

08/25/2022

Mountain Home WWTP
Mr. Terry Sanders
537 Hicks Rd
Mountain Home, AR 72653

Ref: Analytical Testing
Report Number: 22-221-0391
Client Project Description: Bioassay
AR0021211
Bi-annual 2

Dear Mr. Terry Sanders:

The results of this WET (Whole Effluent Toxicity) test are acceptable according to test review criteria. There were no significant deficiencies found in sample handling, test performance, or reporting. The test results are within the limits established by your NPDES permit and were entered into the permittee's records in the database.

Results:	<i>Ceriodaphnia dubia</i>	NOEL = 99 %	CV = 18.95 %	PMSD = 28.5 %
	Fathead minnow	NOEL = 99 %	CV = 12.50 %	PMSD = 24.1 %

Permit Limit: Critical Dilution = 99 %
 Maximum Coefficient of Variation (CV) < 40 %

EPA Methods: 1002.0 *Ceriodaphnia dubia* Survival and Reproduction
 1000.0 *Pimephales promelas* Larval Survival and Growth

All statistical interpretations generated by CETIS - Comprehensive Environmental Toxicity Information System (v.1.9.1.4). CETIS created by Tidepool Scientific Software

Respectfully,



Blake Smith
Lab Supervisor

CETIS Test Evaluation Report

Report Date: 25 Aug-22 14:20 (1 of 1)
 Test Code: 22-221-0391-cd | 05-9778-1640

Facility: Mountain Home WWTP
Sample Site:
Sample Code: 22-221-0391
Sample Date: 08 Aug-22 07:20
Sample Age: 32h (3.3 °C)
Project: WET Biannual Compliance Test (2nd)

Permittee: Mountain Home WWTP
Address: 752 North College
 Mountain Home, AR 72653

Contact: Mr. Terry Sanders
Phone: 870-425-6510
Email: tsanders@cityofmountainhome.com

Test Name: Ceriodaphnia 7-d Survival and Reproduction Test
Organism: Ceriodaphnia dubia (Water Flea)
Protocol: EPA/821/R-02-013 (2002)
Start Date: 09 Aug-22 14:52
End Date: 16 Aug-22 15:03
Duration: 7d 0h **Organism Age:** <24

Laboratory: Waypoint Analytical Tennessee , LLC.
Address: 2790 Whitten Road
 Memphis, TN 38133

Contact: Mrs. Blake Smith, Lab Supervisor
Phone: 901-271-5200, 901-213-2440(fax)
Email: Bsmith@wpacorp.com

Comments:

Chronic Toxicity Evaluation

Endpoint	Criteria	Conc-%	IWC	Decision	Method
7d Survival Rate	NOEL/LOEL	99/>99	98.99	Passes IWC	Fisher Exact/Bonferroni-Holm Test
Reproduction	NOEL/LOEL	99/>99	98.99	Passes IWC	Steel Many-One Rank Sum Test

Test Acceptability Criteria

Endpoint	Attribute	Test Stat	TAC Limits			Decision
			Lower	Upper	Overlap	
7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Acceptability Criteria
Reproduction	Control Resp	27.8	15	>>	Yes	Passes Acceptability Criteria

7d Survival Rate Data Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	L	10	1	1	1	1	1	0	0	0.00%	0.0%
31		10	0.9	0.784	1	0	1	0.1	0.3162	35.14%	10.0%
42		10	1	1	1	1	1	0	0	0.00%	0.0%
56		10	0.9	0.784	1	0	1	0.1	0.3162	35.14%	10.0%
74		10	1	1	1	1	1	0	0	0.00%	0.0%
99		10	1	1	1	1	1	0	0	0.00%	0.0%

Reproduction Data Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	L	10	27.8	26.03	29.57	17	34	1.526	4.826	17.36%	0.0%
31		10	25.2	21.28	29.12	0	37	3.379	10.69	42.40%	9.35%
42		10	26.9	25.32	28.48	17	32	1.362	4.306	16.01%	3.24%
56		10	26.6	22.65	30.55	0	37	3.407	10.77	40.50%	4.32%
74		10	30	27.26	32.74	10	36	2.362	7.468	24.89%	-7.91%
99		10	29.9	27.82	31.98	22	42	1.792	5.666	18.95%	-7.55%

CETIS Summary Report

Report Date: 25 Aug-22 14:20 (p 1 of 2)
 Test Code: 22-221-0391-cd | 05-9778-1640

Ceriodaphnia 7-d Survival and Reproduction Test

Waypoint Analytical Tennessee, LLC.

Batch ID: 19-3467-8518	Test Type: Reproduction-Survival (7d)	Analyst: Ivey E. Moffett
Start Date: 09 Aug-22 14:52	Protocol: EPA/821/R-02-013 (2002)	Diluent: 20% DMW
Ending Date: 16 Aug-22 15:03	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 7d 0h	Source: In-House Culture	Age: <24
Sample ID: 01-7989-1635	Code: 22-221-0391	Client: Mountain Home WWTP
Sample Date: 08 Aug-22 07:20	Material: POTW Effluent	Project: WET Biannual Compliance Test (2nd)
Receipt Date: 09 Aug-22 08:20	Source: Mountain Home WWTP (AR0021211)	
Sample Age: 32h (3.3 °C)	Station:	

Sample Renewals

Renewal	Sample Code	Sample Date	Receive Date	Renewal Date	Temp °C
1	22-221-0391	11 Aug-22 07:20	11 Aug-22 08:30	11 Aug-22 00:00	0.8
2	22-221-0391	11 Aug-22 07:45	12 Aug-22 08:15	13 Aug-22 00:00	2.4

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
14-1499-7554	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	99	> 99	n/a	1.01	n/a
15-3974-8035	Reproduction	Steel Many-One Rank Sum Test	99	> 99	n/a	1.01	28.5%

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
14-1499-7554	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Acceptability Criteria
15-3974-8035	Reproduction	Control Resp	27.8	15	>>	Yes	Passes Acceptability Criteria

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	L	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
31		10	0.9000	0.6738	1.0000	0.0000	1.0000	0.1000	0.3162	35.14%	10.00%
42		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
56		10	0.9000	0.6738	1.0000	0.0000	1.0000	0.1000	0.3162	35.14%	10.00%
74		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
99		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	L	10	27.8	24.35	31.25	17	34	1.526	4.826	17.36%	0.00%
31		10	25.2	17.56	32.84	0	37	3.379	10.69	42.40%	9.35%
42		10	26.9	23.82	29.98	17	32	1.362	4.306	16.01%	3.24%
56		10	26.6	18.89	34.31	0	37	3.407	10.77	40.50%	4.32%
74		10	30	24.66	35.34	10	36	2.362	7.468	24.89%	-7.91%
99		10	29.9	25.85	33.95	22	42	1.792	5.666	18.95%	-7.55%

CETIS Summary Report

Report Date: 25 Aug-22 14:20 (p 2 of 2)
Test Code: 22-221-0391-cd | 05-9778-1640

Ceriodaphnia 7-d Survival and Reproduction Test

Waypoint Analytical Tennessee , LLC.

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	L	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
31		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000
42		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
56		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000
74		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
99		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	L	28	26	31	34	31	17	29	23	30	29
31		26	32	24	32	37	28	26	15	0	32
42		30	26	30	24	32	28	27	17	25	30
56		29	30	29	37	34	28	34	17	28	0
74		35	33	31	31	34	10	32	36	27	31
99		31	32	29	42	32	27	28	22	33	23

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	L	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
31		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1
42		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
56		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1
74		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
99		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

CETIS Measurement Report

Report Date: 25 Aug-22 14:20 (p 1 of 3)
Test Code: 22-221-0391-cd | 05-9778-1640

Ceriodaphnia 7-d Survival and Reproduction Test

Waypoint Analytical Tennessee, LLC.

Batch ID: 19-3467-8518	Test Type: Reproduction-Survival (7d)	Analyst: Ivey E. Moffett
Start Date: 09 Aug-22 14:52	Protocol: EPA/821/R-02-013 (2002)	Diluent: 20% DMW
Ending Date: 16 Aug-22 15:03	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 7d 0h	Source: In-House Culture	Age: <24

Sample ID: 01-7989-1635	Code: 22-221-0391	Client: Mountain Home WWTP
Sample Date: 08 Aug-22 07:20	Material: POTW Effluent	Project: WET Biannual Compliance Test (2nd)
Receipt Date: 09 Aug-22 08:20	Source: Mountain Home WWTP (AR0021211)	
Sample Age: 32h (3.3 °C)	Station:	

CETIS Measurement Report

Report Date: 25 Aug-22 14:20 (p 2 of 3)
Test Code: 22-221-0391-cd | 05-9778-1640

Ceriodaphnia 7-d Survival and Reproduction Test

Waypoint Analytical Tennessee , LLC.

Total Residual Chlorine-mg/L

Conc-%	Code	1	2	3	4	5	6	7
0	L	0	0	0	0	0	0	0
31								
42								
56								
74								
99		0	0	0	0	0	0	0

Conductivity-µS/cm

Conc-%	Code	1	2	3	4	5	6	7
0	L	178.4	180.4	181	181.7	185.7	180.3	183.4
31								
42								
56								
74								
99		777	769.2	747.3	749.5	760.1	745.9	759.5

Final Dissolved Oxygen-mg/L

Conc-%	Code	1	2	3	4	5	6	7
0	L	8.4	8.2	8.9	9	9.7	8.2	8.9
31		8.4	8.2	8.8	8.9	9.6	8.3	8.9
42		8.4	8.3	8.9	8.8	9.6	8.4	8.9
56		8.4	8.3	8.9	8.8	9.7	8.4	8.9
74		8.4	8.4	9	8.7	9.8	8.4	9
99		8.3	8.5	9	8.8	9.9	8.6	9

Initial Dissolved Oxygen-mg/L

Conc-%	Code	1	2	3	4	5	6	7
0	L	8.3	8	8.4	8.5	8.6	8.4	8.4
31		8.2	8.2	9	9.1	8.8	8.5	8.7
42		8.2	8.6	9.2	9.3	8.9	8.7	8.7
56		8.3	8.6	9.5	9.5	8.9	8.9	8.7
74		8.4	8.7	9.6	9.7	8.9	9.2	8.8
99		8.5	8.9	10.2	10.3	8.9	9.7	9.4

Final pH-Units

Conc-%	Code	1	2	3	4	5	6	7
0	L	8.1	8.1	8.2	8.5	8.5	8.2	8.1
31		8.2	8.2	8.3	8.5	8.5	8.2	8.2
42		8.3	8.2	8.4	8.5	8.5	8.3	8.3
56		8.3	8.2	8.4	8.6	8.5	8.3	8.3
74		8.3	8.3	8.4	8.6	8.6	8.3	8.4
99		8.4	8.4	8.5	8.6	8.7	8.4	8.2

Initial pH-Units

Conc-%	Code	1	2	3	4	5	6	7
0	L	8.2	8.1	8.2	8.3	8.3	8.3	8.3
31		8.2	8.1	8.1	8.2	8.2	8.2	8.1
42		8.2	8.1	8.1	8.1	8.2	8.1	8
56		8	8	8	8.2	8.2	8	8
74		8.1	7.9	7.9	8	8.1	8	8
99		8.1	7.9	7.9	7.9	8.1	8	8

CETIS Measurement Report

Report Date: 25 Aug-22 14:20 (p 3 of 3)
Test Code: 22-221-0391-cd | 05-9778-1640

Ceriodaphnia 7-d Survival and Reproduction Test

Waypoint Analytical Tennessee, LLC.

Final Temperature-°C

Conc.-%	Code	1	2	3	4	5	6	7
0	L	24.9	24.9	24.8	24.7	25.3	24.9	24.9
31		24.7	25	24.8	24.7	25	24.8	25
42		24.7	24.8	24.8	24.8	24.9	24.8	25
56		24.8	24.6	24.8	24.8	25	24.8	25.1
74		24.7	24.9	24.8	24.7	25.1	24.9	24.8
99		24.9	24.8	25	24.7	25.4	25	25

Initial Temperature-°C

Conc.-%	Code	1	2	3	4	5	6	7
0	L	23.8	24.2	23.9	23.8	24.2	23.8	23.9
31		23.9	24.6	24.3	23.9	24.5	24.7	24
42		24.1	24.8	24.5	24.1	24.6	25	24.2
56		24.4	24.9	24.9	24.2	24.7	25.3	24.5
74		24.5	25.1	25.1	24.5	24.7	25.9	24.9
99		24.8	25.4	25.8	25	25.1	26.8	25.2

CETIS Test Evaluation Report

Report Date: 25 Aug-22 14:20 (1 of 1)
 Test Code: 22-221-0391-fh | 01-9419-2461

Facility: Mountain Home WWTP
Sample Site:
Sample Code: 22-221-0391
Sample Date: 08 Aug-22 07:20
Sample Age: 34h (3.3 °C)
Project: WET Biannual Compliance Test (2nd)

Permittee: Mountain Home WWTP
Address: 752 North College
 Mountain Home, AR 72653

Contact: Mr. Terry Sanders
Phone: 870-425-6510
Email: tsanders@cityofmountainhome.com

Test Name: Fathead Minnow 7-d Larval Survival and Growth Test
Organism: Pimephales promelas (Fathead Minnow)
Protocol: EPA/821/R-02-013 (2002)
Start Date: 09 Aug-22 16:50
End Date: 16 Aug-22 16:55
Duration: 7d 0h **Organism Age:** <24

Laboratory: Waypoint Analytical Tennessee , LLC.
Address: 2790 Whitten Road
 Memphis, TN 38133

Contact: Mrs. Blake Smith, Lab Supervisor
Phone: 901-271-5200, 901-213-2440(fax)
Email: Bsmith@wpcacorp.com

Comments:

Chronic Toxicity Evaluation

Endpoint	Criteria	Conc-%	IWC	Decision	Method
7d Survival Rate	NOEL/LOEL	99/>99	98.99	Passes IWC	Steel Many-One Rank Sum Test
Mean Dry Weight-mg	NOEL/LOEL	99/>99	98.99	Passes IWC	Dunnett Multiple Comparison Test

Test Acceptability Criteria

Endpoint	Attribute	Test Stat	TAC Limits			Decision
			Lower	Upper	Overlap	
7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Acceptability Criteria
Mean Dry Weight-mg	Control Resp	0.585	0.25	>>	Yes	Passes Acceptability Criteria

7d Survival Rate Data Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	L	5	1	1	1	1	1	0	0	0.00%	0.0%
31		5	1	1	1	1	1	0	0	0.00%	0.0%
42		5	0.975	0.9545	0.9955	0.875	1	0.025	0.0559	5.73%	2.5%
56		5	1	1	1	1	1	0	0	0.00%	0.0%
74		5	0.925	0.8999	0.9501	0.875	1	0.03062	0.06847	7.40%	7.5%
99		5	1	1	1	1	1	0	0	0.00%	0.0%

Mean Dry Weight-mg Data Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	L	5	0.585	0.5582	0.6118	0.4875	0.6875	0.03269	0.0731	12.50%	0.0%
31		5	0.84	0.8254	0.8546	0.7875	0.8875	0.01785	0.03992	4.75%	-43.59%
42		5	0.8275	0.796	0.859	0.7	0.9125	0.0384	0.08588	10.38%	-41.45%
56		5	0.865	0.8196	0.9104	0.7125	1.038	0.0554	0.1239	14.32%	-47.86%
74		5	0.795	0.7508	0.8392	0.6875	1	0.05385	0.1204	15.15%	-35.9%
99		5	0.8675	0.832	0.903	0.775	1	0.04323	0.09666	11.14%	-48.29%

CETIS Summary Report

Report Date: 25 Aug-22 14:20 (p 1 of 2)
 Test Code: 22-221-0391-fh | 01-9419-2461

Fathead Minnow 7-d Larval Survival and Growth Test

Waypoint Analytical Tennessee, LLC.

Batch ID: 07-9591-6576	Test Type: Growth-Survival (7d)	Analyst: Ivey E. Moffett
Start Date: 09 Aug-22 16:50	Protocol: EPA/821/R-02-013 (2002)	Diluent: 20% DMW
Ending Date: 16 Aug-22 16:55	Species: Pimephales promelas	Brine: Not Applicable
Duration: 7d 0h	Source: Aquatic Biosystems, CO	Age: <24
Sample ID: 01-7989-1635	Code: 22-221-0391	Client: Mountain Home WWTP
Sample Date: 08 Aug-22 07:20	Material: POTW Effluent	Project: WET Biannual Compliance Test (2nd)
Receipt Date: 09 Aug-22 08:20	Source: Mountain Home WWTP (AR0021211)	
Sample Age: 34h (3.3 °C)	Station:	

Sample Renewals

Renewal	Sample Code	Sample Date	Receive Date	Renewal Date	Temp °C
1	22-221-0391	11 Aug-22 07:20	11 Aug-22 08:30	11 Aug-22 00:00	0.8
2	22-221-0391	11 Aug-22 07:45	12 Aug-22 08:15	13 Aug-22 00:00	2.4

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
09-1126-9916	7d Survival Rate	Steel Many-One Rank Sum Test	99	> 99	n/a	1.01	6.46%
13-2541-8139	Mean Dry Weight-mg	Dunnett Multiple Comparison Test	99	> 99	n/a	1.01	24.1%

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
09-1126-9916	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Acceptability Criteria
13-2541-8139	Mean Dry Weight-mg	Control Resp	0.585	0.25	>>	Yes	Passes Acceptability Criteria

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	L	5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
31		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
42		5	0.9750	0.9056	1.0000	0.8750	1.0000	0.0250	0.0559	5.73%	2.50%
56		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
74		5	0.9250	0.8400	1.0000	0.8750	1.0000	0.0306	0.0685	7.40%	7.50%
99		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

Mean Dry Weight-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	L	5	0.585	0.4942	0.6758	0.4875	0.6875	0.03269	0.0731	12.50%	0.00%
31		5	0.84	0.7904	0.8896	0.7875	0.8875	0.01785	0.03992	4.75%	-43.59%
42		5	0.8275	0.7209	0.9341	0.7	0.9125	0.0384	0.08588	10.38%	-41.45%
56		5	0.865	0.7112	1.019	0.7125	1.038	0.0554	0.1239	14.32%	-47.86%
74		5	0.795	0.6455	0.9445	0.6875	1	0.05385	0.1204	15.15%	-35.90%
99		5	0.8675	0.7475	0.9875	0.775	1	0.04323	0.09666	11.14%	-48.29%

CETIS Summary Report

Report Date: 25 Aug-22 14:20 (p 2 of 2)
Test Code: 22-221-0391-fh | 01-9419-2461

Fathead Minnow 7-d Larval Survival and Growth Test

Waypoint Analytical Tennessee, LLC.

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	1.0000
31		1.0000	1.0000	1.0000	1.0000	1.0000
42		1.0000	1.0000	1.0000	0.8750	1.0000
56		1.0000	1.0000	1.0000	1.0000	1.0000
74		0.8750	1.0000	0.8750	0.8750	1.0000
99		1.0000	1.0000	1.0000	1.0000	1.0000

Mean Dry Weight-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	0.6125	0.5625	0.4875	0.575	0.6875
31		0.85	0.8875	0.7875	0.8625	0.8125
42		0.9	0.9125	0.8	0.7	0.825
56		0.875	0.7875	0.7125	0.9125	1.038
74		0.7875	1	0.6875	0.7375	0.7625
99		0.775	1	0.825	0.8	0.9375

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	8/8	8/8	8/8	8/8	8/8
31		8/8	8/8	8/8	8/8	8/8
42		8/8	8/8	8/8	7/8	8/8
56		8/8	8/8	8/8	8/8	8/8
74		7/8	8/8	7/8	7/8	8/8
99		8/8	8/8	8/8	8/8	8/8

CETIS Measurement Report

Report Date: 25 Aug-22 14:20 (p 1 of 3)
Test Code: 22-221-0391-fh | 01-9419-2461

Fathead Minnow 7-d Larval Survival and Growth Test

Waypoint Analytical Tennessee, LLC.

Batch ID: 07-9591-6576	Test Type: Growth-Survival (7d)	Analyst: Ivey E. Moffett
Start Date: 09 Aug-22 16:50	Protocol: EPA/821/R-02-013 (2002)	Diluent: 20% DMW
Ending Date: 16 Aug-22 16:55	Species: Pimephales promelas	Brine: Not Applicable
Duration: 7d 0h	Source: Aquatic Biosystems, CO	Age: <24

Sample ID: 01-7989-1635	Code: 22-221-0391	Client: Mountain Home WWTP
Sample Date: 08 Aug-22 07:20	Material: POTW Effluent	Project: WET Biannual Compliance Test (2nd)
Receipt Date: 09 Aug-22 08:20	Source: Mountain Home WWTP (AR0021211)	
Sample Age: 34h (3.3 °C)	Station:	

CETIS Measurement Report

Report Date: 25 Aug-22 14:20 (p 2 of 3)
Test Code: 22-221-0391-fh | 01-9419-2461

Fathead Minnow 7-d Larval Survival and Growth Test

Waypoint Analytical Tennessee , LLC.

Total Residual Chlorine-mg/L

Conc-%	Code	1	2	3	4	5	6	7
0	L	0	0	0	0	0	0	0
31								
42								
56								
74								
99		0	0	0	0	0	0	0

Conductivity-µS/cm

Conc-%	Code	1	2	3	4	5	6	7
0	L	178.4	180.4	181	181.7	185.7	180.3	183.4
31								
42								
56								
74								
99		777	769.2	747.3	749.5	760.1	745.9	759.5

Final Dissolved Oxygen-mg/L

Conc-%	Code	1	2	3	4	5	6	7
0	L	7	6.5	6.5	6.1	6.6	4.4	6.1
31		6.4	5.5	6.3	6	6	4.6	6
42		6.1	5.4	6.2	6.1	5.9	5	5.4
56		6.1	5.5	6	6.1	5.7	5.1	5.3
74		6.5	5.9	5.9	6	5.6	5.2	5.7
99		6.3	5.9	5.7	6.1	5.6	6	6.2

Initial Dissolved Oxygen-mg/L

Conc-%	Code	1	2	3	4	5	6	7
0	L	8.3	8	8.4	8.5	8.6	8.4	8.4
31		8.2	8.2	9	9.1	8.8	8.5	8.7
42		8.2	8.6	9.2	9.3	8.9	8.7	8.7
56		8.3	8.6	9.5	9.5	8.9	8.9	8.7
74		8.4	8.7	9.6	9.7	8.9	9.2	8.8
99		8.5	8.9	10.2	10.3	8.9	9.7	9.4

Final pH-Units

Conc-%	Code	1	2	3	4	5	6	7
0	L	7.7	7.4	7.5	7.6	7.5	7.4	7.5
31		7.7	7.5	7.6	7.7	7.5	7.5	7.6
42		7.6	7.5	7.6	7.7	7.6	7.5	7.6
56		7.8	7.6	7.6	7.7	7.6	7.6	7.7
74		7.9	7.6	7.7	7.8	7.6	7.6	7.7
99		7.9	7.7	7.7	7.9	7.9	7.8	7.9

Initial pH-Units

Conc-%	Code	1	2	3	4	5	6	7
0	L	8.2	8.1	8.2	8.3	8.3	8.3	8.3
31		8.2	8.1	8.1	8.2	8.2	8.2	8.1
42		8.2	8.1	8.1	8.1	8.2	8.1	8
56		8	8	8	8.2	8.2	8	8
74		8.1	7.9	7.9	8	8.1	8	8
99		8.1	7.9	7.9	7.9	8.1	8	8

CETIS Measurement Report

Report Date: 25 Aug-22 14:20 (p 3 of 3)
Test Code: 22-221-0391-fh | 01-9419-2461

Fathead Minnow 7-d Larval Survival and Growth Test

Waypoint Analytical Tennessee, LLC.

Final Temperature-°C

Conc-%	Code	1	2	3	4	5	6	7
0	L	24.7	24.9	24.6	24.4	24.8	24.8	24
31		24.8	24.9	24.6	24.4	24.8	24.9	24.1
42		24.8	24.8	24.7	24.5	24.9	24.8	24
56		24.8	24.9	24.7	24.3	24.9	24.7	24.1
74		24.8	25	24.6	24.3	24.8	24.7	24
99		24.8	24.9	24.5	24.6	24.8	24.7	24.2

Initial Temperature-°C

Conc-%	Code	1	2	3	4	5	6	7
0	L	23.8	24.2	23.9	23.8	24.2	23.8	23.9
31		23.9	24.6	24.3	23.9	24.5	24.7	24
42		24.1	24.8	24.5	24.1	24.6	25	24.2
56		24.4	24.9	24.9	24.2	24.7	25.3	24.5
74		24.5	25.1	25.1	24.5	24.7	25.9	24.9
99		24.8	25.4	25.8	25	25.1	26.8	25.2

Additional Toxicity Test Information

1. Methods/Instrumentation used in chemical analysis:
 - Dissolved oxygen, DM 4: (SM 4500-O G-2011)
 - pH, PH 21: (SM 4500-H + B-2011)
 - Temperature, T148 & T124
 - Conductivity, C 2: (SM 2510 B-2011)
 - Alkalinity: (SM 2320 B-2011)
 - Hardness: (EPA 200.7 / SM 2340 B-2011)
 - Total Residual Chlorine: (SM 4500-CL G-2011)
 - Reported value of “0” indicates result below detection limit of 0.02 mg/L
 - Reported value of “1” indicates result above detection limit of 0.02 mg/L
 - EPA Acute Manual Edition and Date: EPA-821-R-02-012, OCT 2002 (Fifth edition)
 - EPA Chronic Manual Edition and Date: EPA-821-R-02-013, OCT 2002 (Fourth edition)
2. Laboratory
 - Incubator Temperature: 25± 1°C
 - Incubator ID: BIO Thermometer ID: 120554
 - Sample Temperature: 25± 3°C
 - Sample Temperatures are read after the organisms have been transferred and counted.
 - Depending on temperature of laboratory and time spent on organisms the temperature of the sample may drop below limits. However, the organisms are maintained at 25± 3°C
 - Light Cycle: 16 hours light/ 8 hours dark
 - Light intensity: 50-100 foot-candles, average
 - Control (Dilution) Water: Dilute mineral water made with 20 % Perrier in Nanopure (20%DMW)
 - Maintained in the incubator at 25± 1°C
 - Pretreatment: none
3. Method 1002.0 *Ceriodaphnia dubia* Survival and Reproduction
 - Test chambers: 30 mL disposable plastic beakers
 - Volume per chamber: 15 mL
 - Number of organisms per chamber: 1
 - Number of replicates: 10
 - Food: *Ceriodaphnia dubia* are fed 0.15mL *Raphidocelis subcapitata* (Algae) and YTC solution daily.
 - Acclimation of organisms: In house cultures are raised at 25°C. Purchased organisms are allowed to reach 25°C prior to use.
4. Method 1000.0 *Pimephales promelas* (Fathead minnow) Larval Survival and Growth
 - Test chambers: 20 oz. Disposable plastic cups
 - Volume per chamber: 250 mL
 - Average number of organisms per chamber: 8
 - Number of replicates per concentration: 5
 - Food: Fathead minnows are fed 0.15 mL *Artemia* brine shrimp hatched in laboratory twice daily
 - Acclimation of organisms: Dilution water is added until organisms are contained in a culture media that consists of 80% dilution water. Organisms are allowed to reach 25°C prior to use.
5. Reference Toxicity
 - Reference toxicity tests are performed monthly on each method performed by the laboratory.
 - Potassium Chloride is used as the reference toxicity chemical for vertebrate species
 - Current chemical ID: CS 6169894
 - Sodium Chloride is used as the reference toxicity chemical for invertebrate species
 - Current chemical ID: CS 6166591
6. Indicate below any other relevant information that may aid in the evaluation of this report. Include any deviations from EPA methodology that were necessary for these tests as well as any sample manipulations which were performed, such as aeration, dechlorination with sodium thiosulfate, etc. and the justification for such manipulations or deviations. Attach additional pages as needed.
 - Sample filtered with 60-micron mesh to remove excess debris
Sefar Nitex 30-60/35 mesh. Lot 2512750103

03314
 Mountain Home WWTP
 Mr. Terry Sanders
 537 Hicks Rd
 Mountain Home , AR 72653

Project Bioassay QTR 3 A 08/07-08/2022
 Information :

Report Number : **22-221-0391**

REPORT OF ANALYSIS

Report Date : 08/25/2022

Received : 08/09/2022

Lab No : **96564**

Matrix: **Aqueous**

Sample ID : **22-1312 Outfall 001 - Composite 1**

Sampled: **8/8/2022 7:20**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Alkalinity (as CaCO ₃)	164	mg/L	1	1	08/22/22 10:00	NNL	2320B-2011
Calcium	42.8	mg/L	0.500	1	08/15/22 17:28	EAL	EPA-200.7
Hardness as CaCO ₃ (SM-2340B)	211	mg/L	0.100	1	08/15/22 17:28		EPA-200.7
Magnesium	25.2	mg/L	0.100	1	08/15/22 17:28	EAL	EPA-200.7

Lab No : **96565**

Matrix: **Aqueous**

Sample ID : **22-1324 Outfall 001- Composite 2**

Sampled: **8/11/2022 7:20**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Alkalinity (as CaCO ₃)	163	mg/L	1	1	08/23/22 10:18	JBC	2320B-2011
Calcium	44.2	mg/L	0.500	1	08/15/22 17:34	EAL	EPA-200.7
Hardness as CaCO ₃ (SM-2340B)	217	mg/L	0.100	1	08/15/22 17:34		EPA-200.7
Magnesium	25.9	mg/L	0.100	1	08/15/22 17:34	EAL	EPA-200.7

Lab No : **96566**

Matrix: **Aqueous**

Sample ID : **22-1336 Outfall 001- Composite 3**

Sampled: **8/11/2022 7:45**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Alkalinity (as CaCO ₃)	161	mg/L	1	1	08/23/22 10:18	JBC	2320B-2011
Calcium	44.2	mg/L	0.500	1	08/17/22 21:23	EAL	EPA-200.7
Hardness as CaCO ₃ (SM-2340B)	219	mg/L	0.100	1	08/17/22 21:23		EPA-200.7
Magnesium	26.4	mg/L	0.100	1	08/17/22 21:23	EAL	EPA-200.7

Qualifiers/ Definitions DF Dilution Factor L Limit Exceeded
 MQL Method Quantitation Limit

1

Kit ID:	166590
Initiated By:	Sydney Andres
Initiated Date:	9/15/2021
Project Comment	Mountain home bioassay

CHAIN-OF-CUSTODY



22-221-0391
 03314
 08-09-2022
 09:36:16
 Mountain Home WWTP
 Bioassav QTR 3 A 08/07-08/2022

Company Name	Company Number	Client Project Manager/Contact	Purchase Order Number
Mountain Home WWTP	03314	Mr. Terry Sanders	9908286
Site Name	Project Number	<input type="checkbox"/> RUSH – Additional charges apply <input type="checkbox"/> Special Detection Limits(s) Date Results Needed	Method of Shipment <input type="checkbox"/> Fed Ex <input checked="" type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Courier <input type="checkbox"/> Client Drop Off Other
Bioassav Qtr 3 A 08/07-08/2022			
LIMS Project ID	Project Manager Phone #	Project Manager Email	Site/Facility ID #
Mountain Home - Bioassay	(870) 425-6510	tsanders@cityofmountainhome.com	

Date	Time	Sample ID	Matrix	Grab/Comp	# of Cont	Container Type	Preservation	Analyses
8-8-22	7:20a	22-1312 Outfall 001 - Composite 1	Aqueous	C	1	Plastic - Pint	NONE	alkalinity
8-8-22	7:20a	22-1312 Outfall 001 - Composite 1	Aqueous	C	1	Plastic - Pint	HNO3 - Nitric Acid	hardness
8-8-22	7:20a	22-1312 Outfall 001 - Composite 1	Aqueous	C	2	Plastic - Gallon	NONE	chronic CD/FH

For Laboratory Use Only			Sampled by (Name - Print)	Client Remarks/Comments			
Ice	Custody Seals	Lab Comments	JAMES HESTLEY				
Y/N	Y/N		Relinquished by: (SIGNATURE)	Date Time	Received by: (SIGNATURE)	Date Time	
			Terry Sanders	8-8-22 1:45			
			Relinquished by: (SIGNATURE)	Date Time	Received by: (SIGNATURE)	Date Time	
Blank/Cooler Temp			Relinquished by: (SIGNATURE)	Date Time	Received by: (SIGNATURE)	Date Time	
3.3°C							
TT37							

Kit ID:	166591
Initiated By:	Sydney Andres
Initiated Date:	9/15/2021
Project Comment	Mountain Home bioassay

CHAIN-OF-CUSTODY

#2

Company Name	Company Number	Client Project Manager/Contact	Purchase Order Number
Mountain Home WWTP	03314	Mr. Terry Sanders	9908286
Site Name	Project Number	<input type="checkbox"/> RUSH – Additional charges apply <input type="checkbox"/> Special Detection Limits(s) Date Results Needed	Method of Shipment
Bioassay Qtr 3 B 08/09-10/2022			<input type="checkbox"/> Fed Ex <input checked="" type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Courier <input type="checkbox"/> Client Drop Off Other
LIMS Project ID	Project Manager Phone #	Project Manager Email	Site/Facility ID #
Mountain Home - Bioassay	(870) 425-6510	tsanders@cityofmountainhome.com	

Date	Time	Sample ID	Matrix	Grab/Comp	# of Cont	Container Type	Preservation	Analyses
8-11-22	7:20am	22-1324 Outfall 001 - Composite 2	Aqueous	C	1	Plastic - Pint	NONE	alkalinity
8-11-22	7:20am	22-1324 Outfall 001 - Composite 2	Aqueous	C	1	Plastic - Pint	HNO3 - Nitric Acid	hardness
8-11-22	7:20am	22-1324 Outfall 001 - Composite 2	Aqueous	C	2	Plastic - Gallon	NONE	chronic CD/FH


 Mountain Home WWTP
 Bioassay QTR 3 A 08/07-08/2022 / 8/9/22
 22-221-0391
 03314
 08-09-2022
 09:36:16

For Laboratory Use Only			Sampled by (Name - Print)	Client Remarks/Comments				
Ice	Custody Seals	Lab Comments	JAMES HESTLEY					
(Y/N)	(Y/N)		Relinquished by: (SIGNATURE)	Date	Time	Received by: (SIGNATURE)	Date	Time
			Terry Sanders	8-10-22	2:15 ^h			
Blank/Cooler Temp			Relinquished by: (SIGNATURE)	Date	Time	Received by: (SIGNATURE)	Date	Time
0.8 T99 JTH						Summer Harrison	8/11/22	08:30



#3

Kit ID:	166592
Initiated By:	Sydney Andres
Initiated Date:	9/15/2021
Project Comment	Mountain Home bioassay

CHAIN-OF-CUSTODY



Mountain Home WWTP
 Bioassav QTR 3 A 08/07-08/2022 / 8/11/22/8/9/22

22-221-0391
 03314
 08-09-2022
 09:36:16

Company Name	Company Number	Client Project Manager/Contact	Purchase Order Number
Mountain Home WWTP	03314	Mr. Terry Sanders	9908286
Site Name	Project Number	<input type="checkbox"/> RUSH – Additional charges apply <input type="checkbox"/> Special Detection Limits(s) Date Results Needed	Method of Shipment
Bioassay Qtr 3 C 08/07-08/09/2022			<input checked="" type="checkbox"/> Fed Ex <input checked="" type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Courier <input type="checkbox"/> Client Drop Off Other
LIMS Project ID	Project Manager Phone #	Project Manager Email	Site/Facility ID #
Mountain Home - Bioassay	(870) 425-6510	tsanders@cityofmountainhome.com	

Date	Time	Sample ID	Matrix	Grab/Comp	# of Cont	Container Type	Preservation	Analyses
8-11-22	7:45a	22-1336 Outfall 001 - Composite 3	Aqueous	C	1	Plastic - Pint	NONE	alkalinity
8-11-22	7:45a	22-1336 Outfall 001 - Composite 3	Aqueous	C	1	Plastic - Pint	HNO3 - Nitric Acid	hardness
8-11-22	7:45a	22-1336 Outfall 001 - Composite 3	Aqueous	C	3	Plastic - Gallon	NONE	chronic CD/FH

For Laboratory Use Only			Sampled by (Name - Print)	Client Remarks/Comments			
Ice	Custody Seals	Lab Comments	JAMES HESTLEY				
Y/N	Y/N		Relinquished by: (SIGNATURE)	Date Time	Received by: (SIGNATURE)	Date Time	
			Terry Sanders	8-11-22 2:20			
			Relinquished by: (SIGNATURE)	Date Time	Received by: (SIGNATURE)	Date Time	
Blank/Cooler Temp			Relinquished by: (SIGNATURE)	Date Time	Received by: (SIGNATURE)	Date Time	
2.4°C							
T/37							

Sample ID: Mountain Home Date/Time Start: 8/9/2022 14:52 Analyst: IM

Report # 22-221-0391 Date/Time End: 8/16/2022 15:03 Analyst: IM

Data Entered By: 8/24/22 IM Data Reviewed By: BS 8/25/22
date / initial date / initial

Method 1002.0 - Ceriodaphnia dubia Survival and Reproduction Data

Conc. % EFF	Day #	1	2	3	4	5	6	7	8	9	10	Total live young	# live Adults	Young per Live adult	
Control	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0	✓
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0	
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0	
	4	4	0	6	6	6	0	4	4	4	5	39	10	3.9	
	5	10	10	10	12	11	6	9	7	10	10	95	10	9.5	
	6	0	0	0	0	0	11	0	0	0	0	11	10	1.1	
	7	14	16	15	16	14	0	16	12	16	14	133	10	13.3	
Replicate Totals	---	28	26	31	34	31	17	29	23	30	29	Avg. Yng/ adult=	27.80	% Coeff 17.36	
32	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0	✓
	2	0	0	0	0	0	0	0	0	0	x	0	10	0.0	
	3	0	0	0	0	0	0	0	0	0	x	0	10	0.0	
	4	5	5	4	4	6	2	2	0	x	4	32	10	3.2	
	5	7	11	9	11	13	10	10	5	x	11	87	10	8.7	
	6	0	0	0	0	0	0	0	10	x	0	10	10	1.0	
	7	14	16	11	17	18	16	14	0	x	17	123	10	12.3	
Replicate Totals	---	26	32	24	32	37	28	26	15	0	32	Avg. Yng/ adult=	25.20	% Coeff 42.40	
42	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0	✓
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0	
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0	
	4	4	3	5	0	4	3	3	0	3	3	28	10	2.8	
	5	11	7	10	8	12	10	10	5	0	11	84	10	8.4	
	6	0	0	0	15	0	0	0	10	9	0	34	10	3.4	
	7	15	16	15	1	16	15	14	2	13	16	123	10	12.3	
Replicate Totals	---	30	26	30	24	32	28	27	17	25	30	Avg. Yng/ adult=	26.90	% Coeff 16.01	
56	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0	✓
	2	0	0	0	0	0	0	0	0	0	x	0	10	0.0	
	3	0	0	0	0	0	0	0	0	0	x	0	10	0.0	
	4	5	5	3	5	4	3	6	0	4	x	35	10	3.5	
	5	9	11	12	13	11	7	11	5	6	x	85	10	8.5	
	6	0	0	0	0	0	0	0	12	2	x	14	10	1.4	
	7	15	14	14	19	19	18	17	0	16	x	132	10	13.2	
Replicate Totals	---	29	30	29	37	34	28	34	17	28	0	Avg. Yng/ adult=	26.80	% Coeff 40.50	
75	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0	✓
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0	
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0	
	4	6	5	4	4	6	0	4	6	3	3	41	10	4.1	
	5	11	11	12	11	11	0	11	13	9	11	100	10	10.0	
	6	0	0	0	0	0	10	0	0	0	0	10	10	1.0	
	7	18	17	15	16	17	0	17	17	15	17	149	10	14.9	
Replicate Totals	---	35	33	31	31	34	10	32	36	27	31	Avg. Yng/ adult=	30.00	% Coeff 24.89	
100	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0	✓
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0	
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0	
	4	3	4	5	8	4	2	4	0	3	0	33	10	3.3	
	5	11	10	10	15	12	9	11	7	12	7	104	10	10.4	
	6	0	0	0	0	0	0	0	0	0	16	16	10	1.6	
	7	17	18	14	19	16	16	13	15	18	0	146	10	14.6	
Replicate Totals	---	31	32	29	42	32	27	28	22	33	23	Avg. Yng/ adult=	29.90	% Coeff 18.95	

7 DAYS

Parameters for control acceptability:
 Page 19 of 30
 - the average number of live adults must be >= 80 %
 - the average number a young per live adult must be >= 15.
 - 60 % of the controls must produce 3 broods.

#'s represent the number of young per live organism.
 X represents death of the organism.
 M represents a missing organism.

Sample ID: Mountain Home Date/Time Start: 8/9/2022 16:50 Analyst: IM

Report # 22-221-0391 Date/Time End: 8/16/22 16:55 Analyst: IM

Data Entered By: 8/24/22 IM Data Reviewed By: BS 8/25/22
date / initial date / initial

Method 1000.0 - *Pimephales promelas* (Fathead Minnow) Survival and Growth Data

Conch % EFF	REP	DAY								Proportion Survival	Avg. Dry Wt. surviving org (mg)	Avg. Dry Wt. original org (mg)	initial weight	final weight
		0	1	2	3	4	5	6	7					
Control	A	8	8	8	8	8	8	8	8	1.00	0.613	0.613	30.7017	30.7066
	B	8	8	8	8	8	8	8	8	1.00	0.563	0.563	25.4355	25.4400
	C	8	8	8	8	8	8	8	8	1.00	0.488	0.488	31.1271	31.1310
	D	8	8	8	8	8	8	8	8	1.00	0.575	0.575	33.1227	33.1273
	E	8	8	8	8	8	8	8	8	1.00	0.687	0.687	31.0910	31.0965

Mean proportion survival = 1.00

Mean average weight (original organisms) mg = 0.5850 Survival % COEF = 0.00

Mean average weight (surviving organisms) mg = 0.5850 Growth % COEF = 12.50

32	A	8	8	8	8	8	8	8	8	1.00	0.850	0.850	28.7312	28.7380
	B	8	8	8	8	8	8	8	8	1.00	0.888	0.888	23.0996	23.1067
	C	8	8	8	8	8	8	8	8	1.00	0.788	0.788	23.5144	23.5207
	D	8	8	8	8	8	8	8	8	1.00	0.863	0.863	22.0141	22.0210
	E	8	8	8	8	8	8	8	8	1.00	0.813	0.813	35.2589	35.2654

Mean proportion survival = 1.00

Mean average weight (original organisms) mg = 0.8400 Survival % COEF = 0.00

Growth % COEF = 4.75

42	A	8	8	8	8	8	8	8	8	1.00	0.900	0.900	31.3512	31.3584
	B	8	8	8	8	8	8	8	8	1.00	0.912	0.912	28.7234	28.7307
	C	8	8	8	8	8	8	8	8	1.00	0.800	0.800	31.2691	31.2755
	D	8	8	8	8	8	8	8	7	0.88	0.700	0.700	31.5546	31.5602
	E	8	8	8	8	8	8	8	8	1.00	0.825	0.825	34.4957	34.5023

Mean proportion survival = 0.98

Mean average weight (original organisms) mg = 0.8275 Survival % COEF = 5.73

Growth % COEF = 10.38

56	A	8	8	8	8	8	8	8	8	1.00	0.875	0.875	30.8693	30.8763
	B	8	8	8	8	8	8	8	8	1.00	0.787	0.787	27.5273	27.5336
	C	8	8	8	8	8	8	8	8	1.00	0.712	0.712	31.5970	31.6027
	D	8	8	8	8	8	8	8	8	1.00	0.913	0.913	27.0327	27.0400
	E	8	8	8	8	8	8	8	8	1.00	1.038	1.038	27.5966	27.6049

Mean proportion survival = 1.00

Mean average weight (original organisms) mg = 0.8650 Survival % COEF = 0.00

Growth % COEF = 14.32

75	A	8	8	8	8	8	8	8	7	0.88	0.787	0.787	30.2276	30.2339
	B	8	8	8	8	8	8	8	8	1.00	1.000	1.000	30.1748	30.1828
	C	8	8	8	8	8	8	8	7	0.88	0.688	0.688	31.1023	31.1078
	D	8	8	8	8	8	8	8	8	1.00	0.738	0.738	30.8796	30.8855
	E	8	8	8	8	8	8	8	8	1.00	0.763	0.763	32.2827	32.2888

Mean proportion survival = ~~0.85~~ 0.93

Mean average weight (original organisms) mg = 0.7950 Survival % COEF = 7.21

Growth % COEF = 15.15

100	A	8	8	8	8	8	8	8	8	1.00	0.775	0.775	33.8001	33.8063
	B	8	8	8	8	8	8	8	8	1.00	1.000	1.000	24.5195	24.5275
	C	8	8	8	8	8	8	8	8	1.00	0.825	0.825	27.0114	27.0180
	D	8	8	8	8	8	8	8	8	1.00	0.800	0.800	32.4030	32.4094
	E	8	8	8	8	8	8	8	8	1.00	0.938	0.938	28.5087	28.5162

Mean proportion survival = 1.00

Mean average weight (original organisms) mg = 0.8675 Survival % COEF = 0.00

Growth % COEF = 11.14

Parameters for control acceptability:

- the mean proportion survival must be $\geq 80\%$
- the mean average weight must be $\geq 0.250\text{mg}$

Waypoint Analytical, LLC.
 READINGS DATA SHEET FOR 7-DAY CHRONIC TESTING

SAMPLE ID: Mountain Home

Report Number: 22-221-0391

Date test started: 8/9/22

		DAY 1	2	3	4	5	6	7
INITIAL READINGS	pH CTRL	8.2	8.1	8.2	8.3	8.3	8.3	8.3
	Initial R							
	1	8.2	8.1	8.1	8.2	8.2	8.2	8.1
	2	8.2	8.1	8.1	8.1	8.2	8.1	8.0
	3	8.0	8.0	8.0	8.2	8.2	8.0	8.0
	4	8.1	7.9	7.9	8.0	8.1	8.0	8.0
	5	8.1	7.9	7.9	7.9	8.1	8.0	8.0
	DO CTRL	8.3	8.0	8.4	8.5	8.6	9.584	8.4
	Initial (mg/L) R						BS	
	1	8.2	8.2	9.0	9.1	8.8	8.5	8.7
	2	8.2	8.6	9.2	9.3	8.9	8.7	8.7
	3	8.3	8.6	9.5	9.5	8.9	8.9	8.7
	4	8.4	8.7	9.6	9.7	8.9	9.2	8.8
	5	8.5	8.9	10.2	10.3	8.9	9.7	9.4
	Temp CTRL	23.8	24.2	23.9	23.8	24.2	23.8	23.9
Initial (°C) R								
1	23.9	24.6	24.3	23.9	24.5	24.7	24.0	
2	24.1	24.8	24.5	24.1	24.6	25.0	24.2	
3	24.4	24.9	24.9	24.2	24.7	25.3	24.5	
4	24.5	25.1	25.1	24.6	24.7	25.9	24.9	
5	24.8	25.4	25.8	25.0	25.1	26.8	25.2	
ANALYST:	IM	IM	IM	IM	CF	BS	IM	
DATE:	8/9/22	8/10/22	8/11/22	8/12/22	8/13/22	8/14/22	8/15/22	

		DAY 1	2	3	4	5	6	7
CERIODAPHNIA DUBIA READINGS	pH - CD CTRL	8.1	8.1	8.2	8.5	8.5	8.2	8.1
	After 24 hrs. R							
	1	8.2	8.2	8.3	8.5	8.5	8.2	8.2
	2	8.3	8.2	8.4	8.5	8.5	8.3	8.3
	3	8.3	8.2	8.4	8.6	8.5	8.3	8.3
	4	8.3	8.3	8.4	8.6	8.6	8.3	8.4
	5	8.4	8.4	8.5	8.6	8.7	8.4	8.2
	DO - CD CTRL	8.4	8.2	8.9	9.0	9.7	8.2	8.9
	After 24 hrs. R							
	1	8.4	8.2	8.8	8.9	9.6	8.3	8.9
	2	8.4	8.3	8.9	8.8	9.6	8.4	8.9
	3	8.4	8.3	8.9	8.8	9.7	8.4	8.9
	4	8.4	8.4	9.0	8.7	9.8	8.4	9.0
	5	8.3	8.5	9.0	8.8	9.9	8.6	9.0
	Temp CTRL	24.9	24.9	24.8	24.7	25.3	24.9	24.9
After 24 hrs (°C)R								
1	24.7	25.0	24.8	24.7	25.0	24.8	25.0	
2	24.7	24.8	24.8	24.8	24.9	24.8	25.0	
3	24.8	24.6	24.8	24.8	25.0	24.8	25.1	
4	24.7	24.9	24.8	24.7	25.1	24.9	24.8	
5	24.9	24.8	25.0	24.7	25.4	25.0	25.0	
ANALYST:	IM	IM	IM	CF	BS	IM	IM	
DATE:	8/10/22	8/11/22	8/12/22	8/13/22	8/14/22	8/15/22	8/16/22	

READINGS DATA SHEET FOR 7-DAY CHRONIC TESTING

SAMPLE ID: Mountain Home

Report Number: 22-221-0391

Date test started: 8/9/22

DAY		1	2	3	4	5	6	7
FATHEAD MINNOW READINGS	pH - FH CTRL	7.7	7.4	7.8	7.6	7.5	7.4	7.5
	After 24 hrs. R							
	1	7.7	7.5	7.6	7.7	7.5	7.5	7.6
	2	7.6	7.5	7.6	7.7	7.6	7.5	7.6
	3	7.8	7.6	7.6	7.7	7.6	7.6	7.7
	4	7.9	7.6	7.7	7.8	7.6	7.6	7.7
	5	7.9	7.7	7.7	7.9	7.9	7.8	7.9
	DO - FH CTRL	7.0	6.5	6.5	6.1	6.6	4.4	6.1
	After 24 hrs. R							
	1	6.4	5.5	6.3	6.0	6.0	4.6	6.0
	2	6.1	5.4	6.2	6.1	5.9	5.0	5.4
	3	6.1	5.5	6.0	6.1	5.7	5.1	5.3
	4	6.5	5.9	5.9	6.0	5.6	5.2	5.7
	5	6.3	5.9	5.7	6.1	5.6	6.0	6.2
	Temp CTRL	24.7	24.9	24.0	24.4	24.8	24.8	24.0
After 24 hrs (°C)R								
1	24.8	24.9	24.6	24.4	24.8	24.9	24.1	
2	24.8	24.8	24.7	24.5	24.9	24.8	24.0	
3	24.8	24.9	24.7	24.3	24.9	24.7	24.1	
4	24.8	25.0	24.6	24.3	24.8	24.7	24.0	
5	24.8	24.9	24.5	24.6	24.8	24.7	24.2	
ANALYST:	IM	IM	IM	CF	BS	IM	CF	
DATE:	8/10/22	8/11/22	8/12/22	8/13/22	8/14/22	8/15/22	8/16/22	

Conductivity (µS/cm)

INITIAL READINGS	Initial CTRL	178.4	180.4	181.0	181.7	185.7	180.3	183.4	
	R								
	100%	777.0	769.2	747.3	749.5	760.1	745.9	759.5	
	INITIAL:	IM	IM	IM	IM	CF	BS	IM	
	DATE:	8/9/22	8/10/22	8/11/22	8/12/22	8/13/22	8/14/22	8/15/22	
	Total Residual Chlorine DL = 0.02mg/L								
	Initial CTRL	20.02		20.02		20.02			
	R								
	100%	20.02		20.02		20.02			
	INITIAL:	IM		IM		CF			
DATE:	8/9/22		8/11/22		8/13/22				
DPD Cl2 Reagent	22-Reag- 1342			22-Reag- 1342		22-Reag- 1342			

Comments / Observations:

Tests are maintained at 25 ± 1 °C

Incubator ID: BIO Thermometer ID: 120554

Meter	ID
pH	PH 21
Conductivity	C 2
DO	DM4
Temp.	T148

Waypoint Analytical, LLC.
CERIODAPHNIA SURVIVAL AND REPRODUCTION DATA

SAMPLE ID: Mountain Home

TEST START - DATE/TIME: 8/9/22 14:52 ANALYST: LM

REPORT #: 22-221-0391

TEST END - DATE/TIME: 8/16/22 1503 ANALYST: LM

ORGANISM REF#: 22-REAG-0003

RANDOMIZING KEY #: 33

ANALYST:

CONC.	REPLICATE										INITIALS	DATE	
1	DAY	1	2	3	4	5	6	7	8	9	10		
	1	0	0	0	0	0	0	0	0	0	0	LM	8/10/22
	2	0	0	0	0	0	0	0	0	0	0	LM	8/11/22
	3	0	0	0	0	0	0	0	0	0	0	LM	8/12/22
	4	4	3	3	4	6	2	4	4	X	3	CF	8/13/22
	5	11	7	12	11	13	9	11	7	1	11	BS	8/14/22
	6	0	0	0	0	0	0	0	0	0	0	LM	8/15/22
	7	15	16	14	16	18	16	17	12	1	16	LM	8/16/22
CONC.	REPLICATE										INITIALS		
2	DAY	1	2	3	4	5	6	7	8	9	10		
	1	0	0	0	0	0	0	0	0	0	0	LM	
	2	0	0	0	0	0	0	0	0	0	0	LM	
	3	0	0	0	0	0	0	0	0	0	0	LM	
	4	6	0	6	0	6	3	3	6	4	0	CF	
	5	16	0	6	0	16	7	10	13	10	7	BS	
	6	0	0	0	0	0	0	0	0	0	16	LM	
	7	18	16	15	15	14	18	14	17	16	0	LM	
CONC.	REPLICATE										INITIALS		
3	DAY	1	2	3	4	5	6	7	8	9	10		
	1	0	0	0	0	0	0	0	0	0	0	LM	
	2	0	0	0	0	0	0	0	0	0	0	LM	
	3	0	0	0	0	0	0	0	0	0	0	LM	
	4	5	5	5	0	6	0	4	0	4	0	CF	
	5	15	15	15	15	16	15	9	15	16	1	BS	
	6	0	0	0	0	0	0	0	0	2	0	LM	
	7	14	16	15	19	17	16	16	0	16	1	LM	
CONC.	REPLICATE										INITIALS		
4	DAY	1	2	3	4	5	6	7	8	9	10		
	1	0	0	0	0	0	0	0	0	0	0	LM	
	2	0	0	0	0	0	0	0	0	0	0	LM	
	3	0	0	0	0	0	0	0	0	0	0	LM	
	4	5	5	5	6	4	3	4	0	3	4	CF	
	5	9	10	10	12	12	10	11	5	12	11	BS	
	6	0	0	0	0	0	0	0	12	0	0	LM	
	7	15	17	14	16	16	15	13	0	18	17	LM	
CONC.	REPLICATE										INITIALS		
5	DAY	1	2	3	4	5	6	7	8	9	10		
	1	0	0	0	0	0	0	0	0	0	0	LM	
	2	0	0	0	0	0	0	0	0	0	0	LM	
	3	0	0	0	0	0	0	0	0	0	0	LM	
	4	3	5	4	4	4	0	2	0	3	0	CF	
	5	11	11	12	11	12	10	10	7	9	10	BS	
	6	0	0	0	0	0	0	0	0	0	0	LM	
	7	17	14	15	17	16	0	14	15	15	14	LM	
CONC.	REPLICATE										INITIALS		
6	DAY	1	2	3	4	5	6	7	8	9	10		
	1	0	0	0	0	0	0	0	0	0	0	LM	
	2	0	0	0	0	0	0	0	0	0	0	LM	
	3	0	0	0	0	0	0	0	0	0	0	LM	
	4	4	4	4	5	4	0	6	0	3	3	CF	
	5	10	10	9	13	11	10	16	10	9	11	BS	
	6	0	0	0	0	0	0	0	10	9	0	LM	
	7	14	18	11	19	19	16	17	2	13	17	LM	

WAYPOINT ANALYTICAL, LLC.
 TEST TRACEABILITY RECORD
7-DAY CERIODAPHNIA DUBIA

SAMPLE ID: Mountain Home REPORT # 22-221-0391

DATE START: 8/9/22 DATE END: 8/16/22

CERIODAPHNIA DUBIA REFERENCE # 22-REAG-0003

Neonates obtained from: Brood Tray ID: Monday / Tuesday / Wednesday (A) / B
 (circle) Brood Tray Set: Y / P / B (O) / G

REFERENCE NUMBERS

PARAMETER	DATE	INITIALS	TEST DAY	<u>fed 300 (m)</u> ALGAE	<u>fed 75 (m)</u> YCT
CHRONIC	<u>8/9/22</u>	<u>IM</u>	0	22-REAG- <u>4300</u>	22-REAG- <u>4301</u>
	<u>8/10/22</u>	<u>IM</u>	1	22-REAG- <u>4300</u>	22-REAG- <u>4301</u>
	<u>8/11/22</u>	<u>IM</u>	2	22-REAG- <u>4300</u>	22-REAG- <u>4301</u>
	<u>8/12/22</u>	<u>IM</u>	3	22-REAG- <u>4300</u>	22-REAG- <u>4301</u>
	<u>8/13/22</u>	<u>CF</u>	4	22-REAG- <u>4300</u>	22-REAG- <u>4301</u>
	<u>8/14/22</u>	<u>BS</u>	5	22-REAG- <u>4300</u>	22-REAG- <u>4301</u>
	<u>8/15/22</u>	<u>IM</u>	6	22-REAG- <u>4300</u>	22-REAG- <u>4301</u>

	TEST DAY	CONTROL WATER	SAMPLE LAB ID
(Comp. 1)	0	22-REAG- <u>4483</u>	<u>L96564</u>
	1	22-REAG- <u>4484</u>	<u>L96564</u>
(Comp. 2)	2	22-REAG- <u>4509</u>	<u>L96565</u>
	3	22-REAG- <u>4521</u>	<u>L96565</u>
(Comp. 3)	4	22-REAG- <u>4522</u>	<u>L96566</u>
	5	22-REAG- <u>4559</u>	<u>L96566</u>
	6	22-REAG- <u>4567</u>	<u>L96566</u>

COMMENTS: YCT is filtered with 60 - micron mesh to remove additional debris.
 Organisms are fed 0.15 mL Algae and YCT daily after renewal.
 Test conducted at 25 ±1 °C Incubator ID: BIO / Thermometer ID: 120554

ANALYST COMMENTS:

If an organisms did not produce any broods, check under microscope for sex of organism.
 Annotate the Concentration and Replicate of organism that is MALE: _____

WAYPOINT ANALYTICAL, LLC.
 SAMPLE FILTERING RECORD
7-DAY CERIODAPHNIA DUBIA

SAMPLE ID: Mtn Home REPORT # 22-221-0391

DATE START: 8/9/22 DATE END: 8/16/22

REFERENCE NUMBERS

PARAMETER	DATE	INITIALS	TEST DAY	SAMPLE FILTERED	SAMPLE LAB ID:	REASON FILTERING
CHRONIC	8/9/22	IM	0	YES / NO	L96564	DEBRIS / ORGANISMS
	8/10/22	IM	1	YES / NO	L96564	DEBRIS / ORGANISMS
	8/11/22	IM	2	YES / NO	L96565	DEBRIS / ORGANISMS
	8/12/22	IM	3	YES / NO	L96565	DEBRIS / ORGANISMS
	8/13/22	CF	4	YES / NO	L96566	DEBRIS / ORGANISMS
	8/14/22	PS	5	YES / NO	L96566	DEBRIS / ORGANISMS
	8/15/22	IM	6	YES / NO	L96566	DEBRIS / ORGANISMS

COMMENTS: Sefar Nitex 30-60/35 mesh. Lot 2512750103

Samples should be filtered if it contains excess debris or indiginous organisms

ANALYST COMMENTS:

CERIODAPHNIA RANDOMIZATION TRANSLATION

RANDOMIZING KEY #:

33

REPORT #

22-221-0391

TEST CONCENTRATIONS:

1: Control

2: 31

3: 42

4: 50

5: 74

6: 99

Row	REPLICATE									
	1	2	3	4	5	6	7	8	9	10
1	3	3	4	5	2	6	5	1	2	3

Row	REPLICATE									
	1	2	3	4	5	6	7	8	9	10
2	5	1	1	3	1	4	3	5	1	6

Row	REPLICATE									
	1	2	3	4	5	6	7	8	9	10
3	2	2	3	6	5	1	1	2	4	4

Row	REPLICATE									
	1	2	3	4	5	6	7	8	9	10
4	4	5	6	1	3	3	6	4	6	2

Row	REPLICATE									
	1	2	3	4	5	6	7	8	9	10
5	6	4	5	2	6	5	2	6	5	1

Row	REPLICATE									
	1	2	3	4	5	6	7	8	9	10
6	1	6	2	4	4	2	4	3	3	5

Waypoint Analytical, LLC.
TEST DATA SHEET FOR FATHEAD MINNOW SURVIVAL (7-DAY)

SAMPLE ID: Mountain Home REPORT #: 22-221-0391

TEST START - DATE/TIME: 8/9/22 16:50 ANALYST: LM

TEST END - DATE/TIME : 8/16/22 1655 ANALYST: LM

NOTE: PER ADEQ REQUIREMENTS THE INTIAL NUMBER OF FISH PER REPLICATE MUST BE 8 !!

CONC.	REP NO.	NO. OF SURVIVORS								REMARKS
		DAY								
		0	1	2	3	4	5	6	7	
1	42 A	8	8	8	8	8	8	8	8	
	99 B	8	8	8	8	8	8	8	8	
	74 C	8	8	8	8	8	8	8	7	
	C D	8	8	8	8	8	8	8	8	
	56 E	8	8	8	8	8	8	8	8	
2	56 A	8	8	8	8	8	8	8	8	
	31 B	8	8	8	8	8	8	8	8	
	42 C	8	8	8	8	8	8	8	8	
	99 D	8	8	8	8	8	8	8	8	
	74 E	8	8	8	8	8	8	8	8	
3	C A	8	8	8	8	8	8	8	8	
	56 B	8	8	8	8	8	8	8	8	
	74 C	8	8	8	8	8	8	8	7	
	31 D	8	8	8	8	8	8	8	8	
	42 E	8	8	8	8	8	8	8	4/8	
4	C A	8	8	8	8	8	8	8	8	
	99 B	8	8	8	8	8	8	8	8	
	42 C	8	8	8	8	8	8	8	7	
	74 D	8	8	8	7	7	7	7	BS 8/7	
	31 E	8	8	8	8	8	8	8	8	
5	99 A	8	8	8	8	8	8	8	8	
	56 B	8	8	8	8	8	8	8	8	
	31 C	8	8	8	8	8	8	8	8	
	C D	8	8	8	8	8	8	8	8	
	99 E	8	8	8	8	8	8	8	8	
6	C A	8	8	8	8	8	8	8	8	
	31 B	8	8	8	8	8	8	8	8	
	42 C	8	8	8	8	8	8	8	8	
	56 D	8	8	8	8	8	8	8	8	
	74 E	8	8	8	8	8	8	8	8	
INITIALS		LM	LM	LM	LM	CF	BS	LM	LM	
DATE		8/9/22	8/10/22	8/11/22	8/12/22	8/13/22	8/14/22	8/15/22	8/16/22	

ORGANISM REF#: 22-REAG-4518

COMMENTS:

WAYPOINT ANALYTICAL, LLC.
 TEST TRACEABILITY RECORD
7-DAY FATHEAD MINNOW

SAMPLE ID: Mountain Home REPORT # 22-221-0390

DATE START: 8/9/22 DATE END: 8/16/22

FATHEAD MINNOW REFERENCE # 22-REAG-4518

REFERENCE NUMBERS

PARAMETER	DATE	INITIALS	TEST DAY	CONTROL WATER	BRINE SHRIMP	SAMPLE LAB ID:	
CHRONIC	8/9/22	IM	0	22-REAG-4483	22-REAG-4451	L96564	(Comp. 1)
	8/10/22	IM	1	22-REAG-4484	22-REAG-4482	L96564	
	8/11/22	IM	2	22-REAG-4509	22-REAG-4504	L96565	(Comp. 2)
	8/12/22	IM	3	22-REAG-4521	22-REAG-4546 ^{IM}	L96565	
	8/13/22	CF	4	22-REAG-4522	22-REAG-4546 ^{IM}	L96566	(Comp. 3)
	8/14/22	BS	5	22-REAG-4559	22-REAG-4508	L96566	
	8/15/22	IM	6	22-REAG-4567	22-REAG-4578	L96566	

COMMENTS: Fathead minnows are fed 0.15 mL Artemia Brine Shrimp x2 daily.

Test conducted at 25 ±1 °C Incubator ID: BIO / Thermometer ID: 120554

ANALYST COMMENTS:

WAYPOINT ANALYTICAL, LLC.
 SAMPLE FILTERING RECORD
7-DAY FATHEAD MINNOW

SAMPLE ID: Mtn Home REPORT # 22-221-0391
 DATE START: 8/9/22 DATE END: 8/10/22

REFERENCE NUMBERS

PARAMETER	DATE	INITIALS	TEST DAY	SAMPLE FILTERED	SAMPLE LAB ID:	REASON FILTERING
CHRONIC	8/9/22	LM	0	YES / NO	L96564	DEBRIS / ORGANISMS
	8/10/22	LM	1	YES / NO	L96564	DEBRIS / ORGANISMS
	8/11/22	LM	2	YES / NO	L96565	DEBRIS / ORGANISMS
	8/12/22	LM	3	YES / NO	L96565	DEBRIS / ORGANISMS
	8/13/22	CF	4	YES / NO	L96566	DEBRIS / ORGANISMS
	8/14/22	BS	5	YES / NO	L96566	DEBRIS / ORGANISMS
	8/15/22	LM	6	YES / NO	L96566	DEBRIS / ORGANISMS

COMMENTS: Sefar Nitex 30-60/35 mesh. Lot 2512750103
 Samples should be filtered if it contains excess debris or indigenous organisms

ANALYST COMMENTS:

FATHEAD MINNOW FINAL WEIGHT SHEET

SAMPLE ID: Mountain Home REPORT #: 22-221-0391INITIAL WEIGHT DATE/TIME: 8/16/22 1428 ANALYST: LMDATE/TIME IN OVEN: 8/16/22 1727 TEMP (°C): 77 ANALYST: LMDATE/TIME OUT OVEN: 8/17/22 804 TEMP (°C): 77 ANALYST: LMFINAL WEIGHT DATE/TIME: 8/18/22 1025 ANALYST: BS

Oven ID : 03

Thermometer ID: T49

Balance ID: B12

Temp Range : 50 - 105 °C

	REP ID	CRUC ID	INT WEIGHT (g)	FINAL WEIGHT (g)	# LARV	REMARKS
1	A	FRAN	31.3512	31.35829	8	
	B	King #1	33.8001	33.8063	8	
	C	LAMP	30.2276	30.2339	7	
	D	Beau	30.7017	30.7066	8	
	E	Ivey	30.8693	30.8763	8	
2	A	Blake	27.5273	27.5336	8	
	B	Fa	28.7312	28.7380	8	
	C	TUBer	28.7234	28.7307	8	
	D	Murph	24.5195	24.5275	8	
	E	LUV	30.1748	30.1828	8	
3	A	BEN	25.4355	25.4400	8	
	B	PRA	31.5970	31.6027	8	
	C	Pawn	31.1023	31.1078	7	
	D	Echo	23.0996	23.1067	8	
	E	OSP	31.2691	31.2755	8	
4	A	KN	31.1271	31.1310	8	
	B	Dan	27.0114	27.0180	8	
	C	Pet	31.5546	31.5602	7	
	D	1779	30.8796	30.8855	8	
	E	47	23.5144	23.5207	8	
5	A	200	32.4030	32.4094	8	
	B	Nov	27.0327	27.0400	8	
	C	Q	22.0141	22.0210	8	
	D	Shot	33.1227	33.1273	8	
	E	Turk	28.5087	28.5162	8	
6	A	Tuan	31.0910	31.0965	8	
	B	TRUT	35.2589	35.2654	8	
	C	OUT	34.4957	34.5023	9	
	D	C	27.5966	27.6049	8	
	E	egg	32.2827	32.2888	8	

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Crucibles must be in the oven a minimum of 6 hours. Immediately after removal from the oven the crucibles must be allowed to cool in the dessicator a minimum of 2 hours.

Comments/Observations:

P:\QC\Quality System - ETC\0 Forms\Bioassay Forms\BIO Batch Sheets\22 - 5 rep FH Weights