

CH2MHILL • BWXT West Valley, LLC

West Valley Demonstration Project

Ms. Angela M. Cooney, Contracting Officer
U. S. Department of Energy
550 Main St., Room 7-010
Cincinnati, OH 45202

AC-PRES
WD:2022:0258
April 6, 2022

Attention: Moira Maloney

SUBJECT: Contract No. DE-EM0001529, Section J-3, Item 127, State Pollutant Discharge Elimination System (SPDES) Discharge Monitoring Report (DMR) for the Period March 1, 2022 through March 31, 2022

This letter is being submitted for Contracting Officer Representative's approval to inform you that the SPDES DMR for the reporting period March 1 through March 31, 2022 and has been submitted electronically. A copy of this submittal is attached as well as a copy of the email confirmation from the New York State Department of Environmental Conservation (NYSDEC).

If you have any questions, please contact William Kean at (716) 942-4865 or Elizabeth Lowes at (716) 481-0429.

Sincerely,

Approval Obtained Electronically

John D. Rendall
President & General Manager

JDR:WNK:bnj

Attachments: A) SPDES DMR for March 1 through March 31, 2022
B) Whole Effluent Toxicity (WET) Testing Report
C) Email Confirmation from NYSDEC

cc: WET@dec.ny.gov
B. C. Bower, DOE-WVDP
J. T. DesMarais, DOE-WVDP
C. Chun, CHBWV
L. K. Hollfelder, CHBWV
W. N. Kean, CHBWV
D. P. Klenk, CHBWV
E. A. Lowes, CHBWV
J. K. Mantione, CHBWV
D. Martinet, CHBWV
J. T. Pillittere, CHBWV (Public Reading Room)
T. Stapleton, CHBWV
R. E. Steiner, CHBWV
K. A. Wooley, CHBWV
Letter Log (B. Jeffery), CHBWV
CHBWV OITS #2130556

Attachment A
SPDES DMR

ATTACHMENT

SPDES DISCHARGE MONITORING REPORT - MARCH 1 THROUGH MARCH 31, 2022
NET IRON EFFLUENT CONCENTRATION CALCULATION
WEST VALLEY DEMONSTRATION PROJECT, SPDES PERMIT NO. NY-0000973

$$\begin{aligned}\text{OUTFALL 001} &= M1 = \frac{(X1 + X2) V1}{2} = 0 \text{ mg/month} \\ X1 &= 0.00 \text{ mg/L} \\ X2 &= 0.00 \text{ mg/L} \\ V1 &= 0.00 \text{ L/month}\end{aligned}$$

Note: There was no discharge from outfall 001 during this monitoring period.

$$\begin{aligned}\text{OUTFALL 007} &= M7 = \frac{(X1 + X2) V7}{2} = 0.00 \text{ mg/month} \\ X1 &= 0.00 \text{ mg/L} \\ X2 &= 0.00 \text{ mg/L} \\ V7 &= 0.00 \text{ L/month}\end{aligned}$$

Note: There was no discharge from outfall 007 during this monitoring period.

$$\begin{aligned}\text{RAW WATER} &= MRW = \frac{(X1 + X2 + X3 + X4) VRW}{4} = 0.00 \text{ mg/month} \\ X1 &= 0.00 \text{ mg/L} \\ X2 &= 0.00 \text{ mg/L} \\ X3 &= 0.00 \text{ mg/L} \\ X4 &= 0.00 \text{ mg/L} \\ VRW &= 0.00 \text{ L/month}\end{aligned}$$

Note: Raw water from the reservoir system is no longer used for process water since the site installed two groundwater wells. This eliminated the need to collect raw water samples on a weekly basis and altered the iron discharge concentration equation as the mass of iron entering the system is no longer necessary.

$$\text{IRON DISCHARGE CONCENTRATION} = \frac{M1 + M7 - MRW}{V1 + V7} = 0.00 \text{ mg/L}$$

DMR Copy of Record

Permit

Permit #:
Major:

NY0000973
Yes

Permittee:
Permittee Address:

U.S. DEPT OF ENERGY
1000 INDEPENDENCE AVE SW
WASHINGTON, DC 20585

Facility:
Facility Location:

WEST VALLEY DEMONSTRATION PROJ
10282 ROCK SPRINGS ROAD
WEST VALLEY, NY 14171-9799

Permitted Feature:

001
External Outfall

Discharge:

001-M
OUTFALL 001 MONTHLY PROC WW, GW, STORM

Report Dates & Status

Monitoring Period:

From 03/01/22 to 03/31/22

DMR Due Date:

04/28/22

Status:

NetDMR Validated

Considerations for Form Completion

Principal Executive Officer

First Name:
Last Name:

Bryan C.
Bower

Title:

Director, USDOE-WVDP

Telephone:

716-942-4368

No Data Indicator (NODI)

Form NODI: --

Parameter		Monitoring Location	Season #	Param. NODI		Quantity or Loading					Quality or Concentration							# of Ex.	Frequency of Analysis	Sample Type
Code	Name					Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units			
00154	Sulfate [as S]	1 - Effluent Gross	0	--	Sample														01/BA - Once Per Batch	24 - COMP24
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L			
					Value NODI									C - No Discharge		C - No Discharge				
00181	Oxygen demand, ultimate	1 - Effluent Gross	0	--	Sample														02/BA - Twice Per Batch	CA - CALCTD
					Permit Req.									Req Mon MO AVG	<=	22.0 DAILY MX	19 - mg/L			
					Value NODI									C - No Discharge		C - No Discharge				
00300	Oxygen, dissolved [DO]	1 - Effluent Gross	0	--	Sample														02/BA - Twice Per Batch	GR - GRAB
					Permit Req.						>=	3.0 MINIMUM				Req Mon MAXIMUM	19 - mg/L			
					Value NODI							C - No Discharge				C - No Discharge				
00310	BOD, 5-day, 20 deg. C	1 - Effluent Gross	0	--	Sample														02/BA - Twice Per Batch	24 - COMP24
					Permit Req.									Req Mon MO AVG	<=	10.0 DAILY MX	19 - mg/L			
					Value NODI									C - No Discharge		C - No Discharge				
00400	pH	1 - Effluent Gross	0	--	Sample														01/BA - Once Per Batch	GR - GRAB
					Permit Req.						>=	6.5 MINIMUM			<=	8.5 MAXIMUM	12 - SU			
					Value NODI							C - No Discharge				C - No Discharge				
00530	Solids, total suspended	1 - Effluent Gross	0	--	Sample														02/BA - Twice Per Batch	24 - COMP24
					Permit Req.								<=	30.0 MO AVG	<=	45.0 DAILY MX	19 - mg/L			
					Value NODI									C - No Discharge		C - No Discharge				
00545	Solids, settleable	1 - Effluent Gross	0	--	Sample														02/BA - Twice Per Batch	GR - GRAB
					Permit Req.									Req Mon MO AVG	<=	0.3 DAILY MX	25 - mL/L			
					Value NODI									C - No Discharge		C - No Discharge				
00556	Oil & Grease	1 - Effluent Gross	0	--	Sample														01/BA - Once Per Batch	GR - GRAB
					Permit Req.									Req Mon MO AVG	<=	15.0 DAILY MX	19 - mg/L			
					Value NODI									C - No Discharge		C - No Discharge				
00615	Nitrogen, nitrite total [as N]	1 - Effluent Gross	0	--	Sample														01/BA - Once Per Batch	24 - COMP24
					Permit Req.									Req Mon MO AVG	<=	0.1 DAILY MX	19 - mg/L			
					Value NODI									C - No Discharge		C - No Discharge				
00620	Nitrogen, nitrate total [as N]	1 - Effluent Gross	0	--	Sample														01/BA - Once Per Batch	24 - COMP24
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L			
					Value NODI									C - No Discharge		C - No Discharge				
00625	Nitrogen, Kjeldahl, total [as N]	1 - Effluent Gross	0	--	Sample														02/BA - Twice Per Batch	24 - COMP24
					Permit Req.									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L			
					Value NODI									C - No Discharge		C - No Discharge				
00746	Sulfide, dissolved, [as S]	1 - Effluent Gross	0	--	Sample														01/BA - Once Per Batch	24 - COMP24
					Permit Req.									Req Mon MO AVG	<=	0.4 DAILY MX	19 - mg/L			
					Value NODI									C - No Discharge		C - No Discharge				
00978	Arsenic, total recoverable	1 - Effluent Gross	0	--	Sample														01/BA - Once Per Batch	24 - COMP24
					Permit Req.									Req Mon MO AVG	<=	0.15 DAILY MX	19 - mg/L			
					Value NODI									C - No Discharge		C - No Discharge				

DMR Copy of Record

Permit

Permit #:

NY0000973

Major:

Yes

Permittee:

U.S. DEPT OF ENERGY

Permittee Address:

1000 INDEPENDENCE AVE SW
WASHINGTON, DC 20585

Facility:

WEST VALLEY DEMONSTRATION PROJ

Facility Location:

10282 ROCK SPRINGS ROAD
WEST VALLEY, NY 14171-9799

Permitted Feature:

007
External Outfall

Discharge:

007-M
SANITARY, NC COOLING WATER, UTILITY WASTEWATER, STORMWATER

Report Dates & Status

Monitoring Period:

From 03/01/22 to 03/31/22

DMR Due Date:

04/28/22

Status:

NetDMR Validated

Considerations for Form Completion

Principal Executive Officer

First Name:

Bryan C.

Last Name:

Bower

Title:

Director, USDOE-WVDP

Telephone:

716-942-4368

No Data Indicator (NODI)

Form NODI:

--

Parameter		Monitoring Location	Season #	Param. NODI		Quantity or Loading					Quality or Concentration							# of Ex.	Frequency of Analysis	Sample Type
Code	Name					Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units			
00181	Oxygen demand, ultimate	1 - Effluent Gross	0	--	Sample										Req Mon MO AVG	<=	22.0 DAILY MX	19 - mg/L	01/30 - Monthly	CA - CALCTD
					Permit Req.															
					Value NODI										C - No Discharge		C - No Discharge			
00300	Oxygen, dissolved [DO]	1 - Effluent Gross	0	--	Sample										Req Mon MO AVG	<=	22.0 DAILY MX	19 - mg/L	02/30 - Twice Per Month	GR - GRAB
					Permit Req.						>=	3.0 MINIMUM								
					Value NODI							C - No Discharge					C - No Discharge			
00310	BOD, 5-day, 20 deg. C	1 - Effluent Gross	0	--	Sample										Req Mon MO AVG	<=	10.0 DAILY MX	19 - mg/L	02/30 - Twice Per Month	24 - COMP24
					Permit Req.															
					Value NODI										C - No Discharge		C - No Discharge			
00400	pH	1 - Effluent Gross	0	--	Sample														02/30 - Twice Per Month	GR - GRAB
					Permit Req.						>=	6.5 MINIMUM			<=	8.5 MAXIMUM	12 - SU			
					Value NODI							C - No Discharge				C - No Discharge				
00530	Solids, total suspended	1 - Effluent Gross	0	--	Sample														02/30 - Twice Per Month	24 - COMP24
					Permit Req.								<=	30.0 MO AVG	<=	45.0 DAILY MX	19 - mg/L			
					Value NODI									C - No Discharge		C - No Discharge				
00545	Solids, settleable	1 - Effluent Gross	0	--	Sample										Req Mon MO AVG	<=	0.3 DAILY MX	25 - mL/L	02/30 - Twice Per Month	GR - GRAB
					Permit Req.															
					Value NODI										C - No Discharge		C - No Discharge			
00556	Oil & Grease	1 - Effluent Gross	0	--	Sample										Req Mon MO AVG	<=	15.0 DAILY MX	19 - mg/L	02/30 - Twice Per Month	GR - GRAB
					Permit Req.															
					Value NODI										C - No Discharge		C - No Discharge			
00615	Nitrogen, nitrite total [as N]	1 - Effluent Gross	0	--	Sample										Req Mon MO AVG	<=	0.1 DAILY MX	19 - mg/L	01/30 - Monthly	24 - COMP24
					Permit Req.															
					Value NODI										C - No Discharge		C - No Discharge			
00625	Nitrogen, Kjeldahl, total [as N]	1 - Effluent Gross	0	--	Sample										Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	01/30 - Monthly	24 - COMP24
					Permit Req.															
					Value NODI										C - No Discharge		C - No Discharge			
01045	Iron, total [as Fe]	1 - Effluent Gross	0	--	Sample										Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L	02/30 - Twice Per Month	24 - COMP24
					Permit Req.															
					Value NODI										C - No Discharge		C - No Discharge			
34726	Nitrogen, ammonia, total [as NH3]	1 - Effluent Gross	0	--	Sample														02/30 - Twice Per Month	24 - COMP24
					Permit Req.								<=	1.49 MO AVG	<=	2.1 DAILY MX	19 - mg/L			
					Value NODI									C - No Discharge		C - No Discharge				
50050	Flow, in conduit or thru treatment plant	1 - Effluent Gross	0	--	Sample														01/30 - Monthly	CN - CONTIN
					Permit Req.		Req Mon MO AVG		Req Mon DAILY MX	03 - MGD										
					Value NODI		C - No Discharge		C - No Discharge											
50060	Chlorine, total residual	1 - Effluent Gross	0	--	Sample										Req Mon MO AVG	<=	0.1 DAILY MX	19 - mg/L	01/30 - Monthly	GR - GRAB
					Permit Req.															
					Value NODI										C - No Discharge		C - No Discharge			

70295	Solids, total dissolved	1 - Effluent Gross	0	--	Sample									Req Mon MO AVG		Req Mon DAILY MX	19 - mg/L		02/30 - Twice Per Month	GR - GRAB
					Permit Req.									C - No Discharge		C - No Discharge				
					Value NODI															
71900	Mercury, total [as Hg]	1 - Effluent Gross	0	--	Sample									Req Mon MO AVG	<=	50.0 DAILY MX	3M - ng/L		01/30 - Monthly	GR - GRAB
					Permit Req.															
					Value NODI									C - No Discharge		C - No Discharge				
Submission Note																				
If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.																				
Edit Check Errors																				
No errors.																				
Comments																				
Attachments																				
No attachments.																				
Report Last Saved By																				
U.S. DEPT OF ENERGY																				
User:		william.kean@chbwv.com																		
Name:		William Kean																		
E-Mail:		william.kean@chbwv.com																		
Date/Time:		2022-04-06 07:24 (Time Zone: -04:00)																		
Report Last Signed By																				
User:		ELIZABETH.LOWES@CHBWV.COM																		
Name:		Elizabeth Lowes																		
E-Mail:		elizabeth.lowes@chbwv.com																		
Date/Time:		2022-04-06 08:52 (Time Zone: -04:00)																		

DMR Copy of Record

Permit

Permit #:

NY0000973

Major:

Yes

Permittee:

U.S. DEPT OF ENERGY

Permittee Address:

1000 INDEPENDENCE AVE SW
WASHINGTON, DC 20585

Facility:

WEST VALLEY DEMONSTRATION PROJ

Facility Location:

10282 ROCK SPRINGS ROAD
WEST VALLEY, NY 14171-9799

Permitted Feature:

01B
Internal Outfall

Discharge:

01B-M
MERCURY PRETREATMENT

Report Dates & Status

Monitoring Period:

From 03/01/22 to 03/31/22

DMR Due Date:

04/28/22

Status:

NetDMR Validated

Considerations for Form Completion

Principal Executive Officer

First Name:

Bryan C.

Last Name:

Bower

Title:

Director, USDOE-WVDP

Telephone:

716-942-4368

No Data Indicator (NODI)

Form NODI:

--

Parameter		Monitoring Location	Season #	Param. NODI		Quantity or Loading					Quality or Concentration						# of Ex.	Frequency of Analysis	Sample Type
Code	Name					Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units		
00056	Flow rate	1 - Effluent Gross	0	--	Sample													01/07 - Weekly	CN - CONTIN
					Permit Req.		Req Mon MO AVG		Req Mon DAILY MX	07 - gal/d									
					Value NODI		C - No Discharge		C - No Discharge										
71900	Mercury, total [as Hg]	1 - Effluent Gross	0	--	Sample													02/BA - Twice Per Batch	GR - GRAB
					Permit Req.									Req Mon MO AVG	<=	50.0 DAILY MX	3M - ng/L		
					Value NODI									C - No Discharge		C - No Discharge			

Submission Note

If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.

Edit Check Errors

No errors.

Comments

Attachments

No attachments.

Report Last Saved By

U.S. DEPT OF ENERGY

User:

william.kean@chbwv.com

Name:

William Kean

E-Mail:

william.kean@chbwv.com

Date/Time:

2022-04-06 07:24 (Time Zone: -04:00)

Report Last Signed By

User:

ELIZABETH.LOWES@CHBWV.COM

Name:

Elizabeth Lowes

E-Mail:

elizabeth.lowes@chbwv.com

Date/Time:

2022-04-06 08:52 (Time Zone: -04:00)

DMR Copy of Record

Permit

Permit #:

NY0000973

Major:

Yes

Permittee:

U.S. DEPT OF ENERGY

Permittee Address:

1000 INDEPENDENCE AVE SW
WASHINGTON, DC 20585

Facility:

WEST VALLEY DEMONSTRATION PROJ

Facility Location:

10282 ROCK SPRINGS ROAD
WEST VALLEY, NY 14171-9799

Permitted Feature:

116
Internal Outfall

Discharge:

116-M
PSEUDO MON. POINT @FRANKS CRK

Report Dates & Status

Monitoring Period:

From 03/01/22 to 03/31/22

DMR Due Date:

04/28/22

Status:

NetDMR Validated

Considerations for Form Completion

IF PSUEDO MONITORING POINT REPORT IS NOT REQUIRED DURING THE MONITORING PERIOD, EITHER CHECK THENO DISCHARGE BOX OR ENTER 'NODI A'IN PLACE OF A MEASUREMENT TO INDICATE A GENERAL PERMIT EXEMPTION.

Principal Executive Officer

First Name:

Bryan C.

Last Name:

Bower

Title:

Director, USDOE-WVDP

Telephone:

716-942-4368

No Data Indicator (NODI)

Form NODI:

--

Submission Note

If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.

Edit Check Errors

No errors.

Comments

Attachments

No attachments.

Report Last Saved By

U.S. DEPT OF ENERGY

User:

william.kean@chbwv.com

Name:

William Kean

E-Mail:

william.kean@chbwv.com

Date/Time:

2022-04-06 07:24 (Time Zone: -04:00)

Report Last Signed By

User:

ELIZABETH.LOWES@CHBWV.COM

Name:

Elizabeth Lowes

E-Mail:

elizabeth.lowes@chbwv.com

Date/Time:

2022-04-06 08:52 (Time Zone: -04:00)

DMR Copy of Record

Permit

Permit #:

NY0000973

Major:

Yes

Permittee:

U.S. DEPT OF ENERGY

Permittee Address:

1000 INDEPENDENCE AVE SW
WASHINGTON, DC 20585

Facility:

WEST VALLEY DEMONSTRATION PROJ

Facility Location:

10282 ROCK SPRINGS ROAD
WEST VALLEY, NY 14171-9799

Permitted Feature:

SUM
Internal Outfall

Discharge:

SUM-N
SUM OF OUTFALLS 1 & 7

Report Dates & Status

Monitoring Period:

From 03/01/22 to 03/31/22

DMR Due Date:

04/28/22

Status:

NetDMR Validated

Considerations for Form Completion

Principal Executive Officer

First Name:

Bryan C.

Last Name:

Bower

Title:

Director, USDOE-WVDP

Telephone:

716-942-4368

No Data Indicator (NODI)

Form NODI:

--

Parameter	Monitoring Location	Season #	Param. NODI		Quantity or Loading					Quality or Concentration						# of Ex.	Frequency of Analysis	Sample Type
Code	Name				Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units		
01045	Iron, total [as Fe]	2 - Effluent Net	0	--	Sample													01/30 - Monthly
					Permit Req.								Req Mon MO AVG	<=	1.0 DAILY MX	19 - mg/L		
					Value NODI								C - No Discharge		C - No Discharge			

Submission Note

If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.

Edit Check Errors

No errors.

Comments

Attachments

Name	Type	Size
WVDP_March_2022_Net_Iron_Calculation.pdf	pdf	234494.0

Report Last Saved By

U.S. DEPT OF ENERGY

User:

william.kean@chbvw.com

Name:

William Kean

E-Mail:

william.kean@chbvw.com

Date/Time:

2022-04-06 07:25 (Time Zone: -04:00)

Report Last Signed By

User:

ELIZABETH.LOWES@CHBWV.COM

Name:

Elizabeth Lowes

E-Mail:

elizabeth.lowes@chbvw.com

Date/Time:

2022-04-06 08:52 (Time Zone: -04:00)

DMR Copy of Record

Permit

Permit #:	NY0000973	Permittee:	U.S. DEPT OF ENERGY	Facility:	WEST VALLEY DEMONSTRATION PROJ
Major:	Yes	Permittee Address:	1000 INDEPENDENCE AVE SW WASHINGTON, DC 20585	Facility Location:	10282 ROCK SPRINGS ROAD WEST VALLEY, NY 14171-9799
Permitted Feature:	001 External Outfall	Discharge:	001-W OUTFALL 001 WET TESTING QUARTERLY		

Report Dates & Status

Monitoring Period:	From 01/01/22 to 03/31/22	DMR Due Date:	05/28/22	Status:	NetDMR Validated
--------------------	---------------------------	---------------	----------	---------	------------------

Considerations for Form Completion

SEE PERMIT FOOTNOTES FOR WET TESTING REQUIREMENTS

Principal Executive Officer

First Name:	Bryan C.	Title:	Director, USDOE-WVDP	Telephone:	716-942-4368
Last Name:	Bower				

No Data Indicator (NODI)

Form NODI: --

[illegible]

Submission Note

If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.

Edit Check Errors

No errors.

Comments

As required in Title 6 of the New York State Codes, Rules, and Regulations 6NYCRR Part 750-2.5(e)(3), the New York Environmental Laboratory Accreditation Program (NYELAP) identification numbers for laboratories performing analysis for this DMR is as follows:
1) TestAmerica Buffalo: NY Lab No. 10026. Please note that Whole Effluent Toxicity (WET) Testing was completed, as required, at outfall 001. The complete report is attached below and has also been sent via e-mail to the Toxicity Testing unit.

Attachments

Name	Type	Size
WVDP_February_2022_WET_Reports.pdf	pdf	4385087.0

Report Last Saved By

U.S. DEPT OF ENERGY

User:	william.kean@chbww.com
Name:	William Kean
E-Mail:	william.kean@chbww.com
Date/Time:	2022-04-06 07:23 (Time Zone: -04:00)

Report Last Signed By

User:	ELIZABETH.LOWES@CHBWV.COM
Name:	Elizabeth Lowes
E-Mail:	elizabeth.lowes@chbwv.com
Date/Time:	2022-04-06 08:52 (Time Zone: -04:00)

DMR Copy of Record

Permit

Permit #:

NY0000973

Major:

Yes

Permittee:

U.S. DEPT OF ENERGY

Permittee Address:

1000 INDEPENDENCE AVE SW
WASHINGTON, DC 20585

Facility:

WEST VALLEY DEMONSTRATION PROJ

Facility Location:

10282 ROCK SPRINGS ROAD
WEST VALLEY, NY 14171-9799

Permitted Feature:

007
External Outfall

Discharge:

007-W
OUTFALL 007 WET TESTING QUARTERLY

Report Dates & Status

Monitoring Period:

From 01/01/22 to 03/31/22

DMR Due Date:

05/28/22

Status:

NetDMR Validated

Considerations for Form Completion

SEE PERMIT FOOTNOTES FOR WET TESTING REQUIREMENTS

Principal Executive Officer

First Name:

Bryan C.

Last Name:

Bower

Title:

Director, USDOE-WVDP

Telephone:

716-942-4368

No Data Indicator (NODI)

Form NODI:

--

Parameter		Monitoring Location	Season #	Param. NODI		Quantity or Loading					Quality or Concentration						# of Ex.	Frequency of Analysis	Sample Type
Code	Name					Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units		
61425	Toxicity [acute], Ceriodaphnia dubia	V - See Comments	0	--	Sample													01/90 - Quarterly	24 - COMP24
					Permit Req.											<=	0.3 MAXIMUM	2F - tox acute	
					Value NODI												C - No Discharge		
61426	Toxicity [chronic], Ceriodaphnia dubia	V - See Comments	0	--	Sample													01/90 - Quarterly	24 - COMP24
					Permit Req.												<=	1.0 MAXIMUM	2G - tox chronic
					Value NODI													C - No Discharge	
61427	Toxicity [acute], Pimephales promelas [Fathead Minnow]	V - See Comments	0	--	Sample													01/90 - Quarterly	24 - COMP24
					Permit Req.												<=	0.3 MAXIMUM	2F - tox acute
					Value NODI													C - No Discharge	
61428	Toxicity [chronic], Pimephales promelas [Fathead Minnow]	V - See Comments	0	--	Sample													01/90 - Quarterly	24 - COMP24
					Permit Req.												<=	1.0 MAXIMUM	2G - tox chronic
					Value NODI													C - No Discharge	

Submission Note

If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.

Edit Check Errors

No errors.

Comments

Attachments

No attachments.

Report Last Saved By

U.S. DEPT OF ENERGY

User:

william.kean@chbwv.com

Name:

William Kean

E-Mail:

william.kean@chbwv.com

Date/Time:

2022-04-06 07:24 (Time Zone: -04:00)

Report Last Signed By

User:

ELIZABETH.LOWES@CHBWV.COM

Name:

Elizabeth Lowes

E-Mail:

elizabeth.lowes@chbwv.com

Date/Time:

2022-04-06 08:52 (Time Zone: -04:00)

Attachment B
Whole Effluent Toxicity (WET) Testing Report

ANALYTICAL REPORT

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-195025-1
Laboratory Sample Delivery Group: 1260
Client Project/Site: SPDES
Revision: 1

For:
CH2M Hill BWXT West Valley (CHBWV)
10282 Rock Springs Road
MS-ACC-22
West Valley, New York 14171-9799

Attn: Chester Wrotniak



Authorized for release by:
3/24/2022 3:18:55 PM

John Schove, Project Manager II
(716)504-9838
John.Schove@Eurofinset.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:

www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Subcontract Data	5
Chain of Custody	100

Case Narrative

Client: CH2M Hill BWXT West Valley (CHBWV)
Project/Site: SPDES

Job ID: 480-195025-1
SDG: 1260

Job ID: 480-195025-1

Laboratory: Eurofins Buffalo

Narrative

Job Narrative
480-195025-1

Revision

This report has been revised to include the UV Treated results.

Comments

Aquatic Toxicity (1002.0; EPA 821-R-02-013) analysis was performed by New England Bioassay Laboratory. Results for this analysis can be found in the Subcontract Data section of this report.

No additional comments.

Receipt

The sample was received on 2/11/2022 10:32 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice.

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: CH2M Hill BWXT West Valley (CHBWV)
Project/Site: SPDES

Job ID: 480-195025-1
SDG: 1260

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-195025-1	2022-00812 WNSP001	Water	02/10/22 10:00	02/11/22 10:32

- 1
- 2
- 3
- 4
- 5
- 6



77 Batson Drive
Manchester, CT 06042
(860)-643-9560
www.nebio.com

New England Bioassay Inc.

Aquatic Toxicity Testing Services

CHRONIC AQUATIC TOXICITY TEST REPORT

Permittee: West Valley Demonstration Project NPDES # NY0000973
Report submitted to: Test America
10 Hazelwood Dr, Amhesrt NY 14228
Sample ID: Outfall 001
Test Month/Year: February 2022
NEB Proj # 44240

Test Type / Method: *Ceriodaphnia dubia* Modified Chronic Static-Renewal Freshwater
Test Method 1002.0; EPA 821-R-02-013
Pimephales promelas Modified Chronic Static-Renewal Freshwater
Test Method 1000.0; EPA 821-R-02-013

Effluent Sample Dates: #1 2/9-10/22 #2 2/13-14/22

Test Start Date: 2/11/22

Results Summary

Your results were as follows:

Passed all permit limits

Acute Test Results

Species	LC50	TUa	Permit Limit	Pass / Fail
<i>Ceriodaphnia dubia</i>	>100%	0.3	≤ 0.3	Pass
<i>Pimephales promelas</i>	>100%	0.3	≤ 0.3	Pass

Chronic Test Results

Species	C-NOEC	TUc	IC25	Permit Limit	Pass/Fail
<i>Ceriodaphnia dubia</i>	100%	1.0	>100%	≤ 1.0	Pass
<i>Pimephales promelas</i>	100%	1.0	>100%	≤ 1.0	Pass

Data Qualifiers affecting this test:

Certifications & Approvals: NH ELAP (2071), NJ DEP (CT405)

This report shall not be reproduced, except in its entirety, without approval of NEB. NEB is the sole authority for authorizing edits or modifications to the data contained in this report. NEB holds no responsibility for results and/or data that are not consistent with the original. Please contact the Lab Director, Kimberly Wills, at 860-643-9560 or kimberly.wills@nebio.com if you have questions concerning these results.

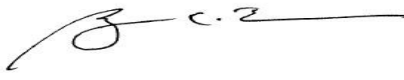
Test Report Certification

Permittee name: West Valley Demonstration Project Permit number: NY0000973
Client sample ID: Outfall 001 Test Start Date: 2/11/22

Whole Effluent Toxicity Test Report Certification (Permittee)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on: 4/5/2022
(Date)


Authorized Signature

Bryan C. Bower - Director

Print or Type Name and Title

Bryan C. Bower

Print or Type the Permittee's Name

NY0000973

Print or Type the NPDES Permit Number

Whole Effluent Toxicity Test Report Certification (Bioassay Laboratory)

The results reported relate only to the samples submitted as received

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on: 3/10/22
(Date)


Kimberly Wills
Laboratory Director
New England Bioassay Inc.

General Test Conditions

Permittee name: West Valley Demonstration Project Permit number: NY0000973
Client sample ID: Outfall 001 Test Start Date: 2/11/22

Sample Collection Information

Effluent #1 Dates/Times: 2/9-10/22 @ 0900-0900 Receiving Water #1 Date/Time: N/A @ N/A
Effluent #2 Dates/Times: 2/13-14/22 @ 1000-0930 Receiving Water #2 Date/Time: N/A @ N/A
Effluent #3 Dates/Times: N/A @ N/A Receiving Water #3 Date/Time: N/A @ N/A

Were a minimum of three samples collected? Yes ☐ No ☒ *(see note below)

Were samples used within the first 36 hours of collection? Yes ☒ No ☐ * (see note below)

* sample collection note: NYSDEC has approved West Valley Demonstration Project to use only two sets of samples for their chronic testing due to the batch nature of their discharge.

Test Conditions

Permittee's Receiving Water: Erdman Brook

Ceriodaphnia dubia

- Dilution water: Laboratory synthetic moderately hard water (hardness 80 - 100 mg/L CaCO₃)
- Control water: Not Applicable

Pimephales promelas

- Dilution water: Laboratory synthetic moderately hard water (hardness 80 - 100 mg/L CaCO₃)
- Control water: Not Applicable

Effluent concentrations tested: 0%, 6.25%, 12.5%, 25%, 50%, 100%

Was effluent salinity adjusted? No ☒ Yes ☐ with Instant Ocean sea salts to N/A ppt

Dechlorination procedures: Chlorine is measured using 4500 CL-G DPD Colorimetric Method

- Dechlorination was not required

Aeration: Did Dissolved Oxygen levels fall below 40% saturation? Yes ☐ No ☒

Test Aerated at <100 bubbles/minute as of: N/A (for Fathead minnow test only)

TRC results and further information about aeration of samples can be found attached in "sample receipt chemistry"

Reference Toxicant Data

Ceriodaphnia dubia

Date: 2/1/22
Toxicant: Sodium chloride
Dilution Water: NEB CTRMH
Organism Source: NEB
Reproduction IC25: 0.50 g/L
Results within range Yes ☒ No ☐

Fathead minnows

Date: 2/1/22
Toxicant: Sodium chloride
Dilution Water: NEB Soft Water
Organism Source: NEB
Growth IC25: 1.34 g/L
Results within range Yes ☒ No ☐

Ceriodaphnia dubia Test Results

Permittee name: West Valley Demonstration Project Permit number: NY0000973
 Client sample ID: Outfall 001 Test Dates: 2/11/22 - 2/18/22

Test Acceptability Criteria

Lab Control Diluent: 90 % Mean Lab Diluent Reproduction: 27.5 young per female
 Brook Control Survival: N/A % Mean Brook Control Reproduction: N/A young per female
 Thiosulfate Control Survival: N/A % Mean Thiosulfate Control Reproduction: N/A young per female
 Presence of an asterisk (*) indicates EPA criteria was not met, see explanation in the "Results Discussion" section at the bottom of the following page.

Test Results

		Permit Limit	Test Result	Pass/Fail Status
Acute Data	48 hr LC50		>100%	
	48 hr NOEC		100%	
	TUa	≤ 0.3	0.3	Pass
Chronic Data	Chronic LC50		>100%	
	Survival C-NOEC		100%	
	Survival C-LOEC		>100%	
	Reproduction C-NOEC		100%	
	Reproduction C-LOEC		>100%	
	Reproduction IC25		>100%	
	Reproduction IC50		>100%	
	Reportable C-NOEC		100%	
	Reportable C-LOEC		>100%	
	MATC		>100%	
	TUc	≤ 1.0	1.0	Pass

Presence of an asterisk (*) indicates qualified data, see explanation in the "Results Discussion" section at the bottom of the following page.

Test Variability

- Reproduction PMSD: 23.1% Upper & Lower EPA bounds: 13 - 47% ☐ Low ☒ Within bounds ☐ High
- ☐ PMSD exceeds upper bounds. Test results are highly variable and may not be sensitive enough to determine the presence of toxicity at the permit limit concentration (PLC)
- ☒ The PMSD falls within the upper (47%) and lower (13%) bounds. Results are reportable.
- ☐ PMSD falls below the lower bound test variability criterion. The test is very sensitive. The relative percent difference (RPD) between the control and each treatment was calculated and compared to the lower bound.
- ☐ The RPD values for all concentrations fall below the lower bound. Any differences observed in this test are considered statistically insignificant.
- ☐ Some of the concentrations that were flagged as statistically significant have RPD values that fall below the lower bound. Any differences observed in these concentrations will not be considered statistically significantly decreased from the control.
- ☐ No statistically significant reductions were observed in this test.

***Ceriodaphnia dubia* Test Results**

Permittee name: West Valley Demonstration Project Permit number: NY0000973
Client sample ID: Outfall 001 Test Dates: 2/11/22 - 2/18/22

Concentration - Response Evaluation

Survival: #12 No significant effects at any test concentration with a flat concentration-response curve. Test concentrations performed very similarly to dilution control.

Reproduction: #13 No significant effects at any test concentration with a relatively flat concentration-response curve. Test concentrations performed equal to or better than the dilution control.

The concentration - response relationship was reviewed and the following determination was made:

Survival	Reproduction	
<u>X</u>	<u>X</u>	Results are reliable and reportable
<u> </u>	<u> </u>	Results are anomalous (see explanation below)
<u> </u>	<u> </u>	Results are inconclusive - retest (see explanation below)

Results Discussion (if applicable):

***Ceriodaphnia dubia* Test Results**

Permittee name: West Valley Demonstration Project Permit number: NY0000973
Client sample ID: Outfall 001 Test Dates: 2/11/22 - 2/18/22

Concentration - Response Evaluation

Survival: #12 No significant effects at any test concentration with a flat concentration-response curve. Test concentrations performed very similarly to dilution control.

Reproduction: #13 No significant effects at any test concentration with a relatively flat concentration-response curve. Test concentrations performed equal to or better than the dilution control.

The concentration - response relationship was reviewed and the following determination was made:

Survival	Reproduction	
<u>X</u>	<u>X</u>	Results are reliable and reportable
<u> </u>	<u> </u>	Results are anomalous (see explanation below)
<u> </u>	<u> </u>	Results are inconclusive - retest (see explanation below)

Results Discussion (if applicable):

Pimephales promelas Test Results

Permittee name: West Valley Demonstration Project Permit number: NY0000973
 Client sample ID: Outfall 001 Test Dates: 2/11/22 - 2/18/22

Test Acceptability Criteria

Lab Diluent Survival: 100 % Mean Lab Diluent Growth: 0.48 mg
 Brook Control Survival: N/A % Mean Brook Control Growth: N/A mg
 Thiosulfate Control Survival: N/A % Mean Thiosulfate Control Growth: N/A mg

Presence of an asterisk (*) indicates EPA criteria was not met, see explanation in the "Results Discussion" section at the bottom of the following page.

Test Results

		Permit Limit	Test Result	Pass/Fail Status
Acute Data	48 hr LC50		>100%	
	48 hr NOEC		100%	
	TUa	≤ 0.3	0.3	Pass
Chronic Data	Chronic LC50		>100%	
	Survival C-NOEC		100%	
	Survival C-LOEC		>100%	
	Growth C-NOEC		100%	
	Growth C-LOEC		>100%	
	Growth IC25		>100%	
	Growth IC50		>100%	
	Reportable C-NOEC		100%	
	Reportable C-LOEC		>100%	
	MATC		>100%	
	TUc	≤ 1.0	1.0	Pass

Presence of an asterisk (*) indicates qualified data, see explanation in the "Results Discussion" section at the bottom of the following page.

Test Variability

- Growth PMSD: 8.9% Upper & Lower EPA bounds: 12 - 30% ☒ Low ☐ Within bounds ☐ High
- ☐ PMSD exceeds upper bounds. Test results are highly variable and may not be sensitive enough to determine the presence of toxicity at the permit limit concentration (PLC)
- ☐ The PMSD falls within the upper (30%) and lower (12%) bounds. Results are reportable.
- ☒ PMSD falls below the lower bound test variability criterion. The test is very sensitive. The relative percent difference (RPD) between the control and each treatment was calculated and compared to the lower bound.
- ☐ The RPD values for all concentrations fall below the lower bound. Any differences observed in this test are considered statistically insignificant.
- ☐ Some of the concentrations that were flagged as statistically significant have RPD values that fall below the lower bound. Any differences observed in these concentrations will not be considered statistically significantly decreased from the control.
- ☒ No statistically significant reductions were observed in this test.

***Pimephales promelas* Test Results**

Permittee name: West Valley Demonstration Project Permit number: NY0000973
Client sample ID: Outfall 001 Test Dates: 2/11/22 - 2/18/22

Concentration - Response Evaluation

Survival: #12 No significant effects at any test concentration with a flat concentration-response curve. Test concentrations performed very similarly to dilution control.

Growth: #13 No significant effects at any test concentration with a relatively flat concentration-response curve. Test concentrations performed equal to or better than the dilution control.

The concentration - response relationship was reviewed and the following determination was made:

Survival	Growth	
<u>X</u>	<u>X</u>	Results are reliable and reportable
<u> </u>	<u> </u>	Results are anomalous (see explanation below)
<u> </u>	<u> </u>	Results are inconclusive - retest (see explanation below)

Results Discussion (if applicable):

TEST METHODS

Ceriodaphnia dubia

Test type:	Modified Chronic Static Renewal Freshwater Test
Test Reference Manual:	EPA-821-R-02-013 "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms"
Test Method:	<i>Ceriodaphnia dubia</i> Survival and Reproduction Test - EPA 1002.0
Temperature:	25 °C ± 1°C (Temperatures should not deviate by more than 3°C during the test) (required)
Light Quality:	Ambient Laboratory Illumination (recommended)
Light Intensity:	10-20 µE/m ² /s, or 50-100 ft-c (recommended)
Photoperiod:	16 hours light, 8 hours dark (recommended)
Test chamber size:	30 mL (recommended minimum)
Test solution volume:	15 mL (recommended minimum)
Renewal of Test Solutions:	Daily (required)
Age of Test Organisms:	Less than 24 hours; and all released within a 8-h period (required)
Number of Neonates Per Test Chamber:	1 Assigned using blocking by known parentage (required)
Number of Replicate Test Chambers Per Treatment:	10 (required minimum)
Number of Neonates Per Test Concentration:	10 (required minimum)
Feeding Regime:	Fed 0.1 mL each of YCT and algal suspension per exposure chamber daily. (recommended)
Cleaning:	Use new plastic cups daily (recommended)
Aeration:	None (recommended)
Test Duration:	Until 60% or more of control females have three broods (maximum test duration 8 days) (required)
Endpoints:	Survival and reproduction (required)
Test Acceptability:	80% or greater survival of all control organisms and an average of 15 or more young per surviving female in the control solutions. 60% of surviving control females must produce three broods. (required)
Sampling Requirements:	Minimum of three samples with a maximum holding time of 36 hours before first use. (required)
Sample volume required:	1 L/Day (recommended)

Pimephales promelas

Test type:	Modified Chronic Static Renewal Freshwater Test
Test Reference Manual:	EPA-821-R-02-013 "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms"
Test Method:	<i>Pimephales promelas</i> Survival and Growth Test - EPA 1000.0
Temperature:	25 °C ± 1°C (Temperatures should not deviate by more than 3°C during the test) (required)
Light Quality:	Ambient Laboratory Illumination (recommended)
Light Intensity:	10-20 µE/m ² /s, or 50-100 ft-c (recommended)
Photoperiod:	16 hours light, 8 hours dark (recommended)
Test chamber size:	600 mL (500 mL is recommended minimum)
Test solution volume:	250 mL (recommended minimum)
Renewal of Test Solutions:	Daily (required)
Age of Test Organisms:	Newly hatched larvae less than 24 hours old (required)
Number of Organisms Per Test Chamber:	10 (recommended)
Number of Replicate Test Chambers Per Treatment:	4 (required minimum)
Number of Organisms Per Test Concentration:	40 (required minimum)
Feeding Regime:	Feed 0.15 g of a concentrated suspension of newly hatched brine shrimp nauplii twice daily, 6 h between feedings (at the beginning of the work day prior to renewal, and at the end of the work day following renewal). Sufficient <i>Artemia</i> are added to provide an excess.
Cleaning:	Siphoned daily, immediately before test solution renewal (required)
Aeration:	None, unless DO concentration falls below 4.0 mg/L, at which point the rate should not exceed 100 bubbles/minute. (recommended)
Test Duration:	7 days (required)
Endpoints:	Survival and growth (weight) (required)
Test Acceptability:	80% or greater survival in controls; average dry weight per surviving organism in control chambers equals or exceeds 0.25 mg (required)
Sampling Requirements:	Minimum of three samples with a maximum holding time of 36 hours before first use. (required)
Sample volume required:	2.5 L/Day (recommended)

CERIODAPHNIA DUBIA DATASHEETS & STATISTICAL ANALYSIS

NEW ENGLAND BIOASSAY TOXICITY DATA FORM

CHRONIC COVER SHEET

CLIENT: Test America
 ADDRESS: 10 Hazelwood Drive
Amherst, NY 14228
 PERMITTEE: West Valley Demonstration Project
 PERMIT NUMBER: NY0000973
 DILUTION WATER: Moderately Hard Lab Synthetic

C.dubia TEST ID # 22-234a
 CHAIN OF CUSTODY # C42-1429
 NEB PROJECT # 44240
 SAMPLE ID: Outfall 001

INVERTEBRATES

TEST SET-UP TECHNICIAN: CW
 TEST SPECIES: *Ceriodaphnia dubia*
 NEB LOT # Cd22(RMH 031)
 AGE: < 24 hours
 TEST SOLUTION VOLUME (mls): 15
 ORGANISMS PER TEST CHAMBER: 1
 ORGANISMS PER CONCENTRATION: 10

LABORATORY CONTROL WATER (MHRCF)

Lot Number	Hardness mg/L CaCO ₃	Alkalinity mg/L CaCO ₃
C42-MH004	90	65

	DATE	TIME
TEST START:	2/11/22	1210
TEST END:	2/18/22	1026

COMMENTS: Day 4 final chems were taken the morning after, as they were left on the shelf, DB 2/15/22

FILTRATION: The following were filtered prior to use through a 55 µm mesh filter due to the presence of organisms:

Sample:			
Date/Tech:			

REVIEWED BY: Kimberly Wills DATE: 3/10/22

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

FACILITY NAME & ADDRESS: West Valley Demonstration Project WSNP001, 10282 Rock Springs Rd West Valley NY			
NEB PROJECT NUMBER: 44240		NEB TEST NUMBER: 22-234a	COC # C42-1429
TEST ORGANISM: <i>Ceriodaphnia dubia</i>		AGE: <24 hours	Lot # Cd22(RMH 031)
START DATE: 2/11/22	TIME: 1210	END DATE: 2/18/22	TIME: 1026

Effluent Concentration	Culture Lot# Cd22(RMH 031)											Total Live Young	# Live Adults	Analyst- Transfer	Analyst- Counts
	Cup #	B1	B5	B6	B7	B11	B13	B14	B15	B16	B17				
	Day Number	Replicate													
		A	B	C	D	E	F	G	H	I	J				
NEB Lab Diluent	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	CW	
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	PD	
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	CW	
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	DB	DB
	4	5	4	6	6	6	4	4	4	6	6	51	10	AG	AG
	5	11	9	8	10	10	11	9	3	11	10	92	10	DB	DB
	6	13	10	✓	✓	2/x	✓	✓	18	✓	✓	43	9	CH	CH
	7	✓	✓	14	21	X	11	12	✓	16	15	89	9	AG	AG
	totals	29	23	28	37	18	26	25	25	33	31	275	9		
6.25%		A	B	C	D	E	F	G	H	I	J				
	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	4	7	6	5	6	6	7	6	6	6	5	60	10		
	5	12	12	7	11	9	9	10	9	8	9	96	10		
	6	17	18	16	✓	18	✓	✓	16	9	15	109	10		
	7	✓	✓	✓	19	✓	11	13	✓	7	1	51	10		
totals	36	36	28	36	33	27	29	31	30	30	316	10			
12.5%		A	B	C	D	E	F	G	H	I	J				
	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	4	6	3	8	6	6	6	5	5	5	6	56	10		
	5	8	10	7	12	9	8	9	8	9	11	91	10		
	6	✓	18	14	✓	17	✓	12	4	14	15	94	10		
	7	16	✓	✓	15	✓	12	✓	✓	✓	✓	43	10		
totals	30	31	29	33	32	26	26	17	28	32	284	10			

Notes:

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

FACILITY NAME & ADDRESS:	West Valley Demonstration Project WSNP001, 10282 Rock Springs Rd West Valley NY											
NEB PROJECT NUMBER:	44240	ORGANISM:	<i>Ceriodaphnia dubia</i>	START DATE:	2/11/22							

Effluent Concentration	Day Number	Replicate										Total Live Young	# Live Adults		
		A	B	C	D	E	F	G	H	I	J				
25%	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	4	5	6	5	5	5	7	6	5	6	6	56	10		
	5	10	8	10	12	12	13	9	8	9	7	98	10		
	6	15	15	15	✓	17	4	15	15	18	✓	114	10		
	7	✓	✓	✓	19	✓	3/x	✓	✓	✓	12	34	9		
	totals	30	29	30	36	34	27	30	28	33	25	302	9		
50%		A	B	C	D	E	F	G	H	I	J				
	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	4	6	6	5	6	7	5	6	5	5	7	58	10		
	5	13	11	10	12	10	12	9	9	13	14	113	10		
	6	18	14	18	20	15	✓	16	18	15	17	151	10		
	7	✓	✓	✓	✓	✓	13	✓	✓	✓	✓	13	10		
	totals	37	31	33	38	32	30	31	32	33	38	335	10		
100%		A	B	C	D	E	F	G	H	I	J				
	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	4	8	6	6	7	7	✓/x	2	6	7	7	56	9		
	5	✓	10	13	14	10	X	7	15	14	13	96	9		
	6	✓	13	20	18	18	X	2	11	14	18	114	9		
	7	12	✓/x	✓/x	✓	✓	X	11	✓	✓	✓	23	7		
	totals	20	29	39	39	35	0	22	32	35	38	289	7		

NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

FACILITY NAME & ADDRESS:		West Valley Demonstration Project WSNP001, 10282 Rock Springs Rd West Valley NY						
NEB PROJECT NUMBER:		44240			TEST ORGANISM		Ceriodaphnia dubia	
DILUTION WATER SOURCE:		Moderately Hard Lab Synthetic			START DATE:		2/11/22 TIME: 1210	
NEB Lab Diluent	1	2	3	4	5	6	7	Remarks
Tech Initials Initial	CW	CW	PD	JG	KO	MM/KO	CF/CH	
Temp °C Initial	24.3	25.1	25.1	25.1	25.4	25.4	25.6	
D.O. mg/L Initial	8.5	8.3	8.3	8.2	8.4	8.4	8.2	
pH s.u. Initial	7.6	7.7	7.9	8.0	7.9	7.5	7.9	
Conductivity µS Initial	324	326	324	323	324	324	323	
Tech Initials Final	CW	CW	DB	AG	PD	CH	CF/KO	
Temp °C Final	24.0	24.3	24.0	24.0	24.0	24.9	24.5	
D.O. mg/L Final	8.3	8.2	8.5	8.3	8.3	8.0	8.0	
pH s.u. Final	7.9	7.6	7.8	7.9	7.8	7.9	7.9	
Conductivity µS Final	351	342	393	363	356	348	340	
6.25%	1	2	3	4	5	6	7	Remarks
Tech Initials Initial	CW	CW	PD	JG	KO	MM/KO	CF/CH	
Temp °C Initial	24.5	25.2	25.2	25.1	25.5	25.2	25.8	
D.O. mg/L Initial	8.5	8.3	8.3	8.2	8.3	8.4	8.1	
pH s.u. Initial	7.6	7.8	7.9	8.0	7.8	7.6	7.9	
Conductivity µS Initial	402	403	406	405	418	410	407	
Tech Initials Final	CW	CW	DB	AG	PD	CH	CF/KO	
Temp °C Final	24.0	24.1	24.0	24.0	24.0	25.0	24.9	
D.O. mg/L Final	8.2	8.1	8.1	8.1	8.3	7.9	7.8	
pH s.u. Final	8.0	7.8	7.8	7.8	7.7	7.9	8.0	
Conductivity µS Final	433	423	474	452	450	428	426	
12.5%	1	2	3	4	5	6	7	Remarks
Tech Initials Initial	CW	CW	PD	JG	KO	MM/KO	CF/CH	
Temp °C Initial	24.5	25.3	25.3	25.1	25.5	25.3	25.7	
D.O. mg/L Initial	8.6	8.3	8.3	8.3	8.3	8.4	8.2	
pH s.u. Initial	7.6	7.8	8.0	8.0	7.8	7.7	7.9	
Conductivity µS Initial	496	501	482	478	496	490	493	
Tech Initials Final	CW	CW	DB	AG	PD	CH	CF/KO	
Temp °C Final	24.0	24.0	24.0	24.0	24.0	24.9	24.9	
D.O. mg/L Final	8.2	8.1	8.1	8.1	8.4	7.9	7.9	
pH s.u. Final	8.0	7.9	7.9	7.8	7.7	8.0	8.1	
Conductivity µS Final	527	517	548	504	520	505	504	

NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

FACILITY NAME & ADDRESS:		West Valley Demonstration Project WSNP001, 10282 Rock Springs Rd West Valley NY						
NEB PROJECT NUMBER:		44240		TEST ORGANISM		Ceriodaphnia dubia		
DILUTION WATER SOURCE:		Moderately Hard Lab Synthetic		START DATE:		2/11/22 TIME: 1210		
25%	1	2	3	4	5	6	7	Remarks
Tech Initials Initial	CW	CW	PD	JG	KO	MM/KO	CF/CH	
Temp °C Initial	24.4	25.3	25.4	25.0	25.5	25.1	25.7	
D.O. mg/L Initial	8.7	8.3	8.3	8.3	8.4	8.4	8.3	
pH s.u. Initial	7.6	7.8	8.0	8.0	7.8	7.7	7.9	
Conductivity µS Initial	674	660	652	646	669	659	667	
Tech Initials Final	CW	CW	DB	AG	PD	CH	CF/KO	
Temp °C Final	24.0	24.0	24.0	24.0	24.0	24.9	24.9	
D.O. mg/L Final	8.2	8.1	8.3	8.0	8.4	7.9	7.9	
pH s.u. Final	8.1	8.0	8.0	7.9	7.7	8.0	8.2	
Conductivity µS Final	715	680	735	680	692	678	679	
50%	1	2	3	4	5	6	7	Remarks
Tech Initials Initial	CW	CW	PD	JG	KO	MM/KO	CF/CH	
Temp °C Initial	24.4	25.3	25.9	25.0	25.5	25.0	25.6	
D.O. mg/L Initial	9.0	8.5	8.5	8.4	8.5	8.4	8.4	
pH s.u. Initial	7.6	7.8	7.9	8.0	7.7	7.8	7.8	
Conductivity µS Initial	981	991	980	973	1,014	998	1,000	
Tech Initials Final	CW	CW	DB	AG	PD	CH	CF/KO	
Temp °C Final	24.0	24.0	24.0	24.0	24.0	25.0	24.9	
D.O. mg/L Final	8.1	8.1	8.3	8.0	8.5	7.9	7.9	
pH s.u. Final	8.2	8.2	8.1	8.0	7.6	8.2	8.3	
Conductivity µS Final	1,008	1,007	1,126	1,012	1,043	1,022	1,009	
100%	1	2	3	4	5	6	7	Remarks
Tech Initials Initial	CW	CW	PD	JG	KO	MM/KO	CF/CH	
Temp °C Initial	24.4	25.1	26.0	25.0	25.7	25.0	25.4	
D.O. mg/L Initial	10.1	9.1	9.4	9.0	9.3	8.5	9.2	
pH s.u. Initial	7.5	7.6	7.7	7.9	7.6	7.7	7.6	
Conductivity µS Initial	1,632	1,633	1,627	1,614	1,668	1,668	1,661	
Tech Initials Final	CW	CW	DB	AG	PD	CH	CF/KO	
Temp °C Final	24.0	24.0	24.0	24.0	24.0	25.0	24.7	
D.O. mg/L Final	8.1	8.1	8.3	8.1	8.5	7.9	7.9	
pH s.u. Final	8.4	8.3	8.3	8.2	7.7	8.4	8.5	
Conductivity µS Final	1,702	1,653	1,856	1,692	1,724	1,688	1,651	

CETIS Analytical Report

Report Date: 21 Feb-22 14:26 (p 1 of 2)

Test Code/ID: 22-234a / 00-7599-8607

Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

Analysis ID: 03-4323-8984	Endpoint: Reproduction	CETIS Version: CETISv1.9.7
Analyzed: 21 Feb-22 14:11	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 21 Feb-22 14:09	MD5 Hash: 4976BBD768DD1BC10C2FD78F267C58FB	Editor ID: 008-848-998-5
Batch ID: 09-5392-4266	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 11 Feb-22 12:10	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Feb-22 10:26	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 22h	Taxon: Branchiopoda	Source: In-House Culture Age: <24
Sample ID: 15-1096-5929	Code: 5A0F82A9	Project:
Sample Date: 10 Feb-22	Material: WWTF Effluent	Source: West Valley Demonstration Project (N
Receipt Date: 11 Feb-22 10:32	CAS (PC):	Station:
Sample Age: 36h	Client: Test America	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	6.354	23.11%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		6.25	129	75	4	18	CDF	0.9992	Non-Significant Effect
		12.5	115	75	5	18	CDF	0.9697	Non-Significant Effect
		25	122.5	75	4	18	CDF	0.9948	Non-Significant Effect
		50	139.5	75	3	18	CDF	1.0000	Non-Significant Effect
		100	119.5	75	1	18	CDF	0.9889	Non-Significant Effect

Test Acceptability Criteria

TAC Limits

Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	27.5	15	>>	Yes	Passes Criteria
PMSD	0.2311	0.13	0.47	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	248.683	49.7367	5	1.291	0.2814	Non-Significant Effect
Error	2080.3	38.5241	54			
Total	2328.98		59			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	29	15.09	2.3E-05	Unequal Variances
Distribution	Shapiro-Wilk W Normality Test	0.8584	0.9459	<1.0E-05	Non-Normal Distribution

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	10	27.5	23.65	31.35	27	18	37	1.701	19.56%	0.00%
6.25		10	31.6	29.14	34.06	30.5	27	36	1.087	10.88%	-14.91%
12.5		10	28.4	25.04	31.76	29.5	17	33	1.485	16.53%	-3.27%
25		10	30.2	27.82	32.58	30	25	36	1.052	11.02%	-9.82%
50		10	33.5	31.33	35.67	32.5	30	38	0.9574	9.04%	-21.82%
100		10	28.9	20.19	37.61	33.5	0	39	3.848	42.11%	-5.09%

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	D	29	23	28	37	18	26	25	25	33	31
6.25		36	36	28	36	33	27	29	31	30	30
12.5		30	31	29	33	32	26	26	17	28	32
25		30	29	30	36	34	27	30	28	33	25
50		37	31	33	38	32	30	31	32	33	38
100		20	29	39	39	35	0	22	32	35	38

CETIS Analytical Report

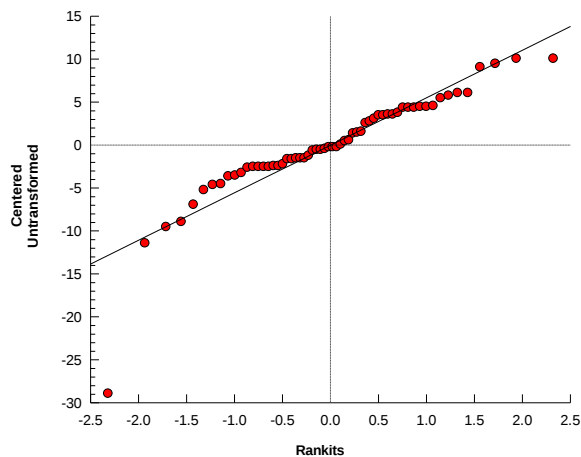
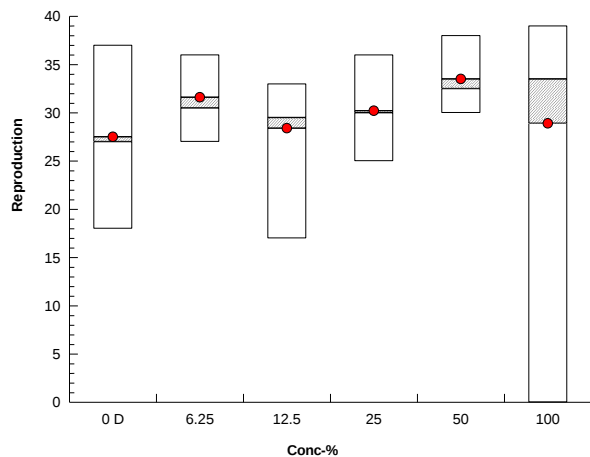
Report Date: 21 Feb-22 14:26 (p 2 of 2)
Test Code/ID: 22-234a / 00-7599-8607

Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

Analysis ID:	03-4323-8984	Endpoint:	Reproduction	CETIS Version:	CETISv1.9.7
Analyzed:	21 Feb-22 14:11	Analysis:	Nonparametric-Control vs Treatments	Status Level:	1
Edit Date:	21 Feb-22 14:09	MD5 Hash:	4976BBD768DD1BC10C2FD78F267C58FB	Editor ID:	008-848-998-5

Graphics



CETIS Analytical Report

Report Date: 21 Feb-22 14:27 (p 1 of 6)

Test Code/ID: 22-234a / 00-7599-8607

Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

Analysis ID: 02-9478-0898	Endpoint: 2d Survival Rate	CETIS Version: CETISv1.9.7
Analyzed: 21 Feb-22 14:11	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 21 Feb-22 14:09	MD5 Hash: 6DFFCF255519977902535414E38EA216	Editor ID: 008-848-998-5
Batch ID: 09-5392-4266	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 11 Feb-22 12:10	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Feb-22 10:26	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 22h	Taxon: Branchiopoda	Source: In-House Culture Age: <24
Sample ID: 15-1096-5929	Code: 5A0F82A9	Project:
Sample Date: 10 Feb-22	Material: WWTF Effluent	Source: West Valley Demonstration Project (N
Receipt Date: 11 Feb-22 10:32	CAS (PC):	Station:
Sample Age: 36h	Client: Test America	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X)	Linear	659360	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
LC50	>100	---	---	<1	---	---

2d Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)							Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	A/B	Mean	%Effect
0	D	10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%

2d 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	D	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

2d 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	D	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

CETIS Analytical Report

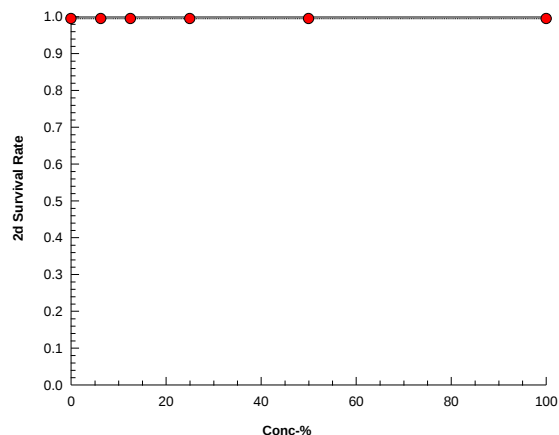
Report Date: 21 Feb-22 14:27 (p 2 of 6)
Test Code/ID: 22-234a / 00-7599-8607

Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

Analysis ID:	02-9478-0898	Endpoint:	2d Survival Rate	CETIS Version:	CETISv1.9.7
Analyzed:	21 Feb-22 14:11	Analysis:	Linear Interpolation (ICPIN)	Status Level:	1
Edit Date:	21 Feb-22 14:09	MD5 Hash:	6DFFCF255519977902535414E38EA216	Editor ID:	008-848-998-5

Graphics



CETIS Analytical Report

Report Date: 21 Feb-22 14:27 (p 3 of 6)

Test Code/ID: 22-234a / 00-7599-8607

Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

Analysis ID: 04-7594-7178	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.7
Analyzed: 21 Feb-22 14:11	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 21 Feb-22 14:09	MD5 Hash: E44DEB0B4F8394AE5FFA11F41309FE34	Editor ID: 008-848-998-5
Batch ID: 09-5392-4266	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 11 Feb-22 12:10	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Feb-22 10:26	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 22h	Taxon: Branchiopoda	Source: In-House Culture Age: <24
Sample ID: 15-1096-5929	Code: 5A0F82A9	Project:
Sample Date: 10 Feb-22	Material: WWTF Effluent	Source: West Valley Demonstration Project (N
Receipt Date: 11 Feb-22 10:32	CAS (PC):	Station:
Sample Age: 36h	Client: Test America	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X)	Linear	1463392	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits		Overlap	Decision
Attribute	Test Stat	Lower	Upper		
Control Resp	0.9	0.8	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
LC50	>100	---	---	<1	---	---

7d Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	A/B	Mean	%Effect
0	D	10	0.9000	1.0000	0.0000	1.0000	35.14%	0.00%	9/10	0.9667	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	0.00%	-11.11%	10/10	0.9667	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	0.00%	-11.11%	10/10	0.9667	0.00%
25		10	0.9000	1.0000	0.0000	1.0000	35.14%	0.00%	9/10	0.9500	1.72%
50		10	1.0000	1.0000	1.0000	1.0000	0.00%	-11.11%	10/10	0.9500	1.72%
100		10	0.7000	1.0000	0.0000	1.0000	69.01%	22.22%	7/10	0.7000	27.59%

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	D	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	0.0000	0.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000

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	D	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
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CETIS Analytical Report

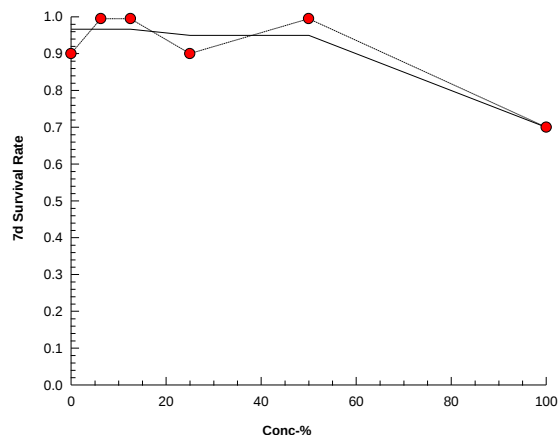
Report Date: 21 Feb-22 14:27 (p 4 of 6)
Test Code/ID: 22-234a / 00-7599-8607

Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

Analysis ID:	04-7594-7178	Endpoint:	7d Survival Rate	CETIS Version:	CETISv1.9.7
Analyzed:	21 Feb-22 14:11	Analysis:	Linear Interpolation (ICPIN)	Status Level:	1
Edit Date:	21 Feb-22 14:09	MD5 Hash:	E44DEB0B4F8394AE5FFA11F41309FE34	Editor ID:	008-848-998-5

Graphics



CETIS Analytical Report

Report Date: 21 Feb-22 14:27 (p 5 of 6)
Test Code/ID: 22-234a / 00-7599-8607

Ceriodaphnia 7-d Survival and Reproduction Test New England Bioassay

Analysis ID: 15-2903-4782	Endpoint: Reproduction	CETIS Version: CETISv1.9.7
Analyzed: 21 Feb-22 14:12	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 21 Feb-22 14:09	MD5 Hash: 4976BBD768DD1BC10C2FD78F267C58FB	Editor ID: 008-848-998-5
Batch ID: 09-5392-4266	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 11 Feb-22 12:10	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Feb-22 10:26	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 22h	Taxon: Branchiopoda	Source: In-House Culture Age: <24
Sample ID: 15-1096-5929	Code: 5A0F82A9	Project:
Sample Date: 10 Feb-22	Material: WWTF Effluent	Source: West Valley Demonstration Project (N
Receipt Date: 11 Feb-22 10:32	CAS (PC):	Station:
Sample Age: 36h	Client: Test America	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	347233	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits		Overlap	Decision
Attribute	Test Stat	Lower	Upper		
Control Resp	27.5	15	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC25	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Reproduction Summary

			Calculated Variate						Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	D	10	27.5	27	18	37	19.56%	0.00%	30.24	0.00%
6.25		10	31.6	30.5	27	36	10.88%	-14.91%	30.24	0.00%
12.5		10	28.4	29.5	17	33	16.53%	-3.27%	30.24	0.00%
25		10	30.2	30	25	36	11.02%	-9.82%	30.24	0.00%
50		10	33.5	32.5	30	38	9.04%	-21.82%	30.24	0.00%
100		10	28.9	33.5	0	39	42.11%	-5.09%	28.9	4.43%

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	D	29	23	28	37	18	26	25	25	33	31
6.25		36	36	28	36	33	27	29	31	30	30
12.5		30	31	29	33	32	26	26	17	28	32
25		30	29	30	36	34	27	30	28	33	25
50		37	31	33	38	32	30	31	32	33	38
100		20	29	39	39	35	0	22	32	35	38

CETIS Analytical Report

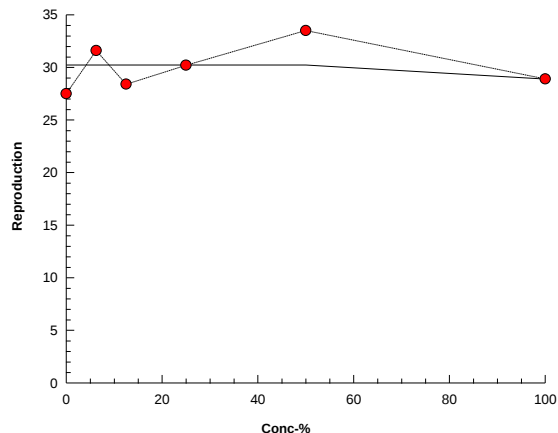
Report Date: 21 Feb-22 14:27 (p 6 of 6)
Test Code/ID: 22-234a / 00-7599-8607

Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

Analysis ID:	15-2903-4782	Endpoint:	Reproduction	CETIS Version:	CETISv1.9.7
Analyzed:	21 Feb-22 14:12	Analysis:	Linear Interpolation (ICPIN)	Status Level:	1
Edit Date:	21 Feb-22 14:09	MD5 Hash:	4976BBD768DD1BC10C2FD78F267C58FB	Editor ID:	008-848-998-5

Graphics



CETIS Analytical Report

Report Date: 21 Feb-22 14:27 (p 1 of 4)

Test Code/ID: 22-234a / 00-7599-8607

Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

Analysis ID: 14-5039-0284	Endpoint: 2d Survival Rate	CETIS Version: CETISv1.9.7
Analyzed: 21 Feb-22 14:11	Analysis: STP 2xK Contingency Tables	Status Level: 1
Edit Date: 21 Feb-22 14:09	MD5 Hash: 6DFFCF255519977902535414E38EA216	Editor ID: 008-848-998-5
Batch ID: 09-5392-4266	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 11 Feb-22 12:10	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Feb-22 10:26	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 22h	Taxon: Branchiopoda	Source: In-House Culture Age: <24
Sample ID: 15-1096-5929	Code: 5A0F82A9	Project:
Sample Date: 10 Feb-22	Material: WWTF Effluent	Source: West Valley Demonstration Project (N
Receipt Date: 11 Feb-22 10:32	CAS (PC):	Station:
Sample Age: 36h	Client: Test America	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Untransformed	C > T	100	>100	---	1

Fisher Exact/Bonferroni-Holm Test

Control	vs	Conc-%	Test Stat	P-Type	P-Value	Decision(α:5%)
Dilution Water		6.25	1.0000	Exact	1.0000	Non-Significant Effect
		12.5	1.0000	Exact	1.0000	Non-Significant Effect
		25	1.0000	Exact	1.0000	Non-Significant Effect
		50	1.0000	Exact	1.0000	Non-Significant Effect
		100	1.0000	Exact	1.0000	Non-Significant Effect

2d Survival Rate Frequencies

Conc-%	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	D	10	0	10	1.0000	0.0000	0.00%
6.25		10	0	10	1.0000	0.0000	0.00%
12.5		10	0	10	1.0000	0.0000	0.00%
25		10	0	10	1.0000	0.0000	0.00%
50		10	0	10	1.0000	0.0000	0.00%
100		10	0	10	1.0000	0.0000	0.00%

2d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

2d 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	D	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

CETIS Analytical Report

Report Date: 21 Feb-22 14:27 (p 2 of 4)
 Test Code/ID: 22-234a / 00-7599-8607

Ceriodaphnia 7-d Survival and Reproduction Test

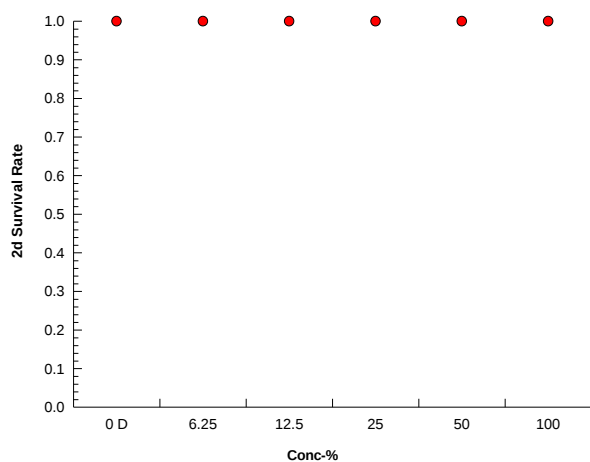
New England Bioassay

Analysis ID: 14-5039-0284 Endpoint: 2d Survival Rate CETIS Version: CETISv1.9.7
 Analyzed: 21 Feb-22 14:11 Analysis: STP 2xK Contingency Tables Status Level: 1
 Edit Date: 21 Feb-22 14:09 MD5 Hash: 6DFFCF255519977902535414E38EA216 Editor ID: 008-848-998-5

2d 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	D	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Graphics



CETIS Analytical Report

Report Date: 21 Feb-22 14:27 (p 3 of 4)

Test Code/ID: 22-234a / 00-7599-8607

Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

Analysis ID: 01-7762-1206	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.7
Analyzed: 21 Feb-22 14:11	Analysis: STP 2xK Contingency Tables	Status Level: 1
Edit Date: 21 Feb-22 14:09	MD5 Hash: E44DEB0B4F8394AE5FFA11F41309FE34	Editor ID: 008-848-998-5
Batch ID: 09-5392-4266	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 11 Feb-22 12:10	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Feb-22 10:26	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 22h	Taxon: Branchiopoda	Source: In-House Culture Age: <24
Sample ID: 15-1096-5929	Code: 5A0F82A9	Project:
Sample Date: 10 Feb-22	Material: WWTF Effluent	Source: West Valley Demonstration Project (N
Receipt Date: 11 Feb-22 10:32	CAS (PC):	Station:
Sample Age: 36h	Client: Test America	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Untransformed	C > T	100	>100	---	1

Fisher Exact/Bonferroni-Holm Test

Control	vs	Conc-%	Test Stat	P-Type	P-Value	Decision(α:5%)
Dilution Water		6.25	1.0000	Exact	1.0000	Non-Significant Effect
		12.5	1.0000	Exact	1.0000	Non-Significant Effect
		25	0.7632	Exact	1.0000	Non-Significant Effect
		50	1.0000	Exact	1.0000	Non-Significant Effect
		100	0.2910	Exact	1.0000	Non-Significant Effect

Test Acceptability Criteria

TAC Limits

Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	0.9	0.8	>>	Yes	Passes Criteria

7d Survival Rate Frequencies

Conc-%	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	D	9	1	10	0.9000	0.1000	0.00%
6.25		10	0	10	1.0000	0.0000	-11.11%
12.5		10	0	10	1.0000	0.0000	-11.11%
25		9	1	10	0.9000	0.1000	0.00%
50		10	0	10	1.0000	0.0000	-11.11%
100		7	3	10	0.7000	0.3000	22.22%

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	10	0.9000	0.6738	1.0000	1.0000	0.0000	1.0000	0.1000	35.14%	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-11.11%
12.5		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-11.11%
25		10	0.9000	0.6738	1.0000	1.0000	0.0000	1.0000	0.1000	35.14%	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-11.11%
100		10	0.7000	0.3544	1.0000	1.0000	0.0000	1.0000	0.1528	69.01%	22.22%

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	D	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	0.0000	0.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000

CETIS Analytical Report

Report Date: 21 Feb-22 14:27 (p 4 of 4)
Test Code/ID: 22-234a / 00-7599-8607

Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

Analysis ID: 01-7762-1206 Endpoint: 7d Survival Rate CETIS Version: CETISv1.9.7
Analyzed: 21 Feb-22 14:11 Analysis: STP 2xK Contingency Tables Status Level: 1
Edit Date: 21 Feb-22 14:09 MD5 Hash: E44DEB0B4F8394AE5FFA11F41309FE34 Editor ID: 008-848-998-5

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	D	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	0/1	0/1	1/1	1/1	0/1	1/1	1/1	1/1	1/1

Graphics

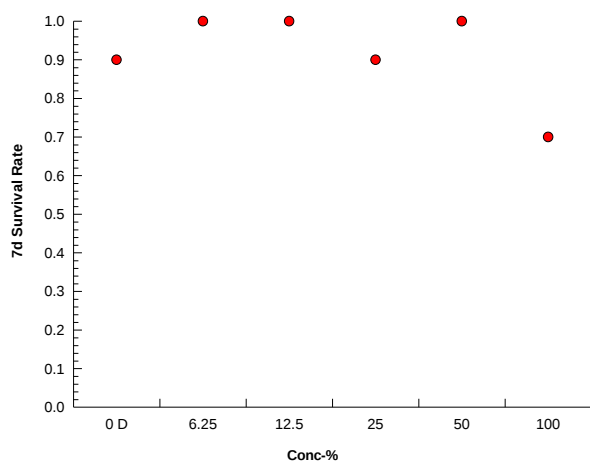


Table of Random Permutations of 16

C.dubia Test ID#

22-234a

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9	7	14	2	6	4	14	10	9	8	15	10	7	10	9	10	6	14	10	11
12	1	9	10	15	5	2	15	10	2	14	2	8	2	4	13	8	5	15	5
3	3	12	11	5	9	6	6	3	10	13	12	9	6	2	15	7	15	7	13
10	15	11	5	13	7	12	5	2	7	11	5	10	15	12	3	1	13	13	10
8	13	13	3	3	10	13	2	4	1	8	6	11	14	15	6	9	16	2	2
16	16	5	12	11	6	1	3	8	16	3	7	2	5	16	14	13	7	14	15

Ceriodaphnia dubia

Culture Chart

Lot # Cd22(RMH 031)

B

Brood mother source: RMH 018 A3

Source's brood size: 18

(Qty.)

West Valley

Tech	AH	AH	AH	AH	AH		AH	AH		AH	SJP	AH	SJP		SJP	AH
Date	1-3	2-1	2-2	2-3	2-4		2-6	2-7		2-8	2-9	2-10	2-11		2-13	2-14
Day	0	1	2	3	4	5	6	7		8	9	10	11	12	13	14
Cup #																
1	N	N	N	N	5		12	Y	1	Y	N	Y ₂₈	Y ₂₂		Y	N
2	N	N	N	N	5		13	Y	2	Y	N					
3	N	N	N	N	4		10	Y	3	Y	N	Y ₂₀	Y ₂₀		Y	N
4	N	N	N	N	6		11	Y	4	Y	N	Y ₂₁	Y ₂₁		Y	N
5	N	N	N	N	6		13	Y	5	Y	N	Y ₂₆	Y ₂₆		Y	N
6	N	N	N	N	5		12	Y	6	Y	N	Y ₂₄	Y ₂₄		Y	N
7	N	N	N	N	5		13	Y	7	Y	N	Y ₂₂	Y ₂₂		X →	
8	N	N	N	N	6		12	Y	8	Y	N	Y ₂₀	Y ₂₀		Y	N
9	N	N	N	N	7		14	Y	9	Y	N	Y ₂₀	Y ₂₀		Y	Y
10	N	N	N	N	5		13	Y	10	Y	N	Y ₁₆	Y ₁₆		X →	
11	N	N	N	N	6		11	Y	11	Y	N	Y ₂₂	Y ₂₂		X →	
12	N	N	N	N	5		10	Y	12	Y	N	N ₈	N		Y	N
13	N	N	N	N	5		10	Y	13	Y	N	Y ₂₄	Y ₂₄		Y	N
14	N	N	N	N	5		12	Y	14	Y	N	Y ₂₂	Y ₂₂		Y	N
15	N	N	N	N	4		13	Y	15	Y	N	Y ₂₄	Y ₂₄		X →	
16	N	N	N	N	6		13	Y	16	Y	N	Y ₂₄	Y ₂₄		Y	Y
17	N	N	N	N	6		14	Y	17	Y	N	Y ₂₂	Y ₂₂		Y	N
18	N	N	N	N	5		13	Y	18	Y	N	Y	N		Y	N

Y = neonates present, and EPA criterion has been met

N = no neonates

P = Neonates present in P.M. on previous day

2B = two broods present. 2Y = two broods and criterion met: ≥ 20 neos. by 3rd brood.

T# = neonates used in test replicate, # = neonates in brood.

Test organism collection:

Project #	Symbol	P	Tray diagram?	Time period, neonates released	Collection date / time
44240	T		✓	2-10-22 / 1455 → 2-10-22 / 1630	1145 / 2-11-22
	T				
	T				
	T				
	T				

PIMEPHALES PROMELAS DATASHEETS & STATISTICAL ANALYSIS

NEW ENGLAND BIOASSAY TOXICITY DATA FORM

CHRONIC COVER SHEET

CLIENT: Test America
 ADDRESS: 10 Hazelwood Drive
Amherst, NY 14228
 PERMITTEE: West Valley Demonstration Project
 PERMIT NUMBER: NY0000973
 DILUTION WATER: Moderately Hard Synthetic

P.promelas TEST ID # 22-234b
 CHAIN OF CUSTODY # C42-1429
 NEB PROJECT # 44240
 SAMPLE ID: Outfall 001

VERTEBRATES

TEST SET-UP TECHNICIAN: JG/CW
 TEST SPECIES: *Pimephales promelas*
 NEB LOT # Pp22(2-11) 1530
 AGE: < 24 hours
 TEST SOLUTION VOLUME (mls): 400
 ORGANISMS PER TEST CHAMBER: 10
 ORGANISMS PER CONCENTRATION: 40

LABORATORY CONTROL WATER (MHRCF)

Lot Number	Hardness mg/L	Alkalinity mg/L
C42-MH004	90	65

	DATE	TIME
TEST START:	2/11/22	1417
TEST END:	2/18/22	1341

COMMENTS:

REVIEWED BY: Kimberly Wills DATE: 3/10/22

NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

FACILITY NAME & ADDRESS:		West Valley Demonstration Project WSNP001, 10282 Rock Springs Rd West Valley NY						
NEB PROJECT NUMBER:		44240		TEST ORGANISM		Pimephales promelas		
DILUTION WATER SOURCE:		Moderately Hard Synthetic		START DATE:		2/11/22		TIME: 1417
NEB Lab Synthetic Diluent	1	2	3	4	5	6	7	Remarks
Tech Initials Initial	CW	CW	PD	JG	KO	MM/KO	CF/CH	
Temp °C Initial	24.3	25.1	25.1	25.1	25.4	25.4	25.6	
D.O. mg/L Initial	8.5	8.3	8.3	8.2	8.4	8.4	8.2	
pH s.u. Initial	7.6	7.7	7.9	8.0	7.9	7.5	7.9	
Conductivity µS Initial	324	326	324	323	324	324	323	
Tech Initials Final	CW	PD	JG	CF/KO	MM/CH	CF/CH	CF/KO	
Temp °C Final	25.7	25.2	25.5	24.8	25.0	25.6	25.4	
D.O. mg/L Final	7.3	7.4	7.3	7.5	7.6	7.3	7.2	
pH s.u. Final	7.8	7.6	7.6	7.9	7.4	7.6	7.8	
Conductivity µS Final	347	347	353	350	348	354	351	
6.25%	1	2	3	4	5	6	7	Remarks
Tech Initials Initial	CW	CW	PD	JG	KO	MM/KO	CF/CH	
Temp °C Initial	24.5	25.2	25.2	25.1	25.5	25.2	25.8	
D.O. mg/L Initial	8.5	8.3	8.3	8.2	8.3	8.4	8.1	
pH s.u. Initial	7.6	7.8	7.9	8.0	7.8	7.6	7.9	
Conductivity µS Initial	402	403	406	405	418	410	407	
Tech Initials Final	CW	PD	JG	CF/KO	MM/CH	CF/CH	CF/KO	
Temp °C Final	25.7	24.8	25.2	25.4	25.1	25.7	25.8	
D.O. mg/L Final	7.1	7.4	7.4	7.1	7.5	7.3	7.1	
pH s.u. Final	7.8	7.6	7.7	7.9	7.6	7.7	7.8	
Conductivity µS Final	424	427	438	435	444	440	436	
12.5%	1	2	3	4	5	6	7	Remarks
Tech Initials Initial	CW	CW	PD	JG	KO	MM/KO	CF/CH	
Temp °C Initial	24.5	25.3	25.3	25.1	25.5	25.3	25.7	
D.O. mg/L Initial	8.6	8.3	8.3	8.3	8.3	8.4	8.2	
pH s.u. Initial	7.6	7.8	8.0	8.0	7.8	7.7	7.9	
Conductivity µS Initial	496	501	482	478	496	490	493	
Tech Initials Final	CW	PD	JG	CF/KO	MM/CH	CF/CH	CF/KO	
Temp °C Final	25.6	25.0	25.2	24.5	24.8	25.6	25.5	
D.O. mg/L Final	7.1	7.4	7.4	7.4	7.6	7.3	7.1	
pH s.u. Final	7.9	7.7	7.8	7.9	7.6	7.8	7.9	
Conductivity µS Final	517	524	518	518	527	527	528	

NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

FACILITY NAME & ADDRESS:		West Valley Demonstration Project WSNP001, 10282 Rock Springs Rd West Valley NY						
NEB PROJECT NUMBER:		44240		TEST ORGANISM		Pimephales promelas		
DILUTION WATER SOURCE:		Moderately Hard Synthetic		START DATE:		2/11/22		TIME: 1417
25%	1	2	3	4	5	6	7	Remarks
Tech Initials Initial	CW	CW	PD	JG	KO	MM/KO	CF/CH	
Temp °C Initial	24.4	25.3	25.4	25.0	25.5	25.1	25.7	
D.O. mg/L Initial	8.7	8.3	8.3	8.3	8.4	8.4	8.3	
pH s.u. Initial	7.6	7.8	8.0	8.0	7.8	7.7	7.9	
Conductivity µS Initial	674	660	652	646	669	659	667	
Tech Initials Final	CW	PD	JG	CF/KO	MM/CH	CF/CH	CF/KO	
Temp °C Final	25.7	25.2	25.6	24.5	24.6	25.5	25.2	
D.O. mg/L Final	7.3	7.3	7.4	7.4	7.6	7.4	7.2	
pH s.u. Final	7.9	7.7	7.9	8.0	7.7	7.9	8.0	
Conductivity µS Final	688	685	685	696	700	694	707	
50%	1	2	3	4	5	6	7	Remarks
Tech Initials Initial	CW	CW	PD	JG	KO	MM/KO	CF/CH	
Temp °C Initial	24.4	25.3	25.9	25.0	25.5	25.0	25.6	
D.O. mg/L Initial	9.0	8.5	8.5	8.4	8.5	8.4	8.4	
pH s.u. Initial	7.6	7.8	7.9	8.0	7.7	7.8	7.8	
Conductivity µS Initial	981	991	980	973	1,014	998	1,000	
Tech Initials Final	CW	PD	JG	CF/KO	MM/CH	CF/CH	CF/KO	
Temp °C Final	25.8	25.1	25.5	25.3	25.0	25.6	25.4	
D.O. mg/L Final	7.3	7.3	7.4	7.3	7.5	7.3	7.1	
pH s.u. Final	7.9	7.8	8.0	8.1	7.8	8.0	8.0	
Conductivity µS Final	989	1,012	1,010	1,016	1,045	1,038	1,039	
100%	1	2	3	4	5	6	7	Remarks
Tech Initials Initial	CW	CW	PD	JG	KO	MM/KO	CF/CH	
Temp °C Initial	24.4	25.1	26.0	25.0	25.7	25.0	25.4	
D.O. mg/L Initial	10.1	9.1	9.4	9.0	9.3	8.5	9.2	
pH s.u. Initial	7.5	7.6	7.7	7.9	7.6	7.7	7.6	
Conductivity µS Initial	1,632	1,633	1,627	1,614	1,668	1,668	1,661	
Tech Initials Final	CW	PD	JG	CF/KO	MM/CH	CF/CH	CF/KO	
Temp °C Final	25.4	24.6	25.0	25.6	25.2	25.6	25.9	
D.O. mg/L Final	7.5	7.7	7.4	6.9	7.5	7.3	7.1	
pH s.u. Final	8.1	8.1	8.2	8.2	7.9	8.2	8.1	
Conductivity µS Final	1,631	1,677	1,674	1,670	1,704	1,714	1,697	

**NEB'S SURVIVAL DATA SHEET FOR FATHEAD MINNOW LARVAL
SURVIVAL AND GROWTH TEST**

FACILITY NAME & ADDRESS:	West Valley Demonstration Project WSNP001, 10282 Rock Springs Rd West Valley NY				
NEB PROJECT NUMBER:	44240	TEST NUMBER:	22-234b	COC #	C42-1429
TEST ORGANISM:	<i>Pimephales promelas</i>	AGE:	<24 hours	Lot #	Pp22(2-11) 1530
START DATE:	2/11/22	TIME:	1417	END DATE:	2/18/22
				TIME:	1341

Effluent Concentration	Replicate Number	Number of Survivors								
		Day								
		0	1	2	3	4	5	6	7	Remarks
	ANALYST	JG/CW	CW	CW	JG	KO	MM/CH	JG/KO	CF/KO	
NEB Lab Synthetic Diluent	A	10	10	10	10	10	10	10	10	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
6.25%	A	10	10	10	10	10	10	10	10	
	B	10	10	9	9	9	9	9	9	
	C	10	10	10	10	10	10	10	10	
	D	10	10	9	8	8	8	8	8	
12.5%	A	10	10	10	10	10	10	10	10	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	9	9	9	9	
25%	A	10	10	10	10	10	10	10	10	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	9	9	9	9	
50%	A	10	10	10	10	9	9	9	9	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
100%	A	10	10	10	10	10	10	10	10	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	

D.O. concentration fell below 4.0 mg/L ☐ Yes ☒ No

Replicates in all concentrations were aerated starting: N/A Tech Initials: N/A

NEW ENGLAND BIOASSAY WEIGHT DATA FOR FATHEAD MINNOW LARVAL SURVIVAL AND GROWTH TEST

FACILITY NAME & ADDRESS:	West Valley Demonstration Project WSNP001, 10282 Rock Springs Rd West Valley NY		
NEB PROJECT #	44240	NEB TEST NUMBER:	22-234b
TEST START DATE	2/11/22	WEIGHING DATE:	2/21/22
TEST END DATE	2/18/22		
DRYING TEMPERATURE (°C)	100 ± 4	DRYING TIME:	minimum 6 hours
ANALYST-INITIAL WEIGHTS	mm/ch	ANALYST-FINAL WEIGHTS	CF/CH
Effluent Concentration	Replicate Number	A Weight of boat (mg)	B Dry Weight: Foil and Larvae (mg)
NEB Lab Synthetic Diluent	A	946.04	950.65
	B	950.97	956.18
	C	915.90	920.76
	D	928.67	933.06
6.25%	A	943.55	948.49
	B	931.21	936.17
	C	928.39	933.79
	D	945.49	950.65
12.5%	A	935.28	939.95
	B	953.14	957.89
	C	947.88	953.04
	D	948.67	953.41
25%	A	937.09	942.04
	B	939.62	944.59
	C	960.78	965.88
	D	938.09	943.14
50%	A	924.89	930.09
	B	938.83	944.27
	C	945.67	950.70
	D	962.06	967.17
100%	A	941.63	947.18
	B	938.23	944.16
	C	950.50	956.50
	D	927.50	932.78

Concentration	Rep	Final Weight (mg)	Initial Weight (mg)	Total Weight (mg)	Average per fish (mg)	Mean fish weight (mg)	Standard Deviation
NEB Lab Synthetic Diluent	1	950.65	946.04	4.61	0.461	0.4767	0.035198248
	2	956.18	950.97	5.21	0.521		
	3	920.76	915.90	4.86	0.486		
	4	933.06	928.67	4.39	0.439		
6.25%	1	948.49	943.55	4.94	0.494	0.5115	0.021439838
	2	936.17	931.21	4.96	0.496		
	3	933.79	928.39	5.40	0.540		
	4	950.65	945.49	5.16	0.516		
12.5%	1	939.95	935.28	4.67	0.467	0.4830	0.02228602
	2	957.89	953.14	4.75	0.475		
	3	953.04	947.88	5.16	0.516		
	4	953.41	948.67	4.74	0.474		
25%	1	942.04	937.09	4.95	0.495	0.5017	0.006994045
	2	944.59	939.62	4.97	0.497		
	3	965.88	960.78	5.10	0.510		
	4	943.14	938.09	5.05	0.505		
50%	1	930.09	924.89	5.20	0.520	0.5195	0.017748239
	2	944.27	938.83	5.44	0.544		
	3	950.70	945.67	5.03	0.503		
	4	967.17	962.06	5.11	0.511		
100%	1	947.18	941.63	5.55	0.555	0.5690	0.033734256
	2	944.16	938.23	5.93	0.593		
	3	956.50	950.50	6.00	0.600		
	4	932.78	927.50	5.28	0.528		

CETIS Analytical Report

Report Date: 23 Feb-22 14:23 (p 1 of 6)
Test Code/ID: 22-234b / 11-1420-7819

Fathead Minnow 7-d Larval Survival and Growth Test

New England Bioassay

Analysis ID: 07-7622-9180	Endpoint: 2d Survival Rate	CETIS Version: CETISv1.9.7
Analyzed: 23 Feb-22 14:21	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 21 Feb-22 14:14	MD5 Hash: A5E5CAF0A037A1D6B3F04C46DE68F6C2	Editor ID: 008-848-998-5
Batch ID: 06-6922-3780	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 11 Feb-22 14:17	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Feb-22 13:41	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: In-House Culture Age: <24
Sample ID: 03-4086-8180	Code: 14513C54	Project:
Sample Date: 10 Feb-22	Material: WWTF Effluent	Source: West Valley Demonstration Project (N
Receipt Date: 11 Feb-22 10:32	CAS (PC):	Station:
Sample Age: 38h	Client: Test America	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.04941	4.94%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		6.25	14	10	1	6	CDF	0.3451	Non-Significant Effect
		12.5	18	10	1	6	CDF	0.8333	Non-Significant Effect
		25	18	10	1	6	CDF	0.8333	Non-Significant Effect
		50	18	10	1	6	CDF	0.8333	Non-Significant Effect
		100	18	10	1	6	CDF	0.8333	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0221328	0.0044266	5	3	0.0384	Significant Effect
Error	0.0265593	0.0014755	18			
Total	0.0486921		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test	0.5784	0.884	<1.0E-05	Non-Normal Distribution

2d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	0.9500	0.8581	1.0000	0.9500	0.9000	1.0000	0.0289	6.08%	5.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	0.00%
6.25		4	1.3310	1.1810	1.4800	1.3310	1.2490	1.4120	0.0471	7.07%	5.77%
12.5		4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	0.00%
25		4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	0.00%
50		4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	0.00%
100		4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	0.00%

CETIS Analytical Report

Report Date: 23 Feb-22 14:23 (p 2 of 6)
Test Code/ID: 22-234b / 11-1420-7819

Fathead Minnow 7-d Larval Survival and Growth Test

New England Bioassay

Analysis ID: 07-7622-9180 Endpoint: 2d Survival Rate CETIS Version: CETISv1.9.7
Analyzed: 23 Feb-22 14:21 Analysis: Nonparametric-Control vs Treatments Status Level: 1
Edit Date: 21 Feb-22 14:14 MD5 Hash: A5E5CAF0A037A1D6B3F04C46DE68F6C2 Editor ID: 008-848-998-5

2d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	0.9000	1.0000	0.9000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

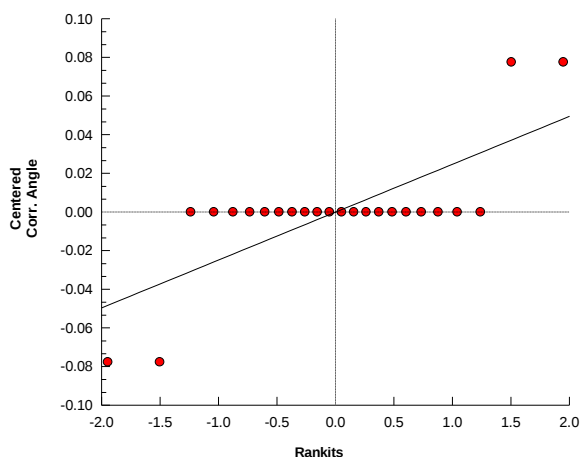
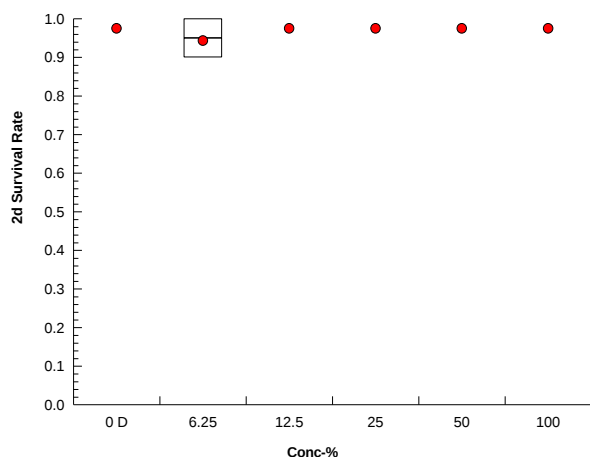
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.4120	1.4120	1.4120	1.4120
6.25		1.4120	1.2490	1.4120	1.2490
12.5		1.4120	1.4120	1.4120	1.4120
25		1.4120	1.4120	1.4120	1.4120
50		1.4120	1.4120	1.4120	1.4120
100		1.4120	1.4120	1.4120	1.4120

2d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	10/10	10/10
6.25		10/10	9/10	10/10	9/10
12.5		10/10	10/10	10/10	10/10
25		10/10	10/10	10/10	10/10
50		10/10	10/10	10/10	10/10
100		10/10	10/10	10/10	10/10

Graphics



CETIS Analytical Report

Report Date: 23 Feb-22 14:23 (p 3 of 6)
 Test Code/ID: 22-234b / 11-1420-7819

Fathead Minnow 7-d Larval Survival and Growth Test

New England Bioassay

Analysis ID: 09-1843-0504	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.7
Analyzed: 23 Feb-22 14:21	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 21 Feb-22 14:14	MD5 Hash: 86BEC47298E38E0027D4F4AF3D3EA37B	Editor ID: 008-848-998-5
Batch ID: 06-6922-3780	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 11 Feb-22 14:17	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Feb-22 13:41	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: In-House Culture Age: <24
Sample ID: 03-4086-8180	Code: 14513C54	Project:
Sample Date: 10 Feb-22	Material: WWTF Effluent	Source: West Valley Demonstration Project (N
Receipt Date: 11 Feb-22 10:32	CAS (PC):	Station:
Sample Age: 38h	Client: Test America	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.08754	8.75%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		6.25	14	10	1	6	CDF	0.3451	Non-Significant Effect
		12.5	16	10	1	6	CDF	0.6105	Non-Significant Effect
		25	16	10	1	6	CDF	0.6105	Non-Significant Effect
		50	16	10	1	6	CDF	0.6105	Non-Significant Effect
		100	18	10	1	6	CDF	0.8333	Non-Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	1	0.8	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0364972	0.0072994	5	1.055	0.4169	Non-Significant Effect
Error	0.124544	0.0069191	18			
Total	0.161041		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test	0.85	0.884	0.0022	Non-Normal Distribution

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	0.9250	0.7727	1.0000	0.9500	0.8000	1.0000	0.0479	10.35%	7.50%
12.5		4	0.9750	0.8954	1.0000	1.0000	0.9000	1.0000	0.0250	5.13%	2.50%
25		4	0.9750	0.8954	1.0000	1.0000	0.9000	1.0000	0.0250	5.13%	2.50%
50		4	0.9750	0.8954	1.0000	1.0000	0.9000	1.0000	0.0250	5.13%	2.50%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	0.00%
6.25		4	1.2950	1.0610	1.5290	1.3310	1.1070	1.4120	0.0735	11.35%	8.28%
12.5		4	1.3710	1.2420	1.5010	1.4120	1.2490	1.4120	0.0407	5.94%	2.89%
25		4	1.3710	1.2420	1.5010	1.4120	1.2490	1.4120	0.0407	5.94%	2.89%
50		4	1.3710	1.2420	1.5010	1.4120	1.2490	1.4120	0.0407	5.94%	2.89%
100		4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	0.00%

CETIS Analytical Report

Report Date: 23 Feb-22 14:23 (p 4 of 6)
Test Code/ID: 22-234b / 11-1420-7819

Fathead Minnow 7-d Larval Survival and Growth Test

New England Bioassay

Analysis ID: 09-1843-0504 Endpoint: 7d Survival Rate CETIS Version: CETISv1.9.7
Analyzed: 23 Feb-22 14:21 Analysis: Nonparametric-Control vs Treatments Status Level: 1
Edit Date: 21 Feb-22 14:14 MD5 Hash: 86BEC47298E38E0027D4F4AF3D3EA37B Editor ID: 008-848-998-5

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	0.9000	1.0000	0.8000
12.5		1.0000	1.0000	1.0000	0.9000
25		1.0000	1.0000	1.0000	0.9000
50		0.9000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

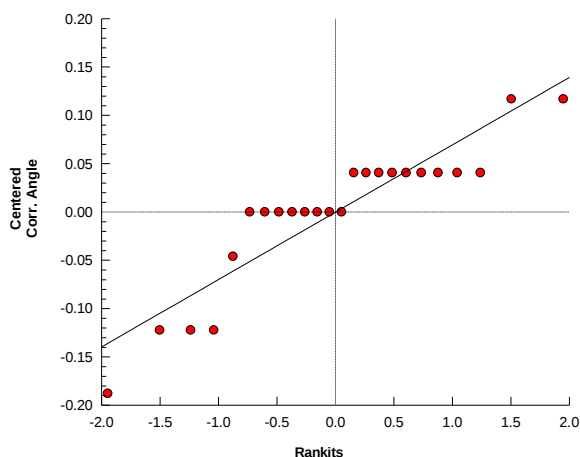
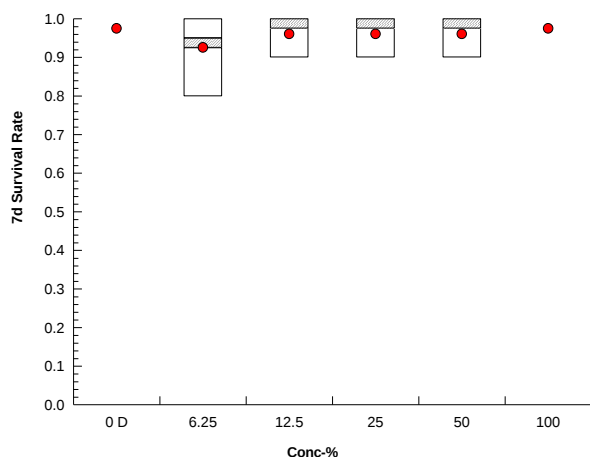
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.4120	1.4120	1.4120	1.4120
6.25		1.4120	1.2490	1.4120	1.1070
12.5		1.4120	1.4120	1.4120	1.2490
25		1.4120	1.4120	1.4120	1.2490
50		1.2490	1.4120	1.4120	1.4120
100		1.4120	1.4120	1.4120	1.4120

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	10/10	10/10
6.25		10/10	9/10	10/10	8/10
12.5		10/10	10/10	10/10	9/10
25		10/10	10/10	10/10	9/10
50		9/10	10/10	10/10	10/10
100		10/10	10/10	10/10	10/10

Graphics



CETIS Analytical Report

Report Date: 23 Feb-22 14:23 (p 5 of 6)
 Test Code/ID: 22-234b / 11-1420-7819

Fathead Minnow 7-d Larval Survival and Growth Test

New England Bioassay

Analysis ID: 04-1383-5711	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.9.7
Analyzed: 23 Feb-22 14:22	Analysis: Parametric-Control vs Treatments	Status Level: 1
Edit Date: 21 Feb-22 14:14	MD5 Hash: 68E3504BA6109DF82AE46F70D1098F46	Editor ID: 008-848-998-5
Batch ID: 06-6922-3780	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 11 Feb-22 14:17	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Feb-22 13:41	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: In-House Culture Age: <24
Sample ID: 03-4086-8180	Code: 14513C54	Project:
Sample Date: 10 Feb-22	Material: WWTF Effluent	Source: West Valley Demonstration Project (N
Receipt Date: 11 Feb-22 10:32	CAS (PC):	Station:
Sample Age: 38h	Client: Test America	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	0.04225	8.86%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		6.25	-1.98	2.407	0.042	6	CDF	0.9991	Non-Significant Effect
		12.5	-0.3559	2.407	0.042	6	CDF	0.9169	Non-Significant Effect
		25	-1.424	2.407	0.042	6	CDF	0.9948	Non-Significant Effect
		50	-2.436	2.407	0.042	6	CDF	0.9998	Non-Significant Effect
		100	-5.256	2.407	0.042	6	CDF	1.0000	Non-Significant Effect

Test Acceptability Criteria

TAC Limits

Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	0.4768	0.25	>>	Yes	Passes Criteria
PMSD	0.08862	0.12	0.3	Yes	Below Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0219031	0.0043806	5	7.11	0.0008	Significant Effect
Error	0.0110909	0.0006162	18			
Total	0.032994		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	6.377	15.09	0.2712	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9545	0.884	0.3373	Normal Distribution

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	0.4768	0.4207	0.5328	0.4735	0.439	0.521	0.0176	7.38%	0.00%
6.25		4	0.5115	0.4774	0.5456	0.506	0.494	0.54	0.01072	4.19%	-7.29%
12.5		4	0.483	0.4475	0.5185	0.4745	0.467	0.516	0.01114	4.61%	-1.31%
25		4	0.5017	0.4906	0.5129	0.501	0.495	0.51	0.003497	1.39%	-5.24%
50		4	0.5195	0.4913	0.5477	0.5155	0.503	0.544	0.008874	3.42%	-8.97%
100		4	0.569	0.5153	0.6227	0.574	0.528	0.6	0.01687	5.93%	-19.35%

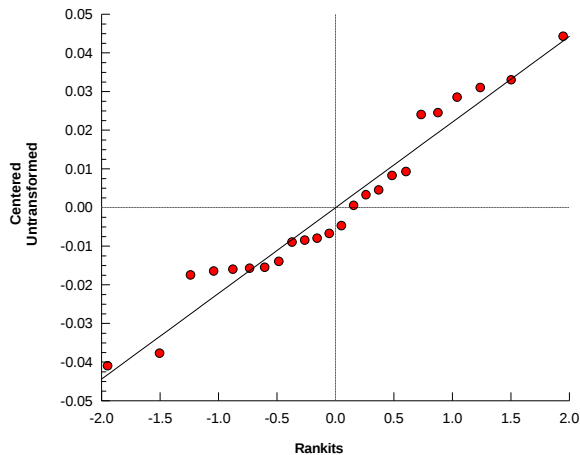
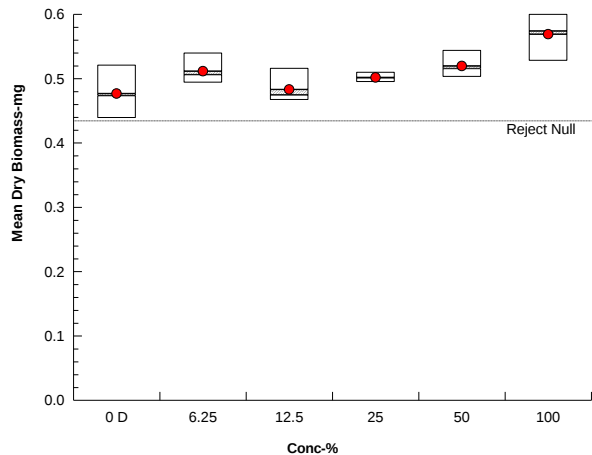
Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.461	0.521	0.486	0.439
6.25		0.494	0.496	0.54	0.516
12.5		0.467	0.475	0.516	0.474
25		0.495	0.497	0.51	0.505
50		0.52	0.544	0.503	0.511
100		0.555	0.593	0.6	0.528

Fathead Minnow 7-d Larval Survival and Growth Test New England Bioassay

Analysis ID:	04-1383-5711	Endpoint:	Mean Dry Biomass-mg	CETIS Version:	CETISv1.9.7
Analyzed:	23 Feb-22 14:22	Analysis:	Parametric-Control vs Treatments	Status Level:	1
Edit Date:	21 Feb-22 14:14	MD5 Hash:	68E3504BA6109DF82AE46F70D1098F46	Editor ID:	008-848-998-5

Graphics



CETIS Analytical Report

Report Date: 23 Feb-22 14:23 (p 1 of 6)
Test Code/ID: 22-234b / 11-1420-7819

Fathead Minnow 7-d Larval Survival and Growth Test

New England Bioassay

Analysis ID: 20-1065-2055	Endpoint: 2d Survival Rate	CETIS Version: CETISv1.9.7
Analyzed: 23 Feb-22 14:21	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 21 Feb-22 14:14	MD5 Hash: A5E5CAF0A037A1D6B3F04C46DE68F6C2	Editor ID: 008-848-998-5
Batch ID: 06-6922-3780	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 11 Feb-22 14:17	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Feb-22 13:41	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: In-House Culture Age: <24
Sample ID: 03-4086-8180	Code: 14513C54	Project:
Sample Date: 10 Feb-22	Material: WWTF Effluent	Source: West Valley Demonstration Project (N
Receipt Date: 11 Feb-22 10:32	CAS (PC):	Station:
Sample Age: 38h	Client: Test America	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X)	Linear	62812	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
LC50	>100	---	---	<1	---	---

2d Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	A/B	Mean	%Effect
0	D	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	40/40	1.0000	0.00%
6.25		4	0.9500	0.9500	0.9000	1.0000	6.08%	5.00%	38/40	0.9900	1.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	40/40	0.9900	1.00%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	40/40	0.9900	1.00%
50		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	40/40	0.9900	1.00%
100		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	40/40	0.9900	1.00%

2d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	0.9000	1.0000	0.9000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

2d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	10/10	10/10
6.25		10/10	9/10	10/10	9/10
12.5		10/10	10/10	10/10	10/10
25		10/10	10/10	10/10	10/10
50		10/10	10/10	10/10	10/10
100		10/10	10/10	10/10	10/10

CETIS Analytical Report

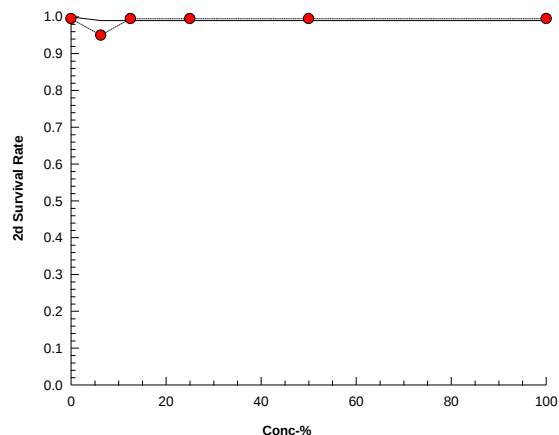
Report Date: 23 Feb-22 14:23 (p 2 of 6)
Test Code/ID: 22-234b / 11-1420-7819

Fathead Minnow 7-d Larval Survival and Growth Test

New England Bioassay

Analysis ID:	20-1065-2055	Endpoint:	2d Survival Rate	CETIS Version:	CETISv1.9.7
Analyzed:	23 Feb-22 14:21	Analysis:	Linear Interpolation (ICPIN)	Status Level:	1
Edit Date:	21 Feb-22 14:14	MD5 Hash:	A5E5CAF0A037A1D6B3F04C46DE68F6C2	Editor ID:	008-848-998-5

Graphics



CETIS Analytical Report

Report Date: 23 Feb-22 14:23 (p 3 of 6)
Test Code/ID: 22-234b / 11-1420-7819

Fathead Minnow 7-d Larval Survival and Growth Test New England Bioassay

Analysis ID: 12-8363-8878	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.7
Analyzed: 23 Feb-22 14:21	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 21 Feb-22 14:14	MD5 Hash: 86BEC47298E38E0027D4F4AF3D3EA37B	Editor ID: 008-848-998-5
Batch ID: 06-6922-3780	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 11 Feb-22 14:17	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Feb-22 13:41	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: In-House Culture Age: <24
Sample ID: 03-4086-8180	Code: 14513C54	Project:
Sample Date: 10 Feb-22	Material: WWTF Effluent	Source: West Valley Demonstration Project (N
Receipt Date: 11 Feb-22 10:32	CAS (PC):	Station:
Sample Age: 38h	Client: Test America	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X)	Linear	405171	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits		Overlap	Decision
Attribute	Test Stat	Lower	Upper		
Control Resp	1	0.8	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
LC50	>100	---	---	<1	---	---

7d Survival Rate Summary

			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	A/B	Mean	%Effect
0	D	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	40/40	1.0000	0.00%
6.25		4	0.9250	0.9500	0.8000	1.0000	10.35%	7.50%	37/40	0.9700	3.00%
12.5		4	0.9750	1.0000	0.9000	1.0000	5.13%	2.50%	39/40	0.9700	3.00%
25		4	0.9750	1.0000	0.9000	1.0000	5.13%	2.50%	39/40	0.9700	3.00%
50		4	0.9750	1.0000	0.9000	1.0000	5.13%	2.50%	39/40	0.9700	3.00%
100		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	40/40	0.9700	3.00%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	0.9000	1.0000	0.8000
12.5		1.0000	1.0000	1.0000	0.9000
25		1.0000	1.0000	1.0000	0.9000
50		0.9000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	10/10	10/10
6.25		10/10	9/10	10/10	8/10
12.5		10/10	10/10	10/10	9/10
25		10/10	10/10	10/10	9/10
50		9/10	10/10	10/10	10/10
100		10/10	10/10	10/10	10/10

CETIS Analytical Report

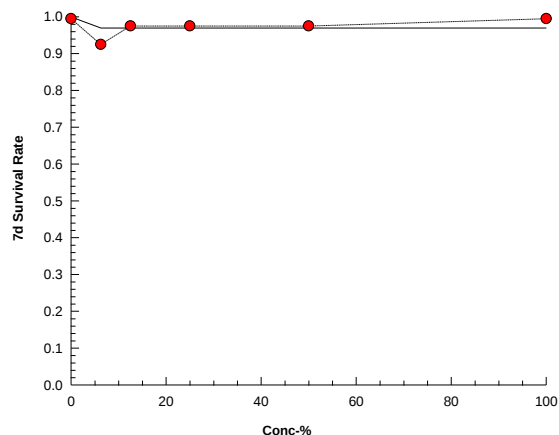
Report Date: 23 Feb-22 14:23 (p 4 of 6)
Test Code/ID: 22-234b / 11-1420-7819

Fathead Minnow 7-d Larval Survival and Growth Test

New England Bioassay

Analysis ID:	12-8363-8878	Endpoint:	7d Survival Rate	CETIS Version:	CETISv1.9.7
Analyzed:	23 Feb-22 14:21	Analysis:	Linear Interpolation (ICPIN)	Status Level:	1
Edit Date:	21 Feb-22 14:14	MD5 Hash:	86BEC47298E38E0027D4F4AF3D3EA37B	Editor ID:	008-848-998-5

Graphics



CETIS Analytical Report

Report Date: 23 Feb-22 14:23 (p 5 of 6)
Test Code/ID: 22-234b / 11-1420-7819

Fathead Minnow 7-d Larval Survival and Growth Test					New England Bioassay	
Analysis ID:	18-7838-7091	Endpoint:	Mean Dry Biomass-mg	CETIS Version:	CETISv1.9.7	
Analyzed:	23 Feb-22 14:22	Analysis:	Linear Interpolation (ICPIN)	Status Level:	1	
Edit Date:	21 Feb-22 14:14	MD5 Hash:	68E3504BA6109DF82AE46F70D1098F46	Editor ID:	008-848-998-5	
Batch ID:	06-6922-3780	Test Type:	Growth-Survival (7d)	Analyst:		
Start Date:	11 Feb-22 14:17	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Laboratory Water	
Ending Date:	18 Feb-22 13:41	Species:	Pimephales promelas	Brine:	Not Applicable	
Test Length:	6d 23h	Taxon:	Actinopterygii	Source:	In-House Culture	Age: <24
Sample ID:	03-4086-8180	Code:	14513C54	Project:		
Sample Date:	10 Feb-22	Material:	WWTF Effluent	Source:	West Valley Demonstration Project (N	
Receipt Date:	11 Feb-22 10:32	CAS (PC):		Station:		
Sample Age:	38h	Client:	Test America			

Linear Interpolation Options					
X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1064612	200	Yes	Two-Point Interpolation

Test Acceptability Criteria		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	0.4768	0.25	>>	Yes	Passes Criteria

Point Estimates						
Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC25	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Mean Dry Biomass-mg Summary			Calculated Variate						Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	D	4	0.4768	0.4735	0.439	0.521	7.38%	0.00%	0.5102	0.00%
6.25		4	0.5115	0.506	0.494	0.54	4.19%	-7.29%	0.5102	0.00%
12.5		4	0.483	0.4745	0.467	0.516	4.61%	-1.31%	0.5102	0.00%
25		4	0.5017	0.501	0.495	0.51	1.39%	-5.24%	0.5102	0.00%
50		4	0.5195	0.5155	0.503	0.544	3.42%	-8.97%	0.5102	0.00%
100		4	0.569	0.574	0.528	0.6	5.93%	-19.35%	0.5102	0.00%

Mean Dry Biomass-mg Detail					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.461	0.521	0.486	0.439
6.25		0.494	0.496	0.54	0.516
12.5		0.467	0.475	0.516	0.474
25		0.495	0.497	0.51	0.505
50		0.52	0.544	0.503	0.511
100		0.555	0.593	0.6	0.528

CETIS Analytical Report

Report Date: 23 Feb-22 14:23 (p 6 of 6)
Test Code/ID: 22-234b / 11-1420-7819

Fathead Minnow 7-d Larval Survival and Growth Test

New England Bioassay

Analysis ID:	18-7838-7091	Endpoint:	Mean Dry Biomass-mg	CETIS Version:	CETISv1.9.7
Analyzed:	23 Feb-22 14:22	Analysis:	Linear Interpolation (ICPIN)	Status Level:	1
Edit Date:	21 Feb-22 14:14	MD5 Hash:	68E3504BA6109DF82AE46F70D1098F46	Editor ID:	008-848-998-5

Graphics

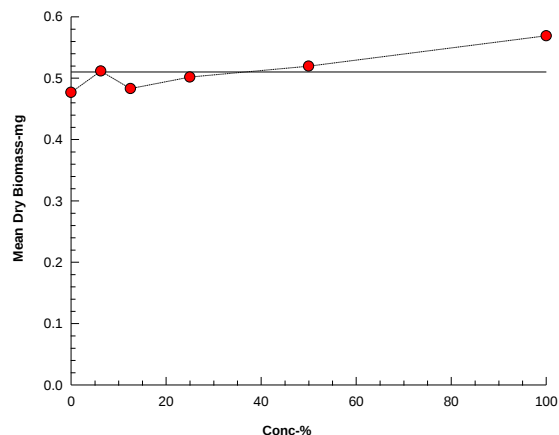


Table of Random Permutations of 16

P.promelas Test ID#

22-234b

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SAMPLE RECEIPT CHEMISTRY & CHAIN OF CUSTODY DOCUMENTS

NEW ENGLAND BIOASSAY - INITIAL CHEMISTRY DATA

PERMITTEE: West Valley Demonstration Project
NEB JOB # 44240

DATE RECEIVED	2/11/22		2/15/22			
SAMPLE TYPE:	EFF #1	BROOK #1	EFF #2	BROOK #2	EFF #3	BROOK #3
COC #	C42-1429		C42-1475			
pH (SU)	7.1		6.9			
Temperature (°C)	0.6, 0.8, 1.3		1.0, 1.3, 1.1			
Dissolved Oxygen (mg/L)	10.5		11.1			
Conductivity (µmhos)	1,634		1,665			
Salinity (ppt)	<1		<1			
TRC - DPD (mg/L)	0.042		<0.001			
TRC - Amperometric (mg/L)	N/A		N/A			
Hardness (mg/L as CaCO ₃)	194		202			
Alkalinity (mg/l as CaCO ₃)	170		180			
Tech Initials	KO		AG			

NOTE: NA = NOT APPLICABLE

Data Reviewed By: Kimberly Wills Date Reviewed: 3/10/22

NEW ENGLAND BIOASSAY - CHAIN-OF-CUSTODY

EFFLUENT

Sampler: C. Zesch
Title: _____
Facility: West Valley

Sampling Method: X Composite

Sample ID: Outfall 001
Start Date: 2-9-22 Time: 0900
End Date: 2-10-22 Time: 0900

Sampling Method: _____ Grab (for pH and TRC only _____)

Date Collected: _____
Time Collected: _____

Sample Type: _____ Prechlorinated
_____ Dechlorinated
X _____ Unchlorinated
_____ Chlorinated

RECEIVING WATER

Sampler: _____
Title: _____
Facility: West Valley

Sampling Method: X Grab

Sample ID: Erdman Brook
Date Collected: _____
Time Collected: _____

Effluent Sampling Location and Procedures: Composite Sampling

Receiving Water Sampling Location and Procedures: _____

Requested Analysis: X Chronic and modified acute

Received
ON ICE

Sample Shipment

Method of Shipment: UPS Next Day Air

Relinquished By: _____	Date: _____	Time: _____
Received By: <u>[Signature]</u>	Date: <u>2/11/22</u>	Time: <u>1032</u>
Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____
Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____

FOR NEB USE ONLY

Temperature of Effluent Upon Receipt at Lab: 06.08, 1.3

Temperature of Receiving Water Upon Receipt at Lab: _____ °C

Effluent COC# 042-1429

Receiving Water COC# _____

IF THIS COOLER IS MISPLACED OR THE LABEL IS LOST, PLEASE SHIP TO:
KIM WILLS, NEW ENGLAND BIOASSAY, 77 BATSON DRIVE, MANCHESTER CT 06042

Sample Type: LIQUID- SPDES/PROCESS WATER

Electronic Disk - YES

External Lab Destination	Purchase Order Number	Charge Number	Release Number	Report Format Level	Priority	OrderID: 220126-01 Work Order: SP-Discharge
Test America	CH-007532	WV03.IN.01.01.01.02.01	1260	1	10 Days	

Custodian Signature:  C-O-C Reviewed By:  Report Data To: Dave Kleink (716) 485-3109
Chet Wrotniak (716) 982-6403

Location Code	Sample ID	Date	Time	# Cont	Preservative	Tests	Sample Notes
---------------	-----------	------	------	--------	--------------	-------	--------------

WNSP001	2022-00812	02/10/22		3	Cool	wet_du_a, wet_du_c, wet_pr_a, wet_pr_c,	Initial Sample
---------	------------	----------	--	---	------	---	----------------

Signature Rel: Date/Time	 2-16-22 1000	Signature Rel: Date/Time	
Signature Rec: Date/Time	2/11/22 1032	Signature Rec: Date/Time	
Signature Rel: Date/Time		Signature Rel: Date/Time	
Signature Rec: Date/Time		Signature Rec: Date/Time	
Signature Rel: Date/Time		Sample Receipt at Lab: Cool? YES NO	Received Temp: C
Signature Rec: Date/Time		Signature Rec: Date/Time	ONICE

NEW ENGLAND BIOASSAY - CHAIN-OF-CUSTODY

EFFLUENT

Sampler: C. Roesch
Title: _____
Facility: West Valley

Sampling Method: X Composite

Sample ID: Outfall 001
Start Date: 2-13-22 Time: 1000
End Date: 2-14-22 Time: 0930

Sampling Method: _____ Grab (for pH and TRC only _____)

Date Collected: _____
Time Collected: _____

Sample Type: _____
☒ Prechlorinated
☐ Dechlorinated
☒ Unchlorinated
☐ Chlorinated

Effluent Sampling Location and Procedures: Composite Sampling

Receiving Water Sampling Location and Procedures: _____

Requested Analysis: X Chronic and modified acute

Sample Shipment

Method of Shipment: _____

Relinquished By: _____	Date: _____	Time: _____
Received By: <u>[Signature]</u>	Date: <u>2/15/22</u>	Time: <u>1000</u>
Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____
Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____

FOR NEB USE ONLY

Temperature of Effluent Upon Receipt at Lab: 10.13 °C

Temperature of Receiving Water Upon Receipt at Lab: _____ °C

Effluent COC# C42-1475

Receiving Water COC# C42-1475

IF THIS COOLER IS MISPLACED OR THE LABEL IS LOST, PLEASE SHIP TO:
KIM WILLS, NEW ENGLAND BIOASSAY, 77 BATSON DRIVE, MANCHESTER CT 06042

CHAIN-OF-CUSTODY / REQUEST-FOR-ANALYSIS / PACKING SHEET

Sample Type: LIQUID-SPDES/PROCESS WATER

Electronic Disk - YES

OrderID: 220126-01				
Work Order: SP-Discharge				
External Lab Destination	Purchase Order Number	Charge Number	Release Number	Report Format Level
Test America	CH-007532	WV03.IN.01.01.01.02.01	1260	1
				Priority
				10 Days

Custodian Signature: STN

C-O-C Reviewed By:

Report Data To: Dave Klenk (716) 485-3109
Chet Wrotniak (716) 982-6403

<u>Location Code</u>	<u>Sample ID</u>	<u>Date</u>	<u>Time</u>	<u># Cont</u>	<u>Preservative</u>	<u>Tests</u>	<u>Sample Notes</u>
WNSP001	2022-01188	02/14/22	09:30	3	Cool	wet_pr_c, wet_du_a, wet_pr_a, wet_du_c,	Refreshing Sample

CH2-1475

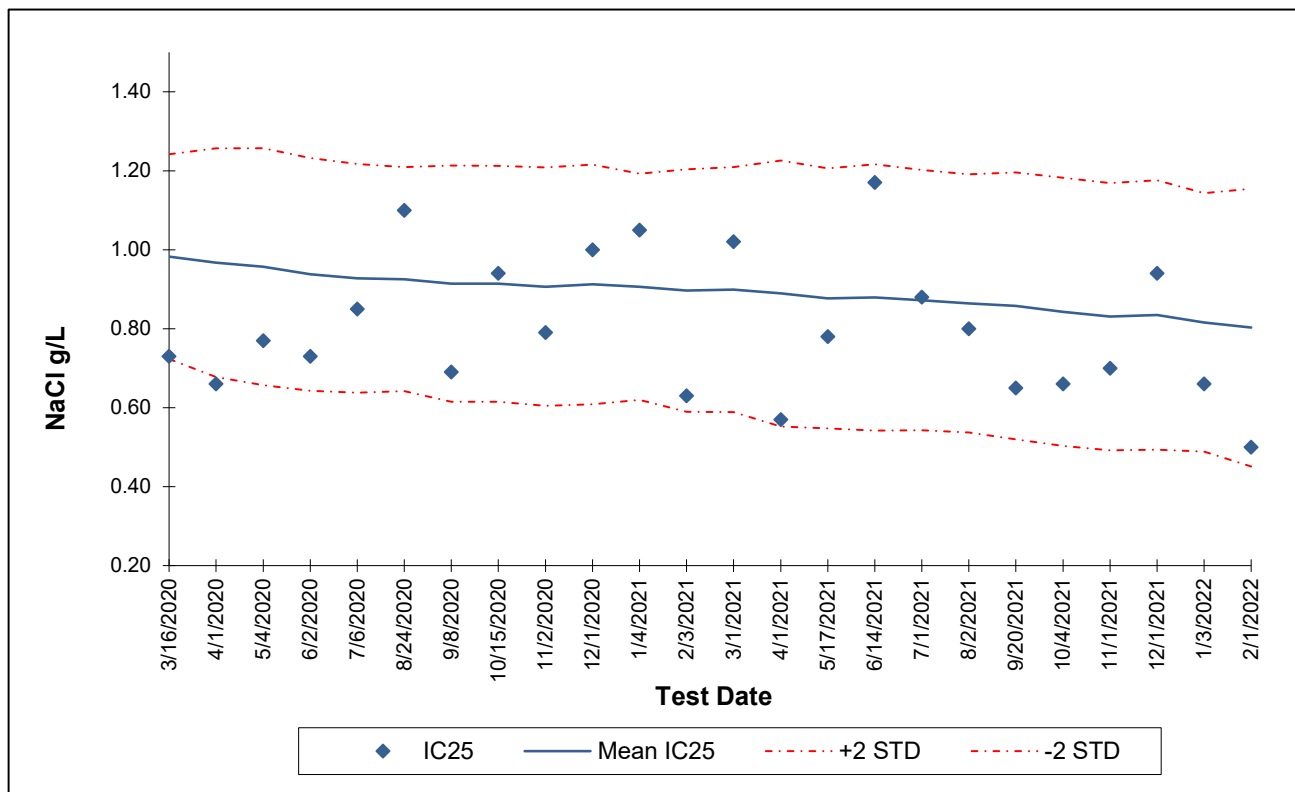
Received
ON ICE

Signature Rel: Date/Time	<i>SV</i> 2-14-22 1000	Signature Rel: Date/Time	
Signature Rec: Date/Time	<i>Wilder</i> 2/15/22 1006	Signature Rec: Date/Time	
Signature Rel: Date/Time		Signature Rel: Date/Time	
Signature Rec: Date/Time		Signature Rec: Date/Time	
Signature Rel: Date/Time		Sample Receipt at Lab:	Cool? YES NO Temp: C
Signature Rec: Date/Time		Signature Rec: Date/Time	YES NO

REFERENCE TOXICANT CHARTS

New England Bioassay

Reference Toxicant Data: Sodium chloride (NaCl) *Ceriodaphnia dubia* Chronic Reproduction IC₂₅



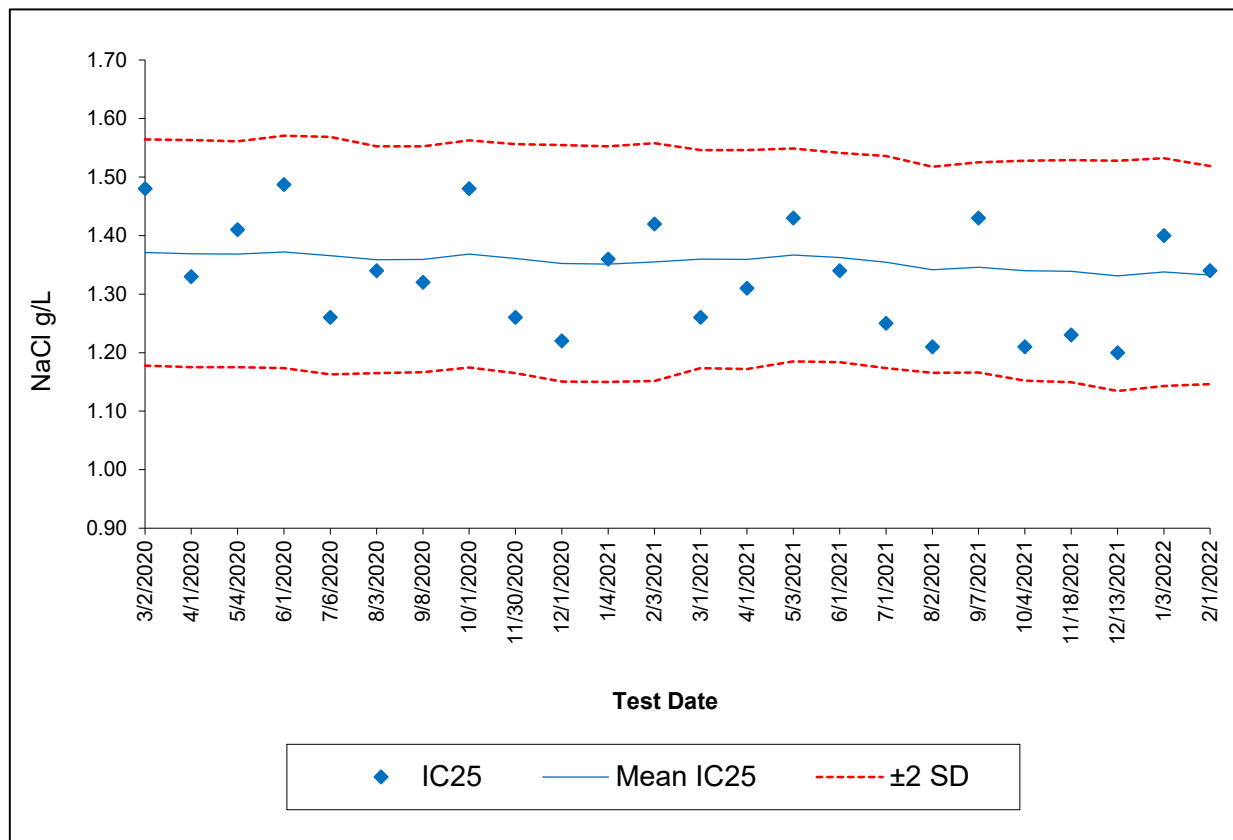
Test ID	Date	IC ₂₅	Mean IC ₂₅	STD	-2STD	+2STD	Avg. CV	Repro PMSD (%)	Avg. PMSD (%)
20-366	3/16/2020	0.73	0.98	0.13	0.72	1.24	0.13	10.30	21.85
20-428	4/1/2020	0.66	0.97	0.14	0.68	1.26	0.15	17.88	20.99
20-587	5/4/2020	0.77	0.96	0.15	0.66	1.26	0.16	30.12	21.22
20-711	6/2/2020	0.73	0.94	0.15	0.64	1.23	0.16	12.08	19.76
20-932	7/6/2020	0.85	0.93	0.14	0.64	1.22	0.16	24.70	20.32
20-1198	8/24/2020	1.10	0.93	0.14	0.64	1.21	0.15	39.42	21.24
20-1286	9/8/2020	0.69	0.91	0.15	0.62	1.21	0.16	29.35	21.54
20-1516	10/15/2020	0.94	0.91	0.15	0.61	1.21	0.16	12.44	21.05
20-1609	11/2/2020	0.79	0.91	0.15	0.60	1.21	0.17	11.83	20.22
20-1738	12/1/2020	1.00	0.91	0.15	0.61	1.22	0.17	9.35	19.96
21-8	1/4/2021	1.05	0.91	0.14	0.62	1.19	0.16	14.78	18.88
21-139	2/3/2021	0.63	0.90	0.15	0.59	1.20	0.17	14.82	18.71
21-261	3/1/2021	1.02	0.90	0.16	0.59	1.21	0.17	11.44	18.36
21-427	4/1/2021	0.57	0.89	0.17	0.55	1.23	0.19	9.83	18.35
21-679	5/17/2021	0.78	0.88	0.16	0.55	1.21	0.19	14.03	18.29
21-824	6/14/2021	1.17	0.88	0.17	0.54	1.22	0.19	11.06	18.11
21-909	7/1/2021	0.88	0.87	0.16	0.54	1.20	0.19	14.51	18.19
21-1065	8/2/2021	0.80	0.86	0.16	0.54	1.19	0.19	7.11	17.48
21-1384	9/20/2021	0.65	0.86	0.17	0.52	1.20	0.20	16.31	17.35
21-1450	10/4/2021	0.66	0.84	0.17	0.50	1.18	0.20	18.06	17.35
21-1614	11/1/2021	0.70	0.83	0.17	0.49	1.17	0.20	32.72	18.13
21-1749	12/1/2021	0.94	0.83	0.17	0.49	1.18	0.20	26.37	18.15
22-02	1/3/2022	0.66	0.82	0.16	0.49	1.14	0.20	14.17	17.73
22-156	2/1/2022	0.50	0.80	0.18	0.45	1.15	0.22	22.20	17.70

National 75th Percentile and 90th Percentile CV Averages for *Ceriodaphnia* Reproduction IC₂₅ (EPA 833-R-00-003): 0.45 - 0.62

PMDS Upper and Lower Bounds for *Ceriodaphnia* Reproduction (EPA-821-R-02-013): 13% - 47%

New England Bioassay

Reference Toxicant Data: Sodium chloride (NaCl) *Pimephales promelas* 7-day Chronic Growth IC₂₅



Test ID	Date	IC ₂₅	Mean IC ₂₅	STD	-2STD	+2STD	Avg. CV	Growth PMSD (%)	Avg. PMSD (%)
20-292	3/2/2020	1.48	1.37	0.10	1.18	1.56	0.07	30.20	10.91
20-429	4/1/2020	1.33	1.37	0.10	1.18	1.56	0.07	9.16	10.91
20-588	5/4/2020	1.41	1.37	0.10	1.18	1.56	0.07	8.69	11.01
20-712	6/1/2020	1.49	1.37	0.10	1.17	1.57	0.07	11.25	10.99
20-933	7/6/2020	1.26	1.37	0.10	1.16	1.57	0.07	8.31	10.75
20-1072	8/3/2020	1.34	1.36	0.10	1.16	1.55	0.07	7.93	10.55
20-1287	9/8/2020	1.32	1.36	0.10	1.17	1.55	0.07	17.57	10.90
20-1417	10/1/2020	1.48	1.37	0.10	1.17	1.56	0.07	12.18	10.91
20-1741	11/30/2020	1.26	1.36	0.10	1.17	1.56	0.07	11.25	11.02
20-1742	12/1/2020	1.22	1.35	0.10	1.15	1.55	0.07	7.26	10.93
21-9	1/4/2021	1.36	1.35	0.10	1.15	1.55	0.07	12.19	11.03
21-140	2/3/2021	1.42	1.35	0.10	1.15	1.56	0.07	6.07	10.91
21-262	3/1/2021	1.26	1.36	0.09	1.17	1.55	0.07	8.42	10.98
21-428	4/1/2021	1.31	1.36	0.09	1.17	1.55	0.07	9.30	10.73
21-593	5/3/2021	1.43	1.37	0.09	1.19	1.55	0.07	9.51	10.81
21-738	6/1/2021	1.34	1.36	0.09	1.18	1.54	0.07	10.96	10.93
21-910	7/1/2021	1.25	1.35	0.09	1.17	1.54	0.07	10.00	10.90
21-1066	8/2/2021	1.21	1.34	0.09	1.17	1.52	0.07	12.34	10.82
21-1274	9/7/2021	1.43	1.35	0.09	1.17	1.53	0.07	12.36	10.81
21-1451	10/4/2021	1.21	1.34	0.09	1.15	1.53	0.07	13.54	10.96
21-1615	11/18/2021	1.23	1.34	0.09	1.15	1.53	0.07	7.76	10.77
21-1812	12/13/2021	1.20	1.33	0.10	1.13	1.53	0.07	10.88	10.90
22-03	1/3/2022	1.40	1.34	0.10	1.14	1.53	0.07	14.75	11.27
22-157	2/1/2022	1.34	1.33	0.09	1.15	1.52	0.07	6.06	11.16

National 75th Percentile and 90th Percentile CV Averages for Fathead Growth IC₂₅ (EPA 833-R-00-003): 0.38 - 0.45
PMSD Upper and Lower Bounds for Fathead Growth (EPA-821-R-02-013): 12% - 30%



77 Batson Drive
Manchester, CT 06042
(860)-643-9560
www.nebio.com

New England Bioassay Inc.

Aquatic Toxicity Testing Services

CHRONIC AQUATIC TOXICITY TEST REPORT

Permitee: West Valley Demonstration Project NPDES # NY0000973
Report submitted to: Test America
10 Hazelwood Dr, Amhesrt NY 14228
Sample ID: UV Treated
Test Month/Year: February 2022
NEB Proj # 44240

Test Type / Method: *Pimephales promelas* Modified Chronic Static-Renewal Freshwater
Test Method 1000.0; EPA 821-R-02-013

Effluent Sample Dates: #1 2/9-10/22 #2 2/13-14/22

Test Start Date: 2/11/22

Results Summary

Your results were as follows:

Passed all permit limits

Acute Test Results

Species	LC50	TUa	Permit Limit	Pass / Fail
<i>Pimephales promelas</i>	>100%	0.3	≤ 0.3	Pass

Chronic Test Results

Species	C-NOEC	TUc	IC25	Permit Limit	Pass/Fail
<i>Pimephales promelas</i>	100%	1.0	>100%	≤ 1.0	Pass

Data Qualifiers affecting this test:

Certifications & Approvals: NH ELAP (2071), NJ DEP (CT405)

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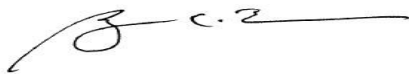
Test Report Certification

Permittee name: West Valley Demonstration Project Permit number: NY0000973
Client sample ID: UV Treated Test Start Date: 2/11/22

Whole Effluent Toxicity Test Report Certification (Permittee)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on: 4/5/2022
(Date)


Authorized Signature

Bryan C. Bower - Director

Print or Type Name and Title

Bryan C. Bower

Print or Type the Permittee's Name

NY0000973

Print or Type the NPDES Permit Number

Whole Effluent Toxicity Test Report Certification (Bioassay Laboratory)

The results reported relate only to the samples submitted as received

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on: 3/16/22
(Date)


Kimberly Wills
Laboratory Director
New England Bioassay Inc.

General Test Conditions

Permittee name: West Valley Demonstration Project Permit number: NY0000973
Client sample ID: UV Treated Test Start Date: 2/11/22

Sample Collection Information

Effluent #1 Dates/Times: 2/9-10/22 @ 0900-0900 Receiving Water #1 Date/Time: N/A @ N/A
Effluent #2 Dates/Times: 2/13-14/22 @ 1000-0930 Receiving Water #2 Date/Time: N/A @ N/A
Effluent #3 Dates/Times: N/A @ N/A Receiving Water #3 Date/Time: N/A @ N/A

Were a minimum of three samples collected? Yes ☐ No ☒ *(see note below)

Were samples used within the first 36 hours of collection? Yes ☒ No ☐ * (see note below)

* sample collection note: NYSDEC has approved West Valley Demonstration Project to use only two sets of samples for their chronic testing due to the batch nature of their discharge.

Test Conditions

Permittee's Receiving Water: Erdman Brook

Pimephales promelas

- Dilution water: Laboratory synthetic moderately hard water (hardness 80 - 100 mg/L CaCO3)
- Control water: Not Applicable

Effluent concentrations tested: 0%, 6.25%, 12.5%, 25%, 50%, 100%

Was effluent salinity adjusted? No ☒ Yes ☐ with Instant Ocean sea salts to N/A ppt

Dechlorination procedures: Chlorine is measured using 4500 CL-G DPD Colorimetric Method

- Dechlorination was not required

Aeration: Did Dissolved Oxygen levels fall below 40% saturation? Yes ☐ No ☒

Test Aerated at <100 bubbles/minute as of: N/A (for Fathead minnow test only)

TRC results and further information about aeration of samples can be found attached in "sample receipt chemistry"

Reference Toxicant Data

Fathead minnows

Date: 2/1/22
Toxicant: Sodium chloride
Dilution Water: NEB Soft Water
Organism Source: NEB
Growth IC25: 1.34 g/L
Results within range Yes ☒ No ☐

Pimephales promelas Test Results

Permittee name: West Valley Demonstration Project Permit number: NY0000973
 Client sample ID: UV Treated Test Dates: 2/11/22 - 2/18/22

Test Acceptability Criteria

Lab Diluent Survival: 97.5 % Mean Lab Diluent Growth: 0.33 mg
 Brook Control Survival: N/A % Mean Brook Control Growth: N/A mg
 Thiosulfate Control Survival: N/A % Mean Thiosulfate Control Growth: N/A mg

Presence of an asterisk (*) indicates EPA criteria was not met, see explanation in the "Results Discussion" section at the bottom of the following page.

Test Results

		Permit Limit	Test Result	Pass/Fail Status
Acute Data	48 hr LC50		>100%	
	48 hr NOEC		100%	
	TUa	≤ 0.3	0.3	Pass
Chronic Data	Chronic LC50		>100%	
	Survival C-NOEC		100%	
	Survival C-LOEC		>100%	
	Growth C-NOEC		100%	
	Growth C-LOEC		>100%	
	Growth IC25		>100%	
	Growth IC50		>100%	
	Reportable C-NOEC		100%	
	Reportable C-LOEC		>100%	
	MATC		>100%	
	TUc	≤ 1.0	1.0	Pass

Presence of an asterisk (*) indicates qualified data, see explanation in the "Results Discussion" section at the bottom of the following page.

Test Variability

- Growth PMSD: 9.4% Upper & Lower EPA bounds: 12 - 30% ☒ Low ☐ Within bounds ☐ High
- ☐ PMSD exceeds upper bounds. Test results are highly variable and may not be sensitive enough to determine the presence of toxicity at the permit limit concentration (PLC)
- ☐ The PMSD falls within the upper (30%) and lower (12%) bounds. Results are reportable.
- ☒ PMSD falls below the lower bound test variability criterion. The test is very sensitive. The relative percent difference (RPD) between the control and each treatment was calculated and compared to the lower bound.
- ☐ The RPD values for all concentrations fall below the lower bound. Any differences observed in this test are considered statistically insignificant.
- ☐ Some of the concentrations that were flagged as statistically significant have RPD values that fall below the lower bound. Any differences observed in these concentrations will not be considered statistically significantly decreased from the control.
- ☒ No statistically significant reductions were observed in this test.

***Pimephales promelas* Test Results**

Permittee name: West Valley Demonstration Project Permit number: NY0000973
Client sample ID: UV Treated Test Dates: 2/11/22 - 2/18/22

Concentration - Response Evaluation

Survival: #12 No significant effects at any test concentration with a flat concentration-response curve. Test concentrations performed very similarly to dilution control.

Growth: #12 No significant effects at any test concentration with a relatively flat concentration-response curve. Test concentrations performed both above and below (but similarly to) the dilution control.

The concentration - response relationship was reviewed and the following determination was made:

Survival	Growth	
<u>X</u>	<u>X</u>	Results are reliable and reportable
<u> </u>	<u> </u>	Results are anomalous (see explanation below)
<u> </u>	<u> </u>	Results are inconclusive - retest (see explanation below)

Results Discussion (if applicable):

TEST METHODS

Pimephales promelas

Test type:	Modified Chronic Static Renewal Freshwater Test
Test Reference Manual:	EPA-821-R-02-013 "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms"
Test Method:	<i>Pimephales promelas</i> Survival and Growth Test - EPA 1000.0
Temperature:	25 °C ± 1°C (Temperatures should not deviate by more than 3°C during the test) (required)
Light Quality:	Ambient Laboratory Illumination (recommended)
Light Intensity:	10-20 µE/m ² /s, or 50-100 ft-c (recommended)
Photoperiod:	16 hours light, 8 hours dark (recommended)
Test chamber size:	600 mL (500 mL is recommended minimum)
Test solution volume:	250 mL (recommended minimum)
Renewal of Test Solutions:	Daily (required)
Age of Test Organisms:	Newly hatched larvae less than 24 hours old (required)
Number of Organisms Per Test Chamber:	10 (recommended)
Number of Replicate Test Chambers Per Treatment:	4 (required minimum)
Number of Organisms Per Test Concentration:	40 (required minimum)
Feeding Regime:	Feed 0.15 g of a concentrated suspension of newly hatched brine shrimp nauplii twice daily, 6 h between feedings (at the beginning of the work day prior to renewal, and at the end of the work day following renewal). Sufficient <i>Artemia</i> are added to provide an excess.
Cleaning:	Siphoned daily, immediately before test solution renewal (required)
Aeration:	None, unless DO concentration falls below 4.0 mg/L, at which point the rate should not exceed 100 bubbles/minute. (recommended)
Test Duration:	7 days (required)
Endpoints:	Survival and growth (weight) (required)
Test Acceptability:	80% or greater survival in controls; average dry weight per surviving organism in control chambers equals or exceeds 0.25 mg (required)
Sampling Requirements:	Minimum of three samples with a maximum holding time of 36 hours before first use. (required)
Sample volume required:	2.5 L/Day (recommended)

PIMEPHALES PROMELAS DATASHEETS & STATISTICAL ANALYSIS

NEW ENGLAND BIOASSAY TOXICITY DATA FORM

CHRONIC COVER SHEET

CLIENT: Test America
 ADDRESS: 10 Hazelwood Drive
Amherst, NY 14228
 PERMITTEE: West Valley Demonstration Project
 PERMIT NUMBER: NY0000973
 DILUTION WATER: Moderately Hard Synthetic

P.promelas TEST ID # 22-235
 CHAIN OF CUSTODY # C42-1429
 NEB PROJECT # 44240
 SAMPLE ID: UV Treated

VERTEBRATES

TEST SET-UP TECHNICIAN: JG/CW
 TEST SPECIES: *Pimephales promelas*
 NEB LOT # Pp22(2-11) 1530
 AGE: < 24 hours
 TEST SOLUTION VOLUME (mls): 400
 ORGANISMS PER TEST CHAMBER: 10
 ORGANISMS PER CONCENTRATION: 40

LABORATORY CONTROL WATER (MHRCF)

Lot Number	Hardness mg/L	Alkalinity mg/L
C42-MH004	90	65

	DATE	TIME
TEST START:	2/11/22	1507
TEST END:	2/18/22	1427

COMMENTS: UV Treatment: Effluent was treated prior to mixing the test each day using a UV sterilization pen
(SteriPEN adventurer opti). 1 L of effluent was treated at a time as per the instructions of the UV
Sterilizer, for a total of 3L treated per day. The test concentrations were then mixed with the UV
treated effluent using synthetic laboratory water as the diluent.

REVIEWED BY: Kimberly Wills DATE: 3/16/22

**NEB'S SURVIVAL DATA SHEET FOR FATHEAD MINNOW LARVAL
SURVIVAL AND GROWTH TEST**

FACILITY NAME & ADDRESS:	West Valley Demonstration Project WSNP001, 10282 Rock Springs Rd West Valley NY				
NEB PROJECT NUMBER:	44240	TEST NUMBER:	22-235	COC #	C42-1429
TEST ORGANISM:	<i>Pimephales promelas</i>	AGE:	<24 hours	Lot #	Pp22(2-11) 1530
START DATE:	2/11/22	TIME:	1507	END DATE:	2/18/22
				TIME:	1427

Effluent Concentration	Replicate Number	Number of Survivors								
		Day								
		0	1	2	3	4	5	6	7	Remarks
	ANALYST	JG/CW	CW	PD	AG	DB	JG/CH	JG/PD	CF/KO	
NEB Lab Synthetic Diluent	A	10	10	10	10	10	10	10	10	
	B	10	10	10	10	10	10	10	10	
	C	10	10	9	9	9	9	9	9	
	D	10	10	10	10	10	10	10	10	
6.25%	A	10	10	10	10	10	10	10	10	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
12.5%	A	10	10	10	10	10	9	9	9	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
25%	A	10	10	10	10	10	9	9	9	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	
50%	A	10	10	10	10	10	10	10	10	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	9	9	9	9	9	9	9	
100%	A	10	10	10	10	10	10	10	10	
	B	10	10	10	10	10	10	10	10	
	C	10	10	10	10	10	10	10	10	
	D	10	10	10	10	10	10	10	10	

D.O. concentration fell below 4.0 mg/L ☐ Yes ☒ No

Replicates in all concentrations were aerated starting: N/A Tech Initials: N/A

NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

FACILITY NAME & ADDRESS:		West Valley Demonstration Project WSNP001, 10282 Rock Springs Rd West Valley NY						
NEB PROJECT NUMBER:		44240		TEST ORGANISM		<i>Pimephales promelas</i>		
DILUTION WATER SOURCE:		Moderately Hard Synthetic		START DATE:		2/11/22		TIME: 1507

NEB Lab Synthetic Diluent	1	2	3	4	5	6	7	Remarks
Tech Initials Initial	CW	CW	PD	JG	KO	MM/CH	CF/PD	
Temp °C Initial	24.4	25.0	25.4	25.2	25.3	25.4	25.5	
D.O. mg/L Initial	8.7	8.4	8.3	8.3	8.4	8.4	8.2	
pH s.u. Initial	7.8	7.8	7.9	7.9	7.7	7.7	7.9	
Conductivity µS Initial	325	326	324	323	321	325	324	
Tech Initials Final	CW	PD	CF/KO	JG	JG	JG	JG	
Temp °C Final	24.8	24.1	25.4	24.0	24.3	25.1	25.2	
D.O. mg/L Final	7.6	7.8	7.7	7.9	7.9	7.5	7.4	
pH s.u. Final	7.8	7.7	7.8	7.7	7.6	7.5	7.5	
Conductivity µS Final	351	353	340	359	344	349	343	
6.25%	1	2	3	4	5	6	7	Remarks
Tech Initials Initial	CW	CW	PD	JG	KO	MM/CH	CF/PD	
Temp °C Initial	24.4	25.3	25.5	25.0	25.5	25.4	25.6	
D.O. mg/L Initial	8.6	8.2	8.3	8.3	8.3	8.3	8.2	
pH s.u. Initial	7.8	7.9	7.9	7.9	7.8	7.7	7.9	
Conductivity µS Initial	410	407	405	400	413	409	406	
Tech Initials Final	CW	PD	CF/KO	JG	JG	JG	JG	
Temp °C Final	25.6	24.5	25.0	24.4	24.8	25.7	25.6	
D.O. mg/L Final	7.2	7.6	7.6	7.5	7.8	7.1	7.3	
pH s.u. Final	7.8	7.7	7.9	7.7	7.7	7.5	7.7	
Conductivity µS Final	434	432	424	431	432	434	425	
12.5%	1	2	3	4	5	6	7	Remarks
Tech Initials Initial	CW	CW	PD	JG	KO	MM/CH	CF/PD	
Temp °C Initial	24.5	25.3	25.5	25.0	25.5	25.4	25.6	
D.O. mg/L Initial	8.6	8.2	8.3	8.3	8.3	8.4	8.2	
pH s.u. Initial	7.8	7.9	7.9	8.0	7.8	7.7	7.9	
Conductivity µS Initial	493	489	481	478	485	499	484	
Tech Initials Final	CW	PD	CF/KO	JG	JG	JG	JG	
Temp °C Final	25.7	24.5	25.6	24.2	25.1	25.9	25.8	
D.O. mg/L Final	7.2	7.8	7.5	7.6	7.8	7.3	7.3	
pH s.u. Final	7.8	7.8	8.0	7.7	7.7	7.7	7.7	
Conductivity µS Final	512	519	503	514	503	520	502	

NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

FACILITY NAME & ADDRESS:		West Valley Demonstration Project WSNP001, 10282 Rock Springs Rd West Valley NY						
NEB PROJECT NUMBER:		44240			TEST ORGANISM		Pimephales promelas	
DILUTION WATER SOURCE:		Moderately Hard Synthetic			START DATE:		2/11/22 TIME: 1507	
25%	1	2	3	4	5	6	7	Remarks
Tech Initials Initial	CW	CW	PD	JG	KO	MM/CH	CF/PD	
Temp °C Initial	24.5	25.3	25.6	25.0	25.5	25.4	25.6	
D.O. mg/L Initial	8.6	8.3	8.4	8.3	8.4	8.4	8.3	
pH s.u. Initial	7.7	7.9	7.9	8.0	7.7	7.6	7.8	
Conductivity µS Initial	655	654	644	655	659	662	652	
Tech Initials Final	CW	PD	CF/KO	JG	JG	JG	JG	
Temp °C Final	25.7	24.7	26.0	24.7	24.6	25.6	25.6	
D.O. mg/L Final	7.2	7.7	7.4	7.5	7.9	7.4	7.4	
pH s.u. Final	7.9	7.9	8.0	7.9	7.8	7.8	7.9	
Conductivity µS Final	667	681	664	685	685	686	675	
50%	1	2	3	4	5	6	7	Remarks
Tech Initials Initial	CW	CW	PD	JG	KO	MM/CH	CF/PD	
Temp °C Initial	24.5	25.2	26.0	25.0	25.6	25.3	25.6	
D.O. mg/L Initial	8.7	8.4	8.5	8.5	8.5	8.6	8.4	
pH s.u. Initial	7.7	7.8	7.9	8.0	7.7	7.6	7.7	
Conductivity µS Initial	984	991	981	963	1,011	995	1,002	
Tech Initials Final	CW	PD	CF/KO	JG	JG	JG	JG	
Temp °C Final	26.0	24.6	25.4	24.4	24.9	26.0	25.7	
D.O. mg/L Final	7.2	7.7	7.5	7.5	7.9	7.0	7.3	
pH s.u. Final	8.0	8.0	8.2	8.0	7.9	7.8	8.0	
Conductivity µS Final	990	1,015	1,001	1,006	1,035	1,018	1,024	
100%	1	2	3	4	5	6	7	Remarks
Tech Initials Initial	CW	CW	PD	JG	KO	MM/CH	CF/PD	
Temp °C Initial	24.5	25.1	26.0	25.1	25.7	25.3	25.4	
D.O. mg/L Initial	9.0	8.5	9.2	8.9	8.8	8.8	9.1	
pH s.u. Initial	7.6	7.7	7.8	7.9	7.6	7.5	7.6	
Conductivity µS Initial	1,633	1,628	1,626	1,615	1,668	1,661	1,661	
Tech Initials Final	CW	PD	CF/KO	JG	JG	JG	JG	
Temp °C Final	25.8	24.8	25.8	24.7	25.3	26.0	26.0	
D.O. mg/L Final	7.2	7.7	7.5	7.6	7.8	6.8	7.3	
pH s.u. Final	8.1	8.1	8.3	8.2	8.0	8.0	8.0	
Conductivity µS Final	1,645	1,654	1,639	1,661	1,691	1,677	1,687	

NEW ENGLAND BIOASSAY WEIGHT DATA FOR FATHEAD MINNOW LARVAL SURVIVAL AND GROWTH TEST

FACILITY NAME & ADDRESS:	West Valley Demonstration Project WSNP001, 10282 Rock Springs Rd West Valley NY		
NEB PROJECT #	44240	NEB TEST NUMBER:	22-235
TEST START DATE	2/11/22	WEIGHING DATE:	2/21/22
TEST END DATE	2/18/22		
DRYING TEMPERATURE (°C)	100 ± 4	DRYING TIME:	minimum 6 hours
ANALYST-INITIAL WEIGHTS	mm/ch	ANALYST-FINAL WEIGHTS	CF/CH
Effluent Concentration	Replicate Number	A Weight of boat (mg)	B Dry Weight: Foil and Larvae (mg)
NEB Lab Synthetic Diluent	A	932.03	935.14
	B	963.48	966.74
	C	933.02	936.31
	D	931.26	934.60
6.25%	A	932.74	936.00
	B	953.16	956.20
	C	941.36	944.83
	D	955.54	958.94
12.5%	A	935.78	939.15
	B	953.12	956.17
	C	943.52	946.65
	D	953.27	956.70
25%	A	943.90	946.96
	B	934.15	937.44
	C	955.63	958.79
	D	946.06	949.50
50%	A	950.19	953.81
	B	939.85	943.49
	C	943.25	946.37
	D	946.28	949.66
100%	A	948.28	951.40
	B	934.48	937.90
	C	939.01	942.17
	D	936.37	939.80

Concentration	Rep	Final Weight (mg)	Initial Weight (mg)	Total Weight (mg)	Average per fish (mg)	Mean fish weight (mg)	Standard Deviation
NEB Lab Synthetic Diluent	1	935.14	932.03	3.11	0.311	0.3250	0.009899495
	2	966.74	963.48	3.26	0.326		
	3	936.31	933.02	3.29	0.329		
	4	934.60	931.26	3.34	0.334		
6.25%	1	936.00	932.74	3.26	0.326	0.3293	0.018962683
	2	956.20	953.16	3.04	0.304		
	3	944.83	941.36	3.47	0.347		
	4	958.94	955.54	3.40	0.340		
12.5%	1	939.15	935.78	3.37	0.337	0.3245	0.01835756
	2	956.17	953.12	3.05	0.305		
	3	946.65	943.52	3.13	0.313		
	4	956.70	953.27	3.43	0.343		
25%	1	946.96	943.90	3.06	0.306	0.3238	0.016459546
	2	937.44	934.15	3.29	0.329		
	3	958.79	955.63	3.16	0.316		
	4	949.50	946.06	3.44	0.344		
50%	1	953.81	950.19	3.62	0.362	0.3440	0.024385788
	2	943.49	939.85	3.64	0.364		
	3	946.37	943.25	3.12	0.312		
	4	949.66	946.28	3.38	0.338		
100%	1	951.40	948.28	3.12	0.312	0.3282	0.016540355
	2	937.90	934.48	3.42	0.342		
	3	942.17	939.01	3.16	0.316		
	4	939.80	936.37	3.43	0.343		

CETIS Analytical Report

Report Date: 14 Mar-22 08:53 (p 1 of 6)
 Test Code/ID: 22-235 / 01-3399-0120

Fathead Minnow 7-d Larval Survival and Growth Test

New England Bioassay

Analysis ID: 14-7235-0043	Endpoint: 2d Survival Rate	CETIS Version: CETISv1.9.7
Analyzed: 23 Feb-22 14:26	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 21 Feb-22 14:16	MD5 Hash: 0CFB28043854BF9EA3AC13E65D02DF82	Editor ID: 008-848-998-5
Batch ID: 06-6922-3780	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 11 Feb-22 15:07	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Feb-22 14:27	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: In-House Culture Age: <24
Sample ID: 01-7331-4846	Code: A54931E	Project:
Sample Date: 10 Feb-22	Material: WWTF Effluent	Source: West Valley Demonstration Project (N
Receipt Date: 11 Feb-22 10:32	CAS (PC):	Station:
Sample Age: 39h	Client: Test America	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.05116	5.25%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		6.25	20	10	1	6	CDF	0.9516	Non-Significant Effect
		12.5	20	10	1	6	CDF	0.9516	Non-Significant Effect
		25	20	10	1	6	CDF	0.9516	Non-Significant Effect
		50	18	10	2	6	CDF	0.8333	Non-Significant Effect
		100	20	10	1	6	CDF	0.9516	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0088531	0.0017706	5	0.8	0.5640	Non-Significant Effect
Error	0.039839	0.0022133	18			
Total	0.0486921		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test	0.6154	0.884	<1.0E-05	Non-Normal Distribution

2d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	0.9750	0.8954	1.0000	1.0000	0.9000	1.0000	0.0250	5.13%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%
50		4	0.9750	0.8954	1.0000	1.0000	0.9000	1.0000	0.0250	5.13%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.3710	1.2420	1.5010	1.4120	1.2490	1.4120	0.0407	5.94%	0.00%
6.25		4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	-2.97%
12.5		4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	-2.97%
25		4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	-2.97%
50		4	1.3710	1.2420	1.5010	1.4120	1.2490	1.4120	0.0407	5.94%	0.00%
100		4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	-2.97%

CETIS Analytical Report

Report Date: 14 Mar-22 08:53 (p 2 of 6)
Test Code/ID: 22-235 / 01-3399-0120

Fathead Minnow 7-d Larval Survival and Growth Test

New England Bioassay

Analysis ID: 14-7235-0043 Endpoint: 2d Survival Rate CETIS Version: CETISv1.9.7
Analyzed: 23 Feb-22 14:26 Analysis: Nonparametric-Control vs Treatments Status Level: 1
Edit Date: 21 Feb-22 14:16 MD5 Hash: 0CFB28043854BF9EA3AC13E65D02DF82 Editor ID: 008-848-998-5

2d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	0.9000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	0.9000
100		1.0000	1.0000	1.0000	1.0000

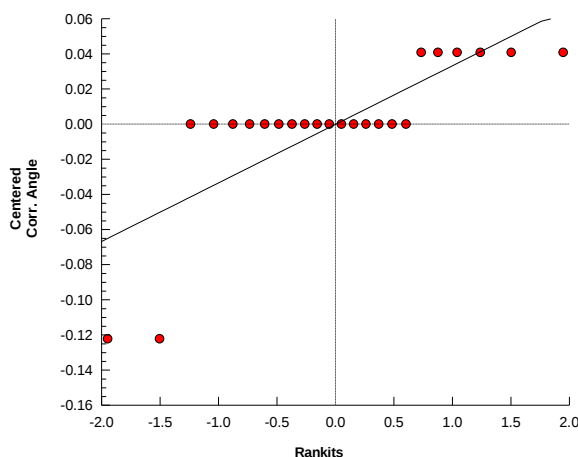
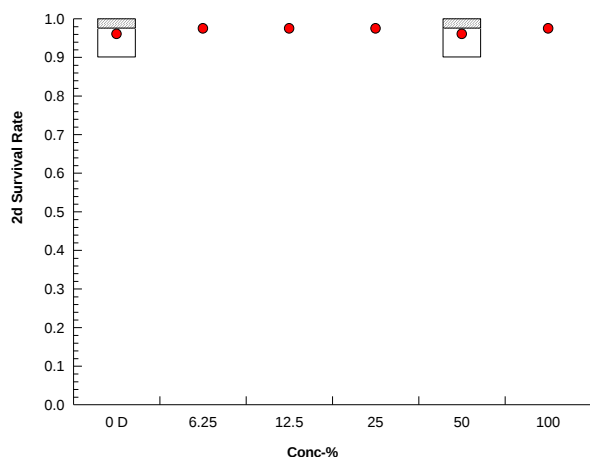
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.4120	1.4120	1.2490	1.4120
6.25		1.4120	1.4120	1.4120	1.4120
12.5		1.4120	1.4120	1.4120	1.4120
25		1.4120	1.4120	1.4120	1.4120
50		1.4120	1.4120	1.4120	1.2490
100		1.4120	1.4120	1.4120	1.4120

2d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	9/10	10/10
6.25		10/10	10/10	10/10	10/10
12.5		10/10	10/10	10/10	10/10
25		10/10	10/10	10/10	10/10
50		10/10	10/10	10/10	9/10
100		10/10	10/10	10/10	10/10

Graphics



CETIS Analytical Report

Report Date: 14 Mar-22 08:53 (p 3 of 6)
Test Code/ID: 22-235 / 01-3399-0120

Fathead Minnow 7-d Larval Survival and Growth Test

New England Bioassay

Analysis ID: 10-7769-5817	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.7
Analyzed: 23 Feb-22 14:26	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 21 Feb-22 14:16	MD5 Hash: D402AD31999FACAAA76190AF5E3CDE8	Editor ID: 008-848-998-5
Batch ID: 06-6922-3780	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 11 Feb-22 15:07	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Feb-22 14:27	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: In-House Culture Age: <24
Sample ID: 01-7331-4846	Code: A54931E	Project:
Sample Date: 10 Feb-22	Material: WWTF Effluent	Source: West Valley Demonstration Project (N
Receipt Date: 11 Feb-22 10:32	CAS (PC):	Station:
Sample Age: 39h	Client: Test America	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.06967	7.15%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		6.25	20	10	1	6	CDF	0.9516	Non-Significant Effect
		12.5	18	10	2	6	CDF	0.8333	Non-Significant Effect
		25	18	10	2	6	CDF	0.8333	Non-Significant Effect
		50	18	10	2	6	CDF	0.8333	Non-Significant Effect
		100	20	10	1	6	CDF	0.9516	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	0.975	0.8	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0088531	0.0017706	5	0.4	0.8424	Non-Significant Effect
Error	0.079678	0.0044266	18			
Total	0.0885311		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test	0.6647	0.884	<1.0E-05	Non-Normal Distribution

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	0.9750	0.8954	1.0000	1.0000	0.9000	1.0000	0.0250	5.13%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%
12.5		4	0.9750	0.8954	1.0000	1.0000	0.9000	1.0000	0.0250	5.13%	0.00%
25		4	0.9750	0.8954	1.0000	1.0000	0.9000	1.0000	0.0250	5.13%	0.00%
50		4	0.9750	0.8954	1.0000	1.0000	0.9000	1.0000	0.0250	5.13%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	-2.56%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	1.3710	1.2420	1.5010	1.4120	1.2490	1.4120	0.0407	5.94%	0.00%
6.25		4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	-2.97%
12.5		4	1.3710	1.2420	1.5010	1.4120	1.2490	1.4120	0.0407	5.94%	0.00%
25		4	1.3710	1.2420	1.5010	1.4120	1.2490	1.4120	0.0407	5.94%	0.00%
50		4	1.3710	1.2420	1.5010	1.4120	1.2490	1.4120	0.0407	5.94%	0.00%
100		4	1.4120	1.4120	1.4120	1.4120	1.4120	1.4120	0.0000	0.00%	-2.97%

CETIS Analytical Report

Report Date: 14 Mar-22 08:53 (p 4 of 6)
Test Code/ID: 22-235 / 01-3399-0120

Fathead Minnow 7-d Larval Survival and Growth Test

New England Bioassay

Analysis ID: 10-7769-5817 Endpoint: 7d Survival Rate CETIS Version: CETISv1.9.7
Analyzed: 23 Feb-22 14:26 Analysis: Nonparametric-Control vs Treatments Status Level: 1
Edit Date: 21 Feb-22 14:16 MD5 Hash: D402AD31999FACAAA76190AF5E3CDE8 Editor ID: 008-848-998-5

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	0.9000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		0.9000	1.0000	1.0000	1.0000
25		0.9000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	0.9000
100		1.0000	1.0000	1.0000	1.0000

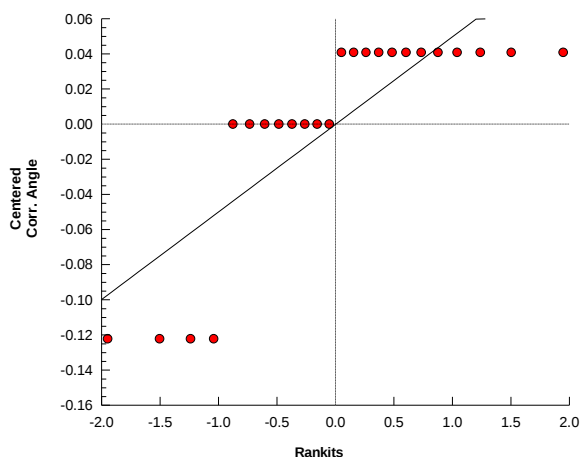
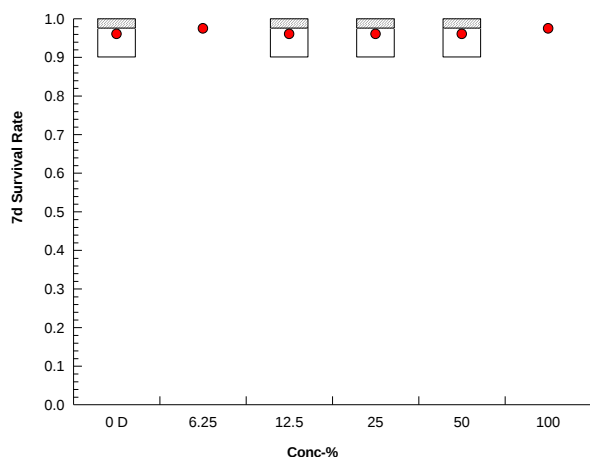
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.4120	1.4120	1.2490	1.4120
6.25		1.4120	1.4120	1.4120	1.4120
12.5		1.2490	1.4120	1.4120	1.4120
25		1.2490	1.4120	1.4120	1.4120
50		1.4120	1.4120	1.4120	1.2490
100		1.4120	1.4120	1.4120	1.4120

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	9/10	10/10
6.25		10/10	10/10	10/10	10/10
12.5		9/10	10/10	10/10	10/10
25		9/10	10/10	10/10	10/10
50		10/10	10/10	10/10	9/10
100		10/10	10/10	10/10	10/10

Graphics



CETIS Analytical Report

Report Date: 14 Mar-22 08:53 (p 5 of 6)
Test Code/ID: 22-235 / 01-3399-0120

Fathead Minnow 7-d Larval Survival and Growth Test

New England Bioassay

Analysis ID: 05-1952-3887	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.9.7
Analyzed: 23 Feb-22 14:26	Analysis: Parametric-Control vs Treatments	Status Level: 1
Edit Date: 21 Feb-22 14:16	MD5 Hash: 82F543D6C798941693CA8DD3D2AC4E0A	Editor ID: 008-848-998-5
Batch ID: 06-6922-3780	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 11 Feb-22 15:07	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Feb-22 14:27	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: In-House Culture Age: <24
Sample ID: 01-7331-4846	Code: A54931E	Project:
Sample Date: 10 Feb-22	Material: WWTF Effluent	Source: West Valley Demonstration Project (N
Receipt Date: 11 Feb-22 10:32	CAS (PC):	Station:
Sample Age: 39h	Client: Test America	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	0.03056	9.40%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		6.25	-0.3351	2.407	0.031	6	CDF	0.9132	Non-Significant Effect
		12.5	0.0393	2.407	0.031	6	CDF	0.8215	Non-Significant Effect
		25	0.09844	2.407	0.031	6	CDF	0.8027	Non-Significant Effect
		50	-1.497	2.407	0.031	6	CDF	0.9958	Non-Significant Effect
		100	-0.2561	2.407	0.031	6	CDF	0.8977	Non-Significant Effect

Test Acceptability Criteria

Attribute	TAC Limits					Decision
	Test Stat	Lower	Upper	Overlap		
Control Resp	0.325	0.25	>>	Yes		Passes Criteria
PMSD	0.09402	0.12	0.3	Yes		Below Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0011573	0.0002315	5	0.7182	0.6181	Non-Significant Effect
Error	0.0058015	0.0003223	18			
Total	0.0069589		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	2.022	15.09	0.8461	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9323	0.884	0.1096	Normal Distribution

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	0.325	0.3092	0.3407	0.3275	0.311	0.334	0.004949	3.05%	0.00%
6.25		4	0.3293	0.2991	0.3594	0.333	0.304	0.347	0.009481	5.76%	-1.31%
12.5		4	0.3245	0.2953	0.3537	0.325	0.305	0.343	0.009179	5.66%	0.15%
25		4	0.3237	0.2976	0.3499	0.3225	0.306	0.344	0.00823	5.08%	0.38%
50		4	0.344	0.3052	0.3828	0.35	0.312	0.364	0.01219	7.09%	-5.85%
100		4	0.3283	0.3019	0.3546	0.329	0.312	0.343	0.008271	5.04%	-1.00%

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.311	0.326	0.329	0.334
6.25		0.326	0.304	0.347	0.34
12.5		0.337	0.305	0.313	0.343
25		0.306	0.329	0.316	0.344
50		0.362	0.364	0.312	0.338
100		0.312	0.342	0.316	0.343

CETIS Analytical Report

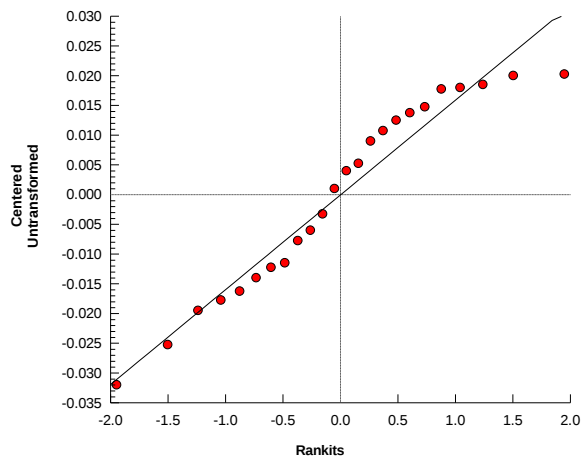
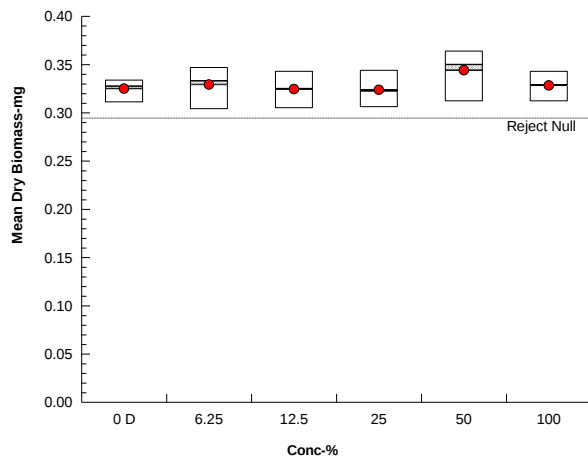
Report Date: 14 Mar-22 08:53 (p 6 of 6)
Test Code/ID: 22-235 / 01-3399-0120

Fathead Minnow 7-d Larval Survival and Growth Test

New England Bioassay

Analysis ID:	05-1952-3887	Endpoint:	Mean Dry Biomass-mg	CETIS Version:	CETISv1.9.7
Analyzed:	23 Feb-22 14:26	Analysis:	Parametric-Control vs Treatments	Status Level:	1
Edit Date:	21 Feb-22 14:16	MD5 Hash:	82F543D6C798941693CA8DD3D2AC4E0A	Editor ID:	008-848-998-5

Graphics



CETIS Analytical Report

Report Date: 14 Mar-22 08:53 (p 1 of 6)
Test Code/ID: 22-235 / 01-3399-0120

Fathead Minnow 7-d Larval Survival and Growth Test New England Bioassay

Analysis ID: 10-1119-9629	Endpoint: 2d Survival Rate	CETIS Version: CETISv1.9.7
Analyzed: 23 Feb-22 14:26	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 21 Feb-22 14:16	MD5 Hash: 0CFB28043854BF9EA3AC13E65D02DF82	Editor ID: 008-848-998-5
Batch ID: 06-6922-3780	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 11 Feb-22 15:07	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Feb-22 14:27	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: In-House Culture Age: <24
Sample ID: 01-7331-4846	Code: A54931E	Project:
Sample Date: 10 Feb-22	Material: WWTF Effluent	Source: West Valley Demonstration Project (N
Receipt Date: 11 Feb-22 10:32	CAS (PC):	Station:
Sample Age: 39h	Client: Test America	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X)	Linear	2022343	200	Yes	Two-Point Interpolation

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
LC50	>100	---	---	<1	---	---

2d Survival Rate Summary			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	A/B	Mean	%Effect
0	D	4	0.9750	1.0000	0.9000	1.0000	5.13%	0.00%	39/40	0.9937	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	0.00%	-2.56%	40/40	0.9937	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	-2.56%	40/40	0.9937	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	-2.56%	40/40	0.9937	0.00%
50		4	0.9750	1.0000	0.9000	1.0000	5.13%	0.00%	39/40	0.9875	0.63%
100		4	1.0000	1.0000	1.0000	1.0000	0.00%	-2.56%	40/40	0.9875	0.63%

2d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	0.9000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	0.9000
100		1.0000	1.0000	1.0000	1.0000

2d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	9/10	10/10
6.25		10/10	10/10	10/10	10/10
12.5		10/10	10/10	10/10	10/10
25		10/10	10/10	10/10	10/10
50		10/10	10/10	10/10	9/10
100		10/10	10/10	10/10	10/10

CETIS Analytical Report

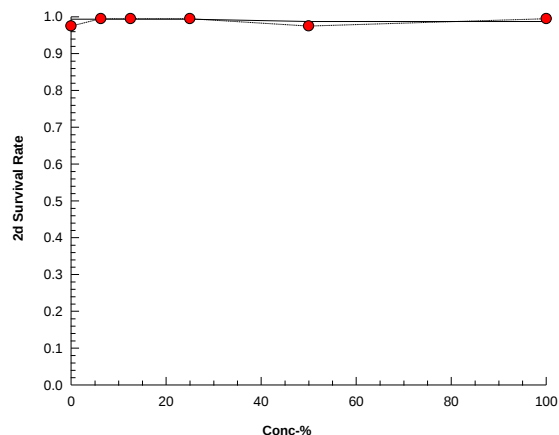
Report Date: 14 Mar-22 08:53 (p 2 of 6)
Test Code/ID: 22-235 / 01-3399-0120

Fathead Minnow 7-d Larval Survival and Growth Test

New England Bioassay

Analysis ID:	10-1119-9629	Endpoint:	2d Survival Rate	CETIS Version:	CETISv1.9.7
Analyzed:	23 Feb-22 14:26	Analysis:	Linear Interpolation (ICPIN)	Status Level:	1
Edit Date:	21 Feb-22 14:16	MD5 Hash:	0CFB28043854BF9EA3AC13E65D02DF82	Editor ID:	008-848-998-5

Graphics



CETIS Analytical Report

Report Date: 14 Mar-22 08:53 (p 3 of 6)
Test Code/ID: 22-235 / 01-3399-0120

Fathead Minnow 7-d Larval Survival and Growth Test New England Bioassay

Analysis ID: 11-4165-3799	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.7
Analyzed: 23 Feb-22 14:26	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 21 Feb-22 14:16	MD5 Hash: D402AD31999FACAAA76190AF5E3CDE8	Editor ID: 008-848-998-5
Batch ID: 06-6922-3780	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 11 Feb-22 15:07	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Feb-22 14:27	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: In-House Culture Age: <24
Sample ID: 01-7331-4846	Code: A54931E	Project:
Sample Date: 10 Feb-22	Material: WWTF Effluent	Source: West Valley Demonstration Project (N
Receipt Date: 11 Feb-22 10:32	CAS (PC):	Station:
Sample Age: 39h	Client: Test America	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X)	Linear	874206	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits		Overlap	Decision
Attribute	Test Stat	Lower	Upper		
Control Resp	0.975	0.8	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
LC50	>100	---	---	<1	---	---

7d Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)							Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	A/B	Mean	%Effect
0	D	4	0.9750	1.0000	0.9000	1.0000	5.13%	0.00%	39/40	0.9875	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	0.00%	-2.56%	40/40	0.9875	0.00%
12.5		4	0.9750	1.0000	0.9000	1.0000	5.13%	0.00%	39/40	0.9812	0.63%
25		4	0.9750	1.0000	0.9000	1.0000	5.13%	0.00%	39/40	0.9812	0.63%
50		4	0.9750	1.0000	0.9000	1.0000	5.13%	0.00%	39/40	0.9812	0.63%
100		4	1.0000	1.0000	1.0000	1.0000	0.00%	-2.56%	40/40	0.9812	0.63%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.0000	1.0000	0.9000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		0.9000	1.0000	1.0000	1.0000
25		0.9000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	0.9000
100		1.0000	1.0000	1.0000	1.0000

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	10/10	10/10	9/10	10/10
6.25		10/10	10/10	10/10	10/10
12.5		9/10	10/10	10/10	10/10
25		9/10	10/10	10/10	10/10
50		10/10	10/10	10/10	9/10
100		10/10	10/10	10/10	10/10

CETIS Analytical Report

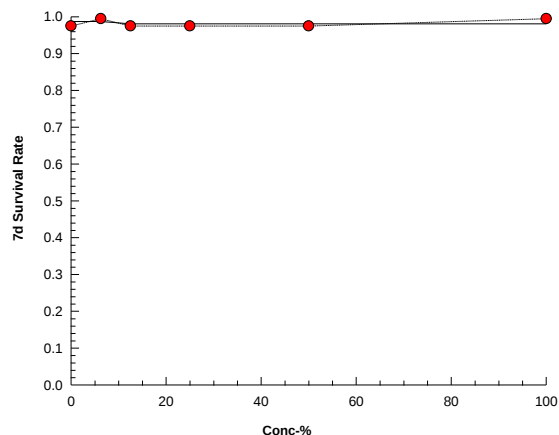
Report Date: 14 Mar-22 08:53 (p 4 of 6)
Test Code/ID: 22-235 / 01-3399-0120

Fathead Minnow 7-d Larval Survival and Growth Test

New England Bioassay

Analysis ID:	11-4165-3799	Endpoint:	7d Survival Rate	CETIS Version:	CETISv1.9.7
Analyzed:	23 Feb-22 14:26	Analysis:	Linear Interpolation (ICPIN)	Status Level:	1
Edit Date:	21 Feb-22 14:16	MD5 Hash:	D402AD31999FACAAA76190AF5E3CDE8	Editor ID:	008-848-998-5

Graphics



CETIS Analytical Report

Report Date: 14 Mar-22 08:53 (p 5 of 6)
Test Code/ID: 22-235 / 01-3399-0120

Fathead Minnow 7-d Larval Survival and Growth Test New England Bioassay

Analysis ID: 20-6472-2455	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.9.7
Analyzed: 23 Feb-22 14:26	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 21 Feb-22 14:16	MD5 Hash: 82F543D6C798941693CA8DD3D2AC4E0A	Editor ID: 008-848-998-5
Batch ID: 06-6922-3780	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 11 Feb-22 15:07	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Feb-22 14:27	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: In-House Culture Age: <24
Sample ID: 01-7331-4846	Code: A54931E	Project:
Sample Date: 10 Feb-22	Material: WWTF Effluent	Source: West Valley Demonstration Project (N
Receipt Date: 11 Feb-22 10:32	CAS (PC):	Station:
Sample Age: 39h	Client: Test America	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	2134986	200	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits		Overlap	Decision
Attribute	Test Stat	Lower	Upper		
Control Resp	0.325	0.25	>>	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC25	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Mean Dry Biomass-mg Summary

			Calculated Variate							Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect		Mean	%Effect
0	D	4	0.325	0.3275	0.311	0.334	3.05%	0.00%		0.3293	0.00%
6.25		4	0.3293	0.333	0.304	0.347	5.76%	-1.31%		0.3293	0.00%
12.5		4	0.3245	0.325	0.305	0.343	5.66%	0.15%		0.3293	0.00%
25		4	0.3237	0.3225	0.306	0.344	5.08%	0.38%		0.3293	0.00%
50		4	0.344	0.35	0.312	0.364	7.09%	-5.85%		0.3293	0.00%
100		4	0.3283	0.329	0.312	0.343	5.04%	-1.00%		0.3283	0.32%

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.311	0.326	0.329	0.334
6.25		0.326	0.304	0.347	0.34
12.5		0.337	0.305	0.313	0.343
25		0.306	0.329	0.316	0.344
50		0.362	0.364	0.312	0.338
100		0.312	0.342	0.316	0.343

CETIS Analytical Report

Report Date: 14 Mar-22 08:53 (p 6 of 6)
Test Code/ID: 22-235 / 01-3399-0120

Fathead Minnow 7-d Larval Survival and Growth Test			New England Bioassay	
Analysis ID:	20-6472-2455	Endpoint:	Mean Dry Biomass-mg	CETIS Version: CETISv1.9.7
Analyzed:	23 Feb-22 14:26	Analysis:	Linear Interpolation (ICPIN)	Status Level: 1
Edit Date:	21 Feb-22 14:16	MD5 Hash:	82F543D6C798941693CA8DD3D2AC4E0A	Editor ID: 008-848-998-5

Graphics

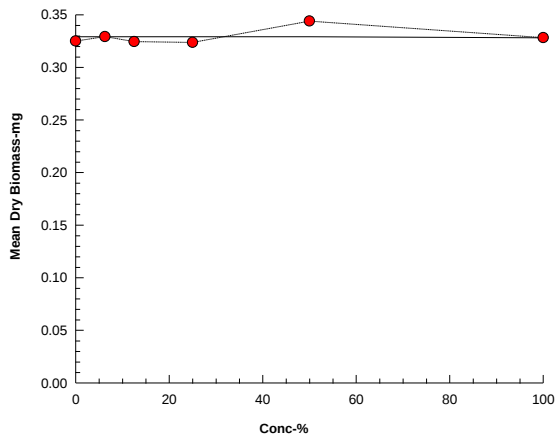


Table of Random Permutations of 16

P.promelas Test ID#

22-235

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13	3	8	16	7	10	11	10	13	5	11	7	13	16	7	7	5	13	2	14
3	1	4	5	14	13	3	14	9	13	13	2	9	15	6	2	8	4	5	8
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CONC										REP									
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16	16	5	12	11	6	1	3	8	16	3	7	2	5	16	14	13	7	14	15

SAMPLE RECEIPT CHEMISTRY & CHAIN OF CUSTODY DOCUMENTS

NEW ENGLAND BIOASSAY - INITIAL CHEMISTRY DATA

PERMITTEE: West Valley Demonstration Project
NEB JOB # 44240

DATE RECEIVED	2/11/22		2/15/22			
SAMPLE TYPE:	EFF #1	BROOK #1	EFF #2	BROOK #2	EFF #3	BROOK #3
COC #	C42-1429		C42-1475			
pH (SU)	7.1		6.9			
Temperature (°C)	0.6, 0.8, 1.3		1.0, 1.3, 1.1			
Dissolved Oxygen (mg/L)	10.5		11.1			
Conductivity (µmhos)	1,634		1,665			
Salinity (ppt)	<1		<1			
TRC - DPD (mg/L)	0.042		<0.001			
TRC - Amperometric (mg/L)	N/A		N/A			
Hardness (mg/L as CaCO ₃)	194		202			
Alkalinity (mg/l as CaCO ₃)	170		180			
Tech Initials	KO		AG			

NOTE: NA = NOT APPLICABLE

Data Reviewed By: Kimberly Wills Date Reviewed: 3/16/22

NEW ENGLAND BIOASSAY - CHAIN-OF-CUSTODY

EFFLUENT

Sampler: C. Zoesch
Title: _____
Facility: West Valley

Sampling Method: X Composite

Sample ID: Outfall 001

Start Date: 2-9-22 Time: 0900

End Date: 2-10-22 Time: 0900

Sampling Method: _____ Grab (for pH and TRC only _____)

Date Collected: _____

Time Collected: _____

Sample Type: _____ Prechlorinated

X _____ Dechlorinated

_____ Unchlorinated

_____ Chlorinated

Effluent Sampling Location and Procedures: Composite Sampling

Receiving Water Sampling Location and Procedures: _____

Requested Analysis: X Chronic and modified acute

Received
ON ICE

Sample Shipment

Method of Shipment: UPS Next Day Air

Relinquished By: _____ Date: _____ Time: _____

Received By: [Signature] Date: 2/11/22 Time: 1032

Relinquished By: _____ Date: _____ Time: _____

Received By: _____ Date: _____ Time: _____

Relinquished By: _____ Date: _____ Time: _____

Received By: _____ Date: _____ Time: _____

FOR NEB USE ONLY

Temperature of Effluent Upon Receipt at Lab: 06.08.13 °C

Temperature of Receiving Water Upon Receipt at Lab: _____ °C

Effluent COC# 042-1429

Receiving Water COC# _____

IF THIS COOLER IS MISPLACED OR THE LABEL IS LOST, PLEASE SHIP TO:
KIM WILLS, NEW ENGLAND BIOASSAY, 77 BATSON DRIVE, MANCHESTER CT 06042

CHAIN-OF-CUSTODY / REQUEST-FOR-ANALYSIS / PACKING SHEET

Sample Type: LIQUID-SPDES/PROCESS WATER

Electronic Disk - YES

External Lab Destination	Purchase Order Number	Charge Number	Release Number	Report Format Level	Priority	OrderID:
Test America	CH-007532	WV03.IN.01.01.01.02.01	1260	1	10 Days	220126-01 Work Order: SP-Discharge

Custodian Signature: C-O-C Reviewed By: Report Data To: Dave Klenk (716) 485-3109
Chet Wrotniak (716) 982-6403

Location Code	Sample ID	Date	Time	# Cont	Preservative	Tests	Sample Notes
---------------	-----------	------	------	--------	--------------	-------	--------------

WNSP001	2022-00812	02/10/22		3	Cool	wet_du_a, wet_du_c, wet_pr_a, wet_pr_c,	Initial Sample
---------	------------	----------	--	---	------	---	----------------

Signature Rel: Date/Time	 2-10-22 1550	Signature Rel: Date/Time		Cool? YES NO	Received Temp: C
Signature Rec: Date/Time	 2/11/22 1032	Signature Rec: Date/Time		YES NO	ON ICE
Signature Rel: Date/Time		Signature Rel: Date/Time			
Signature Rec: Date/Time		Signature Rec: Date/Time			
Signature Rel: Date/Time		Signature Rel: Date/Time			
Signature Rec: Date/Time		Signature Rec: Date/Time			

NEW ENGLAND BIOASSAY - CHAIN-OF-CUSTODY

EFFLUENT

RECEIVING WATER

Sampler: C. Boesch
 Title: _____
 Facility: West Valley

Sampler: _____
 Title: _____
 Facility: West Valley

Sampling Method: X Composite

Sampling Method: X Grab

Sample ID: Outfall 001

Sample ID: Erdman Brook

Start Date: 2-13-22 Time: 1000

Date Collected: _____

End Date: 2-14-22 Time: 0930

Time Collected: _____

Sampling Method: _____ Grab (for pH and TRC only _____)

Date Collected: _____

Time Collected: _____

Sample Type: _____
 _____ Prechlorinated
 _____ Dechlorinated
X _____ Unchlorinated
 _____ Chlorinated

RECEIVED
ON ICE

Effluent Sampling Location and Procedures: Composite Sampling

Receiving Water Sampling Location and Procedures: _____

Requested Analysis: X Chronic and modified acute

Sample Shipment

Method of Shipment: _____

Relinquished By: _____ Date: _____ Time: _____

Received By: [Signature] Date: 2/15/22 Time: 1000

Relinquished By: _____ Date: _____ Time: _____

Received By: _____ Date: _____ Time: _____

Relinquished By: _____ Date: _____ Time: _____

Received By: _____ Date: _____ Time: _____

FOR NEB USE ONLY

Temperature of Effluent Upon Receipt at Lab: 1.1, 1.3 °C

Temperature of Receiving Water Upon Receipt at Lab: _____ °C

Effluent COC# 042-1475

Receiving Water COC# 042-14

**IF THIS COOLER IS MISPLACED OR THE LABEL IS LOST, PLEASE SHIP TO:
 KIM WILLS, NEW ENGLAND BIOASSAY, 77 BATSON DRIVE, MANCHESTER CT 06042**

Sample Type: LIQUID-SPDES/PROCESS WATER Electronic Disk - YES

External Lab Destination	Purchase Order Number	Charge Number	Release Number	Report Format Level	Priority	OrderID: 220126-01 Work Order: SP-Discharge
Test America	CH-007532	WV03.IN.01.01.01.02.01	1260	1	10 Days	

Custodian Signature: ASZ C-O-C Reviewed By: [Signature] Report Data To: Dave Klenk (716) 485-3109
Chet Wrotniak (716) 982-6403

Location Code	Sample ID	Date	Time	# Cont	Preservative	Tests	Sample Notes
---------------	-----------	------	------	--------	--------------	-------	--------------

WNSP001	2022-01188	02/14/22	09:30	3	Cool	wet_pr_c, wet_du_a, wet_pr_a, wet_du_c,	Refreshing Sample
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CV2-1475

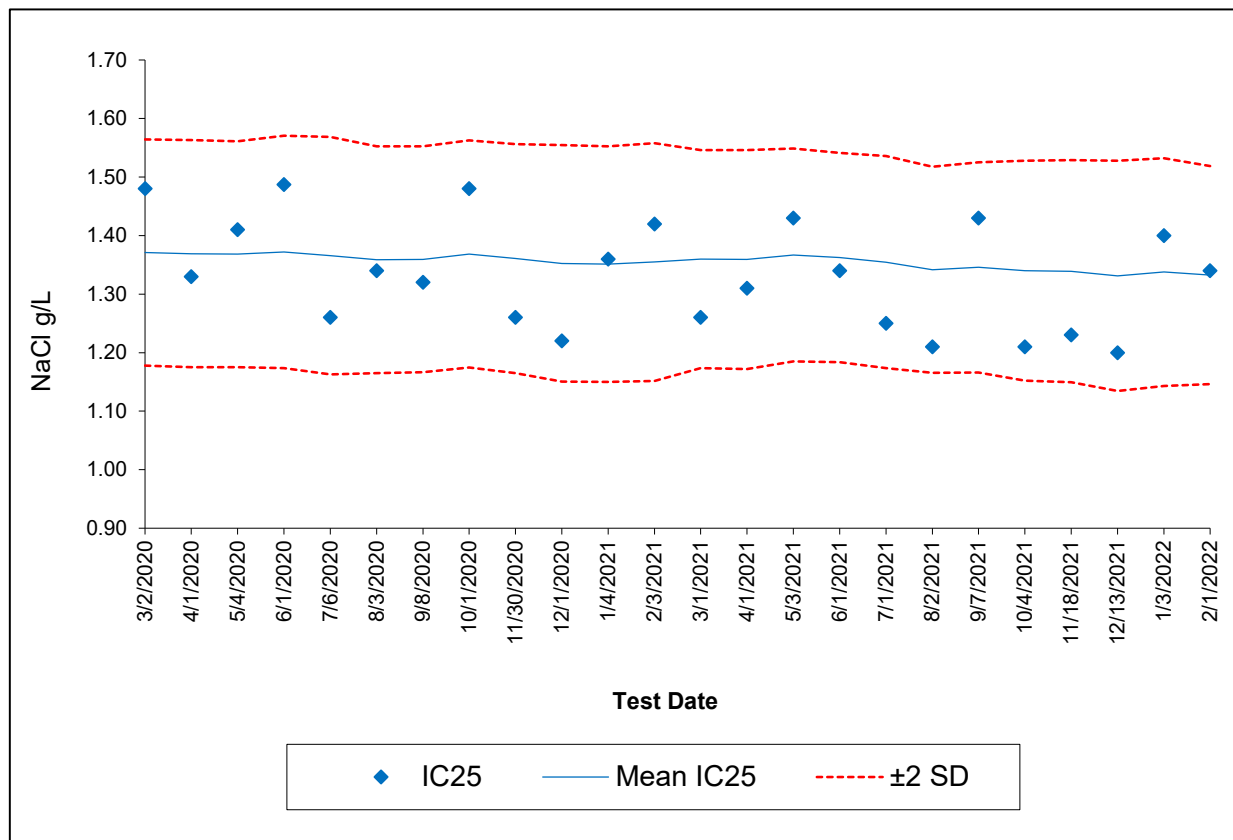
Received
ON ICE

Signature Rel: Date/Time	<u>ASZ</u> 2-14-22 1000	Signature Rel: Date/Time	
Signature Rec: Date/Time	<u>[Signature]</u> 2/15/22 1006	Signature Rec: Date/Time	
Signature Rel: Date/Time		Signature Rel: Date/Time	
Signature Rec: Date/Time		Signature Rec: Date/Time	
Signature Rel: Date/Time		Sample Receipt at Lab: Cool? YES NO	Temp: C
Signature Rec: Date/Time		Signature Rec: Date/Time	

REFERENCE TOXICANT CHARTS

New England Bioassay

Reference Toxicant Data: Sodium chloride (NaCl) *Pimephales promelas* 7-day Chronic Growth IC₂₅



Test ID	Date	IC ₂₅	Mean IC ₂₅	STD	-2STD	+2STD	Avg. CV	Growth PMSD (%)	Avg. PMSD (%)
20-292	3/2/2020	1.48	1.37	0.10	1.18	1.56	0.07	30.20	10.91
20-429	4/1/2020	1.33	1.37	0.10	1.18	1.56	0.07	9.16	10.91
20-588	5/4/2020	1.41	1.37	0.10	1.18	1.56	0.07	8.69	11.01
20-712	6/1/2020	1.49	1.37	0.10	1.17	1.57	0.07	11.25	10.99
20-933	7/6/2020	1.26	1.37	0.10	1.16	1.57	0.07	8.31	10.75
20-1072	8/3/2020	1.34	1.36	0.10	1.16	1.55	0.07	7.93	10.55
20-1287	9/8/2020	1.32	1.36	0.10	1.17	1.55	0.07	17.57	10.90
20-1417	10/1/2020	1.48	1.37	0.10	1.17	1.56	0.07	12.18	10.91
20-1741	11/30/2020	1.26	1.36	0.10	1.17	1.56	0.07	11.25	11.02
20-1742	12/1/2020	1.22	1.35	0.10	1.15	1.55	0.07	7.26	10.93
21-9	1/4/2021	1.36	1.35	0.10	1.15	1.55	0.07	12.19	11.03
21-140	2/3/2021	1.42	1.35	0.10	1.15	1.56	0.07	6.07	10.91
21-262	3/1/2021	1.26	1.36	0.09	1.17	1.55	0.07	8.42	10.98
21-428	4/1/2021	1.31	1.36	0.09	1.17	1.55	0.07	9.30	10.73
21-593	5/3/2021	1.43	1.37	0.09	1.19	1.55	0.07	9.51	10.81
21-738	6/1/2021	1.34	1.36	0.09	1.18	1.54	0.07	10.96	10.93
21-910	7/1/2021	1.25	1.35	0.09	1.17	1.54	0.07	10.00	10.90
21-1066	8/2/2021	1.21	1.34	0.09	1.17	1.52	0.07	12.34	10.82
21-1274	9/7/2021	1.43	1.35	0.09	1.17	1.53	0.07	12.36	10.81
21-1451	10/4/2021	1.21	1.34	0.09	1.15	1.53	0.07	13.54	10.96
21-1615	11/18/2021	1.23	1.34	0.09	1.15	1.53	0.07	7.76	10.77
21-1812	12/13/2021	1.20	1.33	0.10	1.13	1.53	0.07	10.88	10.90
22-03	1/3/2022	1.40	1.34	0.10	1.14	1.53	0.07	14.75	11.27
22-157	2/1/2022	1.34	1.33	0.09	1.15	1.52	0.07	6.06	11.16

National 75th Percentile and 90th Percentile CV Averages for Fathead Growth IC₂₅ (EPA 833-R-00-003): 0.38 - 0.45
PMSD Upper and Lower Bounds for Fathead Growth (EPA-821-R-02-013): 12% - 30%

CHAIN-OF-CUSTODY / REQUEST-FOR-ANALYSIS / PACKING SHEET

Sample Type: LIQUID- SPDES/PROCESS WATER

Electronic Disk - YES

External Lab Destination	Purchase Order Number	Charge Number	Release Number	Report Format Level	Priority	OrderID:
Test America	CH-007532	WV03.IN.01.01.01.02.01	1260	1	10 Days	220126-01
						Work Order: SP-Discharge

Custodian Signature: CH2M C-O-C Reviewed By: CH2M Report Data To: Dave Klenk (716) 485-3109
Chet Wrotniak (716) 982-6403

Location Code	Sample ID	Date	Time	# Cont	Preservative	Tests	Sample Notes
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WNSP001	2022-00812	02/10/22		3	Cool	wet_du_a, wet_du_c, wet_pr_a, wet_pr_c,	Initial Sample
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Signature Rel: Date/Time	Signature Rel: Date/Time
Signature Rec: Date/Time	Signature Rec: Date/Time
Signature Rel: Date/Time	Signature Rel: Date/Time
Signature Rec: Date/Time	Signature Rec: Date/Time
Signature Rel: Date/Time	Sample Receipt at Lab: Cool? YES NO Temp: C
Signature Rec: Date/Time	Signature Rec: Date/Time YES NO

Attachment C
Email Confirmation from NYSDEC

From: netdmr-notification@epa.gov
To: ewwohlers@cattco.org; R9.NetDMR@dec.ny.gov; [William Kean](#); [Bonnie Jeffery](#); [Moirá Maloney](#); [Janice Williams](#); [Joseph Forti](#); [Michael Pendi](#); [Elizabeth Lowes](#)
Subject: NetDMR DMR(s) Submittal Passed for: NY0000973
Date: Wednesday, April 6, 2022 10:30:42 AM

The following signed 7 DMR(s) were submitted to EPA and were successfully processed:

CDX Transaction ID: _c2d854ce-029f-4934-bd85-2bb4fcd55549
User ID: ELIZABETH.LOWES@CHBWV.COM
Timestamp: 04/06/2022 08:52:55

Permitted Facility Name: WEST VALLEY DEMONSTRATION PROJ
Permit ID: NY0000973
Permitted Feature: 001
Discharge: M - OUTFALL 001 MONTHLY PROC WW, GW, STORM
Monitoring Period End Date: 03/31/22

Permitted Facility Name: WEST VALLEY DEMONSTRATION PROJ
Permit ID: NY0000973
Permitted Feature: 001
Discharge: W - OUTFALL 001 WET TESTING QUARTERLY
Monitoring Period End Date: 03/31/22

Permitted Facility Name: WEST VALLEY DEMONSTRATION PROJ
Permit ID: NY0000973
Permitted Feature: 007
Discharge: M - SANITARY, NC COOLING WATER, UTILITY WASTEWATER, STORMWATER
Monitoring Period End Date: 03/31/22

Permitted Facility Name: WEST VALLEY DEMONSTRATION PROJ
Permit ID: NY0000973
Permitted Feature: 007
Discharge: W - OUTFALL 007 WET TESTING QUARTERLY
Monitoring Period End Date: 03/31/22

Permitted Facility Name: WEST VALLEY DEMONSTRATION PROJ
Permit ID: NY0000973
Permitted Feature: 01B
Discharge: M - MERCURY PRETREATMENT
Monitoring Period End Date: 03/31/22

Permitted Facility Name: WEST VALLEY DEMONSTRATION PROJ
Permit ID: NY0000973
Permitted Feature: 116
Discharge: M - PSEUDO MON. POINT @FRANKS CRK
Monitoring Period End Date: 03/31/22

Permitted Facility Name: WEST VALLEY DEMONSTRATION PROJ

Permit ID: NY0000973

Permitted Feature: SUM

Discharge: N - SUM OF OUTFALLS 1 & 7

Monitoring Period End Date: 03/31/22

Thank you.

This is a submission from the LIVE (Production) site.