5.22
13	0.07		8.36	7.99	7.59	7.78	7.66	8.38	7.68	8.13	7.67	7.53	7.29	8.06	7.22	7.07	6.51
2	0.08		8.26	8.10	7.72	7.71	7.89	8.20	7.45	8.10	7.76	7.66	7.65	7.91	7.36	7.29	7.29
6	1.01	PA-10	8.21	8.19	7.75	7.78	7.85	8.17	7.38	8.12	7.68	7.63	7.59	7.94	7.24	7.06	5.77
11	1.02	20007	8.39	8.25	7.66	7.75	7.73	8.08	7.53	7.98	7.62	7.56	7.43	7.96	7.30	7.15	4.69
3	1.03		8.29	8.26	7.68	7.79	7.82	8.13	7.62	8.04	7.71	7.63	7.67	7.89	7.43	7.28	6.67
14	1.04		8.30	7.92	7.55	7.71	7.60	8.23	7.56	8.07	7.62	7.54	7.43	7.97	7.29	7.13	6.44
16	1.05		8.34	7.98	7.46	7.49	7.50	8.05	7.59	8.01	7.59	7.55	7.53	7.91	7.38	7.18	4.50
17	1.06		8.42	7.92	7.65	7.70	7.77	8.30	7.58	8.17	7.54	7.57	7.46	8.08	7.38	7.19	4.45
24	1.07		8.10	8.15	6.15	7.67	7.67	8.05	7.47	7.97	7.52	7.56	7.40	7.94	7.16	7.14	6.09
5	1.08		8.18	8.27	7.85	7.84	7.96	8.25	7.47	8.18	7.70	7.63	7.63	8.00	7.28	7.06	6.18
1	2.01	PA-13	8.31	8.23	7.82	7.83	8.05	8.36	7.44	8.17	7.92	7.84	7.75	8.01	7.41	7.44	7.73
8	2.02	20008	8.27	8.18	7.64	7.68	7.72	8.06	7.52	7.99	7.65	7.57	7.51	7.89	7.08	7.11	5.26
9	2.03		8.35	8.12	7.78	7.91	7.91	8.26	7.59	8.11	7.63	7.55	7.49	8.04	7.18	7.14	4.81
20	2.04		7.31	8.12	7.55	7.57	7.59	8.10	7.37	7.97	7.49	7.57	7.04	7.98	7.09	7.05	4.30
21	2.05		7.73	8.06	7.65	7.82	7.89	8.30	7.44	8.14	7.51	7.52	7.20	8.10	7.06	6.96	5.41
12	2.06		8.31	8.12	7.62	7.70	7.70	8.04	6.75	7.95	7.66	7.57	7.32	7.95	7.27	7.10	4.28
19	2.07		7.45	8.23	7.57	7.60	7.63	8.11	7.49	8.00	7.49	7.58	6.95	7.99	7.28	7.16	4.68
22	2.08		7.91	8.02	6.59	7.77	7.82	8.20	7.44	8.10	7.50	7.51	7.33	8.04	7.10	7.04	5.47

Table 10		28-Day Solid Phase Readings																		Species: <i>H. azteca</i>	
		Dissolved Oxygen (mg/L)																		Job #:	
Position #	ID#	Sample	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Low	High			
18	0.01	Control	6.12	5.24	8.22	6.32	5.96	7.92	7.21	7.03	7.86	8.07	7.01	6.90	7.68	7.38					
23	0.02	Pond Mud	5.93	5.58	8.11	5.69	5.67	7.90	7.01	6.98	7.89	8.09	7.55	7.13	7.63	7.38					
4	0.03	20006	6.09	7.39	8.16	6.49	7.72	7.82	7.90	7.09	8.27	8.13	7.62	7.79	7.86	7.78					
15	0.04		5.68	5.11	8.16	6.47	6.02	7.88	7.53	6.99	7.83	8.27	7.62	6.82	7.66	7.49					
10	0.05		5.79	5.00	8.16	7.13	6.31	7.91	6.31	7.04	7.98	8.08	7.41	6.26	7.69	7.62					
7	0.06		5.44	4.92	8.19	6.41	6.65	7.15	5.63	7.08	8.20	7.75	7.32	6.25	7.71	7.73					
13	0.07		4.02	5.16	8.25	5.48	6.53	7.92	7.20	6.99	7.85	8.20	7.58	5.93	7.74	7.54					
2	0.08		5.95	8.18	8.19	6.18	7.85	7.84	7.97	7.12	8.30	7.77	7.54	7.99	7.74	7.90	4.02	8.44			
6	1.01	PA-10	6.02	6.33	8.26	6.57	7.58	7.23	6.95	7.09	8.27	7.03	6.71	7.69	7.67	7.74					
11	1.02	20007	5.96	5.33	8.14	7.26	6.66	7.87	6.48	7.04	7.95	8.19	7.54	6.73	7.70	7.60					
3	1.03		6.20	7.67	8.18	6.45	7.81	7.83	7.92	7.09	8.29	7.36	7.71	7.90	7.84	7.82					
14	1.04		4.72	5.14	8.19	5.98	6.54	7.89	7.20	6.99	7.85	8.14	6.54	6.43	7.59	7.53					
16	1.05		5.78	5.04	8.14	6.05	6.15	7.87	7.38	7.00	7.82	8.22	7.59	7.03	7.59	7.45					
17	1.06		6.02	5.13	8.30	6.61	6.45	7.97	7.26	7.03	7.84	8.22	6.58	7.30	7.73	7.40					
24	1.07		6.22	5.82	8.07	5.22	5.33	7.88	6.98	6.89	7.83	8.00	7.40	7.24	7.53	7.38					
5	1.08		5.72	7.25	8.34	6.57	7.63	7.85	7.85	7.11	8.26	8.16	7.11	7.74	7.78	7.75	4.45	8.42			
1	2.01	PA-13	7.45	9.21	8.55	5.86	6.62	7.89	8.20	7.19	8.32	7.44	7.70	8.15	7.61	8.01					
8	2.02	20008	5.88	5.66	8.11	6.40	6.17	7.23	5.74	7.06	8.06	7.75	7.41	5.86	7.67	7.70					
9	2.03		5.38	5.34	8.24	6.48	6.05	7.95	5.64	7.03	8.00	8.13	7.51	5.94	7.69	7.64					
20	2.04		6.25	5.95	8.11	6.93	6.48	7.83	6.99	6.99	7.86	7.75	7.38	6.34	7.66	7.36					
21	2.05		6.51	5.46	8.24	6.50	6.43	7.96	6.99	7.02	7.89	8.13	7.72	6.25	7.75	7.36					
12	2.06		4.99	5.37	8.12	6.44	6.56	7.85	7.07	6.99	7.89	8.09	7.52	6.05	7.49	7.58					
19	2.07		6.67	5.57	8.14	6.64	6.25	7.87	6.92	7.01	7.88	7.49	7.39	6.45	7.67	7.36					
22	2.08		6.30	5.58	8.16	6.72	6.16	7.93	7.01	7.01	7.90	8.11	7.60	6.75	7.69	7.37	4.28	9.21			
Range																4.02	9.21				

Table 11		28-Day Solid Phase Readings														Species: <i>H. azteca</i>	
		pH (su)														Job #: 20-012	
Position #	ID# Sample	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
18	0.01 Control	7.95	8.09	8.00	8.07	8.10	8.11	8.20	8.11	8.10	8.21	8.21	8.00	8.15	8.20	8.02	
23	0.02 Pond Mud	7.97	8.16	8.00	8.06	8.04	8.04	8.17	8.04	8.07	8.16	8.17	8.03	8.11	8.23	8.10	
4	0.03 20006	7.99	8.13	7.85	7.87	7.93	7.90	8.24	7.90	8.18	8.23	8.25	7.46	8.12	8.27	7.44	
15	0.04	7.97	8.12	7.98	8.00	8.06	8.14	8.12	8.14	8.13	8.18	8.22	7.95	8.14	8.21	8.02	
10	0.05	7.93	8.09	8.00	8.00	8.06	8.10	8.26	8.10	8.16	8.19	8.22	7.87	8.16	8.25	7.88	
7	0.06	8.01	8.13	7.93	7.94	8.02	8.07	8.25	8.07	8.12	8.17	8.18	7.72	8.09	8.19	7.62	
13	0.07	7.96	8.06	7.94	8.01	8.09	8.13	8.00	8.13	8.11	8.16	8.17	7.93	8.11	8.22	8.07	
2	0.08	8.01	8.13	7.76	7.81	7.90	7.91	8.11	7.91	8.19	8.22	8.17	7.38	8.07	8.22	7.26	
6	1.01 PA-10	7.95	8.11	7.96	7.96	8.04	8.07	8.22	8.07	8.13	8.19	8.17	7.71	8.05	8.17	7.58	
11	1.02 20007	7.91	8.16	7.98	8.00	8.05	8.08	8.20	8.08	8.17	8.21	8.23	7.88	8.14	8.26	7.85	
3	1.03	8.02	8.16	7.82	7.90	7.91	7.89	8.19	7.89	8.19	8.24	8.24	7.42	8.11	8.26	7.36	
14	1.04	7.94	8.06	7.99	8.00	8.07	8.08	8.02	8.08	8.11	8.18	8.19	7.94	8.12	8.21	8.07	
16	1.05	7.89	8.10	7.99	8.05	8.10	8.11	8.09	8.11	8.12	8.19	8.22	7.96	8.13	8.17	8.02	
17	1.06	7.97	8.08	7.95	8.06	8.12	8.15	8.14	8.15	8.09	8.20	8.21	7.99	8.14	8.17	7.96	
24	1.07	7.94	8.13	8.00	8.04	8.06	8.02	8.18	8.02	8.06	8.17	8.16	8.04	8.12	8.20	8.10	
5	1.08	8.03	8.15	7.98	7.99	8.06	8.07	8.26	8.07	8.16	8.22	8.19	7.70	8.07	8.21	7.54	
1	2.01 PA-13	8.07	8.21	7.73	7.79	7.92	7.87	7.94	7.87	8.21	8.21	8.07	7.32	8.00	8.14	6.93	
8	2.02 20008	7.96	8.11	7.94	7.95	8.04	8.08	8.26	8.08	8.14	8.18	8.19	7.74	8.12	8.23	7.73	
9	2.03	7.99	8.09	8.02	8.03	8.10	8.12	8.24	8.12	8.14	8.18	8.20	7.86	8.13	8.24	7.84	
20	2.04	7.91	8.13	8.01	8.04	8.08	8.09	8.14	8.09	8.07	8.16	8.09	8.01	8.09	8.18	8.07	
21	2.05	7.98	8.10	8.04	8.06	8.10	8.11	8.08	8.11	8.07	8.14	8.10	8.03	8.07	8.14	8.03	
12	2.06	7.94	8.11	7.98	8.00	8.06	8.11	7.81	8.11	8.14	8.18	8.19	7.89	8.06	8.21	7.89	
19	2.07	7.97	8.18	8.03	8.04	8.08	8.09	8.17	8.09	8.10	8.19	8.20	8.01	8.13	8.21	8.06	
22	2.08	7.96	8.07	8.02	8.04	8.08	8.07	8.13	8.07	8.07	8.14	8.15	8.03	8.09	8.22	8.02	

28-Day Solid Phase Readings													Species: <i>H. azteca</i>						
pH (su)													Job #:						
Position #	ID#	Sample	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Low	High	
18	0.01	Control	8.22	8.42	8.13	8.16	8.31	8.26	8.33	8.40	8.44	8.23	8.17	8.23	8.37	7.73			
23	0.02	Pond Mud	8.20	8.41	8.11	8.19	8.26	8.33	8.36	8.36	8.42	8.21	8.17	8.20	8.34	7.91			
4	0.03	20006	8.34	8.50	7.96	8.21	8.35	8.17	8.44	8.56	8.46	8.30	8.12	8.23	8.25	6.88			
15	0.04		8.21	8.42	8.21	8.18	8.31	8.32	8.31	8.39	8.44	8.27	8.21	8.23	8.35	7.70			
10	0.05		8.29	8.47	8.17	8.26	8.34	8.31	8.40	8.47	8.46	8.26	8.12	8.23	8.38	7.42			
7	0.06		8.23	8.43	8.09	8.20	8.28	8.28	8.40	8.49	8.41	8.27	8.13	8.24	8.37	7.09			
13	0.07		8.22	8.41	8.19	8.22	8.27	8.31	8.29	8.39	8.41	8.22	8.16	8.23	8.37	7.57			
2	0.08		8.36	8.48	7.94	8.15	8.34	8.14	8.46	8.59	8.48	8.19	8.10	8.20	8.14	6.72	6.72	8.59	
6	1.01	PA-10	8.26	8.46	8.09	8.18	8.30	8.30	8.44	8.54	8.44	8.29	8.10	8.25	8.35	6.98			
11	1.02	20007	8.28	8.49	8.19	8.27	8.35	8.30	8.39	8.45	8.47	8.26	8.15	8.26	8.35	7.48			
3	1.03		8.35	8.51	8.02	8.18	8.35	8.18	8.45	8.58	8.47	8.27	8.10	8.21	8.22	6.83			
14	1.04		8.23	8.43	8.20	8.22	8.29	8.32	8.29	8.38	8.43	8.23	8.18	8.24	8.31	7.65			
16	1.05		8.24	8.43	8.20	8.12	8.34	8.33	8.36	8.42	8.45	8.28	8.23	8.24	8.28	7.69			
17	1.06		8.20	8.42	8.16	8.12	8.27	8.30	8.34	8.41	8.45	8.25	8.17	8.23	8.34	7.69			
24	1.07		8.22	8.43	8.14	8.20	8.30	8.33	8.37	8.38	8.42	8.23	8.17	8.20	8.34	7.94			
5	1.08		8.30	8.49	8.09	8.21	8.32	8.32	8.44	8.56	8.46	8.29	8.13	8.22	8.35	6.92	6.83	8.58	
1	2.01	PA-13	8.36	8.40	7.84	8.02	8.29	8.16	8.46	8.62	8.55	8.04	8.12	8.14	7.56	6.61			
8	2.02	20008	8.26	8.45	8.10	8.24	8.33	8.26	8.38	8.47	8.41	8.27	8.12	8.26	8.38	7.30			
9	2.03		8.28	8.46	8.16	8.24	8.35	8.34	8.39	8.48	8.46	8.27	8.13	8.19	8.38	7.39			
20	2.04		8.21	8.43	8.18	8.18	8.29	8.25	8.37	8.39	8.43	8.21	8.15	8.22	8.33	7.85			
21	2.05		8.21	8.37	8.13	8.14	8.26	8.35	8.37	8.41	8.44	8.27	8.21	8.19	8.30	7.90			
12	2.06		8.23	8.44	8.19	8.21	8.30	8.28	8.29	8.42	8.43	8.22	8.12	8.24	8.33	7.53			
19	2.07		8.25	8.41	8.17	8.22	8.29	8.23	8.33	8.40	8.44	8.17	8.13	8.22	8.34	7.74			
22	2.08		8.18	8.40	8.12	8.14	8.24	8.34	8.37	8.38	8.43	8.21	8.15	8.20	8.30	7.92	6.61	8.62	
													Range					6.61	8.62

Table 12		28-Day Solid Phase Flowthrough Readings				Species: <i>H. azteca</i>			
Job #:		20-012							
Position #	Sample	INITIAL				FINAL			
		Alkalinity	Hardness	Conductivity	NH3	Alkalinity	Hardness	Conductivity	NH3
Control Pond Mud	20006	142	118	501	0.19	164	136	540	0.10
PA-10	20007	134	116	502	1.05	152	132	530	ND
PA-13	20008	140	114	500	1.22	152	128	533	0.69

ND = <0.08 mg/L

Alkalinity = mg/L

Hardness = mg/L

Conductivity = µmho/cm

NH3 = (mg/L) Total ammonia

BIOLOGICAL RAW DATA

C. tentans

20-012 C. tentans dry weight

File: 20012ct.dw Transform: NO TRANSFORMATION

Shapiro - Wilk's test for normality

D = 0.471

W = 0.913

Critical W (P = 0.05) (n = 24) = 0.916

Critical W (P = 0.01) (n = 24) = 0.884

Data PASS normality test at P=0.01 level. Continue analysis.

20-012 C. tentans dry weight

File: 20012ct.dw Transform: NO TRANSFORMATION

Bartlett's test for homogeneity of variance

Calculated B1 statistic = 5.08

Table Chi-square value = 9.21 (alpha = 0.01, df = 2)

Table Chi-square value = 5.99 (alpha = 0.05, df = 2)

Data PASS B1 homogeneity test at 0.01 level. Continue analysis.

TITLE: 20-012 C. tentans dry weight

FILE: 20012ct.dw

TRANSFORM: NO TRANSFORMATION

NUMBER OF GROUPS: 3

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	control	1	0.8900	0.8900
1	control	2	1.3800	1.3800
1	control	3	0.8900	0.8900
1	control	4	0.7400	0.7400
1	control	5	1.0300	1.0300
1	control	6	0.7900	0.7900
1	control	7	1.0600	1.0600
1	control	8	0.8400	0.8400
2	PA-10	1	0.8800	0.8800
2	PA-10	2	0.6700	0.6700
2	PA-10	3	0.6300	0.6300
2	PA-10	4	0.9600	0.9600
2	PA-10	5	0.8600	0.8600
2	PA-10	6	0.7200	0.7200
2	PA-10	7	0.9600	0.9600
2	PA-10	8	0.6600	0.6600
3	PA-13	1	0.7100	0.7100
3	PA-13	2	0.7000	0.7000
3	PA-13	3	0.5800	0.5800
3	PA-13	4	0.7100	0.7100
3	PA-13	5	0.6600	0.6600
3	PA-13	6	0.5500	0.5500
3	PA-13	7	0.5200	0.5200
3	PA-13	8	0.7200	0.7200

20-012 C. tentans dry weight

File: 20012ct.dw Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	control	8	0.740	1.380	0.953
2	PA-10	8	0.630	0.960	0.793
3	PA-13	8	0.520	0.720	0.644

20-012 C. tentans dry weight

File: 20012ct.dw Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	control	0.042	0.204	0.072	21.46
2	PA-10	0.019	0.138	0.049	17.36
3	PA-13	0.007	0.081	0.029	12.62

20-012 C. tentans dry weight

File: 20012ct.dw

Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	2	0.381	0.191	8.503
Within (Error)	21	0.471	0.022	
Total	23	0.853		

Critical F value = 3.47 (0.05,2,21)

Since $F > \text{Critical } F$ REJECT H_0 : All equal

20-012 C. tentans dry weight

File: 20012ct.dw

Transform: NO TRANSFORMATION

BONFERRONI t-TEST - TABLE 1 OF 2

Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	control	0.953	0.953		
2	PA-10	0.793	0.793	2.137	*
3	PA-13	0.644	0.644	4.123	*

Bonferroni t table value = 2.08 (1 Tailed Value, P=0.05, df=21,2)

20-012 C. tentans dry weight

File: 20012ct.dw

Transform: NO TRANSFORMATION

BONFERRONI t-TEST - TABLE 2 OF 2

Ho:Control<Treatment

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	control	8			
2	PA-10	8	0.156	16.4	0.160
3	PA-13	8	0.156	16.4	0.309

TD 1/21/00

DAM 20-012 C. tentans head capsule widths (mm)

1 2.0

2 3.0

3 3.0

4 2.0

5 2.0

6 3.0

7 2.0

8 3.0

9 2.0

10 3.0

11 3.0

12 2.0

13 3.0

14 2.0

15 3.0

16 3.0

17 3.0

18 2.0

19 2.0

20 2.0

\bar{x} 2.5 mm

20-012 DAmes & Moore 14 day C. tentans solid phase

position	Sample	ASI No.	Code
20	Control	20006	0.1
9	Pond mud	*	0.2
12		*	0.3
6		*	0.4
5		*	0.5
2		*	0.6
10		*	0.7
14		*	0.8
16	PA-10	20007	1.1
8		*	1.2
17		*	1.3
3		*	1.4
19		*	1.5
13		*	1.6
23		*	1.7
1		*	1.8
21	PA-13	20008	2.1
7			2.2
24			2.3
18			2.4
4			2.5
15			2.6
22			2.7
11			2.8

Aqua Survey, Inc.
Solid Phase Readings

Client: D-1

Test Start Date: 1/7/00

Parameter: LIVE COUNTS

Job #: 20-012

Test End Date: 1/21/00

Organism: C. tentans

Beaker	Initial Count	Final Count	Notes
1	10	9	
2	10	9	
3	10	9	
4	10	8	
5	10	6	
6	10	10	
7	10	6	
8	10	10	
9	10	8	
10	10	10	
11	10	10	
12	10	10	
13	10	10	
14	10	8	
15	10	10	
16	10	9	
17	10	9	
18	10	10	
19	10	9	
20	10	10	
21	10	9	
22	10	10	
23	10	9	
24	10	9	
25			
26			
27			
28			
Date	<u>1/7/00</u>	<u>1/21/00</u>	
Initials	<u>D</u>	<u>TD</u>	

012CT0.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/07/00 10:13:09	22.08	0.0	0.00	8.17	7.90
1	01/07/00 10:13:15	22.32	0.0	0.00	8.14	7.83
2	01/07/00 10:13:37	22.14	0.0	0.00	8.23	7.82
3	01/07/00 10:13:41	22.40	0.0	0.00	8.20	7.81
4	01/07/00 10:14:03	22.10	0.0	0.00	8.32	7.80
5	01/07/00 10:14:08	22.51	0.0	0.00	8.23	7.78
6	01/07/00 10:14:21	22.12	0.0	0.00	8.35	7.82
7	01/07/00 10:14:28	22.38	0.0	0.00	8.30	7.80
8	01/07/00 10:14:53	22.08	0.0	0.00	8.42	7.78
9	01/07/00 10:14:58	22.45	0.0	0.00	8.34	7.77
10	01/07/00 10:15:19	22.12	0.0	0.00	8.44	7.78
11	01/07/00 10:15:24	22.45	0.0	0.00	8.37	7.78
12	01/07/00 10:15:37	22.21	0.0	0.00	8.44	7.78
13	01/07/00 10:15:41	22.39	0.0	0.00	8.41	7.78
14	01/07/00 10:16:00	22.08	0.0	0.00	8.49	7.80
15	01/07/00 10:16:05	22.50	0.0	0.00	8.40	7.79
16	01/07/00 10:16:18	22.13	0.0	0.00	8.48	7.78

Act #: 012 Test type: ACUTE CHRONIC OTHER 14 day flow thru Date: 1/7/00

Species: *P. promelas* *C. dubia* *M. bahia* Other C. tentans Day of Study: 0

OPERATIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

012CT0.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/07/00 10:16:23	22.30	0.0	0.00	8.44	7.76
18	01/07/00 10:16:43	22.19	0.0	0.00	8.43	7.76
19	01/07/00 10:16:48	22.58	0.0	0.00	8.34	7.75
20	01/07/00 10:17:12	22.16	0.0	0.00	8.46	7.77
21	01/07/00 10:17:16	22.53	0.0	0.00	8.37	7.77
22	01/07/00 10:17:31	22.23	0.0	0.00	8.45	7.77
23	01/07/00 10:17:36	22.52	0.0	0.00	8.38	7.75

Test #: 012 Test type: ACUTE CHRONIC OTHER 4 day flow thru Date: 1/7/00

Species: *P. promelas* *C. dubia* *M. bahia* Other Citronella Day of Study: 0

OPERATIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

012CT1.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/08/00 08:01:42	22.07	0.0	0.00	8.23	8.14
1	01/08/00 08:01:46	22.51	0.0	0.00	8.12	8.05
2	01/08/00 08:01:51	22.66	0.0	0.00	8.07	8.04
3	01/08/00 08:01:55	22.79	1.0	0.00	8.04	8.03
4	01/08/00 08:02:14	22.16	0.0	0.00	8.17	8.02
5	01/08/00 08:02:19	22.53	0.0	0.00	8.10	8.01
6	01/08/00 08:02:24	22.83	0.0	0.00	8.05	8.01
7	01/08/00 08:02:29	22.97	1.0	0.00	8.03	8.00
8	01/08/00 08:03:00	22.49	1.0	0.00	8.22	7.97
9	01/08/00 08:03:04	22.87	1.0	0.00	8.13	7.96
10	01/08/00 08:03:09	23.10	1.0	0.00	8.09	7.97
11	01/08/00 08:03:13	23.21	1.0	0.00	8.07	7.96
12	01/08/00 08:03:34	22.29	1.0	0.00	8.31	7.98
13	01/08/00 08:03:38	22.64	1.0	0.00	8.23	7.96
14	01/08/00 08:03:43	22.97	1.0	0.00	8.16	7.96
15	01/08/00 08:03:47	23.13	1.0	0.00	8.13	7.96
16	01/08/00 08:04:05	22.35	1.0	0.00	8.32	7.94

Test #: 012 Test type: ACUTE CHRONIC OTHER 14 day flow thru Date: 1/8/00

Species: *P. promelas* *C. dubia* *M. bahia* Other *C. tentans* Day of Study: 1

OPERATIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

Measurements taken at Jan 08 08:59:09 2000 Page 1 of 2

012CT1.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/08/00 08:04:10	22.59	1.0	0.00	8.26	7.92
18	01/08/00 08:04:15	22.94	1.0	0.00	8.18	7.91
19	01/08/00 08:04:20	23.15	1.0	0.00	8.14	7.91
20	01/08/00 08:04:39	22.13	1.0	0.00	8.38	7.95
21	01/08/00 08:04:43	22.34	1.0	0.00	8.34	7.93
22	01/08/00 08:04:48	22.72	1.0	0.00	8.25	7.92
23	01/08/00 08:04:52	22.97	1.0	0.00	8.19	7.90

Test #: 012 Test type: ACUTE CHRONIC OTHER 14 day flow thru Date: 1/8/00

Species: *P. promelas* *C. dubia* *M. bahia* Other C. dentata Day of Study: 1

OPERATIONAL RANGE: Check if OK **Meter Used:**

Temperature: 22 to 24 Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

Readings taken at Jan 08 08:59:09 2000 Page 2 of 2

012CT2.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/09/00 07:38:33	22.46	2.0	0.00	7.85	8.14
1	01/09/00 07:38:37	22.93	2.0	0.00	7.76	8.07
2	01/09/00 07:38:42	22.99	2.0	0.00	7.75	8.05
3	01/09/00 07:38:47	23.02	2.0	0.00	7.74	8.03
4	01/09/00 07:39:23	22.36	2.0	0.00	7.94	7.98
5	01/09/00 07:39:27	22.79	2.0	0.00	7.84	7.94
6	01/09/00 07:39:32	23.05	2.0	0.00	7.79	7.94
7	01/09/00 07:39:36	23.14	2.0	0.00	7.77	7.92
8	01/09/00 07:40:08	22.74	2.0	0.00	7.87	7.87
9	01/09/00 07:40:13	23.03	2.0	0.00	7.81	7.85
10	01/09/00 07:40:17	23.23	2.0	0.00	7.76	7.85
11	01/09/00 07:40:22	23.30	2.0	0.00	7.75	7.85
12	01/09/00 07:40:42	22.59	2.0	0.00	7.92	7.86
13	01/09/00 07:40:47	22.83	2.0	0.00	7.87	7.84
14	01/09/00 07:40:51	23.07	2.0	0.00	7.80	7.84
15	01/09/00 07:40:55	23.21	2.0	0.00	7.77	7.84
16	01/09/00 07:41:14	22.55	2.0	0.00	7.90	7.82

Test #: 012 Test type: ACUTE CHRONIC OTHER 14 day flow thru Date: 1/9/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other C. tentans Day of Study: 2
 OPERATIONAL RANGE: Check if OK Meter Used:
 Temperature: 22 to 24 Blue
 Salinity: — to — Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0
 Ions taken: Sun Jan 09 08:34:54 2000 Page 1 of 2

012CT2.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/09/00 07:41:19	22.84	2.0	0.00	7.84	7.80
18	01/09/00 07:41:23	23.09	2.0	0.00	7.79	7.79
19	01/09/00 07:41:28	23.23	2.0	0.00	7.76	7.78
20	01/09/00 07:41:53	22.32	2.0	0.00	7.97	7.80
21	01/09/00 07:41:58	22.75	2.0	0.00	7.88	7.80
22	01/09/00 07:42:03	23.01	2.0	0.00	7.82	7.78
23	01/09/00 07:42:08	23.12	2.0	0.00	7.79	7.77

Test #: 012 Test type: ACUTE CHRONIC OTHER 14 day flow thru Date: 1/9/00

Species: *P. promelas* *C. dubia* *M. bahia* Other C. tentans Day of Study: 2

OPERATIONAL RANGE: Check if OK **Meter Used:**

Temperature: 22 to 24 Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

012CT3.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/10/00 10:26:09	22.19	0.0	0.00	7.95	8.34
1	01/10/00 10:26:14	22.80	0.0	0.00	7.83	8.24
2	01/10/00 10:26:18	23.03	0.0	0.00	7.78	8.20
3	01/10/00 10:26:23	23.25	0.0	0.00	7.73	8.18
4	01/10/00 10:27:06	22.70	0.0	0.00	7.91	8.10
5	01/10/00 10:27:11	23.14	0.0	0.00	7.82	8.08
6	01/10/00 10:27:16	23.42	0.0	0.00	7.76	8.07
7	01/10/00 10:27:21	23.58	0.0	0.00	7.73	8.06
8	01/10/00 10:27:45	22.58	1.0	0.00	7.96	8.02
9	01/10/00 10:27:49	23.00	1.0	0.00	7.87	7.98
10	01/10/00 10:27:54	23.36	1.0	0.00	7.79	7.99
11	01/10/00 10:27:59	23.55	1.0	0.00	7.75	7.97
12	01/10/00 10:28:17	22.79	1.0	0.00	7.93	7.97
13	01/10/00 10:28:23	23.04	1.0	0.00	7.88	7.95
14	01/10/00 10:28:27	23.36	1.0	0.00	7.80	7.94
15	01/10/00 10:28:32	23.55	1.0	0.00	7.75	7.95
16	01/10/00 10:28:53	22.72	1.0	0.00	7.92	7.92

Test #: 012 Test type: ACUTE CHRONIC OTHER 14 day flow thru Date: 1/10/00

Species: *P. promelas* *C. dubia* *M. bahia* Other C. tentans Day of Study: 3

OPERATIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

Tests taken on Jan 10 10:39:30 2000 Page 1 of 2

012CT3.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/10/00 10:28:57	23.04	1.0	0.00	7.85	7.90
18	01/10/00 10:29:02	23.34	1.0	0.00	7.79	7.89
19	01/10/00 10:29:06	23.51	1.0	0.00	7.76	7.88
20	01/10/00 10:29:34	22.99	1.0	0.00	7.90	7.87
21	01/10/00 10:29:39	23.32	1.0	0.00	7.82	7.87
22	01/10/00 10:29:44	23.55	1.0	0.00	7.77	7.86
23	01/10/00 10:29:48	23.66	1.0	0.00	7.73	7.85

Test #: 012 Test type: ACUTE CHRONIC OTHER 14 day flow thru Date: 1/10/00

Species: *P. promelas* *C. dubia* *M. bahia* Other (tentative) Day of Study: 3

NOMINAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

ions taken on Jan 10 10:39:31 2000 Page 2 of 2

012CT4.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/11/00 12:41:15	22.42	0.0	0.00	7.97	8.60
1	01/11/00 12:41:19	22.97	0.0	0.00	7.86	8.43
2	01/11/00 12:41:24	23.22	0.0	0.00	7.81	8.39
3	01/11/00 12:41:28	23.41	0.0	0.00	7.76	8.36
4	01/11/00 12:41:56	22.41	0.0	0.00	8.00	8.31
5	01/11/00 12:42:01	22.92	0.0	0.00	7.90	8.26
6	01/11/00 12:42:06	23.32	0.0	0.00	7.82	8.24
7	01/11/00 12:42:10	23.50	0.0	0.00	7.78	8.22
8	01/11/00 12:42:37	22.50	0.0	0.00	8.02	8.18
9	01/11/00 12:42:42	23.02	1.0	0.00	7.90	8.14
10	01/11/00 12:42:46	23.37	1.0	0.00	7.82	8.14
11	01/11/00 12:42:51	23.54	1.0	0.00	7.79	8.13
12	01/11/00 12:43:22	22.51	1.0	0.00	8.05	8.13
13	01/11/00 12:43:26	23.03	1.0	0.00	7.93	8.10
14	01/11/00 12:43:31	23.38	1.0	0.00	7.86	8.09
15	01/11/00 12:43:35	23.57	1.0	0.00	7.82	8.09
16	01/11/00 12:44:05	22.66	1.0	0.00	8.04	8.07

Test #: 012 Test type: ACUTE CHRONIC OTHER 14 day flourish Date: 1/11/00

Species: *P. promelas* *C. dubia* *M. bahia* Other Amurans Day of Study: 4

OPERATIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

ions taken on Jan 11 12:55:56 2000 Page 1 of 2

012CT4.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/11/00 12:44:10	23.19	1.0	0.00	7.91	8.04
18	01/11/00 12:44:14	23.47	1.0	0.00	7.84	8.03
19	01/11/00 12:44:19	23.58	1.0	0.00	7.82	8.02
20	01/11/00 12:44:43	22.84	1.0	0.00	7.98	8.02
21	01/11/00 12:44:48	23.25	1.0	0.00	7.89	8.01
22	01/11/00 12:44:52	23.49	1.0	0.00	7.83	8.00
23	01/11/00 12:44:57	23.61	1.0	0.00	7.80	7.99

Test #: 012 Test type: ACUTE CHRONIC OTHER / 4 day flow thru Date: 1/11/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other C. tentans Day of Study: 4
 OPERATIONAL RANGE: Check if OK Meter Used:
 Temperature: 22 to 24 Blue
 Salinity: — to — Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Ions taken on Jan 11 12:55:56 2000 Page 2 of 2

012CT5.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/12/00 15:21:17	22.30	0.0	0.00	8.40	7.80
1	01/12/00 15:21:22	22.52	0.0	0.00	8.31	7.79
2	01/12/00 15:21:26	22.62	0.0	0.00	8.27	7.81
3	01/12/00 15:21:31	22.79	0.0	0.00	8.22	7.82
4	01/12/00 15:22:13	22.71	0.0	0.00	8.24	7.82
5	01/12/00 15:22:18	22.90	0.0	0.00	8.20	7.80
6	01/12/00 15:22:23	23.00	0.0	0.00	8.18	7.83
7	01/12/00 15:22:28	23.04	0.0	0.00	8.17	7.84
8	01/12/00 15:22:58	22.16	0.0	0.00	8.40	7.83
9	01/12/00 15:23:03	22.59	0.0	0.00	8.30	7.81
10	01/12/00 15:23:08	22.90	0.0	0.00	8.22	7.83
11	01/12/00 15:23:13	23.08	0.0	0.00	8.18	7.83
12	01/12/00 15:23:40	22.36	0.0	0.00	8.38	7.84
13	01/12/00 15:23:45	22.67	0.0	0.00	8.30	7.80
14	01/12/00 15:23:49	22.94	0.0	0.00	8.24	7.83
15	01/12/00 15:23:53	23.09	0.0	0.00	8.20	7.84
16	01/12/00 15:24:16	22.16	0.0	0.00	8.43	7.85

Project #: 012 Test type: ACUTE CHRONIC OTHER 14 day flow thru Date: 1/12/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other C. tentans Day of Study: 5

OPERATIONAL RANGE:

Temperature: <u>22</u> to <u>24</u>	Check if OK	Meter Used:
Salinity: <u> </u> to <u> </u>	<input type="checkbox"/>	Blue <input type="checkbox"/>
Dissolved oxygen: <u>> 4.0</u>	<input checked="" type="checkbox"/>	Red <input checked="" type="checkbox"/>
pH: <u>6.0 to 9.0</u>	<input checked="" type="checkbox"/>	

Actions taken: _____

See deviation summary sheet

Initials:

Wed Jan 12 15:36:54 2000

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012CT5.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/12/00 15:24:20	22.58	0.0	0.00	8.33	7.83
18	01/12/00 15:24:25	22.92	0.0	0.00	8.24	7.83
19	01/12/00 15:24:30	23.11	0.0	0.00	8.19	7.83
20	01/12/00 15:24:48	22.22	0.0	0.00	8.40	7.84
21	01/12/00 15:24:52	22.60	0.0	0.00	8.31	7.84
22	01/12/00 15:24:59	23.00	0.0	0.00	8.21	7.77
23	01/12/00 15:25:06	23.15	0.0	0.00	8.17	7.82

Project #: 012 Test type: ACUTE CHRONIC OTHER 14 day flow thru Date: 1/12/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other C. tentans Day of Study: 5

OPERATIONAL RANGE: Check if OK

Temperature: <u>22</u> to <u>24</u>	<input type="checkbox"/>	Meter Used:	Blue <input type="checkbox"/>
Salinity: <u>-</u> to <u>-</u>	<input checked="" type="checkbox"/>		Red <input checked="" type="checkbox"/>
Dissolved oxygen: <u>> 4.0</u>	<input checked="" type="checkbox"/>		
pH: <u>6.0 to 9.0</u>	<input checked="" type="checkbox"/>		

Actions taken: _____

See deviation summary sheet Initials: TD
 Wed Jan 12 15:36:54 2000 Page 2 of 2

012CT6.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/13/00 09:41:25	22.79	0.0	0.00	7.67	8.05
1	01/13/00 09:42:04	23.26	0.0	0.00	7.63	8.06
2	01/13/00 09:42:53	23.10	0.0	0.00	7.73	8.04
3	01/13/00 09:43:15	23.14	0.0	0.00	7.71	8.03
4	01/13/00 09:44:18	23.37	0.0	0.00	7.72	8.01
5	01/13/00 09:44:49	23.49	0.0	0.00	7.70	8.02
6	01/13/00 09:45:41	23.13	0.0	0.00	7.76	8.00
7	01/13/00 09:46:16	23.34	0.0	0.00	7.67	7.98
8	01/13/00 09:47:11	23.32	0.0	0.00	7.66	7.97
9	01/13/00 09:47:36	23.40	0.0	0.00	7.67	7.98
10	01/13/00 09:48:28	23.18	0.0	0.00	7.78	7.99
11	01/13/00 09:48:55	23.37	0.0	0.00	7.74	7.98
12	01/13/00 09:49:47	23.26	0.0	0.00	7.75	7.97
13	01/13/00 09:50:15	23.36	0.0	0.00	7.73	7.98
14	01/13/00 09:51:06	23.18	0.0	0.00	7.78	7.98
15	01/13/00 09:51:31	23.36	0.0	0.00	7.73	7.97
16	01/13/00 09:52:19	23.29	0.0	0.00	7.74	7.95

Project #: 012 Test type: ACUTE CHRONIC OTHER 14 day flow thru Date: 1/13/00

Species: *P. promelas* *C. dubia* *M. bahia* Other C. tentans Day of Study: 6

OPERATIONAL RANGE:

Temperature: 22 to 24 Check if OK
 Salinity: to
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Meter Used:

Blue
 Red

Actions taken: _____

See deviation summary sheet

Initials: KW

Thu Jan 13 09:59:51 2000

012CT6.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/13/00 09:53:22	23.45	0.0	0.00	7.68	7.94
18	01/13/00 09:54:13	23.27	0.0	0.00	7.73	7.94
19	01/13/00 09:54:51	23.49	0.0	0.00	7.69	7.93
20	01/13/00 09:55:51	23.42	0.0	0.00	7.71	7.93
21	01/13/00 09:56:40	23.35	0.0	0.00	7.64	7.93
22	01/13/00 09:57:27	23.29	0.0	0.00	7.69	7.89
23	01/13/00 09:57:55	23.43	0.0	0.00	7.66	7.88

Project #: 012 Test type: ACUTE CHRONIC OTHER 14 day flow thru Date: 1/13/00

Species: *P. promelas* *C. dubia* *M. bahia* Other C. tentans Day of Study: 6

OPERATIONAL RANGE:

Temperature: <u>22</u> to <u>24</u>	Check if OK <input checked="" type="checkbox"/>	Meter Used: Blue <input checked="" type="checkbox"/>
Salinity: <u> </u> to <u> </u>	<input checked="" type="checkbox"/>	Red <input type="checkbox"/>
Dissolved oxygen: > 4.0	<input checked="" type="checkbox"/>	
pH: 6.0 to 9.0	<input checked="" type="checkbox"/>	

Actions taken: _____

See deviation summary sheet

Initials: KW

Thu Jan 13 09:59:51 2000

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012CT7.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/14/00 14:24:32	22.05	0.0	0.00	8.28	8.14
1	01/14/00 14:24:37	22.33	0.0	0.00	8.19	8.14
2	01/14/00 14:24:43	22.52	0.0	0.00	8.15	8.13
3	01/14/00 14:24:49	22.70	0.0	0.00	8.11	8.12
4	01/14/00 14:25:25	22.22	0.0	0.00	8.22	8.09
5	01/14/00 14:25:31	22.44	0.0	0.00	8.19	8.07
6	01/14/00 14:25:36	22.62	0.0	0.00	8.15	8.08
7	01/14/00 14:25:41	22.73	0.0	0.00	8.14	8.07
8	01/14/00 14:26:24	22.64	0.0	0.00	8.18	8.03
9	01/14/00 14:26:30	22.81	0.0	0.00	8.14	8.03
10	01/14/00 14:26:35	22.96	0.0	0.00	8.11	8.03
11	01/14/00 14:26:41	23.06	0.0	0.00	8.08	8.04
12	01/14/00 14:27:15	22.41	0.0	0.00	8.25	8.04
13	01/14/00 14:27:20	22.65	0.0	0.00	8.19	8.02
14	01/14/00 14:27:27	22.95	0.0	0.00	8.13	8.02
15	01/14/00 14:27:33	23.04	0.0	0.00	8.11	8.02
16	01/14/00 14:28:10	22.37	0.0	0.00	8.28	8.01

Project #: 012 Test type: ACUTE CHRONIC OTHER 14 day flow thru Date: 1/14/00

Species: *P. promelas* *C. dubia* *M. bahia* Other C. tentans Day of Study: 7

OPERATIONAL RANGE:

Temperature:	<u>22</u> to <u>24</u>	Check if OK <input checked="" type="checkbox"/>	Meter Used:
Salinity:	<u>—</u> to <u>—</u>	<input checked="" type="checkbox"/>	Blue <input type="checkbox"/>
Dissolved oxygen:	<u>> 4.0</u>	<input checked="" type="checkbox"/>	Red <input checked="" type="checkbox"/>
pH:	<u>6.0 to 9.0</u>	<input checked="" type="checkbox"/>	

Actions taken: _____

See deviation summary sheet Initials: TD
 Fri Jan 14 14:39:06 2000 Page 1 of 2

012CT7.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/14/00 14:28:16	22.60	0.0	0.00	8.22	8.00
18	01/14/00 14:28:22	22.83	0.0	0.00	8.16	7.99
19	01/14/00 14:28:28	22.96	0.0	0.00	8.13	7.98
20	01/14/00 14:29:08	22.41	0.0	0.00	8.27	7.99
21	01/14/00 14:29:14	22.65	0.0	0.00	8.21	7.98
22	01/14/00 14:29:20	22.89	0.0	0.00	8.15	7.97
23	01/14/00 14:29:25	23.01	0.0	0.00	8.11	7.97

Project #: 012 Test type: ACUTE CHRONIC OTHER 14 day Acute Date: 1/14/00

Species: *P. promelas* *C. dubia* *M. bahia* Other C. tentans Day of Study: 7

OPERATIONAL RANGE:

Temperature: 22 to 24 Check if OK
 Salinity: — to —
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Meter Used:
 Blue
 Red

Actions taken: _____

See deviation summary sheet Initials: JD
 Fri Jan 14 14:39:07 2000

012CT8.DAT

	Date Time	Temp	DO Conc	pH
	M/D/Y	C	mg/L	
0	01/15/00 17:14:14	23.10	7.85	8.16
1	01/15/00 17:14:34	23.43	7.79	8.13
2	01/15/00 17:14:46	23.45	7.79	8.11
3	01/15/00 17:14:56	23.45	7.70	8.08
4	01/15/00 17:15:07	23.49	7.62	8.07
5	01/15/00 17:15:13	23.53	7.61	8.06
6	01/15/00 17:15:25	23.47	7.64	8.06
7	01/15/00 17:15:34	23.49	7.61	8.04
8	01/15/00 17:15:52	23.65	7.44	8.02
9	01/15/00 17:15:58	23.60	7.45	8.01
10	01/15/00 17:16:11	23.50	7.53	8.03
11	01/15/00 17:16:18	23.49	7.55	8.02
12	01/15/00 17:16:30	23.53	7.60	8.02
13	01/15/00 17:16:38	23.58	7.63	8.01
14	01/15/00 17:16:51	23.61	7.66	8.00
15	01/15/00 17:16:58	23.60	7.69	8.00
16	01/15/00 17:17:09	23.64	7.72	7.99

Project #: 26-612 Test type: ACUTE CHRONIC OTHER 14 day Flow Date: 1/15/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other *C. tentans* Day of Study: 8

OPERATIONAL RANGE: Check if OK
 Temperature: 23 to 24 Meter Used: Blue
 Salinity: - to - Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: mf
 Mon Jan 17 08:21:11 2000 Page 1 of 2

012CT8.DAT

	DateTime	Temp	DO Conc	pH
	M/D/Y	C	mg/L	
17	01/15/00 17:17:17	23.62	7.73	7.98
18	01/15/00 17:17:27	23.59	7.75	7.98
19	01/15/00 17:17:34	23.58	7.77	7.97
20	01/15/00 17:17:45	23.63	7.77	7.97
21	01/15/00 17:17:54	23.55	7.79	7.96
22	01/15/00 17:18:00	23.53	7.80	7.96
23	01/15/00 17:18:07	23.53	7.80	7.95

Project #: 85-61a Test type: ACUTE CHRONIC OTHER _____ Date: 1/15/00

Species: *P. promelas* *C. dubia* *M. bahia* Other *C. tentans* _____ Day of Study: 8

OPERATIONAL RANGE: _____ Check if OK _____ Meter Used: _____

Temperature: 23 to 24 Blue

Salinity: - to - Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: af

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012CT9.DAT

	Date Time	Temp	DO Conc	pH
	M/D/Y	C	mg/L	
0	01/16/00 16:32:59	23.19	7.95	8.26
1	01/16/00 16:33:20	23.41	7.85	8.20
2	01/16/00 16:33:31	23.46	7.83	8.18
3	01/16/00 16:33:46	23.39	7.84	8.16
4	01/16/00 16:33:57	23.46	7.80	8.13
5	01/16/00 16:34:14	23.57	7.78	8.12
6	01/16/00 16:34:20	23.54	7.79	8.12
7	01/16/00 16:34:32	23.55	7.79	8.10
8	01/16/00 16:34:45	23.57	7.77	8.08
9	01/16/00 16:34:52	23.60	7.76	8.05
10	01/16/00 16:35:01	23.57	7.76	8.05
11	01/16/00 16:35:10	23.58	7.77	8.08
12	01/16/00 16:35:22	23.55	7.79	8.09
13	01/16/00 16:35:31	23.53	7.81	8.08
14	01/16/00 16:35:40	23.52	7.81	8.08
15	01/16/00 16:35:50	23.56	7.81	8.06
16	01/16/00 16:35:58	23.60	7.80	8.04

Project #: 00-01a Test type: ACUTE CHRONIC OTHER 14 day Flow Date: 1/16/00

Species: *P. promelas* *C. dubia* *M. bahia* Other C. tentans Day of Study: 9

OPERATIONAL RANGE:

Temperature: 22 to 24 Check if OK
 Salinity: _____ to _____
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Meter Used:

Blue
 Red

Actions taken: _____

See deviation summary sheet

Initials: 1/

Mon Jan 17 08:21:27 2000

012CT9.DAT

	DateTime	Temp	DO Conc	pH
	M/D/Y	C	mg/L	
17	01/16/00 16:36:05	23.62	7.79	8.05
18	01/16/00 16:36:13	23.63	7.79	8.03
19	01/16/00 16:36:23	23.61	7.79	8.04
20	01/16/00 16:36:43	23.65	7.79	8.03
21	01/16/00 16:36:51	23.64	7.79	8.02
22	01/16/00 16:36:59	23.60	7.80	8.00
23	01/16/00 16:37:08	23.53	7.81	8.00

Project #: 20613 Test type: ACUTE CHRONIC OTHER 14 day Flow Date: 1/16
 Species: *P. promelas* *C. dubia* *M. bahia* Other C. tentans Day of Study: 9

OPERATIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue
 Salinity: _____ to _____ Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: TD
 Mon Jan 17 08:21:28 2000 Page 2 of 2

012CT10.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/17/00 14:53:14	22.76	0.0	0.00	7.86	7.93
1	01/17/00 14:53:49	23.24	0.0	0.00	7.79	7.93
2	01/17/00 14:54:16	23.20	0.0	0.00	7.70	7.93
3	01/17/00 14:54:36	23.25	0.0	0.00	7.51	7.94
4	01/17/00 14:55:13	23.35	0.0	0.00	7.55	7.94
5	01/17/00 14:55:31	23.34	0.0	0.00	7.63	7.95
6	01/17/00 14:57:16	23.17	0.0	0.00	7.52	7.87
7	01/17/00 14:57:46	23.36	0.0	0.00	7.52	7.86
8	01/17/00 14:58:10	23.37	0.0	0.00	7.57	7.85
9	01/17/00 14:58:42	23.39	0.0	0.00	7.66	7.87
10	01/17/00 14:59:04	23.29	0.0	0.00	7.74	7.89
11	01/17/00 14:59:23	23.37	0.0	0.00	7.75	7.86
12	01/17/00 15:00:58	23.15	0.0	0.00	7.35	7.76
13	01/17/00 15:01:25	23.36	0.0	0.00	7.40	7.74
14	01/17/00 15:01:54	23.23	0.0	0.00	7.51	7.76
15	01/17/00 15:02:23	23.34	0.0	0.00	7.50	7.77
16	01/17/00 15:02:42	23.21	0.0	0.00	7.54	7.76

Project #: 20-012 Test type: ACUTE CHRONIC OTHER 14 day flow Date: 1/17/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other C. tentans Day of Study: 10

OPERATIONAL RANGE: Check if OK
 Temperature: 22 to 24
 Salinity: — to —
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0
 Meter Used: Blue
Red

Actions taken: _____

See deviation summary sheet Initials: KW
 Mon Jan 17 15:16:24 2000 Page 1 of 2

012CT10.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/17/00 15:03:04	23.28	0.0	0.00	7.54	7.76
18	01/17/00 15:04:39	23.13	0.0	0.00	7.56	7.75
19	01/17/00 15:05:12	23.38	0.0	0.00	7.54	7.77
20	01/17/00 15:06:14	23.20	0.0	0.00	7.67	7.80
21	01/17/00 15:06:37	23.25	0.0	0.00	7.66	7.80
22	01/17/00 15:06:57	23.15	0.0	0.00	7.61	7.78
23	01/17/00 15:07:22	23.21	0.0	0.00	7.53	7.79

Project #: 20-012 Test type: ACUTE CHRONIC OTHER 14 day flow Date: 1/17/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other C. tentans Day of Study: 10

OPERATIONAL RANGE:

Temperature: 22 to 24 Check if OK
 Salinity: — to —
 Dissolved oxygen: > 40
 pH: 6.0 to 9.0

Meter Used:

Blue
 Red

Actions taken: _____

See deviation summary sheet

Initials: KW

Mon Jan 17 15:16:25 2000

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012CT11.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/18/00 08:58:19	22.04	0.0	0.00	8.09	6.79
1	01/18/00 08:58:25	22.12	0.0	0.00	8.06	6.85
2	01/18/00 08:58:30	22.26	0.0	0.00	8.03	6.86
3	01/18/00 08:58:36	22.42	0.0	0.00	8.00	6.89
4	01/18/00 08:59:22	22.10	0.0	0.00	8.12	6.99
5	01/18/00 08:59:27	22.34	0.0	0.00	8.07	7.01
6	01/18/00 08:59:34	22.57	0.0	0.00	8.04	7.03
7	01/18/00 08:59:39	22.64	0.0	0.00	8.02	7.04
8	01/18/00 09:00:20	22.58	0.0	0.00	7.99	7.12
9	01/18/00 09:00:24	22.70	0.0	0.00	7.96	7.13
10	01/18/00 09:00:29	22.79	0.0	0.00	7.94	7.15
11	01/18/00 09:00:35	22.80	0.0	0.00	7.95	7.16
12	01/18/00 09:01:14	22.33	0.0	0.00	8.09	7.23
13	01/18/00 09:01:19	22.48	0.0	0.00	8.05	7.22
14	01/18/00 09:01:25	22.62	0.0	0.00	8.01	7.22
15	01/18/00 09:01:30	22.70	0.0	0.00	7.99	7.24
16	01/18/00 09:02:13	22.19	0.0	0.00	8.14	7.30

Project #: 012 Test type: ACUTE CHRONIC OTHER 14 day flow thru Date: 1/18/00

Species: *P. promelas* *C. dubia* *M. bahia* Other C. tentans Day of Study: 11

OPERATIONAL RANGE:

Temperature:	<u>22</u> to <u>24</u>	Check if OK <input checked="" type="checkbox"/>	Meter Used:
Salinity:	<u> </u> to <u> </u>	<input checked="" type="checkbox"/>	Blue <input checked="" type="checkbox"/>
Dissolved oxygen:	> 4.0	<input checked="" type="checkbox"/>	Red <input type="checkbox"/>
pH:	6.0 to 9.0	<input checked="" type="checkbox"/>	

Actions taken: _____

See deviation summary sheet Initials: TD
 Tue Jan 18 09:13:32 2000 Page 1 of 2

012CT11.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/18/00 09:02:18	22.33	0.0	0.00	8.11	7.30
18	01/18/00 09:02:22	22.52	0.0	0.00	8.07	7.31
19	01/18/00 09:02:28	22.61	0.0	0.00	8.04	7.31
20	01/18/00 09:02:58	22.11	0.0	0.00	8.14	7.35
21	01/18/00 09:03:03	22.39	0.0	0.00	8.08	7.36
22	01/18/00 09:03:07	22.53	0.0	0.00	8.05	7.35
23	01/18/00 09:03:12	22.59	0.0	0.00	8.03	7.36

Project #: 012 Test type: ACUTE CHRONIC OTHER 14 day Flow-Through Date: 1/18/00

Species: *P. promelas* *C. dubia* *M. bahia* Other Catantons Day of Study: 11

OPERATIONAL RANGE:

Temperature:	<u>22</u> to <u>24</u>	Check if OK <input checked="" type="checkbox"/>	Meter Used:
Salinity:	<u>—</u> to <u>—</u>	<input checked="" type="checkbox"/>	Blue <input checked="" type="checkbox"/>
Dissolved oxygen:	> 4.0	<input checked="" type="checkbox"/>	Red <input type="checkbox"/>
pH:	6.0 to 9.0	<input checked="" type="checkbox"/>	

Actions taken: _____

See deviation summary sheet Initials: TD
 Tue Jan 18 09:13:32 2000 Page 2 of 2

012CT12.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/19/00 11:03:30	22.10	0.0	0.00	7.76	7.62
1	01/19/00 11:04:05	22.62	0.0	0.00	7.52	7.65
2	01/19/00 11:05:18	22.62	0.0	0.00	6.82	7.66
3	01/19/00 11:05:50	22.77	0.0	0.00	6.94	7.66
4	01/19/00 11:06:29	22.93	0.0	0.00	7.19	7.68
5	01/19/00 11:06:57	22.96	0.0	0.00	7.34	7.69
6	01/19/00 11:07:20	22.85	0.0	0.00	7.31	7.70
7	01/19/00 11:07:58	22.85	0.0	0.00	6.75	7.68
8	01/19/00 11:08:30	22.95	0.0	0.00	6.94	7.67
9	01/19/00 11:09:01	23.05	0.0	0.00	7.14	7.70
10	01/19/00 11:09:21	22.83	0.0	0.00	7.32	7.72
11	01/19/00 11:09:45	22.98	0.0	0.00	7.38	7.73
12	01/19/00 11:10:21	22.64	0.0	0.00	7.43	7.73
13	01/19/00 11:10:50	22.99	0.0	0.00	7.32	7.73
14	01/19/00 11:11:07	22.86	0.0	0.00	7.40	7.73
15	01/19/00 11:11:31	22.82	0.0	0.00	7.41	7.74
16	01/19/00 11:12:01	22.80	0.0	0.00	7.32	7.72

Project #: 20-012 Test type: ACUTE CHRONIC OTHER 14 day flow Date: 1/19/00

Species: *P. promelas* *C. dubia* *M. bahia* Other *C. tentans* Day of Study: 12

OPERATIONAL RANGE: Check if OK

Temperature: 22 to 24 Meter Used: Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: NW
 Wed Jan 19 11:15:15 2000 Page 1 of 2

012CT12.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/19/00 11:12:15	22.80	0.0	0.00	7.31	7.72
18	01/19/00 11:12:37	22.76	0.0	0.00	7.32	7.71
19	01/19/00 11:13:08	22.97	0.0	0.00	7.32	7.71
20	01/19/00 11:13:27	22.84	0.0	0.00	7.38	7.70
21	01/19/00 11:13:41	22.80	0.0	0.00	7.38	7.71
22	01/19/00 11:15:04	22.64	0.0	0.00	7.13	7.64
23	01/19/00 11:15:27	22.74	0.0	0.00	7.08	7.62

Project #: 20012 Test type: ACUTE CHRONIC OTHER 14 day flow Date: 1/19/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other C. tentans Day of Study: 12

OPERATIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: KW
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012CT13.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/20/00 11:13:02	22.44	0.0	0.00	7.56	7.93
1	01/20/00 11:13:50	22.69	0.0	0.00	7.54	7.93
2	01/20/00 11:14:37	22.75	0.0	0.00	7.29	7.92
3	01/20/00 11:15:05	22.83	0.0	0.00	7.24	7.91
4	01/20/00 11:15:47	23.02	0.0	0.00	7.34	7.92
5	01/20/00 11:16:15	23.02	0.0	0.00	7.42	7.93
6	01/20/00 11:16:43	22.82	0.0	0.00	7.51	7.92
7	01/20/00 11:17:18	22.94	0.0	0.00	7.45	7.90
8	01/20/00 11:17:55	22.99	0.0	0.00	7.45	7.88
9	01/20/00 11:18:38	23.03	0.0	0.00	7.50	7.90
10	01/20/00 11:19:01	22.89	0.0	0.00	7.57	7.92
11	01/20/00 11:19:31	23.07	0.0	0.00	7.55	7.91
12	01/20/00 11:20:01	22.81	0.0	0.00	7.60	7.93
13	01/20/00 11:20:36	23.08	0.0	0.00	7.53	7.90
14	01/20/00 11:21:07	23.05	0.0	0.00	7.57	7.91
15	01/20/00 11:21:46	23.13	0.0	0.00	7.50	7.90
16	01/20/00 11:22:10	23.13	0.0	0.00	7.46	7.88

Project #: 20-012 Test type: ACUTE CHRONIC OTHER 14 day flow Date: 1/20/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other C. tentans Day of Study: 13

OPERATIONAL RANGE: Check if OK Meter Used:
 Temperature: 22 to 24 Blue
 Salinity: to Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: kw
 Thu Jan 20 11:32:29 2000 Page 1 of 2

012CT13.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/20/00 11:22:47	23.25	0.0	0.00	7.35	7.88
18	01/20/00 11:23:09	23.11	0.0	0.00	7.34	7.87
19	01/20/00 11:23:37	23.23	0.0	0.00	7.31	7.87
20	01/20/00 11:26:08	22.93	0.0	0.00	7.30	7.86
21	01/20/00 11:26:32	23.00	0.0	0.00	7.29	7.86
22	01/20/00 11:28:04	22.67	0.0	0.00	7.24	7.79
23	01/20/00 11:28:32	22.79	0.0	0.00	7.21	7.78

Project #: 20-012 Test type: ACUTE CHRONIC OTHER 14 day flow Date: 1/20/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other C. tentans Day of Study: 13

OPERATIONAL RANGE: Check if OK
 Temperature: 22 to 24
 Salinity: — to —
 Dissolved oxygen: > 40
 pH: 6.0 to 9.0
 Meter Used: Blue
 Red

Actions taken: _____

See deviation summary sheet
 Thu Jan 20 11:32:29 2000 Initials: KW
 Page 2 of 2

012CT14.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/21/00 06:56:57	22.03	3.0	0.00	7.99	6.99
1	01/21/00 06:57:02	22.05	4.0	0.00	7.89	6.99
2	01/21/00 06:57:07	22.11	3.0	0.00	7.89	6.99
3	01/21/00 06:57:12	22.20	3.0	0.00	7.89	7.01
4	01/21/00 06:57:17	22.27	3.0	0.00	7.88	7.02
5	01/21/00 06:57:22	22.35	3.0	0.00	7.87	7.03
6	01/21/00 06:57:26	22.44	3.0	0.00	7.85	7.04
7	01/21/00 06:57:31	22.42	3.0	0.00	7.86	7.05
8	01/21/00 06:57:36	22.42	3.0	0.00	7.87	7.07
9	01/21/00 06:57:41	22.45	3.0	0.00	7.85	7.08
10	01/21/00 06:57:46	22.48	3.0	0.00	7.84	7.09
11	01/21/00 06:57:51	22.51	3.0	0.00	7.84	7.11
12	01/21/00 06:57:55	22.54	3.0	0.00	7.83	7.12
13	01/21/00 06:58:00	22.49	3.0	0.00	7.85	7.14
14	01/21/00 06:58:05	22.47	3.0	0.00	7.87	7.15
15	01/21/00 06:58:10	22.48	3.0	0.00	7.88	7.15
16	01/21/00 06:58:15	22.51	3.0	0.00	7.88	7.18

Project #: 012 Test type: ACUTE CHRONIC OTHER 14 day flow thru Date: 1/21/00

Species: *P. promelas* *C. dubia* *M. bahia* Other C. tentans Day of Study: 14

OPERATIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: TD

Fri Jan 21 07:00:29 2000

012CT14.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/21/00 06:58:19	22.54	3.0	0.00	7.88	7.18
18	01/21/00 06:58:25	22.57	2.0	0.00	7.87	7.19
19	01/21/00 06:58:30	22.58	2.0	0.00	7.87	7.20
20	01/21/00 06:58:34	22.61	2.0	0.00	7.85	7.20
21	01/21/00 06:58:40	22.59	2.0	0.00	7.83	7.21
22	01/21/00 06:58:46	22.58	2.0	0.00	7.81	7.22
23	01/21/00 06:58:50	22.54	2.0	0.00	7.82	7.22

Project #: 012 Test type: ACUTE CHRONIC OTHER 14 day flow thru Date: 1/21/00

Species: *P. promelas* *C. dubia* *M. bahia* Other *C. tentans* Day of Study: 14

OPERATIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: TH

Fri Jan 21 07:00:29 2000

Aqua Survey, Inc.
Solid Phase Testing

Client: Dames & Moore

Test Start Date: 1/7/00

Parameter: Various

Job #: 20-012

Test End Date: 1/21/00

Organism: C. tentans

		INITIAL				FINAL			
Sample	ASI #	Alkalinity mg/L	Hardness mg/L	Cond.	NH ₃ mg/L	Alkalinity mg/L	Hardness mg/L	Cond..	NH ₃ mg/L
PA-10	20007	52	80	288	0.77	44	76	280	0.31
PA-13	20008	48	78	286	0.91	56	84	295	0.97
Control	20006	52	84	283	0.09	56	88	305	0.14
Date		1/7/00	1/7/00	1/7/00	1/7/00	1/21/00	1/21/00	1/21/00	1/21/00
Initials		MA	MA	MA	MA	TD	TD	TD	TD

Notes:

Aqua Survey, Inc.
Solid Phase Readings

Job # 20-012

Client Dames & Moore

Organism C. tentans FLOWTHROUGH

Parameter Exchanges and Feeding

Day	Date	Exchanges		Feed
		1st Time / Initials	2nd Time / Initials	Tetramin Slurry
0	1/7/00	815 / TD	1630 / MW	✓
1	1/8/00	0710 / TD	0930 / TD	✓
2	1/9/00	0705 / TD	0840 / TD	✓
3	1/10/00	0805 / KW	1645 / KW	✓
4	1/11/00	0805 / KW	1635 / KW	✓
5	1/12/00	0905 / KW	1645 / KW	✓
6	1/13/00	0805 / KW	1640 / KW	✓
7	1/14/00	0805 / KW	1645 / KW	✓
8	1/15/00	0805 / LF	1300 / LF	✓
9	1/16/00	0805 / LF	1210 / LF	✓
10	1/17/00	0805 / KW	1605 / KW	✓
11	1/18/00	0810 / TD	1510 / TD	✓
12	1/19/00	0810 / KW	1640 / KW	✓
13	1/20/00	0810 / KW	1640 / KW	✓
14	1/21/00	0600 / TD	—	—

Additional Notes

Aqua Survey, Inc.
Solid Phase Readings

Job # 20-012

Client Dames and Moore

Organism Charitum

Parameter Observations and Live counts

Chamber	Initial Day 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	10/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
2	10/N														
3	10/N														
4	10/N														
5	10/N														
6	10/N														
7	10/N														
8	10/N														
9	10/N														
10	10/N														
11	10/N														
12	10/N														
13	10/N														
14	10/N														
15	10/N														
16	10/N														
17	10/N														
18	10/N														
19	10/N														
20	10/N														
21	10/N														
22	10/N														
23	10/N														
24	10/N	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
25															
Int/Date	TS 1/7/00	TS 1/8/00	TS 1/9/00	TS 1/10/00	TS 1/11/00	TS 1/12/00	TS 1/13/00	TS 1/14/00	TS 1/15/00	TS 1/16/00	TS 1/17/00	TS 1/18/00	TS 1/19/00	TS 1/20/00	TS 1/21/00

AQUA SURVEY, INC.

CULTURE LAB DISTRIBUTION FORM

DATE: 1/7/00
TEST JOB#: 20-012 CLIENT: DAM
TEST LOCATION: IN-LAB [] FIELD [
TEST SPECIES: C. tentans
TOTAL NUMBER ORGANISMS TRANSFERRED: 300+
AQUA SURVEY, INC. CULTURE LAB INVESTIGATORS: CD

A. ORGANISMS

1. ASI CULTURE/HOLDING UNIT: General Culture
2. RECEIVING LOG #: N/A
3. CULTURE LOG #: 20-0009
4. AGE/SIZE INFORMATION: 3rd instar HD 12/30/99

B. HOLDING [] CULTURE [] WATER PARAMETERS

1. TEMPERATURE: 23.5°C
2. SALINITY: N/A
3. WATER SOURCE: Recun w/ B₂ + SEL

C. TRANSFER CUSTODY & TRANSFER

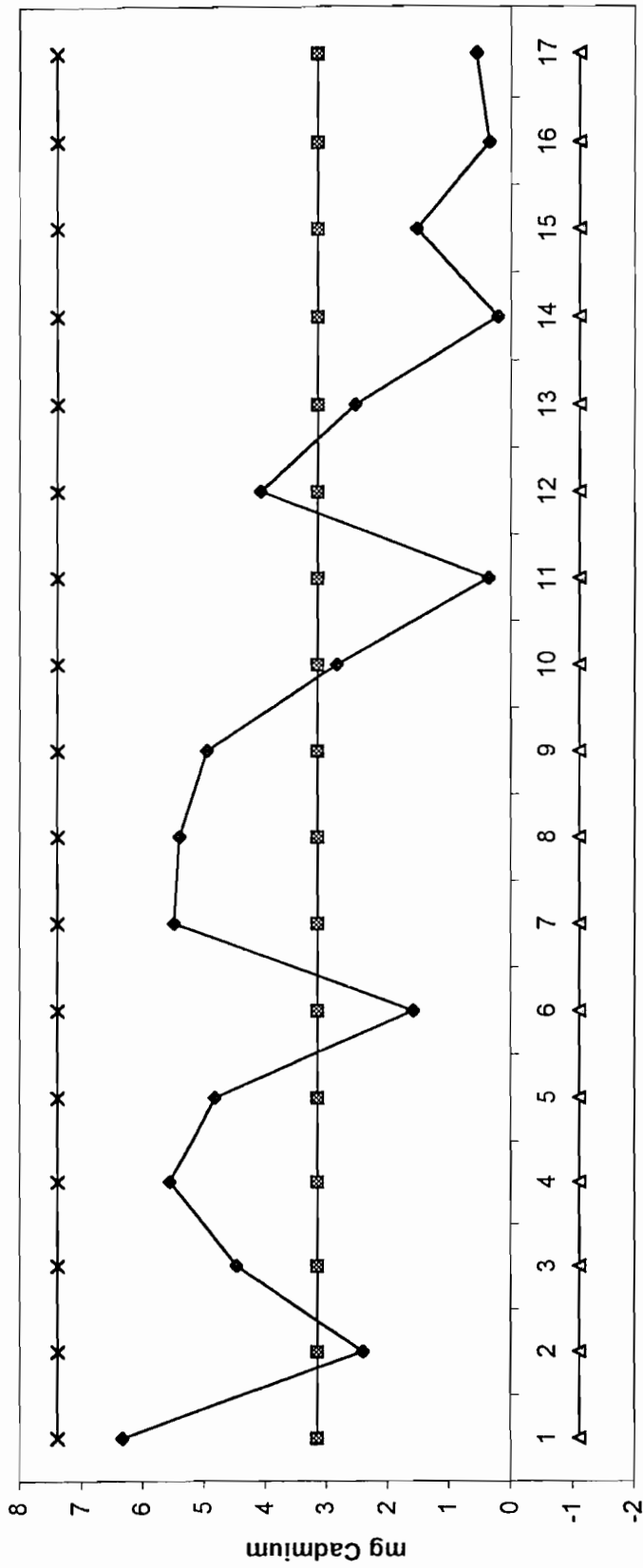
1. LIVESTOCK RELINQUISHMENT DATE: 1/7/00
TIME: 1000 hrs
BY: CD

2. LIVESTOCK RECEIVING DATE: 1/7/00
TIME: 1000 hrs
BY: TD

3. CULTURE SUPERVISOR OR SENIOR TECH. INITIALS: CD

REMARKS: _____

Control Chart LC50 Values, Acute SRT With *C. tentans*



Test Number (9/94 - 1/2000)

—●— Mean LC50 —▲— Lower 95% C.L. —×— Upper 95% C.L.

Control chart LC50 values for C. tentans ASI Organisms Mg/L cadmium

Date	Test No.	LC50	Mean	SD	LCL 2 SD	UCL 2SD
9/16/1994	1	6.33	3.14	2.12	-1.11	7.39
9/22/1994		2.41	3.14		-1.11	7.39
3/13/1995	3	4.47	3.14		-1.11	7.39
4/4/1995		5.55	3.14		-1.11	7.39
5/15/1995	5	4.82	3.14		-1.11	7.39
7/18/1995		1.58	3.14		-1.11	7.39
8/30/1995	7	5.49	3.14		-1.11	7.39
8/30/1995		5.4	3.14		-1.11	7.39
10/4/1995	9	4.95	3.14		-1.11	7.39
11/6/1996		2.83	3.14		-1.11	7.39
7/8/1997	11	0.36	3.14		-1.11	7.39
8/20/1998		4.07	3.14		-1.11	7.39
9/16/1998	13	2.53	3.14		-1.11	7.39
11/13/98		0.21	3.14		-1.11	7.39
4/1/1999	15	1.53	3.14		-1.11	7.39
10/8/1999		0.346	3.14		-1.11	7.39
1/7/2000	17	0.554	3.14		-1.11	7.39

CT-TOX: BINOMIAL, MOVING AVERAGE, PROBIT, AND SPEARMAN METHODS

SPEARMAN-KARBER

TRIM: 20.00%
 LC50: .733
 95% LOWER CONFIDENCE: .429
 95% UPPER CONFIDENCE: 1.252

CONC. g/L	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(%)
.20	10.	2.	20.00	.5469D+01
.60	10.	3.	30.00	.1719D+02
1.60	10.	10.	100.00	.9766D-01
5.00	10.	10.	100.00	.9766D-01
15.00	10.	10.	100.00	.9766D-01

THE BINOMIAL TEST SHOWS THAT .00 AND 1.60 CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS SINCE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS 99.9023 PERCENT. AN APPROXIMATE LC50 FOR THIS DATA SET IS .751

RESULTS USING MOVING AVERAGE

SPAN	G	LC50	95% CONFIDENCE LIMIT
2	.215	.59	.37 .96

***** RESULTS CALCULATED BY PROBIT METHOD

ITERATIONS	G	H	GOODNESS OF FIT
8	.285	1.00	.22

SLOPE = 2.85
 95% CONFIDENCE LIMITS: 1.33 AND 4.37

LC50= .55
 95% CONFIDENCE LIMITS: .32 AND .90

LC1 = .08
 95% CONFIDENCE LIMITS: .01 AND .18

DATE: 1/7/00 TEST NUMBER: SRT DURATION: 96 hours
 SAMPLE: CdCl2 SPECIES: C. tentans

METHOD	LC50	CONFIDENCE LIMITS		
		LOWER	UPPER	SPAN
BINOMIAL	.751	.000	1.600	1.600
MAA	.593	.372	.955	.583
PROBIT	.554	.320	.896	.576
SPEARMAN	.733	.429	1.252	.823

**** = LIMIT DOES NOT EXIST

Standard Reference Toxicant
Live Counts

For Job #: 20-012

Start Date: 1/7/00

End Date: 1/11/00

Organism: C. tentans/H. azteca

Organism Log #: 20-0010

Starting Time: 1330

mg/L CaCl₂

Dose	Initial	1	2	3	4	Dose	Initial	1	2	3	4
0.1 A	1	1	1	1	1	1.6 A	1	1	0'	—	—
B	1	1	1	0'	—	B	1	1	1	0'	—
C	1	1	1	1	1	C	1	1	1	0'	—
D	1	1	1	1	1	D	1	1	0'	—	—
E	1	1	1	1	1	E	1	1	1	1	0'
F	1	1	1	1	1	F	1	1	1	1	0'
G	1	1	1	1	1	G	1	0'	—	—	—
H	1	1	1	1	1	H	1	1	1	1	0'
I	1	1	1	1	1	I	1	0'	—	—	—
J	1	1	1	1	1	J	1	0'	—	—	—
0.2 A	1	1	1	1	1	5 A	1	0'	—	—	—
B	1	1	1	1	1	B	1	0'	—	—	—
C	1	1	1	0'	—	C	1	0'	—	—	—
D	1	1	1	0'	—	D	1	0'	—	—	—
E	1	1	1	1	1	E	1	0'	—	—	—
F	1	1	1	1	1	F	1	0'	—	—	—
G	1	1	1	1	1	G	1	1	0'	—	—
H	1	1	1	1	1	H	1	1	0'	—	—
I	1	1	1	1	1	I	1	0'	—	—	—
J	1	1	1	1	1	J	1	0'	—	—	—
0.6 A	1	1	0'	—	—	15 A	1	0'	—	—	—
B	1	1	1	1	1	B	1	0'	—	—	—
C	1	1	1	1	1	C	1	0'	—	—	—
D	1	1	1	0'	—	D	1	0'	—	—	—
E	1	1	1	1	1	E	1	0'	—	—	—
F	1	1	1	1	1	F	1	0'	—	—	—
G	1	1	1	1	1	G	1	0'	—	—	—
H	1	1	1	0'	—	H	1	0'	—	—	—
I	1	1	1	1	1	I	1	0'	—	—	—
J	1	1	1	1	1	J	1	0'	—	—	—
Initial	TS	TS	TS	TS	TS		TS	TS	TS	TS	TS
Date	1/7/00	1/8/00	1/9/00	1/10/00	1/11/00		1/7/00	1/8/00	1/9/00	1/10/00	1/11/00

SRT

Prep sheet for Freshwater SRTs

Chironomus tentans / *Hyalella azteca*

10 replicates per concentration

20 mL per replicate

1 organism per replicate

Working Stock Solution

Add 0.064 grams of Cadmium chloride to 100 mL of DI water.

This will give you a 320 mg Cadmium/L stock solution.

Hyalella azteca

Add 1mL of the working stock solution to 1 liter of DI water.

This will give you a 32 ug Cadmium/L stock solution.

Concentration (ug/L)	Stock (mL)	Total (mL)
0	0	250
4	3.125	250
8	6.25	250
16	12.5	250
32	25	250
64	50	250

Chironomus tentans

Add 100 mL of the working stock solution to 1 Liter of DI water.

This will give you a 32 mg Cadmium/L stock solution.

Concentration (mg/L)	Stock (mL)	Total (mL)
0.2	1.6	250
0.6	4.7	250
1.6	12.5	250
5	39	250
15	117	250

H. azteca requires a screen substrate in each cup

C. tentans requires a small amount of sand enough to cover the bottom of each cup

SRTCT0.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/07/00 09:53:25	22.73	284.0	0.13	8.12	7.91
1	01/07/00 09:53:48	22.41	287.0	0.14	8.22	7.88
2	01/07/00 09:54:08	22.23	288.0	0.14	8.28	7.88
3	01/07/00 09:54:28	23.15	285.0	0.13	8.06	7.85
4	01/07/00 09:54:32	22.41	292.0	0.14	8.26	7.82
5	01/07/00 09:54:47	22.35	301.0	0.14	8.27	7.74

#: SAT Test type: ACUTE CHRONIC OTHER

Date: 1/7/00

Species: *P. promelas* *C. dubia* *M. bahia* Other *C. tentans*

Day of Study: 0

ADDITIONAL RANGE: Check if OK

Temperature: 22 to 24

Salinity: — to —

Dissolved oxygen: > 4%

pH: 6.0 to 9.0

Meter Used:

Blue

Red

Time taken: Jan 07 10:27:23 2000

Page 1 of 1

SRTCT24.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/08/00 07:52:20	22.67	342.0	0.16	8.31	8.25
1	01/08/00 07:52:58	23.01	309.0	0.15	8.26	8.20
2	01/08/00 07:53:17	23.02	302.0	0.14	8.30	8.14
3	01/08/00 07:53:52	22.35	310.0	0.15	8.46	8.04
4	01/08/00 07:53:57	22.16	315.0	0.15	8.54	8.02
5	01/08/00 07:54:13	22.20	323.0	0.15	8.48	7.90

#: SRT Test type: ACUTE CHRONIC OTHER _____
 Species: *P. promelas* *C. dubia* *M. bahia* Other *C. tentans*

Date: 1/8/00

Day of Study: 24hr

ADDITIONAL RANGE: Check if OK
 Temperature: 22 to 24
 Salinity: _____ to _____
 Dissolved oxygen: > 40%
 pH: 6.0 to 9.0

Meter Used:
 Blue
 Red

ons taken at Jan 08 09:01:46 2000

SRTCT48.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/09/00 07:36:18	23.63	352.0	0.17	8.04	7.56
1	01/09/00 07:36:23	22.22	341.0	0.16	7.97	7.61
2	01/09/00 07:36:27	22.10	336.0	0.16	8.10	7.61
3	01/09/00 07:36:34	22.07	336.0	0.16	8.37	7.63
4	01/09/00 07:36:39	22.12	341.0	0.16	8.36	7.63
5	01/09/00 07:36:45	22.21	346.0	0.17	8.15	7.60

#: SRT Test type: ACUTE CHRONIC OTHER _____
 Species: *P. promelas* *C. dubia* *M. bahia* Other *C. tentans*

Date: 1/9/00
 Day of Study: YFLR

ADDITIONAL RANGE: Check if OK
 Temperature: 22 to 24
 Salinity: — to —
 Dissolved oxygen: >4.0%
 pH: 6.0 to 9.0

Meter Used:
 Blue
 Red

SRTCT72.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/10/00 10:22:55	22.53	379.0	0.18	7.90	7.08
1	01/10/00 10:23:13	22.18	365.0	0.17	7.98	7.19
2	01/10/00 10:23:17	22.11	364.0	0.17	7.99	7.18
3	01/10/00 10:23:22	22.03	368.0	0.18	8.02	7.20

#: SRT Test type: ACUTE CHRONIC OTHER _____

Date: 1/10/00

Species: *P. promelas* *C. dubia* *M. bahia* Other *C. tentans*

Day of Study: 72 hrs

ADDITIONAL RANGE: _____ Check if OK

Temperature: 22 to 27

Blue

Salinity: _____ to _____

Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

Time taken: Mon Jan 10 10:40:36 2000

Page 1 of 1

SRTCT96.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/11/00 12:39:13	22.48	408.0	0.20	8.32	8.41
1	01/11/00 12:39:22	22.42	391.0	0.19	7.66	8.20
2	01/11/00 12:39:27	22.42	390.0	0.19	8.02	8.19
3	01/11/00 12:39:32	22.33	394.0	0.19	7.97	8.15

Test #: SRT Test type: ACUTE CHRONIC OTHER

Date: 1/11/00

Species: *P. promelas* *C. dubia* *M. bahia* Other *C. tentans*

Day of Study: 96L

ADDITIONAL RANGE:

Temperature: 22 to 24 Check if OK

Salinity: to

Dissolved oxygen: >4.0%

pH: 6.0 to 9.0

Meter Used:

Blue

Red

Time taken: Jan 11 12:56:34 2000

AQUA SURVEY, INC.

CULTURE LAB DISTRIBUTION FORM

DATE: 1/7/00
TEST JOB#: SRT CLIENT: In house
TEST LOCATION: IN-LAB [] FIELD [
TEST SPECIES: C. tentans
TOTAL NUMBER ORGANISMS TRANSFERRED: 60+
AQUA SURVEY, INC. CULTURE LAB INVESTIGATORS: CD

A. ORGANISMS

1. ASI CULTURE/HOLDING UNIT: General culture
2. RECEIVING LOG #: N/A
3. CULTURE LOG #: 20-0010
4. AGE/SIZE INFORMATION: 3rd instar, HD 12/30/99

B. HOLDING [] CULTURE [] WATER PARAMETERS

1. TEMPERATURE: 23.5 °C
2. SALINITY: N/A
3. WATER SOURCE: 100% Recun w/ B₂ + SEL

C. TRANSFER CUSTODY & TRANSFER

1. LIVESTOCK RELINQUISHMENT DATE: 1/7/00
TIME: 1000 hrs
BY: CD
2. LIVESTOCK RECEIVING DATE: 1/7/00
TIME: 1000 hrs
BY: CD
3. CULTURE SUPERVISOR OR SENIOR TECH. INITIALS: CD

REMARKS: _____

BIOLOGICAL RAW DATA

H. azteca

James & Moore 10-012 H. azteca Survival
File: 012has Transform: ARC SINE(SQUARE ROOT(Y))

Shapiro - Wilk's test for normality

λ = 0.615

W = 0.937

Critical W (P = 0.05) (n = 24) = 0.916

Critical W (P = 0.01) (n = 24) = 0.884

Data PASS normality test at P=0.01 level. Continue analysis.

Dames & Moore 10-012 H. azteca Survival
File: 012has Transform: ARC SINE(SQUARE ROOT(Y))

Bartlett's test for homogeneity of variance

Calculated B1 statistic = 4.67

Table Chi-square value = 9.21 (alpha = 0.01, df = 2)

Table Chi-square value = 5.99 (alpha = 0.05, df = 2)

Data PASS B1 homogeneity test at 0.01 level. Continue analysis.

TITLE: Dames & Moore 10-012 H. azteca Survival

FILE: 012has

TRANSFORM: ARC SINE(SQUARE ROOT(Y))

NUMBER OF GROUPS: 3

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	Control	1	0.9000	1.2490
1	Control	2	1.0000	1.4120
1	Control	3	0.8000	1.1071
1	Control	4	0.9000	1.2490
1	Control	5	0.8000	1.1071
1	Control	6	1.0000	1.4120
1	Control	7	0.9000	1.2490
1	Control	8	1.0000	1.4120
2	PA-10	1	0.7000	0.9912
2	PA-10	2	0.9000	1.2490
2	PA-10	3	0.9000	1.2490
2	PA-10	4	0.7000	0.9912
2	PA-10	5	0.8000	1.1071
2	PA-10	6	0.7000	0.9912
2	PA-10	7	0.7000	0.9912
2	PA-10	8	0.8000	1.1071
3	PA-13	1	0.6000	0.8861
3	PA-13	2	0.7000	0.9912
3	PA-13	3	0.5000	0.7854
3	PA-13	4	0.8000	1.1071
3	PA-13	5	0.9000	1.2490
3	PA-13	6	0.6000	0.8861
3	PA-13	7	0.2000	0.4636
3	PA-13	8	0.8000	1.1071

Dames & Moore 10-012 H. azteca Survival
File: 012has Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	Control	8	1.107	1.412	1.275
2	PA-10	8	0.991	1.249	1.085
3	PA-13	8	0.464	1.249	0.934

Dames & Moore 10-012 H. azteca Survival
File: 012has Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	Control	0.016	0.128	0.045	10.04
2	PA-10	0.013	0.113	0.040	10.46
3	PA-13	0.059	0.242	0.086	25.91

James & Moore 10-012 H. azteca Survival
File: 012has Transform: ARC SINE(SQUARE ROOT(Y))

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	2	0.465	0.233	7.940
Within (Error)	21	0.615	0.029	
Total	23	1.080		

Critical F value = 3.47 (0.05,2,21)
Since $F > \text{Critical } F$ REJECT H_0 : All equal

James & Moore 10-012 H. azteca Survival
 File: 012has Transform: ARC SINE(SQUARE ROOT(Y))

DUNNETT'S TEST - TABLE 1 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	Control	1.275	0.913		
2	PA-10	1.085	0.775	2.221	*
3	PA-13	0.934	0.638	3.976	*

Dunnett table value = 2.03 (1 Tailed Value, P=0.05, df=20,2)

Dames & Moore 10-012 H. azteca Survival
 File: 012has Transform: ARC SINE(SQUARE ROOT(Y))

DUNNETT'S TEST - TABLE 2 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	Control	8			
2	PA-10	8	0.120	13.1	0.138
3	PA-13	8	0.120	13.1	0.275

TD 2/7/00

# ORGANISMS CHAMBER #	DAM 20-012 <i>A. arteca</i> lengths (mm)									
	1	2	3	4	5	6	7	8	9	10
1	3.0	2.6	2.4	2.1	2.6	2.5				
2	2.6	2.5	2.7	2.8	2.9	2.9	3.1	2.4	2.8	2.7
3	2.1	2.5	2.8	2.9	2.6	2.9	3.0	2.8	2.1	
4	3.5	3.0	3.0	3.3	2.9	2.8	2.8	3.1		
5	3.0	2.8	1.9	2.2	2.5	2.4	2.2	3.0		
6	2.6	2.5	2.9	2.9	2.8	2.5	2.8			
7	2.4	2.7	2.8	3.0	2.5	2.6	2.7	2.9	2.5	2.6
8	2.8	3.0	2.6	3.0	2.9	3.2	2.6			
9	2.5	3.0	3.2	3.2	2.7					
10	3.0	2.9	3.2	3.3	2.8	2.7	2.6	3.0		
11	2.1	2.4	2.8	2.7	2.7	2.7	2.4	2.6	2.3	
12	2.4	2.6	3.0	2.5	3.0	2.4				
13	2.9	3.0	2.8	2.5	3.1	2.8	2.9	2.7	2.6	
14	3.6	3.0	2.5	2.4	2.6	2.8	3.0			
15	3.0	3.0	2.9	3.4	2.9	3.0	2.6	2.4	3.1	
16	3.2	3.0	3.0	3.1	3.1	3.1	2.9	2.7		
17	2.8	2.8	2.3	2.2	2.9	3.0	2.9			
18	3.0	3.2	3.0	3.1	2.8	2.6	2.9	3.0	2.9	
19	3.7	2.8								
20	2.9	2.4	3.0	2.5	2.6	2.7	2.4	2.7		
21	3.0	3.0	2.7	2.6	2.3	2.8	3.0	2.8	2.1	

TD 2/7/00

#ORGANISMS CHAMBER #	DAM 20-012 H. arteca lengths (mm)									
	1	2	3	4	5	6	7	8	9	10
22	3.0	3.0	3.0	2.8	2.5	2.5	2.3	2.2		
23	3.2	3.5	3.5	3.7	3.5	3.3	3.2	3.3	3.1	3.3
24	3.5	3.5	3.4	3.1	3.6	3.2	3.2			

70 2/7/00

DAM 20-012 H. arteca pretest lengths (mm)

1	1.0
2	0.9
3	1.1
4	0.8
5	1.0
6	0.9
7	0.8
8	1.0
9	0.9
10	1.2
11	1.0
12	0.9
13	0.8
14	0.9
15	0.9
16	1.0
17	0.9
18	0.9
19	1.0
20	1.0
\bar{x}	0.95

20-012 Dames & Moore 28 day H. azteca solid phase

position	Sample	ASI No.	Code
18	Control	20006	0.1
23	Pond mud	*	0.2
4		*	0.3
15		*	0.4
10		*	0.5
7		*	0.6
13		*	0.7
2		*	0.8
6	PA-10	20007	1.1
11		*	1.2
3		*	1.3
14		*	1.4
16		*	1.5
17		*	1.6
24		*	1.7
5		*	1.8
1	PA-13	20008	2.1
8			2.2
9			2.3
20			2.4
21			2.5
12			2.6
19			2.7
22			2.8

Aqua Survey, Inc.
Solid Phase Readings

Client: DAM

Test Start Date: 1/7/00

Parameter: LIVE COUNTS

Job #: 20-012

Test End Date: 2/4/00

Organism: A. aztecus

Beaker	Initial Count	Final Count	Notes
1	10	6	
2	10	10	
3	10	9	
4	10	8	
5	10	8	
6	10	7	
7	10	10	
8	10	7	
9	10	5	
10	10	8	
11	10	9	
12	10	6	
13	10	9	
14	10	7	
15	10	9	
16	10	8	
17	10	7	
18	10	9	
19	10	2	
20	10	8	
21	10	9	
22	10	8	
23	10	10	
24	10	7	
25			
26			
27			
28			
Date	<u>1/7/00</u>	<u>2/4/00</u>	
Initials	<u>JD</u>	<u>JD</u>	

Aqua Survey, Inc.
Solid Phase Readings

Job # 20-012

Client Dames and Moore

Organism H. azteca

Parameter Observations and Live counts

N-nothing unusual S-swimming f-floating

Chamber	Initial Day 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	10/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
2	10/N														
3	10/N														
4	10/N														
5	10/N														
6	10/N														
7	10/N														
8	10/N														
9	10/N														
10	10/N														
11	10/N														
12	10/N														
13	10/N														
14	10/N														
15	10/N														
16	10/N														
17	10/N														
18	10/N														
19	10/N														
20	10/N														
21	10/N														
22	10/N														
23	10/N														
24	10/N	↓	✓	↓	✓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
25															
Int/Date	1/17/00	1/17/00	1/17/00	1/17/00	1/17/00	1/17/00	1/17/00	1/17/00	1/17/00	1/17/00	1/17/00	1/17/00	1/17/00	1/17/00	1/17/00

Aqua Survey, Inc.
Solid Phase Readings

Job # 98-411 20-012

Client Dames and Moore

Organism H. aztecus

Parameter Observations and Live counts

n-nothing unusual s-swimming f-floating

Chamber	15*	16*	17*	18*	19*	20*	21*	22*	23*	24*	25*	26*	27*	28*
1	S	S	S	S	S	S	S	S	S	S	S	S	S	S
2	S													
3	S													
4	S													
5	S													
6	S													
7	S													
8	S													
9	S													
10	S													
11	S													
12	S													
13	S													
14	S													
15	S													
16	S													
17	S													
18	S													
19	S													
20	S													
21	S													
22	S													
23	S													
24	S	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
25	S	↓												
Int/Date	1/22/00	1/23/00	1/24/00	1/25/00	1/26/00	1/27/00	1/28/00	1/29/00	1/30/00	1/31/00	2/1/00	2/2/00	2/3/00	2/4/00

* swimming at surface or sides B-12

012HA0.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/07/00 09:59:25	22.35	0.0	0.00	8.31	8.07
1	01/07/00 09:59:32	22.50	0.0	0.00	8.26	8.01
2	01/07/00 10:00:57	22.04	0.0	0.00	8.29	8.02
3	01/07/00 10:01:02	22.19	0.0	0.00	8.26	7.99
4	01/07/00 10:01:47	22.63	0.0	0.00	8.18	8.03
5	01/07/00 10:01:57	22.55	0.0	0.00	8.21	7.95
6	01/07/00 10:02:22	22.17	0.0	0.00	8.36	8.01
7	01/07/00 10:02:28	22.60	0.0	0.00	8.27	7.96
8	01/07/00 10:02:47	22.41	0.0	0.00	8.35	7.99
9	01/07/00 10:02:53	22.70	0.0	0.00	8.29	7.93
10	01/07/00 10:03:13	22.34	0.0	0.00	8.39	7.91
11	01/07/00 10:03:20	22.74	1.0	0.00	8.31	7.94
12	01/07/00 10:03:50	22.60	0.0	0.00	8.36	7.96
13	01/07/00 10:03:56	22.83	0.0	0.00	8.30	7.94
14	01/07/00 10:04:34	22.34	1.0	0.00	8.44	7.97
15	01/07/00 10:04:42	22.75	1.0	0.00	8.34	7.89
16	01/07/00 10:05:13	22.34	0.0	0.00	8.42	7.97

Act #: 012 Test type: ACUTE CHRONIC OTHER 28 day flow thru Date: 1/7/00

Species: *P. promelas* *C. dubia* *M. bahia* Other *A. azteca* Day of Study: 0

RATIONAL RANGE: Check if OK

Temperature: 22 to 24 Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

012HA0.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/07/00 10:05:20	22.81	2.0	0.00	8.31	7.95
18	01/07/00 10:09:10	22.91	0.0	0.00	7.45	7.97
19	01/07/00 10:09:16	22.91	0.0	0.00	7.31	7.91
20	01/07/00 10:09:33	22.13	0.0	0.00	7.73	7.98
21	01/07/00 10:09:39	22.29	0.0	0.00	7.91	7.96
22	01/07/00 10:09:59	22.21	0.0	0.00	8.17	7.97
23	01/07/00 10:10:05	22.60	0.0	0.00	8.10	7.94

Act #: 012 Test type: ACUTE CHRONIC OTHER 2 day flow thru Date: 1/7/00

Species: *P. promelas* *C. dubia* *M. bahia* Other fl. azteca Day of Study: 0

OPERATIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

ions taken Jan 07 10:26:58 2000 Page 2 of 2

012HA1.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/08/00 07:56:57	22.71	0.0	0.00	8.23	8.21
1	01/08/00 07:57:03	23.32	0.0	0.00	8.10	8.13
2	01/08/00 07:57:21	22.55	0.0	0.00	8.26	8.16
3	01/08/00 07:57:26	22.89	0.0	0.00	8.19	8.13
4	01/08/00 07:57:47	22.60	0.0	0.00	8.27	8.15
5	01/08/00 07:57:52	23.03	0.0	0.00	8.19	8.11
6	01/08/00 07:58:09	22.79	0.0	0.00	8.24	8.13
7	01/08/00 07:58:14	23.08	0.0	0.00	8.18	8.11
8	01/08/00 07:58:19	23.35	0.0	0.00	8.12	8.09
9	01/08/00 07:58:24	23.50	0.0	0.00	8.09	8.09
10	01/08/00 07:58:49	22.75	1.0	0.00	8.25	8.16
11	01/08/00 07:58:55	23.18	1.0	0.00	8.12	8.11
12	01/08/00 07:59:00	23.45	1.0	0.00	7.99	8.06
13	01/08/00 07:59:05	23.56	1.0	0.00	7.92	8.06
14	01/08/00 07:59:27	22.56	1.0	0.00	8.07	8.12
15	01/08/00 07:59:32	23.06	1.0	0.00	7.98	8.10
16	01/08/00 07:59:37	23.39	1.0	0.00	7.92	8.08

Project #: 012 Test type: ACUTE CHRONIC OTHER 78 day flow thru Date: 1/8/00

Species: *P. promelas* *C. dubia* *M. bahia* Other fl. azteca Day of Study: 1

OPERATIONAL RANGE: Check if OK

Temperature: 22 to 24

Salinity: — to —

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

Meter Used: Blue Red

Measurements taken at Jan 08 08:59:27 2000 Page 1 of 2

012HA1.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/08/00 07:59:42	23.55	1.0	0.00	7.89	8.09
18	01/08/00 08:00:06	22.35	1.0	0.00	8.23	8.18
19	01/08/00 08:00:11	22.89	1.0	0.00	8.12	8.13
20	01/08/00 08:00:15	23.23	1.0	0.00	8.06	8.10
21	01/08/00 08:00:20	23.39	1.0	0.00	8.02	8.07
22	01/08/00 08:00:37	22.62	1.0	0.00	8.20	8.16
23	01/08/00 08:00:41	22.88	1.0	0.00	8.15	8.13

Test #: 012 Test type: ACUTE CHRONIC OTHER 2d day flow thru Date: 1/8/00

Species: *P. promelas* *C. dubia* *M. bahia* Other fl. a r t e c u Day of Study: 1

OPERATIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

ions taken at Jan 08 08:59:27 2000 Page 2 of 2

012HA2.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/09/00 07:42:53	23.01	2.0	0.00	7.82	7.73
1	01/09/00 07:42:58	23.42	2.0	0.00	7.72	7.76
2	01/09/00 07:43:02	23.54	2.0	0.00	7.68	7.82
3	01/09/00 07:43:07	23.62	2.0	0.00	7.64	7.85
4	01/09/00 07:43:35	22.68	2.0	0.00	7.85	7.98
5	01/09/00 07:43:39	23.09	2.0	0.00	7.75	7.96
6	01/09/00 07:43:44	23.39	2.0	0.00	7.69	7.93
7	01/09/00 07:43:49	23.55	2.0	0.00	7.64	7.94
8	01/09/00 07:44:12	22.79	2.0	0.00	7.78	8.02
9	01/09/00 07:44:16	23.14	2.0	0.00	7.70	8.00
10	01/09/00 07:44:21	23.37	2.0	0.00	7.66	7.98
11	01/09/00 07:44:25	23.52	2.0	0.00	7.62	7.98
12	01/09/00 07:44:47	22.97	2.0	0.00	7.59	7.94
13	01/09/00 07:44:51	23.27	2.0	0.00	7.55	7.99
14	01/09/00 07:44:56	23.47	2.0	0.00	7.50	7.98
15	01/09/00 07:45:00	23.60	2.0	0.00	7.46	7.99
16	01/09/00 07:45:22	22.77	2.0	0.00	7.65	7.95

Act #: 012 Test type: ACUTE CHRONIC OTHER 28 day flow thru Date: 1/9/00

Species: *P. promelas* *C. dubia* *M. bahia* Other H. arteca Day of Study: 2

OPERATIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

012HA2.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/09/00 07:45:26	23.06	2.0	0.00	7.60	8.00
18	01/09/00 07:45:31	23.35	2.0	0.00	7.57	8.03
19	01/09/00 07:45:35	23.49	2.0	0.00	7.55	8.01
20	01/09/00 07:45:59	22.84	1.0	0.00	7.65	8.04
21	01/09/00 07:46:03	23.15	1.0	0.00	6.59	8.02
22	01/09/00 07:46:08	23.36	1.0	0.00	6.01	8.00
23	01/09/00 07:46:12	23.49	2.0	0.00	6.15	8.00

Act #: 012 Test type: ACUTE CHRONIC OTHER 78 day flow thru Date: 1/9/00

Species: *P. promelas* *C. dubia* *M. bahia* Other fl. arteca Day of Study: 2

OPERATIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

ions taken on Jan 09 08:35:33 2000 Page 2 of 2

012HA3.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/10/00 10:30:42	22.69	0.0	0.00	7.83	7.79
1	01/10/00 10:30:47	23.24	0.0	0.00	7.71	7.81
2	01/10/00 10:31:01	22.81	0.0	0.00	7.79	7.90
3	01/10/00 10:31:06	22.98	0.0	0.00	7.77	7.87
4	01/10/00 10:31:25	22.77	0.0	0.00	7.84	7.99
5	01/10/00 10:31:29	23.08	0.0	0.00	7.78	7.96
6	01/10/00 10:31:34	23.39	0.0	0.00	7.72	7.94
7	01/10/00 10:31:38	23.57	0.0	0.00	7.68	7.95
8	01/10/00 10:31:58	22.49	1.0	0.00	7.91	8.03
9	01/10/00 10:32:03	22.86	1.0	0.00	7.83	8.00
10	01/10/00 10:32:08	23.25	1.0	0.00	7.75	8.00
11	01/10/00 10:32:13	23.46	1.0	0.00	7.70	8.00
12	01/10/00 10:32:32	22.80	1.0	0.00	7.78	8.01
13	01/10/00 10:32:37	23.10	1.0	0.00	7.71	8.00
14	01/10/00 10:32:41	23.43	1.0	0.00	7.64	8.00
15	01/10/00 10:32:52	23.78	1.0	0.00	7.49	8.05
16	01/10/00 10:33:11	22.71	1.0	0.00	7.70	8.06

Test #: 012 Test type: ACUTE CHRONIC OTHER 28 day flow thru Date: 1/10/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other *H. artemia* Day of Study: 3
 OPERATIONAL RANGE: Check if OK Meter Used:
 Temperature: 22 to 24 Blue
 Salinity: — to — Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0
 Measurements taken on Jan 10 10:40:05 2000 Page 1 of 2

012HA3.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/10/00 10:33:17	23.08	1.0	0.00	7.65	8.07
18	01/10/00 10:33:21	23.39	1.0	0.00	7.60	8.04
19	01/10/00 10:33:26	23.57	1.0	0.00	7.57	8.04
20	01/10/00 10:33:47	22.62	1.0	0.00	7.82	8.06
21	01/10/00 10:33:51	22.89	1.0	0.00	7.77	8.04
22	01/10/00 10:33:56	23.22	1.0	0.00	7.72	8.06
23	01/10/00 10:34:01	23.44	1.0	0.00	7.67	8.04

Test #: 012 Test type: ACUTE CHRONIC OTHER 28 day flow thru Date: 1/10/00

Species: *P. promelas* *C. dubia* *M. bahia* Other _____ Day of Study: 3

ADDITIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

ions taken Jan 10 10:40:05 2000 Page 2 of 2

012HA4.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/11/00 12:45:40	22.46	1.0	0.00	8.05	7.92
1	01/11/00 12:45:45	23.14	1.0	0.00	7.89	7.90
2	01/11/00 12:45:49	23.38	1.0	0.00	7.82	7.91
3	01/11/00 12:45:54	23.58	1.0	0.00	7.77	7.93
4	01/11/00 12:46:16	22.58	1.0	0.00	7.96	8.06
5	01/11/00 12:46:21	23.07	1.0	0.00	7.85	8.04
6	01/11/00 12:46:27	23.44	1.0	0.00	7.77	8.02
7	01/11/00 12:46:32	23.62	1.0	0.00	7.72	8.04
8	01/11/00 12:46:57	22.69	1.0	0.00	7.91	8.10
9	01/11/00 12:47:02	23.23	1.0	0.00	7.79	8.06
10	01/11/00 12:47:07	23.52	1.0	0.00	7.73	8.05
11	01/11/00 12:47:11	23.65	1.0	0.00	7.70	8.06
12	01/11/00 12:47:34	22.64	1.0	0.00	7.66	8.09
13	01/11/00 12:47:38	23.09	1.0	0.00	7.60	8.07
14	01/11/00 12:47:42	23.42	1.0	0.00	7.55	8.06
15	01/11/00 12:47:48	23.68	1.0	0.00	7.50	8.10
16	01/11/00 12:48:09	22.64	1.0	0.00	7.77	8.12

Act #: 012 Test type: ACUTE CHRONIC OTHER 28 day flourish Date: 1/11/00

Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 4

OPTIONAL RANGE:

Temperature: 22 to 27 Check if OK
 Salinity: to
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Meter Used:

Blue
 Red

ions taken on Jan 11 12:56:16 2000

012HA4.DAT

	Date Time	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/11/00 12:48:14	23.05	1.0	0.00	7.69	8.10
18	01/11/00 12:48:18	23.39	1.0	0.00	7.63	8.08
19	01/11/00 12:48:23	23.58	1.0	0.00	7.59	8.08
20	01/11/00 12:48:43	22.31	1.0	0.00	7.89	8.10
21	01/11/00 12:48:48	22.67	1.0	0.00	7.82	8.08
22	01/11/00 12:48:52	23.09	1.0	0.00	7.73	8.04
23	01/11/00 12:48:57	23.38	1.0	0.00	7.67	8.06

Test #: 012 Test type: ACUTE CHRONIC OTHER 2 day flow thru Date: 1/11/00

Species: *P. promelas* *C. dubia* *M. bahia* Other *H. arteca* Day of Study: 4

ADDITIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

012HA5.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/12/00 15:26:31	22.10	0.0	0.00	8.36	7.77
1	01/12/00 15:26:36	22.48	0.0	0.00	8.20	7.75
2	01/12/00 15:26:41	22.72	0.0	0.00	8.13	7.78
3	01/12/00 15:26:46	22.95	0.0	0.00	8.06	7.81
4	01/12/00 15:27:17	22.16	0.0	0.00	8.25	7.99
5	01/12/00 15:27:22	22.51	0.0	0.00	8.17	8.00
6	01/12/00 15:27:26	22.77	0.0	0.00	8.11	8.00
7	01/12/00 15:27:31	22.99	0.0	0.00	8.06	8.03
8	01/12/00 15:27:57	22.15	0.0	0.00	8.26	8.08
9	01/12/00 15:28:01	22.62	0.0	0.00	8.16	8.04
10	01/12/00 15:28:06	22.96	0.0	0.00	8.08	8.05
11	01/12/00 15:28:11	23.14	0.0	0.00	8.04	8.11
12	01/12/00 15:28:45	22.07	0.0	0.00	8.38	8.05
13	01/12/00 15:28:49	22.63	0.0	0.00	8.23	8.03
14	01/12/00 15:28:54	23.00	0.0	0.00	8.12	8.01
15	01/12/00 15:28:59	23.22	0.0	0.00	8.05	8.02
16	01/12/00 15:29:34	22.18	0.0	0.00	8.30	8.11

Project #: 012 Test type: ACUTE CHRONIC OTHER Zfday 1/12/00 Date: 1/12/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other *H. azteca* Day of Study: 5

OPERATIONAL RANGE: Check if OK Meter Used:
 Temperature: 22 to 24 Blue
 Salinity: to Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: TD
 Wed Jan 12 15:37:31 2000 Page 1 of 2

012HA5.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/12/00 15:29:39	22.72	0.0	0.00	8.17	8.11
18	01/12/00 15:29:45	23.04	0.0	0.00	8.11	8.11
19	01/12/00 15:29:50	23.05	0.0	0.00	8.10	8.10
20	01/12/00 15:30:16	22.08	0.0	0.00	8.30	8.11
21	01/12/00 15:30:21	22.50	0.0	0.00	8.20	8.10
22	01/12/00 15:30:27	22.92	0.0	0.00	8.10	8.09
23	01/12/00 15:30:32	23.12	0.0	0.00	8.05	8.10

Project #: 012 Test type: ACUTE CHRONIC OTHER 2d day flow thru Date: 1/12/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 5

OPERATIONAL RANGE: Check if OK Meter Used:
 Temperature: 22 to 24 Blue
 Salinity: — to — Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: TD
 Wed Jan 12 15:37:31 2000 Page 2 of 2

012HA6.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/13/00 09:11:54	23.15	0.0	0.00	7.44	7.94
1	01/13/00 09:13:23	23.51	0.0	0.00	7.45	8.11
2	01/13/00 09:15:32	23.51	0.0	0.00	7.62	8.19
3	01/13/00 09:17:06	23.56	0.0	0.00	7.55	8.24
4	01/13/00 09:18:47	23.45	0.0	0.00	7.47	8.26
5	01/13/00 09:19:21	23.66	0.0	0.00	7.38	8.22
6	01/13/00 09:20:20	23.54	1.0	0.00	7.51	8.25
7	01/13/00 09:20:52	23.55	1.0	0.00	7.52	8.26
8	01/13/00 09:21:59	23.43	1.0	0.00	7.59	8.24
9	01/13/00 09:22:28	23.51	0.0	0.00	7.54	8.26
10	01/13/00 09:23:28	23.45	0.0	0.00	7.53	8.20
11	01/13/00 09:27:21	23.35	0.0	0.00	6.75	7.81
12	01/13/00 09:29:01	23.31	0.0	0.00	7.68	8.00
13	01/13/00 09:29:41	23.45	0.0	0.00	7.56	8.02
14	01/13/00 09:30:41	23.42	0.0	0.00	7.61	8.12
15	01/13/00 09:31:39	23.43	0.0	0.00	7.59	8.09
16	01/13/00 09:32:35	23.34	1.0	0.00	7.58	8.14

Project #: 012 Test type: ACUTE CHRONIC OTHER 28 day flow thru Date: 1/13/00

Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 6

OPERATIONAL RANGE: Check if OK

Temperature: <u>22</u> to <u>24</u>	<input checked="" type="checkbox"/>	Meter Used:	Blue <input checked="" type="checkbox"/>
Salinity: <u>—</u> to <u>—</u>	<input checked="" type="checkbox"/>		Red <input type="checkbox"/>
Dissolved oxygen: <u>> 4.0</u>	<input checked="" type="checkbox"/>		
pH: <u>6.0 to 9.0</u>	<input checked="" type="checkbox"/>		

Actions taken: _____

See deviation summary sheet Initials: KW
 Thu Jan 13 10:00:08 2000 Page 1 of 2

012HA6.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/13/00 09:33:07	23.50	0.0	0.00	7.54	8.20
18	01/13/00 09:34:03	23.40	1.0	0.00	7.49	8.17
19	01/13/00 09:34:32	23.43	0.0	0.00	7.37	8.14
20	01/13/00 09:35:43	23.22	0.0	0.00	7.44	8.08
21	01/13/00 09:36:33	23.34	0.0	0.00	7.44	8.13
22	01/13/00 09:37:29	23.33	0.0	0.00	7.52	8.17
23	01/13/00 09:37:56	23.42	0.0	0.00	7.47	8.18

Project #: 012 Test type: ACUTE CHRONIC OTHER 28 day flow thru Date: 1/13/00

Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 6

OPERATIONAL RANGE:

Temperature: <u>22</u> to <u>24</u>	Check if OK	Meter Used:
Salinity: <u> </u> to <u> </u>	<input checked="" type="checkbox"/>	Blue <input checked="" type="checkbox"/>
Dissolved oxygen: <u>> 4.0</u>	<input checked="" type="checkbox"/>	Red <input type="checkbox"/>
pH: <u>6.0 to 9.0</u>	<input checked="" type="checkbox"/>	

Actions taken: _____

See deviation summary sheet

Initials: KW

Thu Jan 13 10:00:08 2000

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012HA7.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/14/00 14:30:44	22.05	0.0	0.00	8.17	7.87
1	01/14/00 14:30:49	22.23	0.0	0.00	8.10	7.91
2	01/14/00 14:30:54	22.46	0.0	0.00	8.04	7.89
3	01/14/00 14:30:59	22.78	0.0	0.00	7.96	7.90
4	01/14/00 14:31:35	22.11	0.0	0.00	8.18	8.07
5	01/14/00 14:31:40	22.36	0.0	0.00	8.12	8.07
6	01/14/00 14:31:45	22.65	0.0	0.00	8.05	8.07
7	01/14/00 14:31:50	22.89	0.0	0.00	7.99	8.08
8	01/14/00 14:32:27	22.53	0.0	0.00	8.11	8.12
9	01/14/00 14:32:33	22.94	0.0	0.00	8.02	8.10
10	01/14/00 14:32:38	23.11	0.0	0.00	7.98	8.08
11	01/14/00 14:32:43	23.21	0.0	0.00	7.95	8.11
12	01/14/00 14:33:14	22.55	0.0	0.00	8.13	8.13
13	01/14/00 14:33:21	22.81	0.0	0.00	8.07	8.08
14	01/14/00 14:33:26	23.02	0.0	0.00	8.03	8.14
15	01/14/00 14:33:31	23.12	0.0	0.00	8.01	8.11
16	01/14/00 14:34:05	22.26	0.0	0.00	8.17	8.15

Project #: 012 Test type: ACUTE CHRONIC OTHER Wiley Hawthorn Date: 1/14/00

Species: *P. promelas* *C. dubia* *M. bahia* Other Harzeca Day of Study: 7

OPERATIONAL RANGE:

Temperature: <u>22</u> to <u>24</u>	Check if OK	Meter Used:
Salinity: <u> </u> to <u> </u>	<input checked="" type="checkbox"/>	Blue <input type="checkbox"/>
Dissolved oxygen: <u>> 4.0</u>	<input checked="" type="checkbox"/>	Red <input checked="" type="checkbox"/>
pH: <u>6.0 to 9.0</u>	<input checked="" type="checkbox"/>	

Actions taken: _____

See deviation summary sheet
 Fri Jan 14 14:39:22 2000

Initials: TD
 Page 1 of 2

012HA7.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/14/00 14:34:09	22.71	0.0	0.00	8.07	8.11
18	01/14/00 14:34:15	23.01	0.0	0.00	8.00	8.09
19	01/14/00 14:34:19	23.16	0.0	0.00	7.97	8.09
20	01/14/00 14:35:02	22.33	0.0	0.00	8.14	8.11
21	01/14/00 14:35:07	22.44	0.0	0.00	8.10	8.07
22	01/14/00 14:35:12	22.64	0.0	0.00	8.04	8.04
23	01/14/00 14:35:17	22.88	0.0	0.00	7.97	8.02

Project #: 012 Test type: ACUTE CHRONIC OTHER 7 day Hawthorn Date: 1/14/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other *A. artemia* Day of Study: 7

OPERATIONAL RANGE:

Temperature: 22 to 24 Check if OK
 Salinity: — to —
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Meter Used:
 Blue
 Red

Actions taken: _____

See deviation summary sheet
 Fri Jan 14 14:39:23 2000

Initials: TD
 Page 2 of 2

012HA8.DAT

	Date/Time	Temp	DO Conc	pH
	M/D/Y	C	mg/L	
0	01/15/00 17:08:56	23.12	7.92	8.21
1	01/15/00 17:09:18	23.48	7.76	8.19
2	01/15/00 17:09:32	23.58	7.71	8.19
3	01/15/00 17:09:51	23.69	7.67	8.18
4	01/15/00 17:10:10	23.47	7.70	8.16
5	01/15/00 17:10:16	23.48	7.68	8.13
6	01/15/00 17:10:25	23.46	7.67	8.12
7	01/15/00 17:10:35	23.49	7.65	8.14
8	01/15/00 17:10:43	23.54	7.63	8.14
9	01/15/00 17:10:55	23.60	7.62	8.16
10	01/15/00 17:11:06	23.59	7.62	8.17
11	01/15/00 17:11:17	23.47	7.66	8.14
12	01/15/00 17:11:29	23.41	7.67	8.11
13	01/15/00 17:11:37	23.60	7.62	8.11
14	01/15/00 17:11:47	23.65	7.59	8.13
15	01/15/00 17:11:56	23.67	7.59	8.12
16	01/15/00 17:12:05	23.67	7.54	8.09

Project #: 20-012 Test type: ACUTE CHRONIC OTHER 28 day Flow Date: 1/15/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: A

OPERATIONAL RANGE: Check if OK Meter Used:
 Temperature: 22 to 24 Blue
 Salinity: - to - Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

012HA8.DAT

	DateTime	Temp	DO Conc	pH
	M/D/Y	C	mg/L	
17	01/15/00 17:12:12	23.69	7.50	8.10
18	01/15/00 17:12:23	23.63	7.49	8.10
19	01/15/00 17:12:29	23.61	7.49	8.07
20	01/15/00 17:12:40	23.50	7.51	8.07
21	01/15/00 17:12:49	23.52	7.50	8.07
22	01/15/00 17:12:57	23.51	7.51	8.07
23	01/15/00 17:13:02	23.49	7.52	8.06

Project #: 20-01a Test type: ACUTE CHRONIC OTHER 28 day Flow Date: 1/15/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 8

OPERATIONAL RANGE:

Temperature: <u>22</u> to <u>24</u>	Check if OK	Meter Used:
Salinity: <u>-</u> to <u>-</u>	<input checked="" type="checkbox"/>	Blue <input type="checkbox"/>
Dissolved oxygen: > 4.0	<input type="checkbox"/>	Red <input checked="" type="checkbox"/>
pH: 6.0 to 9.0	<input checked="" type="checkbox"/>	

Actions taken: _____

See deviation summary sheet
 Mon Jan 17 08:21:41 2000

Initials: ij
 Page 2 of 2

012HA9.DAT

	DateTime	Temp	DO Conc	pH
	M/D/Y	C	mg/L	
0	01/16/00 16:25:03	23.31	7.84	8.21
1	01/16/00 16:25:27	23.61	7.66	8.22
2	01/16/00 16:25:45	23.67	7.63	8.24
3	01/16/00 16:25:54	23.65	7.64	8.23
4	01/16/00 16:26:12	23.60	7.63	8.22
5	01/16/00 16:26:19	23.57	7.63	8.19
6	01/16/00 16:26:31	23.59	7.59	8.17
7	01/16/00 16:26:42	23.64	7.57	8.18
8	01/16/00 16:26:55	23.67	7.55	8.18
9	01/16/00 16:27:05	23.65	7.55	8.19
10	01/16/00 16:27:16	23.65	7.56	8.21
11	01/16/00 16:27:29	23.66	7.57	8.18
12	01/16/00 16:27:44	23.71	7.53	8.16
13	01/16/00 16:27:56	23.65	7.54	8.18
14	01/16/00 16:28:09	23.67	7.54	8.18
15	01/16/00 16:28:16	23.67	7.55	8.19
16	01/16/00 16:28:36	23.69	7.57	8.20

Project #: 20-012 Test type: ACUTE CHRONIC OTHER 30 day Flow Date: 1/16/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. ortega Day of Study: 9

OPERATIONAL RANGE: Check if OK Meter Used:
 Temperature: 22 to 24 Blue
 Salinity: _____ to _____ Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

012HA9.DAT

	Date/Time	Temp	DO Conc	pH
	M/D/Y	C	mg/L	
17	01/16/00 16:28:46	23.69	7.57	8.21
18	01/16/00 16:29:05	23.66	7.58	8.19
19	01/16/00 16:29:18	23.58	7.57	8.16
20	01/16/00 16:29:32	23.55	7.52	8.14
21	01/16/00 16:29:39	23.58	7.51	8.14
22	01/16/00 16:29:51	23.42	7.56	8.16
23	01/16/00 16:30:01	23.45	7.56	8.17

Project #: 01-112 Test type: ACUTE CHRONIC OTHER _____

Date: 1/16/00

Species: *P. promelas* *C. dubia* *M. bahia* Other Hazkca

Day of Study: 9

OPERATIONAL RANGE:

Temperature: 22 to 24 Check if OK
 Salinity: - to -
 Dissolved oxygen: > 40 %
 pH: 6.0 to 9.0

Meter Used:

Blue
 Red

Actions taken: _____

See deviation summary sheet

Initials: af

Mon Jan 17 08:22:04 2000

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012HA10.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/17/00 14:36:30	23.08	0.0	0.00	7.75	8.07
1	01/17/00 14:37:03	23.28	0.0	0.00	7.65	8.17
2	01/17/00 14:37:36	23.37	0.0	0.00	7.67	8.24
3	01/17/00 14:38:02	23.35	1.0	0.00	7.71	8.25
4	01/17/00 14:39:29	23.23	1.0	0.00	7.63	8.19
5	01/17/00 14:39:53	23.24	1.0	0.00	7.59	8.17
6	01/17/00 14:40:28	23.32	1.0	0.00	7.54	8.18
7	01/17/00 14:40:58	23.36	1.0	0.00	7.51	8.19
8	01/17/00 14:41:24	23.39	1.0	0.00	7.49	8.20
9	01/17/00 14:41:40	23.39	1.0	0.00	7.50	8.22
10	01/17/00 14:42:02	23.28	1.0	0.00	7.43	8.23
11	01/17/00 14:42:23	23.32	1.0	0.00	7.32	8.19
12	01/17/00 14:42:37	23.37	1.0	0.00	7.29	8.17
13	01/17/00 14:43:15	23.31	1.0	0.00	7.43	8.19
14	01/17/00 14:43:49	23.37	1.0	0.00	7.52	8.22
15	01/17/00 14:44:03	23.34	1.0	0.00	7.53	8.22
16	01/17/00 14:44:59	23.30	1.0	0.00	7.46	8.21

Project #: 28-012 Test type: ACUTE CHRONIC OTHER 28 day Flow Date: 1/17/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 10

OPERATIONAL RANGE: Check if OK Meter Used:
 Temperature: 22 to 24 Blue
 Salinity: - to - Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: af
 Mon Jan 17 16:00:03 2000 Page 1 of 2

012HA10.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/17/00 14:45:17	23.38	1.0	0.00	7.50	8.21
18	01/17/00 14:45:34	23.31	1.0	0.00	6.95	8.20
19	01/17/00 14:46:29	23.27	1.0	0.00	7.04	8.09
20	01/17/00 14:47:11	23.24	1.0	0.00	7.20	8.10
21	01/17/00 14:47:42	23.22	1.0	0.00	7.33	8.15
22	01/17/00 14:48:24	23.30	1.0	0.00	7.40	8.17
23	01/17/00 14:48:44	23.25	1.0	0.00	7.40	8.16

Project #: 26-012 Test type: ACUTE CHRONIC OTHER _____

Date: 1/17/00

Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca

Day of Study: 18

OPERATIONAL RANGE:

Check if OK

Meter Used:

Temperature: 22 to 24

Salinity: — to —

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

Blue
Red

Actions taken: _____

See deviation summary sheet

Initials: mf

Mon Jan 17 16:00:04 2000

012HA11.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/18/00 09:04:44	22.09	0.0	0.00	8.01	7.32
1	01/18/00 09:04:50	22.37	0.0	0.00	7.91	7.38
2	01/18/00 09:04:54	22.42	0.0	0.00	7.89	7.42
3	01/18/00 09:05:00	22.52	0.0	0.00	7.86	7.46
4	01/18/00 09:05:36	22.08	0.0	0.00	8.00	7.70
5	01/18/00 09:05:41	22.36	0.0	0.00	7.94	7.71
6	01/18/00 09:05:47	22.49	0.0	0.00	7.91	7.72
7	01/18/00 09:05:52	22.53	0.0	0.00	7.89	7.74
8	01/18/00 09:06:33	22.11	0.0	0.00	8.04	7.86
9	01/18/00 09:06:38	22.30	0.0	0.00	8.00	7.87
10	01/18/00 09:06:42	22.46	0.0	0.00	7.96	7.88
11	01/18/00 09:06:48	22.53	0.0	0.00	7.95	7.89
12	01/18/00 09:07:25	22.14	0.0	0.00	8.06	7.93
13	01/18/00 09:07:30	22.53	0.0	0.00	7.97	7.94
14	01/18/00 09:07:35	22.68	0.0	0.00	7.93	7.95
15	01/18/00 09:07:41	22.76	0.0	0.00	7.91	7.96
16	01/18/00 09:08:20	22.20	0.0	0.00	8.08	7.99

Project #: 012 Test type: ACUTE CHRONIC OTHER 28 Day Flow thru Date: 1/18/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other A. artemia Day of Study: 11

OPERATIONAL RANGE:

Temperature: <u>22</u> to <u>24</u>	Check if OK <input checked="" type="checkbox"/>	Meter Used: Blue <input checked="" type="checkbox"/>
Salinity: <u>—</u> to <u>—</u>	<input checked="" type="checkbox"/>	Red <input type="checkbox"/>
Dissolved oxygen: <u>> 4.0</u>	<input checked="" type="checkbox"/>	
pH: <u>6.0 to 9.0</u>	<input checked="" type="checkbox"/>	

Actions taken: _____

See deviation summary sheet

Initials: TD

Tue Jan 18 09:13:14 2000

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012HA11.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/18/00 09:08:24	22.41	0.0	0.00	8.03	8.00
18	01/18/00 09:08:29	22.59	0.0	0.00	7.99	8.01
19	01/18/00 09:08:33	22.66	0.0	0.00	7.98	8.01
20	01/18/00 09:09:12	22.07	0.0	0.00	8.10	8.03
21	01/18/00 09:09:17	22.26	0.0	0.00	8.04	8.03
22	01/18/00 09:09:21	22.42	0.0	0.00	7.99	8.03
23	01/18/00 09:09:26	22.58	0.0	0.00	7.94	8.04

Project #: 312 Test type: ACUTE CHRONIC OTHER 28 day flow thru Date: 1/18/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other *A. azteca* Day of Study: 11

OPERATIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet

Initials: TD

Tue Jan 18 09:13:14 2000

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012HA12.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/19/00 09:54:53	22.81	0.0	0.00	7.41	8.00
1	01/19/00 09:55:32	23.08	0.0	0.00	7.36	8.07
2	01/19/00 09:56:01	23.02	0.0	0.00	7.43	8.11
3	01/19/00 09:56:23	23.02	0.0	0.00	7.46	8.12
4	01/19/00 09:57:33	22.95	1.0	0.00	7.28	8.07
5	01/19/00 09:58:02	22.96	1.0	0.00	7.24	8.05
6	01/19/00 09:58:35	23.01	1.0	0.00	7.07	8.09
7	01/19/00 09:59:03	23.03	0.0	0.00	7.08	8.12
8	01/19/00 09:59:34	23.02	0.0	0.00	7.18	8.13
9	01/19/00 10:00:04	23.08	0.0	0.00	7.23	8.16
10	01/19/00 10:00:36	22.97	0.0	0.00	7.30	8.14
11	01/19/00 10:01:19	23.01	0.0	0.00	7.27	8.06
12	01/19/00 10:01:53	23.07	0.0	0.00	7.22	8.11
13	01/19/00 10:02:19	22.95	0.0	0.00	7.29	8.12
14	01/19/00 10:02:53	22.98	0.0	0.00	7.34	8.14
15	01/19/00 10:03:37	22.96	0.0	0.00	7.38	8.13
16	01/19/00 10:04:21	22.98	0.0	0.00	7.38	8.14

Project #: 012 Test type: ACUTE CHRONIC OTHER 28day Flow Date: 1/19/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 12

OPERATIONAL RANGE: Check if OK
 Temperature: 22 to 24 Meter Used: Blue
 Salinity: — to — Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: KW
 Wed Jan 19 10:37:05 2000 Page 1 of 2

012HA12.DAT

	Date/Time	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/19/00 10:04:48	23.10	0.0	0.00	7.35	8.15
18	01/19/00 10:05:25	22.92	0.0	0.00	7.28	8.13
19	01/19/00 10:05:59	22.91	0.0	0.00	7.09	8.09
20	01/19/00 10:06:26	22.91	0.0	0.00	7.06	8.07
21	01/19/00 10:06:52	22.94	0.0	0.00	7.10	8.09
22	01/19/00 10:07:24	22.98	0.0	0.00	7.18	8.11
23	01/19/00 10:07:54	22.94	0.0	0.00	7.16	8.12

Project #: 20-012 Test type: ACUTE CHRONIC OTHER 28 day flow Date: 1/19/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 12

OPERATIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue
 Salinity: — to — Red
 Dissolved oxygen: > 40
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet
 Wed Jan 19 10:37:05 2000

Initials: KW
 Page 2 of 2

012HA13.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/20/00 10:58:33	22.44	0.0	0.00	7.44	8.14
1	01/20/00 10:59:09	22.91	0.0	0.00	7.29	8.22
2	01/20/00 10:59:35	22.99	0.0	0.00	7.28	8.26
3	01/20/00 11:00:01	23.04	0.0	0.00	7.29	8.27
4	01/20/00 11:00:51	22.98	0.0	0.00	7.06	8.21
5	01/20/00 11:01:21	23.00	1.0	0.00	7.06	8.17
6	01/20/00 11:01:46	23.03	1.0	0.00	7.07	8.19
7	01/20/00 11:02:13	23.07	1.0	0.00	7.11	8.23
8	01/20/00 11:02:39	23.07	1.0	0.00	7.14	8.24
9	01/20/00 11:03:01	23.04	1.0	0.00	7.14	8.25
10	01/20/00 11:03:18	22.97	1.0	0.00	7.15	8.26
11	01/20/00 11:03:41	22.97	1.0	0.00	7.10	8.21
12	01/20/00 11:04:09	23.00	1.0	0.00	7.07	8.22
13	01/20/00 11:04:40	22.93	0.0	0.00	7.13	8.21
14	01/20/00 11:05:09	22.97	1.0	0.00	7.17	8.21
15	01/20/00 11:05:44	22.98	1.0	0.00	7.18	8.17
16	01/20/00 11:06:15	22.91	0.0	0.00	7.19	8.17

Project #: 20-012 Test type: ACUTE CHRONIC OTHER 23 day flow Date: 1/20/00

Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 13

OPERATIONAL RANGE:

Temperature: <u>22</u> to <u>24</u>	Check if OK <input checked="" type="checkbox"/>	Meter Used:
Salinity: <u>—</u> to <u>—</u>	<input checked="" type="checkbox"/>	Blue <input type="checkbox"/>
Dissolved oxygen: <u>> 4.0</u>	<input checked="" type="checkbox"/>	Red <input checked="" type="checkbox"/>
pH: <u>6.0 to 9.0</u>	<input checked="" type="checkbox"/>	

Actions taken: _____

See deviation summary sheet

Initials: KW

Thu Jan 20 11:32:56 2000

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012HA13.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/20/00 11:06:38	22.96	1.0	0.00	7.19	8.20
18	01/20/00 11:07:01	22.81	0.0	0.00	7.16	8.21
19	01/20/00 11:07:18	22.79	0.0	0.00	7.05	8.18
20	01/20/00 11:07:40	22.77	0.0	0.00	6.96	8.14
21	01/20/00 11:08:16	22.84	0.0	0.00	7.04	8.22
22	01/20/00 11:08:41	22.84	0.0	0.00	7.14	8.23
23	01/20/00 11:09:05	22.84	0.0	0.00	7.14	8.20

Project #: 20-012 Test type: ACUTE CHRONIC OTHER 28 day flow Date: 1/20/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 13

OPERATIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue
 Salinity: — to — Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: KW
 Thu Jan 20 11:32:56 2000 Page 2 of 2

012HA14.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/21/00 14:01:49	22.01	1.0	0.00	7.73	6.93
1	01/21/00 14:02:03	22.39	1.0	0.00	7.29	7.26
2	01/21/00 14:02:12	22.47	1.0	0.00	6.67	7.36
3	01/21/00 14:02:20	22.54	1.0	0.00	6.26	7.44
4	01/21/00 14:02:29	22.57	1.0	0.00	6.18	7.54
5	01/21/00 14:02:39	22.54	1.0	0.00	5.77	7.58
6	01/21/00 14:02:47	22.51	1.0	0.00	5.22	7.62
7	01/21/00 14:02:55	22.56	1.0	0.00	5.26	7.73
8	01/21/00 14:03:07	22.60	1.0	0.00	4.81	7.84
9	01/21/00 14:03:22	22.61	1.0	0.00	4.15	7.88
10	01/21/00 14:03:31	22.28	1.0	0.00	4.69	7.85
11	01/21/00 14:03:40	22.44	1.0	0.00	4.28	7.89
12	01/21/00 14:04:27	22.57	1.0	0.00	6.51	8.07
13	01/21/00 14:04:35	22.56	1.0	0.00	6.44	8.07
14	01/21/00 14:04:45	22.62	1.0	0.00	4.67	8.02
15	01/21/00 14:04:58	22.63	2.0	0.00	4.50	8.02
16	01/21/00 14:05:06	22.60	1.0	0.00	4.45	7.96

Project #: 012 Test type: ACUTE CHRONIC OTHER 28 day bioassay Date: 1/21/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other Marstecca Day of Study: 141

OPERATIONAL RANGE: Check if OK

Temperature: 22 to 24 Blue

Salinity: - to - Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

Actions taken: _____

012HA14.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/21/00 14:05:17	22.61	1.0	0.00	4.37	8.02
18	01/21/00 14:05:25	22.54	1.0	0.00	4.68	8.06
19	01/21/00 14:05:33	22.48	1.0	0.00	4.30	8.07
20	01/21/00 14:06:01	22.46	1.0	0.00	5.41	8.03
21	01/21/00 14:06:10	22.46	1.0	0.00	5.47	8.02
22	01/21/00 14:06:17	22.49	1.0	0.00	5.46	8.10
23	01/21/00 14:06:26	22.51	1.0	0.00	6.09	8.10

Project #: 012 Test type: ACUTE CHRONIC OTHER Bday flow thru Date: 1/21/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other A. arteca Day of Study: 14

OPERATIONAL RANGE:

Temperature: 22 to 24 Check if OK
 Salinity: - to -
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Meter Used:
 Blue
 Red

Actions taken: _____

See deviation summary sheet
 Fri Jan 21 14:10:03 2000

Initials: TS
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012HA15.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/22/00 13:02:32	22.33	3.0	0.00	7.45	8.36
1	01/22/00 13:02:40	22.79	2.0	0.00	5.95	8.36
2	01/22/00 13:02:48	22.89	3.0	0.00	6.20	8.35
3	01/22/00 13:02:58	22.92	3.0	0.00	6.09	8.34
4	01/22/00 13:03:06	22.86	2.0	0.00	5.72	8.30
5	01/22/00 13:03:13	22.87	2.0	0.00	6.02	8.26
6	01/22/00 13:03:22	22.90	2.0	0.00	5.44	8.23
7	01/22/00 13:03:32	22.88	2.0	0.00	5.88	8.26
8	01/22/00 13:03:41	22.87	2.0	0.00	5.38	8.28
9	01/22/00 13:03:50	22.86	3.0	0.00	5.79	8.29
10	01/22/00 13:03:58	22.86	3.0	0.00	5.96	8.28
11	01/22/00 13:04:05	22.89	3.0	0.00	4.99	8.23
12	01/22/00 13:04:13	22.94	3.0	0.00	4.02	8.22
13	01/22/00 13:04:25	22.92	2.0	0.00	4.72	8.23
14	01/22/00 13:04:34	22.84	2.0	0.00	5.68	8.21
15	01/22/00 13:04:43	22.86	2.0	0.00	5.78	8.24
16	01/22/00 13:04:52	22.88	2.0	0.00	6.02	8.20

Project #: 012 Test type: ACUTE CHRONIC OTHER Slurry flow thru Date: 1/22/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other Huatzuc Day of Study: 15

OPERATIONAL RANGE: Check if OK
 Temperature: 22 to 24 Meter Used: Blue
 Salinity: to Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: JD
 Sat Jan 22 16:39:36 2000 Page 1 of 2

012HA15.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/22/00 13:05:00	22.87	2.0	0.00	6.12	8.22
18	01/22/00 13:05:10	22.88	2.0	0.00	6.67	8.25
19	01/22/00 13:05:18	22.74	2.0	0.00	6.25	8.21
20	01/22/00 13:05:25	22.76	2.0	0.00	6.51	8.21
21	01/22/00 13:05:33	22.74	2.0	0.00	6.30	8.18
22	01/22/00 13:05:40	22.79	2.0	0.00	5.93	8.20
23	01/22/00 13:05:46	22.82	2.0	0.00	6.22	8.22

Project #: 012 Test type: ACUTE CHRONIC OTHER 2 day flow thru Date: 1/22/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 15

OPERATIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue
 Salinity: to Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: TO
 Sat Jan 22 16:39:37 2000 Page 2 of 2

012HA16.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/23/00 12:57:02	22.37	0.0	0.00	9.21	8.40
1	01/23/00 12:57:10	22.90	0.0	0.00	8.18	8.48
2	01/23/00 12:57:16	23.00	0.0	0.00	7.67	8.51
3	01/23/00 12:57:24	23.03	0.0	0.00	7.39	8.50
4	01/23/00 12:57:31	23.06	1.0	0.00	7.25	8.49
5	01/23/00 12:57:39	23.06	1.0	0.00	6.33	8.46
6	01/23/00 12:57:45	22.98	1.0	0.00	4.92	8.43
7	01/23/00 12:57:53	22.93	1.0	0.00	5.66	8.45
8	01/23/00 12:58:00	22.93	1.0	0.00	5.34	8.46
9	01/23/00 12:58:07	22.98	1.0	0.00	5.00	8.47
10	01/23/00 12:58:16	23.01	1.0	0.00	5.33	8.49
11	01/23/00 12:58:23	23.00	1.0	0.00	5.37	8.44
12	01/23/00 12:58:30	23.04	2.0	0.00	5.16	8.41
13	01/23/00 12:58:36	23.04	2.0	0.00	5.14	8.43
14	01/23/00 12:58:43	23.03	1.0	0.00	5.11	8.42
15	01/23/00 12:58:50	23.01	1.0	0.00	5.04	8.43
16	01/23/00 12:58:56	23.02	1.0	0.00	5.13	8.42

Project #: 012 Test type: ACUTE CHRONIC OTHER Flow thru Date: 1/23/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other A. artemica Day of Study: 16

OPERATIONAL RANGE: Check if OK Meter Used:
 Temperature: 22 to 24 Blue
 Salinity: — to — Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: TD
 Sun Jan 23 16:31:35 2000 Page 1 of 2

012HA16.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/23/00 12:59:04	23.04	1.0	0.00	5.24	8.42
18	01/23/00 12:59:10	23.03	1.0	0.00	5.57	8.41
19	01/23/00 12:59:19	22.96	1.0	0.00	5.95	8.43
20	01/23/00 12:59:26	22.92	1.0	0.00	5.46	8.37
21	01/23/00 12:59:33	22.94	1.0	0.00	5.58	8.40
22	01/23/00 12:59:39	22.98	1.0	0.00	5.58	8.41
23	01/23/00 12:59:45	22.97	1.0	0.00	5.82	8.43

Project #: 012 Test type: ACUTE CHRONIC OTHER 28 day flow thru Date: 1/23/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other *A. arteca* Day of Study: 16

OPERATIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue
 Salinity: — to — Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet

Sun Jan 23 16:31:35 2000

Initials: TD

012HA17.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/24/00 11:28:08	22.06	0.0	0.00	8.55	7.84
1	01/24/00 11:28:15	22.26	0.0	0.00	8.19	7.94
2	01/24/00 11:28:21	22.35	0.0	0.00	8.18	8.02
3	01/24/00 11:28:28	22.46	0.0	0.00	8.16	7.96
4	01/24/00 11:29:52	22.02	0.0	0.00	8.34	8.09
5	01/24/00 11:29:58	22.14	0.0	0.00	8.26	8.09
6	01/24/00 11:30:05	22.31	0.0	0.00	8.19	8.09
7	01/24/00 11:30:11	22.44	0.0	0.00	8.11	8.10
8	01/24/00 11:30:58	22.18	0.0	0.00	8.24	8.16
9	01/24/00 11:31:05	22.44	0.0	0.00	8.16	8.17
10	01/24/00 11:31:11	22.46	0.0	0.00	8.14	8.19
11	01/24/00 11:31:17	22.51	0.0	0.00	8.12	8.19
12	01/24/00 11:32:06	22.36	0.0	0.00	8.25	8.19
13	01/24/00 11:32:12	22.58	0.0	0.00	8.19	8.20
14	01/24/00 11:32:17	22.63	0.0	0.00	8.16	8.21
15	01/24/00 11:32:23	22.68	0.0	0.00	8.14	8.20
16	01/24/00 11:33:03	22.06	0.0	0.00	8.30	8.16

Project #: 012 Test type: ACUTE CHRONIC OTHER Zebra flounder Date: 1/24/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. a. teca Day of Study: 17

OPERATIONAL RANGE: Check if OK Meter Used:
 Temperature: 22 to 21 Blue
 Salinity: — to — Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: TD
 Mon Jan 24 11:37:06 2000 Page 1 of 2

012HA17.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/24/00 11:33:07	22.37	0.0	0.00	8.22	8.13
18	01/24/00 11:33:13	22.60	0.0	0.00	8.14	8.17
19	01/24/00 11:33:19	22.70	0.0	0.00	8.11	8.18
20	01/24/00 11:34:06	22.15	0.0	0.00	8.24	8.13
21	01/24/00 11:34:10	22.44	0.0	0.00	8.16	8.12
22	01/24/00 11:34:14	22.58	0.0	0.00	8.11	8.11
23	01/24/00 11:34:20	22.66	0.0	0.00	8.07	8.14

Project #: 012 Test type: ACUTE CHRONIC OTHER 28 day flow with no Date: 1/24/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. artema Day of Study: 17

OPERATIONAL RANGE: Check if OK Meter Used:
 Temperature: 22 to 24 Blue
 Salinity: - to - Red
 Dissolved oxygen: > 4,0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: ip
 Mon Jan 24 11:37:06 2000 Page 2 of 2

012HA18.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/25/00 10:54:17	22.17	0.0	0.00	5.86	8.02
1	01/25/00 10:54:25	22.31	0.0	0.00	6.18	8.15
2	01/25/00 10:54:32	22.44	0.0	0.00	6.45	8.18
3	01/25/00 10:54:42	22.41	0.0	0.00	6.49	8.21
4	01/25/00 10:54:52	22.42	0.0	0.00	6.57	8.21
5	01/25/00 10:55:00	22.43	1.0	0.00	6.57	8.18
6	01/25/00 10:55:10	22.51	1.0	0.00	6.41	8.20
7	01/25/00 10:55:20	22.45	1.0	0.00	6.40	8.24
8	01/25/00 10:55:27	22.35	1.0	0.00	6.48	8.24
9	01/25/00 10:55:35	22.42	1.0	0.00	7.13	8.26
10	01/25/00 10:55:45	22.55	1.0	0.00	7.26	8.27
11	01/25/00 10:55:57	22.53	1.0	0.00	6.44	8.21
12	01/25/00 10:56:07	22.57	1.0	0.00	5.48	8.22
13	01/25/00 10:56:20	22.58	1.0	0.00	5.98	8.22
14	01/25/00 10:56:28	22.52	1.0	0.00	6.47	8.18
15	01/25/00 10:57:30	22.27	4.0	0.00	6.05	8.12
16	01/25/00 10:57:40	22.45	3.0	0.00	6.61	8.12

Project #: 012 Test type: ACUTE CHRONIC OTHER 7 day flow thru Date: 1/25/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 18

OPERATIONAL RANGE: Check if OK Meter Used:
 Temperature: 22 to 24 Blue
 Salinity: — to — Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: —
 Tue Jan 25 11:04:08 2000 Page 1 of 2

012HA18.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/25/00 10:57:51	22.51	3.0	0.00	6.32	8.16
18	01/25/00 10:58:00	22.46	3.0	0.00	6.64	8.22
19	01/25/00 10:58:11	22.53	3.0	0.00	6.93	8.18
20	01/25/00 10:58:19	22.45	3.0	0.00	6.50	8.14
21	01/25/00 10:58:27	22.45	4.0	0.00	6.72	8.14
22	01/25/00 10:58:37	22.57	5.0	0.00	5.69	8.19
23	01/25/00 10:58:50	22.63	11.0	0.00	5.22	8.20

Project #: 012 Test type: ACUTE CHRONIC OTHER Delayed Acute Date: 1/25/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other *H. azteca* Day of Study: 18

OPERATIONAL RANGE:

Temperature: <u>22</u> to <u>24</u>	Check if OK	Blue <input type="checkbox"/>
Salinity: _____ to _____	<input checked="" type="checkbox"/>	Red <input checked="" type="checkbox"/>
Dissolved oxygen: > 4.0	<input checked="" type="checkbox"/>	
pH: 6.0 to 9.0	<input checked="" type="checkbox"/>	

Actions taken: _____

See deviation summary sheet
 Tue Jan 25 11:04:08 2000

Initials: TD
 Page 2 of 2

012HA19.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/26/00 14:11:29	22.10	1.0	0.00	6.62	8.29
1	01/26/00 14:11:38	22.05	0.0	0.00	7.85	8.34
2	01/26/00 14:11:44	22.37	0.0	0.00	7.81	8.35
3	01/26/00 14:11:54	22.57	1.0	0.00	7.72	8.35
4	01/26/00 14:12:01	22.55	1.0	0.00	7.63	8.32
5	01/26/00 14:12:07	22.61	1.0	0.00	7.58	8.30
6	01/26/00 14:12:14	22.66	1.0	0.00	6.65	8.28
7	01/26/00 14:12:23	22.69	1.0	0.00	6.17	8.33
8	01/26/00 14:12:30	22.65	1.0	0.00	6.05	8.35
9	01/26/00 14:12:38	22.73	1.0	0.00	6.31	8.34
10	01/26/00 14:12:44	22.79	1.0	0.00	6.66	8.35
11	01/26/00 14:12:52	22.80	1.0	0.00	6.56	8.30
12	01/26/00 14:12:59	22.79	1.0	0.00	6.53	8.27
13	01/26/00 14:13:06	22.79	1.0	0.00	6.54	8.29
14	01/26/00 14:13:13	22.75	1.0	0.00	6.02	8.31
15	01/26/00 14:13:21	22.71	1.0	0.00	6.15	8.34
16	01/26/00 14:13:29	22.69	1.0	0.00	6.45	8.27

Project #: 26-012 Test type: ACUTE CHRONIC OTHER 20 day Date: 1/26/00

Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 19

OPERATIONAL RANGE: Check if OK

Temperature: 22 to 24 Blue

Salinity: - to - Red

Dissolved oxygen: > 4.0 %

pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet
 Wed Jan 26 14:20:59 2000

Initials: af
 Page 1 of 2

012HA19.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/26/00 14:13:37	22.73	1.0	0.00	5.96	8.31
18	01/26/00 14:13:44	22.70	1.0	0.00	6.25	8.29
19	01/26/00 14:13:51	22.69	1.0	0.00	6.48	8.29
20	01/26/00 14:13:57	22.74	1.0	0.00	6.43	8.26
21	01/26/00 14:14:03	22.73	1.0	0.00	6.16	8.24
22	01/26/00 14:14:10	22.77	1.0	0.00	5.67	8.26
23	01/26/00 14:14:15	22.75	1.0	0.00	5.33	8.30

Project #: 20-012 Test type: ACUTE CHRONIC OTHER 28 day Date: 1/26/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 19

OPERATIONAL RANGE: Check if OK **Meter Used:**
 Temperature: 22 to 24 Blue
 Salinity: to Red
 Dissolved oxygen: > 4.0%
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet
 Wed Jan 26 14:21:00 2000

Initials: mf
 Page 2 of 2

012HA20.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/27/00 12:41:45	22.02	0.0	0.00	7.89	8.16
1	01/27/00 12:41:51	22.23	0.0	0.00	7.84	8.14
2	01/27/00 12:41:56	22.29	0.0	0.00	7.83	8.18
3	01/27/00 12:42:02	22.36	0.0	0.00	7.82	8.17
4	01/27/00 12:42:38	22.06	0.0	0.00	7.85	8.32
5	01/27/00 12:42:43	22.30	0.0	0.00	7.23	8.30
6	01/27/00 12:42:48	22.42	0.0	0.00	7.15	8.28
7	01/27/00 12:42:52	22.50	0.0	0.00	7.23	8.26
8	01/27/00 12:43:40	22.04	0.0	0.00	7.95	8.34
9	01/27/00 12:43:45	22.22	0.0	0.00	7.91	8.31
10	01/27/00 12:43:51	22.39	0.0	0.00	7.87	8.30
11	01/27/00 12:43:56	22.46	0.0	0.00	7.85	8.28
12	01/27/00 12:44:34	22.09	0.0	0.00	7.92	8.31
13	01/27/00 12:44:39	22.25	0.0	0.00	7.89	8.32
14	01/27/00 12:44:43	22.31	0.0	0.00	7.88	8.32
15	01/27/00 12:44:48	22.35	0.0	0.00	7.87	8.33
16	01/27/00 12:45:26	22.05	0.0	0.00	7.97	8.30

Project #: 012 Test type: ACUTE CHRONIC OTHER 2 day Hawthorn Date: 1/27/00

Species: *P. promelas* *C. dubia* *M. bahia* Other *H. azteca* Day of Study: 20

OPERATIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: TD

012HA20.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/27/00 12:45:30	22.28	0.0	0.00	7.92	8.26
18	01/27/00 12:45:35	22.44	0.0	0.00	7.87	8.23
19	01/27/00 12:45:39	22.55	0.0	0.00	7.83	8.25
20	01/27/00 12:46:18	22.04	0.0	0.00	7.96	8.35
21	01/27/00 12:46:22	22.20	0.0	0.00	7.93	8.34
22	01/27/00 12:46:26	22.33	0.0	0.00	7.90	8.33
23	01/27/00 12:46:30	22.46	0.0	0.00	7.88	8.33

Project #: 012 Test type: ACUTE CHRONIC OTHER 28 day flow thru Date: 1/27/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other *H. a. teca* Day of Study: Zu

OPERATIONAL RANGE: Check if OK

Temperature: 22 to 24 Meter Used: Blue
 Salinity: — to — Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: TD
 Thu Jan 27 12:49:04 2000 Page 2 of 2

012HA21.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/28/00 14:19:50	22.23	3.0	0.00	8.20	8.46
1	01/28/00 14:19:57	22.67	3.0	0.00	7.97	8.46
2	01/28/00 14:20:04	22.72	3.0	0.00	7.92	8.45
3	01/28/00 14:20:13	22.68	3.0	0.00	7.90	8.44
4	01/28/00 14:20:21	22.60	3.0	0.00	7.85	8.44
5	01/28/00 14:20:28	22.59	4.0	0.00	6.95	8.44
6	01/28/00 14:20:38	22.59	3.0	0.00	5.63	8.40
7	01/28/00 14:20:47	22.66	3.0	0.00	5.74	8.38
8	01/28/00 14:20:59	22.71	3.0	0.00	5.64	8.39
9	01/28/00 14:21:11	22.79	3.0	0.00	6.31	8.40
10	01/28/00 14:21:18	22.79	3.0	0.00	6.48	8.39
11	01/28/00 14:21:47	22.95	269.0	0.13	7.07	8.29
12	01/28/00 14:22:00	22.86	3.0	0.00	7.20	8.29
13	01/28/00 14:22:07	22.86	3.0	0.00	7.20	8.29
14	01/28/00 14:22:15	22.79	3.0	0.00	7.53	8.31
15	01/28/00 14:22:24	22.76	2.0	0.00	7.38	8.36
16	01/28/00 14:22:31	22.68	2.0	0.00	7.26	8.34

Project #: 26-61a Test type: ACUTE CHRONIC OTHER _____ Date: 1/28/00

Species: *P. promelas* *C. dubia* *M. bahia* Other Hazkca Day of Study: 21

OPERATIONAL RANGE:

Temperature: <u>22</u> to <u>24</u>	Check if OK	
Salinity: <u>-</u> to <u>-</u>	<input checked="" type="checkbox"/>	Meter Used: Blue <input type="checkbox"/>
Dissolved oxygen: <u>> 40%</u>	<input type="checkbox"/>	Red <input checked="" type="checkbox"/>
pH: <u>6.0 to 9.0</u>	<input checked="" type="checkbox"/>	

Actions taken: _____

See deviation summary sheet

Initials: mf

Fri Jan 28 14:26:40 2000

Page 1 of 2

012HA21.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/28/00 14:22:37	22.72	2.0	0.00	7.21	8.33
18	01/28/00 14:22:44	22.75	2.0	0.00	6.92	8.33
19	01/28/00 14:22:54	22.67	2.0	0.00	6.99	8.37
20	01/28/00 14:23:02	22.48	2.0	0.00	6.99	8.37
21	01/28/00 14:23:08	22.55	2.0	0.00	7.01	8.37
22	01/28/00 14:23:15	22.67	2.0	0.00	7.01	8.36
23	01/28/00 14:23:21	22.70	2.0	0.00	6.98	8.37

Project #: 20-612 Test type: ACUTE CHRONIC OTHER _____ Date: 1/28/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 21

OPERATIONAL RANGE: _____ Check if OK Meter Used:
 Temperature: 22 to 24 Blue
 Salinity: - to - Red
 Dissolved oxygen: > 40%
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: ry
 Fri Jan 28 14:26:41 2000 Page 2 of 2

012HA22.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/29/00 10:00:58	22.49	1.0	0.00	7.19	8.62
1	01/29/00 10:01:12	22.76	0.0	0.00	7.12	8.59
2	01/29/00 10:01:23	22.80	0.0	0.00	7.09	8.58
3	01/29/00 10:01:35	22.77	1.0	0.00	7.09	8.56
4	01/29/00 10:01:48	22.72	1.0	0.00	7.11	8.56
5	01/29/00 10:01:59	22.78	1.0	0.00	7.09	8.54
6	01/29/00 10:02:10	22.78	1.0	0.00	7.08	8.49
7	01/29/00 10:02:23	22.85	1.0	0.00	7.06	8.47
8	01/29/00 10:02:35	22.85	1.0	0.00	7.03	8.48
9	01/29/00 10:02:47	22.78	1.0	0.00	7.04	8.47
10	01/29/00 10:03:02	22.69	1.0	0.00	7.04	8.45
11	01/29/00 10:03:15	22.92	1.0	0.00	6.99	8.42
12	01/29/00 10:03:31	22.88	1.0	0.00	6.99	8.39
13	01/29/00 10:03:43	22.84	1.0	0.00	6.99	8.38
14	01/29/00 10:03:59	22.81	1.0	0.00	6.99	8.39
15	01/29/00 10:04:09	22.83	1.0	0.00	7.00	8.42
16	01/29/00 10:04:22	22.77	1.0	0.00	7.03	8.41

Project #: 20-812 Test type: ACUTE CHRONIC OTHER 28 day Flow Date: 1/29/00

Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 22

OPERATIONAL RANGE: Check if OK

Temperature: 22 to 24 Meter Used: Blue

Salinity: — to — Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: mf
 Sat Jan 29 10:07:29 2000 Page 1 of 2

012HA22.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/29/00 10:04:35	22.86	1.0	0.00	7.03	8.40
18	01/29/00 10:04:51	22.84	1.0	0.00	7.01	8.40
19	01/29/00 10:05:18	22.81	1.0	0.00	6.99	8.39
20	01/29/00 10:05:35	22.70	1.0	0.00	7.02	8.41
21	01/29/00 10:05:52	22.87	1.0	0.00	7.01	8.38
22	01/29/00 10:06:12	22.94	1.0	0.00	6.98	8.36
23	01/29/00 10:06:41	22.91	1.0	0.00	6.89	8.38

Project #: 20-012 Test type: ACUTE CHRONIC OTHER 28 day Flow Date: 1/29/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 22

OPERATIONAL RANGE:

Temperature: <u>23</u> to <u>24</u>	Check if OK	
Salinity: <u>-</u> to <u>-</u>	<input checked="" type="checkbox"/>	Meter Used: Blue <input checked="" type="checkbox"/>
Dissolved oxygen: <u>> 4.0</u>	<input type="checkbox"/>	Red <input type="checkbox"/>
pH: <u>6.0 to 9.0</u>	<input checked="" type="checkbox"/>	

Actions taken: _____

See deviation summary sheet
 Sat Jan 29 10:08:19 2000

Initials: df
 Page 2 of 2

012HA23.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/30/00 09:39:20	22.24	1.0	0.00	8.32	8.55
1	01/30/00 09:39:45	22.37	2.0	0.00	8.30	8.48
2	01/30/00 09:40:00	22.40	1.0	0.00	8.29	8.47
3	01/30/00 09:40:11	22.46	1.0	0.00	8.27	8.46
4	01/30/00 09:40:24	22.48	1.0	0.00	8.26	8.46
5	01/30/00 09:40:36	22.45	1.0	0.00	8.27	8.44
6	01/30/00 09:40:51	22.77	1.0	0.00	8.20	8.41
7	01/30/00 09:41:04	23.24	2.0	0.00	8.06	8.41
8	01/30/00 09:41:20	23.31	2.0	0.00	8.00	8.46
9	01/30/00 09:41:33	23.30	1.0	0.00	7.98	8.46
10	01/30/00 09:41:46	23.23	1.0	0.00	7.95	8.47
11	01/30/00 09:41:59	23.30	1.0	0.00	7.89	8.43
12	01/30/00 09:42:10	23.25	1.0	0.00	7.85	8.41
13	01/30/00 09:42:22	23.15	1.0	0.00	7.85	8.43
14	01/30/00 09:42:35	23.20	1.0	0.00	7.83	8.44
15	01/30/00 09:42:45	23.22	1.0	0.00	7.82	8.45
16	01/30/00 09:42:54	23.24	1.0	0.00	7.84	8.45

Project #: 30-012 Test type: ACUTE CHRONIC OTHER 28 day Flow Date: 1/30/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 23

OPERATIONAL RANGE: Check if OK Meter Used:
 Temperature: 22 to 24 Blue
 Salinity: - to - Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: mf
 Sun Jan 30 10:02:39 2000 Page 1 of 2

012HA23.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/30/00 09:43:04	23.20	1.0	0.00	7.86	8.44
18	01/30/00 09:43:16	23.15	1.0	0.00	7.88	8.44
19	01/30/00 09:43:28	23.20	1.0	0.00	7.86	8.43
20	01/30/00 09:43:41	23.15	1.0	0.00	7.89	8.44
21	01/30/00 09:43:54	23.23	1.0	0.00	7.90	8.43
22	01/30/00 09:44:07	23.28	1.0	0.00	7.89	8.42
23	01/30/00 09:44:29	23.39	1.0	0.00	7.83	8.42

Project #: 20-012 Test type: ACUTE CHRONIC OTHER 28 day Flow Date: 1/30/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other A. azteca Day of Study: 23

OPERATIONAL RANGE: Check if OK Meter Used:
 Temperature: 22 to 24 Blue
 Salinity: _____ to _____ Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet
 Sun Jan 30 10:02:54 2000

Initials: mf
 Page 2 of 2

012HA24.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/31/00 14:54:43	22.32	0.0	0.00	7.44	8.04
1	01/31/00 14:55:43	22.68	0.0	0.00	7.77	8.19
2	01/31/00 14:58:07	22.69	0.0	0.00	7.36	8.27
3	01/31/00 14:59:02	22.76	0.0	0.00	8.13	8.30
4	01/31/00 14:59:52	22.70	0.0	0.00	8.16	8.29
5	01/31/00 15:01:42	22.44	0.0	0.00	7.03	8.29
6	01/31/00 15:02:46	22.69	0.0	0.00	7.75	8.27
7	01/31/00 15:03:14	22.76	0.0	0.00	7.75	8.27
8	01/31/00 15:04:34	22.64	0.0	0.00	8.13	8.27
9	01/31/00 15:05:12	22.74	0.0	0.00	8.08	8.26
10	01/31/00 15:06:31	22.65	0.0	0.00	8.19	8.26
11	01/31/00 15:07:04	22.77	0.0	0.00	8.09	8.22
12	01/31/00 15:08:12	22.69	0.0	0.00	8.20	8.22
13	01/31/00 15:08:36	22.80	0.0	0.00	8.14	8.23
14	01/31/00 15:09:40	22.67	0.0	0.00	8.27	8.27
15	01/31/00 15:10:03	22.82	0.0	0.00	8.22	8.28
16	01/31/00 15:11:03	22.75	0.0	0.00	8.22	8.25

Project #: 012 Test type: ACUTE CHRONIC OTHER 28 day Flow Date: 1/31/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 24

OPERATIONAL RANGE: Check if OK
 Temperature: 22 to 24 Meter Used: Blue
 Salinity: — to — Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: MS
 Mon Jan 31 15:18:27 2000 Page 1 of 2

012HA24.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	01/31/00 15:11:40	22.85	0.0	0.00	8.07	8.23
18	01/31/00 15:13:23	22.73	0.0	0.00	7.49	8.17
19	01/31/00 15:14:00	22.81	0.0	0.00	7.75	8.21
20	01/31/00 15:14:51	22.61	0.0	0.00	8.13	8.27
21	01/31/00 15:15:44	22.84	0.0	0.00	8.11	8.21
22	01/31/00 15:16:45	22.65	0.0	0.00	8.09	8.21
23	01/31/00 15:17:07	22.68	0.0	0.00	8.00	8.23

Project #: 012 Test type: ACUTE CHRONIC OTHER 28 day Flow Date: 1/31/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 24

OPERATIONAL RANGE: Check if OK Meter Used:
 Temperature: 22 to 24 Blue
 Salinity: — to — Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: MLH
 Mon Jan 31 15:18:28 2000 Page 2 of 2

012HA25.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	02/01/00 14:52:16	22.63	0.0	0.00	7.70	8.12
1	02/01/00 14:53:13	22.80	0.0	0.00	7.54	8.10
2	02/01/00 14:54:34	22.70	0.0	0.00	7.71	8.10
3	02/01/00 14:54:59	22.99	0.0	0.00	7.62	8.12
4	02/01/00 14:55:49	22.90	1.0	0.00	7.11	8.13
5	02/01/00 14:56:58	23.00	0.0	0.00	6.71	8.10
6	02/01/00 14:58:00	22.85	1.0	0.00	7.32	8.13
7	02/01/00 14:58:46	22.44	1.0	0.00	7.41	8.12
8	02/01/00 14:59:47	22.88	1.0	0.00	7.51	8.13
9	02/01/00 15:00:17	22.99	1.0	0.00	7.41	8.12
10	02/01/00 15:01:19	22.90	1.0	0.00	7.54	8.15
11	02/01/00 15:01:42	22.97	1.0	0.00	7.52	8.12
12	02/01/00 15:02:40	22.96	1.0	0.00	7.58	8.16
13	02/01/00 15:03:01	22.96	1.0	0.00	6.54	8.18
14	02/01/00 15:04:02	22.89	1.0	0.00	7.62	8.21
15	02/01/00 15:04:26	22.95	1.0	0.00	7.59	8.23
16	02/01/00 15:05:29	23.00	1.0	0.00	6.58	8.17

Project #: 012 Test type: ACUTE CHRONIC OTHER 28 day flow Date: 2/1/00

Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 25

OPERATIONAL RANGE:

Temperature: <u>22</u> to <u>24</u> <input checked="" type="checkbox"/> Check if OK Salinity: <u>—</u> to <u>—</u> <input type="checkbox"/> Dissolved oxygen: <u>> 4.0</u> <input checked="" type="checkbox"/> pH: <u>6.0 to 9.0</u> <input checked="" type="checkbox"/>	Meter Used: Blue <input type="checkbox"/> Red <input checked="" type="checkbox"/>
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Actions taken: _____

See deviation summary sheet

Initials: UMA

Tue Feb 01 15:12:41 2000

012HA25.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	02/01/00 15:05:59	23.04	0.0	0.00	7.01	8.17
18	02/01/00 15:07:01	22.90	0.0	0.00	7.39	8.13
19	02/01/00 15:07:24	22.88	0.0	0.00	7.38	8.15
20	02/01/00 15:08:15	22.42	0.0	0.00	7.72	8.21
21	02/01/00 15:08:57	22.95	0.0	0.00	7.60	8.15
22	02/01/00 15:09:54	22.74	0.0	0.00	7.55	8.17
23	02/01/00 15:10:30	22.90	0.0	0.00	7.40	8.17

Project #: 012 Test type: ACUTE CHRONIC OTHER 28 day Flow Date: 2/1/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 25

OPERATIONAL RANGE: Check if OK Meter Used:
 Temperature: 22 to 24 Blue
 Salinity: — to — Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet
 Tue Feb 01 15:12:42 2000

Initials: AMF
 Page 2 of 2

012HA26.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	02/02/00 14:54:02	22.07	0.0	0.00	8.15	8.14
1	02/02/00 14:54:14	22.06	0.0	0.00	7.99	8.20
2	02/02/00 14:54:20	22.32	0.0	0.00	7.90	8.21
3	02/02/00 14:54:29	22.49	0.0	0.00	7.79	8.23
4	02/02/00 14:54:34	22.35	0.0	0.00	7.74	8.22
5	02/02/00 14:54:41	22.46	0.0	0.00	7.69	8.25
6	02/02/00 14:54:47	22.61	0.0	0.00	6.25	8.24
7	02/02/00 14:54:55	22.68	0.0	0.00	5.86	8.26
8	02/02/00 14:55:02	22.64	0.0	0.00	5.94	8.19
9	02/02/00 14:55:10	22.63	0.0	0.00	6.26	8.23
10	02/02/00 14:55:16	22.57	0.0	0.00	6.73	8.26
11	02/02/00 14:55:22	22.64	0.0	0.00	6.05	8.24
12	02/02/00 14:55:29	22.65	0.0	0.00	5.93	8.23
13	02/02/00 14:55:37	22.67	0.0	0.00	6.43	8.24
14	02/02/00 14:55:42	22.45	0.0	0.00	6.82	8.23
15	02/02/00 14:55:49	22.32	1.0	0.00	7.03	8.24
16	02/02/00 14:55:55	22.51	0.0	0.00	7.30	8.23

Project #: 012 Test type: ACUTE CHRONIC OTHER 28 day flounder Date: 2/2/00

Species: *P. promelas* *C. dubia* *M. bahia* Other H. arctica Day of Study: 26

OPERATIONAL RANGE:

Temperature: <u>22</u> to <u>24</u> <input checked="" type="checkbox"/> Check if OK Salinity: <u>—</u> to <u>—</u> <input type="checkbox"/> Dissolved oxygen: <u>> 4.0</u> <input checked="" type="checkbox"/> pH: <u>6.0 to 9.0</u> <input checked="" type="checkbox"/>	Meter Used: Blue <input type="checkbox"/> Red <input checked="" type="checkbox"/>
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Actions taken: _____

See deviation summary sheet

Initials: MM

012HA26.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	02/02/00 14:56:03	22.62	0.0	0.00	6.90	8.23
18	02/02/00 14:56:09	22.69	0.0	0.00	6.45	8.22
19	02/02/00 14:56:15	22.67	0.0	0.00	6.34	8.22
20	02/02/00 14:56:21	22.61	0.0	0.00	6.25	8.19
21	02/02/00 14:56:28	22.58	0.0	0.00	6.75	8.20
22	02/02/00 14:56:34	22.52	0.0	0.00	7.13	8.20
23	02/02/00 14:56:38	22.55	0.0	0.00	7.24	8.20

Project #: 012 Test type: ACUTE CHRONIC OTHER 28 day fibro Date: 2/2/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 26

OPERATIONAL RANGE: Check if OK

Temperature: <u>22</u> to <u>24</u>	<input checked="" type="checkbox"/>	Meter Used:	Blue <input type="checkbox"/>
Salinity: <u>—</u> to <u>—</u>	<input type="checkbox"/>		Red <input checked="" type="checkbox"/>
Dissolved oxygen: <u>> 4.0</u>	<input checked="" type="checkbox"/>		
pH: <u>6.0 to 9.0</u>	<input checked="" type="checkbox"/>		

Actions taken: _____

See deviation summary sheet
 Wed Feb 02 14:59:43 2000

Initials: MLB
 Page 2 of 2

012HA27.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	02/03/00 09:14:29	23.87	0.0	0.00	7.61	7.56
1	02/03/00 09:17:58	23.76	1.0	0.00	7.74	8.14
2	02/03/00 09:19:17	23.66	1.0	0.00	7.84	8.22
3	02/03/00 09:19:30	23.46	1.0	0.00	7.86	8.25
4	02/03/00 09:20:18	23.99	1.0	0.00	7.78	8.35
5	02/03/00 09:21:11	24.05	1.0	0.00	7.67	8.35
6	02/03/00 09:21:58	23.68	1.0	0.00	7.71	8.37
7	02/03/00 09:22:12	23.64	1.0	0.00	7.67	8.38
8	02/03/00 09:23:05	23.68	1.0	0.00	7.69	8.38
9	02/03/00 09:23:18	23.60	1.0	0.00	7.69	8.38
10	02/03/00 09:24:10	23.47	1.0	0.00	7.70	8.35
11	02/03/00 09:24:46	23.93	1.0	0.00	7.49	8.33
12	02/03/00 09:26:00	23.27	1.0	0.00	7.74	8.37
13	02/03/00 09:26:30	23.53	1.0	0.00	7.59	8.31
14	02/03/00 09:27:18	23.38	1.0	0.00	7.66	8.35
15	02/03/00 09:27:50	23.70	1.0	0.00	7.59	8.28
16	02/03/00 09:29:01	23.24	1.0	0.00	7.73	8.34

Project #: 012 Test type: ACUTE CHRONIC OTHER 28 day Flow Date: 2/3/00

Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 27

OPERATIONAL RANGE:

Temperature: <u>22</u> to <u>24</u>	Check if OK <input checked="" type="checkbox"/>	Meter Used:
Salinity: <u>—</u> to <u>—</u>	<input type="checkbox"/>	Blue <input checked="" type="checkbox"/>
Dissolved oxygen: <u>> 4.0</u>	<input checked="" type="checkbox"/>	Red <input type="checkbox"/>
pH: <u>6.0 to 9.0</u>	<input checked="" type="checkbox"/>	

Actions taken: _____

012HA27.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	02/03/00 09:29:46	23.24	1.0	0.00	7.68	8.37
18	02/03/00 09:30:46	23.42	1.0	0.00	7.67	8.34
19	02/03/00 09:30:59	23.27	1.0	0.00	7.66	8.33
20	02/03/00 09:32:01	23.20	1.0	0.00	7.75	8.30
21	02/03/00 09:32:31	23.30	1.0	0.00	7.69	8.30
22	02/03/00 09:33:28	23.34	1.0	0.00	7.63	8.34
23	02/03/00 09:33:58	23.33	1.0	0.00	7.53	8.34

Project #: 012 Test type: ACUTE CHRONIC OTHER 28 day Flow Date: 2/3/00
 Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 27

OPERATIONAL RANGE: Check if OK

Temperature: 22 to 24 Meter Used: Blue
 Salinity: — to — Red
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials: MM
 Thu Feb 03 10:04:29 2000 Page 2 of 2

012HA28.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	02/04/00 07:38:30	22.02	1.0	0.00	8.01	6.61
1	02/04/00 07:38:34	22.10	1.0	0.00	7.90	6.72
2	02/04/00 07:38:41	22.21	1.0	0.00	7.82	6.83
3	02/04/00 07:38:46	22.30	1.0	0.00	7.78	6.88
4	02/04/00 07:38:51	22.35	1.0	0.00	7.75	6.92
5	02/04/00 07:38:56	22.28	1.0	0.00	7.74	6.98
6	02/04/00 07:39:02	22.24	2.0	0.00	7.73	7.09
7	02/04/00 07:39:09	22.24	2.0	0.00	7.70	7.30
8	02/04/00 07:39:25	22.34	2.0	0.00	7.64	7.39
9	02/04/00 07:39:32	22.37	2.0	0.00	7.62	7.42
10	02/04/00 07:39:38	22.39	2.0	0.00	7.60	7.48
11	02/04/00 07:39:44	22.38	2.0	0.00	7.58	7.53
12	02/04/00 07:39:49	22.42	2.0	0.00	7.54	7.57
13	02/04/00 07:39:55	22.45	2.0	0.00	7.53	7.65
14	02/04/00 07:40:02	22.41	2.0	0.00	7.49	7.70
15	02/04/00 07:40:07	22.41	2.0	0.00	7.45	7.69
16	02/04/00 07:40:11	22.44	2.0	0.00	7.40	7.69

Project #: 012 Test type: ACUTE CHRONIC OTHER 28 day flow thru Date: 2/4/00

Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca Day of Study: 28

OPERATIONAL RANGE: Check if OK Meter Used:

Temperature: 22 to 24 Blue

Salinity: to Red

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

Actions taken: _____

See deviation summary sheet Initials:
 Fri Feb 04 07:48:11 2000 Page 1 of 2

012HA28.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
17	02/04/00 07:40:16	22.44	2.0	0.00	7.38	7.73
18	02/04/00 07:40:20	22.48	2.0	0.00	7.36	7.74
19	02/04/00 07:40:25	22.48	2.0	0.00	7.36	7.85
20	02/04/00 07:40:29	22.44	2.0	0.00	7.36	7.90
21	02/04/00 07:40:34	22.39	2.0	0.00	7.37	7.92
22	02/04/00 07:40:39	22.39	2.0	0.00	7.38	7.91
23	02/04/00 07:40:44	22.43	2.0	0.00	7.38	7.94

Project #: 012 Test type: ACUTE CHRONIC OTHER 28 day flow thru Date: 2/4/00

Species: *P. promelas* *C. dubia* *M. bahia* Other H. artemia Day of Study: 28

OPERATIONAL RANGE:

Temperature: 22 to 24 Check if OK
 Salinity: — to —
 Dissolved oxygen: > 4.0
 pH: 6.0 to 9.0

Meter Used:

Blue
 Red

Actions taken: _____

See deviation summary sheet

Initials: TD

Fri Feb 04 07:48:11 2000

Aqua Survey, Inc.
Solid Phase Testing

Client: Dames & Moore

Test Start Date: 1/7/00

Parameter: Various

Job #: 20-012

Test End Date: 2/4/00

Organism: H. aztecus

		INITIAL				FINAL			
Sample	ASI #	Alkalinity mg/L	Hardness mg/L	Cond.	NH ₃ mg/L	Alkalinity mg/L	Hardness mg/L	Cond..	NH ₃ mg/L
PA-10	20007	134	116	502	1.05	152	132	530	ND
PA-13	20008	140	114	500	1.22	152	128	533	0.69
Control	20006	142	118	501	0.19	164	136	540	0.70 ^①
Date		1/7/00	1/7/00	1/7/00	1/7/00	2/4/00	2/4/00	2/4/00	2/4/00
Initials		MA	MA	MA	MA	TD	TD	TD	TD

Notes: ① 0.10 to 2/4/00

Aqua Survey, Inc.
Solid Phase Readings

Job #: 20-012
 Client: Dames & Moore
 Organism: H. azteca
 Parameter: Exchanges & Feeding

Day	Date	Exchanges		Feed
		1st Time/Initials	2nd Time/Initials	YCT
0	1/7/00	800 TD	1630 1.114	✓
1	1/8/00	0705 TD	925 TD	✓
2	1/9/00	0710 TD	0845 TD	✓
3	1/10/00	0800 KW	1645 KW	✓
4	1/11/00	0800 KW	1630 KW	✓
5	1/12/00	0800 KW	1640 KW	✓
6	1/13/00	0800 KW	1630 KW	✓
7	1/14/00	0800 KW	1640 KW	✓
8	1/15/00	0800 LF	1300 LF	✓
9	1/16/00	0800 LF	1205 LF	✓
10	1/17/00	0800 KW	1600 KW	✓
11	1/18/00	0815 TD	1515 TD	✓
12	1/19/00	0805 KW	1635 KW	✓
13	1/20/00	0805 KW	1635 KW	✓
14	1/21/00	0800 KW	1600 LM	✓
15	1/22/00	0900 LM	1605 LM	✓
16	1/23/00	0905 LM	1300 LM	✓
17	1/24/00	0800 LM	1625 TD	✓
18	1/25/00	0850 TD	1500 TD	✓
19	1/26/00	0820 TD	1510 LM	✓
20	1/27/00	0805 LM	1555 LM	✓
21	1/28/00	0730 TD	1555 LM	✓
22	1/29/00	0800 LA	1200 LA	✓
23	1/30/00	0830 LA	1315 LA	✓
24	1/31/00	0920 TD	1515 MHA	✓
25	2/1/00	0750 TD	1615 MHA	✓
26	2/2/00	1040 TD	1545 MHA	✓
27	2/3/00	0825 LM	1615 MHA	✓
28	2/4/00	0700 TD		

AQUA SURVEY, INC.

CULTURE LAB DISTRIBUTION FORM

DATE: 1/7/00
TEST JOB#: 20-012 CLIENT: DAM
TEST LOCATION: IN-LAB [] FIELD []
TEST SPECIES: H. azteca
TOTAL NUMBER ORGANISMS TRANSFERRED: 300+
AQUA SURVEY, INC. CULTURE LAB INVESTIGATORS: CD

A. ORGANISMS

1. ASI CULTURE/HOLDING UNIT: H system
2. RECEIVING LOG #: N/A
3. CULTURE LOG #: 20-0007
4. AGE/SIZE INFORMATION: 7-10 days, 1-2 mm

B. HOLDING [] CULTURE [] WATER PARAMETERS

1. TEMPERATURE: 20.2 °C
2. SALINITY: N/A
3. WATER SOURCE: Well H₂O

C. TRANSFER CUSTODY & TRANSFER

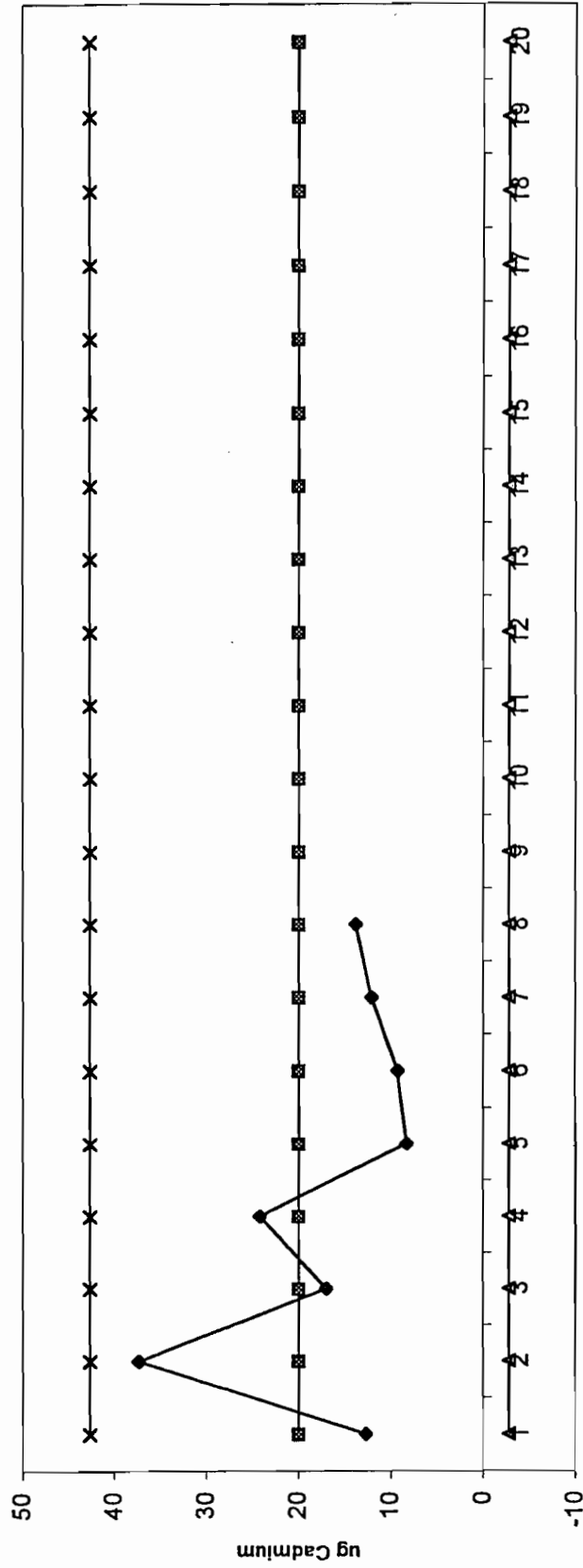
1. LIVESTOCK RELINQUISHMENT DATE: 1/7/00
TIME: 1000 hrs
BY: CD

2. LIVESTOCK RECEIVING DATE: 1/7/00
TIME: 1000 hrs
BY: TD

3. CULTURE SUPERVISOR OR SENIOR TECH. INITIALS: CD

REMARKS: _____

Control Chart LC50 Values, Acute SRT With *H. azteca* (ASI Organisms)



Test Number (4/96 -1/2000)

—◆— LC50 —■— Mean LC50 —▲— Lower 95% C.L. —*— Upper 95% C.L.

CT-TOX: BINOMIAL, MOVING AVERAGE, PROBIT, AND SPEARMAN METHODS

SPEARMAN-KARBER

TRIM: .00%
 LC50: 13.929
 95% LOWER CONFIDENCE: 10.828
 95% UPPER CONFIDENCE: 17.918

CONC. ug/L	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(%)
4.00	10.	0.	.00	.9766D-01
8.00	10.	1.	10.00	.1074D+01
16.00	10.	6.	60.00	.3770D+02
32.00	10.	10.	100.00	.9766D-01
64.00	10.	10.	100.00	.9766D-01

THE BINOMIAL TEST SHOWS THAT 8.00 AND 32.00 CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS SINCE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS 98.8281 PERCENT.
 AN APPROXIMATE LC50 FOR THIS DATA SET IS 14.101

RESULTS USING MOVING AVERAGE

SPAN	G	LC50	95% CONFIDENCE LIMIT	
4	.114	13.48	9.43	18.46

***** RESULTS CALCULATED BY PROBIT METHOD

ITERATIONS	G	H	GOODNESS OF FIT
7	.312	1.00	.96

SLOPE = 5.96
 95% CONFIDENCE LIMITS: 2.63 AND 9.29

LC50= 13.81
 95% CONFIDENCE LIMITS: 10.36 AND 18.43

LC1 = 5.62
 95% CONFIDENCE LIMITS: 1.71 AND 8.19

DATE: 1/7/00
 SAMPLE: CdCl2

TEST NUMBER: SRT
 SPECIES: H. aazteca

DURATION: 96 hours

METHOD	LC50	CONFIDENCE LIMITS		
		LOWER	UPPER	SPAN
BINOMIAL	14.101	8.000	32.000	24.000
MAA	13.484	9.426	18.456	9.031
PROBIT	13.810	10.365	18.432	8.067
SPEARMAN	13.929	10.828	17.918	7.090

**** = LIMIT DOES NOT EXIST

Control chart LC50 values for H. azteca ASI Organisms Mg/L cadmium

Date	Test No.	LC50	Mean	SD		
4/8/1996	1	12.7	19.92	11.37	-2.82	42.65
8/23/1996		37.35	19.92		-2.82	42.65
11/9/1996	3	17.01	19.92		-2.82	42.65
2/17/1997		24.19	19.92		-2.82	42.65
6/25/1997	5	8.33	19.92		-2.82	42.65
8/27/1997		9.27	19.92		-2.82	42.65
10/13/1999	7	12.1	19.92		-2.82	42.65
1/7/2000		13.81	19.92		-2.82	42.65
	9		19.92		-2.82	42.65
			19.92		-2.82	42.65
	11		19.92		-2.82	42.65
			19.92		-2.82	42.65
	13		19.92		-2.82	42.65
			19.92		-2.82	42.65
	15		19.92		-2.82	42.65
			19.92		-2.82	42.65
	17		19.92		-2.82	42.65
			19.92		-2.82	42.65
	19		19.92		-2.82	42.65
			19.92		-2.82	42.65

Standard Reference Toxicant
Live Counts

For Job #: 20-012

Start Date: 1/7/00

End Date: 1/11/00

Organism C. tentans/H. azteca
ug/L CdCl₂

Organism Log #: 20-0008

Starting Time: 11:5

Dose	Initial	1	2	3	4	Dose	Initial	1	2	3	4
0 A						16 A					01
B						B				01	—
C						C			01	—	—
D						D					
E						E					
F						F			01	—	—
G						G					01
H					01	H					01
I						I					
J						J					
4 A						32 A		01	—	—	—
B						B				01	—
C						C			01	—	—
D						D		01	—	—	—
E						E					01
F						F					01
G						G			01	—	—
H						H					01
I						I		01	—	—	—
J						J		01	—	—	—
8 A				01	—	64 A		01	—	—	—
B						B		01	—	—	—
C						C		01	—	—	—
D						D		01	—	—	—
E						E		01	—	—	—
F						F		01	—	—	—
G						G		01	—	—	—
H						H		01	—	—	—
I						I			01	—	—
J						J			01	—	—
Initial	TD	TD	TD	TD	TD		TD	TD	TD	TD	TD
Date	1/7/00	1/8/00	1/9/00	1/10/00	1/11/00		1/7/00	1/8/00	1/9/00	1/10/00	1/11/00

SRT

Prep sheet for Freshwater SRTs

Chironomus tentans / *Hyalella azteca*

10 replicates per concentration

20 mL per replicate

1 organism per replicate

Working Stock Solution

Add 0.064 grams of Cadmium chloride to 100 mL of DI water.

This will give you a 320 mg Cadmium/L stock solution.

Hyalella azteca

Add 1mL of the working stock solution to 1 liter of DI water.

This will give you a 32 ug Cadmium/L stock solution.

Concentration (ug/L)	Stock (mL)	Total (mL)
0	0	250
4	3.125	250
8	6.25	250
16	12.5	250
32	25	250
64	50	250

Chironomus tentans

Add 100 mL of the working stock solution to 1 Liter of DI water.

This will give you a 32 mg Cadmium/L stock solution.

Concentration (mg/L)	Stock (mL)	Total (mL)
0.2	1.6	250
0.6	4.7	250
1.6	12.5	250
5	39	250
15	117	250

H. azteca requires a screen substrate in each cup

C. tentans requires a small amount of sand enough to cover the bottom of each cup

SRTHA0.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/07/00 09:55:40	22.14	500.0	0.24	8.27	7.59
1	01/07/00 09:56:30	22.86	507.0	0.24	8.09	7.75
2	01/07/00 09:56:35	22.18	515.0	0.25	8.30	7.76
3	01/07/00 09:56:48	23.14	506.0	0.24	8.06	7.65
4	01/07/00 09:57:09	22.45	512.0	0.25	8.22	7.95
5	01/07/00 09:57:28	22.20	515.0	0.25	8.29	7.71

Subject #: SRT Test type: ACUTE CHRONIC OTHER _____

Date: 1/7/00

Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca

Day of Study: 0

OPERATIONAL RANGE:

Temperature: 22 to 24 Check if OK

Salinity: — to —

Dissolved oxygen: >40%

pH: 6.0 to 9.0

Meter Used:

Blue

Red

Measurements taken Jan 07 10:28:25 2000

SRTHA24.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/08/00 07:55:21	22.12	544.0	0.26	8.37	7.78
1	01/08/00 07:55:35	23.22	559.0	0.27	8.10	7.94
2	01/08/00 07:55:39	22.83	575.0	0.28	8.18	7.98
3	01/08/00 07:55:44	22.60	564.0	0.27	8.24	8.07
4	01/08/00 07:55:49	22.42	577.0	0.28	9.18	8.14
5	01/08/00 07:55:55	22.44	586.0	0.28	8.08	8.19

Subject #: SRT Test type: ACUTE CHRONIC OTHER
 Species: *P. promelas* *C. dubia* *M. bahia* Other *H. azteca*

Date: 1/8/00
 Day of Study: 24hr

OPERATIONAL RANGE: Check if OK
 Temperature: 22 to 24
 Salinity: to
 Dissolved oxygen: >40%
 pH: 6.0 to 9.0

Meter Used:
 Blue
 Red

SRTHA48.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/09/00 07:36:59	22.74	588.0	0.28	8.04	7.59
1	01/09/00 07:37:05	22.54	633.0	0.31	7.93	7.75
2	01/09/00 07:37:11	22.52	646.0	0.31	7.53	7.85
3	01/09/00 07:37:17	22.58	629.0	0.31	7.49	7.95
4	01/09/00 07:37:23	22.64	637.0	0.31	7.40	8.03
5	01/09/00 07:37:29	22.70	653.0	0.32	7.52	8.10

Project #: SRT Test type: ACUTE CHRONIC OTHER _____

Date: 1/9/00

Species: *P. promelas* *C. dubia* *M. bahia* Other H. arteca

Day of Study: 48hr

OPERATIONAL RANGE:

Temperature: 22 to 24 Check if OK

Salinity: — to —

Dissolved oxygen: >40%

pH: 6.0 to 9.0

Meter Used:

Blue

Red

SRTHA72.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/10/00 10:24:27	22.05	680.0	0.33	8.02	7.50
1	01/10/00 10:24:32	22.37	714.0	0.35	7.86	7.68
2	01/10/00 10:24:38	22.60	735.0	0.36	7.78	7.83
3	01/10/00 10:24:44	22.84	712.0	0.35	7.69	7.96
4	01/10/00 10:24:50	22.91	724.0	0.35	7.66	8.07

Project #: SRT Test type: ACUTE CHRONIC OTHER _____

Date: 1/10/00

Species: *P. promelas* *C. dubia* *M. bahia* Other H. azteca

Day of Study: 72 hrs

OPERATIONAL RANGE: Check if OK

Temperature: 22 to 24

Salinity: — to —

Dissolved oxygen: > 4.0

pH: 6.0 to 9.0

Meter Used:

Blue

Red

ions taken on Jan 10 10:40:52 2000

SRTHA96.DAT

	DateTime	Temp	SpCond	Salinity	DO Conc	pH
	M/D/Y	C	uS/cm	ppt	mg/L	
0	01/11/00 12:39:51	22.33	730.0	0.36	8.01	8.12
1	01/11/00 12:39:58	22.71	776.0	0.38	7.87	8.31
2	01/11/00 12:40:05	22.87	796.0	0.39	7.55	8.37
3	01/11/00 12:40:11	23.01	774.0	0.38	7.20	8.39
4	01/11/00 12:40:16	23.06	770.0	0.38	7.93	8.45

Subject #: SRT Test type: ACUTE CHRONIC OTHER _____
 Species: *P. promelas* *C. dubia* *M. bahia* Other *H. aetna*

Date: 1/11/00

Day of Study: 96hr

OPERATIONAL RANGE: Check if OK
 Temperature: 22 to 24
 Salinity: — to —
 Dissolved oxygen: >40%
 pH: 6.0 to 9.0

Meter Used:
 Blue
 Red

ions taken on Jan 11 12:56:56 2000

AQUA SURVEY, INC.

CULTURE LAB DISTRIBUTION FORM

DATE: 1/7/00
TEST JOB#: SRT CLIENT: In house
TEST LOCATION: IN-LAB [] FIELD []
TEST SPECIES: H. azteca
TOTAL NUMBER ORGANISMS TRANSFERRED: 60+
AQUA SURVEY, INC. CULTURE LAB INVESTIGATORS: CD

A. ORGANISMS

1. ASI CULTURE/HOLDING UNIT: H system
2. RECEIVING LOG #: N/A
3. CULTURE LOG #: 20-0008
4. AGE/SIZE INFORMATION: 7-10 days, 1-2 mm

B. HOLDING [] CULTURE [] WATER PARAMETERS

1. TEMPERATURE: 20.2 °C
2. SALINITY: N/A
3. WATER SOURCE: well H₂O

C. TRANSFER CUSTODY & TRANSFER

1. LIVESTOCK RELINQUISHMENT DATE: 1/7/00
TIME: 1000 hrs
BY: CD
2. LIVESTOCK RECEIVING DATE: 1/7/00
TIME: 1000 hrs
BY: TD
3. CULTURE SUPERVISOR OR SENIOR TECH. INITIALS: CD

REMARKS: _____

CHAINS OF CUSTODY



DAMES & MOORE

A DAMES & MOORE GROUP COMPANY

2325 Maryland Road
Willow Grove, Pennsylvania 19090
215 657 5000 Tel
215 657 5454 Fax

January 4, 2000

Mr. Tom Dolce
Aqua Survey, Inc.
499 Point Breeze Road
Flemington, New Jersey 08822

Re: Samples Received Wednesday, January 5, 2000
Toxicological Evaluation of Freshwater Sediments
Liberty Industrial Finishing Site, Farmingdale, New York

Dear Mr. Dolce:

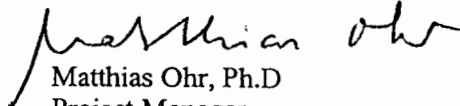
Enclosed are one-gallon volumes (approx.) each of two sediment samples (PA-10 and PA-13), which were collected on December 16, 1999 from Pond A at the Liberty Industrial Finishing Site. Please prepare and run both samples for the following tests:

- 14-day *C. tentans* toxicity test (\$785.00 for each test)
- 28-day *H. azteca* toxicity test (\$1,195.00 for each test)

Both tests should be certifiably run according to appropriate ASTM and EPA guidance. A review by the U.S. Environmental Protection Agency (EPA) of a previous ASI toxicity test report (January 14, 1999) noted that no initial counts of stocked organism were provided. Please provide explicitly such an initial count sheet in your report for this batch of samples. Further, EPA has requested that the laboratory provide a count of survivors and a count of carcasses at the end of each tests. Ideally, the sum of both counts should add up to the initial count.

I suggest you perform this work under our existing purchase order to a limit of \$3,960.00. We request that you deliver the report to Dames & Moore within 2-3 weeks from the termination of the final test exposure. Please call me at (215) 830-2068 with any questions you may have regarding the information contained in this letter.

Sincerely,
DAMES & MOORE


Matthias Ohr, Ph.D
Project Manager

C:\My Documents\Liberty\Eco Evaluation\word\asi 01-04-00.doc

cc: Weldon Bosworth (Dames & Moore)