



TRI-STATE GENERATION AND TRANSMISSION ASSOCIATION, INC.

HEADQUARTERS: P.O. BOX 33695 DENVER, COLORADO 80233-0695 303-452-6111

July 23, 2019

VIA Electronic Mail: janet.binns@state.co.us

Ms. Janet Binns
Division of Reclamation, Mining, & Safety
Coal Program Support Staff
1313 Sherman Street, RM 215
Denver, Colorado 80203

RE: June 2019 Discharge Monitoring Report Submittal
CDPS Permit #CO-0000213
Elk Ridge Mining and Reclamation, New Horizon Mine
DRMS Mine Permit #C-1981-008

Dear Ms. Binns:

Enclosed are the Discharge Monitoring Reports (DMR) for the Elk Ridge Mining and Reclamation, LLC, New Horizon Mine CDPS Permit No. CO-0000213 for June 2019. Tri-State Generation and Transmission Association, Inc. (Tri-State) is the parent to Elk Ridge Mining and Reclamation. The enclosed June DMRs were submitted electronically through the EPA's NetDMR program.

If you have any questions about the enclosed reports, please contact Darlene Crosby at 303-254-3055.

Sincerely,

Daniel J. Casiraro
Senior Manager
Environmental Services

DJC:DC:der

Enclosures

cc: Darlene Crosby (via email)
Jason Carver (via email)
Chantell Johnson (via email)
File G474-11.3(10)a-9a

AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

A Touchstone Energy Cooperative



CRAIG STATION
P.O. BOX 1307
CRAIG, CO 81626-1307
970-824-4411

ESCALANTE STATION
P.O. BOX 577
PREWITT, NM 87045
505-972-5200

NUCLA STATION
P.O. BOX 698
NUCLA, CO 81424-0698
970-864-7316

From: netdmr-notification@epa.gov
To: [Crosby, Darlene](#); [Johnson, Chantell](#); [Walz, Barbara](#)
Subject: [EXTERNAL] NetDMR DMR(s) Submittal Passed for: CO0000213
Date: Wednesday, July 24, 2019 6:30:03 PM

The following signed 10 DMR(s) were submitted to EPA and were successfully processed:

CDX Transaction ID: _3ec325b7-8f85-4af3-895b-3155f9db61ee
User ID: BARBARAWALZ1
Timestamp: 07/24/2019 18:14:29

Permitted Facility Name: NEW HORIZON MINE
Permit ID: CO0000213
Permitted Feature: 012
Discharge: A - SR and Mine Drainage to Tuttle Draw
Monitoring Period End Date: 06/30/19

Permitted Facility Name: NEW HORIZON MINE
Permit ID: CO0000213
Permitted Feature: 012
Discharge: Q - Quarterly Monitoring for 012A
Monitoring Period End Date: 06/30/19

Permitted Facility Name: NEW HORIZON MINE
Permit ID: CO0000213
Permitted Feature: 012
Discharge: S - Semi-Annual Monitoring for 012A
Monitoring Period End Date: 06/30/19

Permitted Facility Name: NEW HORIZON MINE
Permit ID: CO0000213
Permitted Feature: 013
Discharge: A - SR & Mine Drainage to Tuttle Draw
Monitoring Period End Date: 06/30/19

Permitted Facility Name: NEW HORIZON MINE
Permit ID: CO0000213
Permitted Feature: 013
Discharge: Q - Quarterly Monitoring for 013A
Monitoring Period End Date: 06/30/19

Permitted Facility Name: NEW HORIZON MINE
Permit ID: CO0000213
Permitted Feature: 013
Discharge: S - Semi-Annual Monitoring for 013A
Monitoring Period End Date: 06/30/19

Permitted Facility Name: NEW HORIZON MINE
Permit ID: CO0000213
Permitted Feature: 013
Discharge: X - CHRONIC WET TESTING FOR 013A
Monitoring Period End Date: 06/30/19

Permitted Facility Name: NEW HORIZON MINE
Permit ID: CO0000213

Permitted Feature: 016
Discharge: A - SR & Mine Drainage Tributary to Tuttle Draw
Monitoring Period End Date: 06/30/19

Permitted Facility Name: NEW HORIZON MINE
Permit ID: CO0000213
Permitted Feature: 016
Discharge: Q - Quarterly Monitoring for 016A
Monitoring Period End Date: 06/30/19

Permitted Facility Name: NEW HORIZON MINE
Permit ID: CO0000213
Permitted Feature: 016
Discharge: S - Semi-Annual Monitoring for 016A
Monitoring Period End Date: 06/30/19

Thank you.

This notification was sent from the Colorado instance of "Production NetDMR" the official NPDES reporting environment for Colorado clean water discharge permits

DMR Copy of Record

Permit

Permit #:

CO0000213

Major:

No

Permittee:

Elk Ridge Mining and Reclamation LLC

Permittee Address:

PO Box 33695
Denver, CO 80233-0695

Facility:

NEW HORIZON MINE

Facility Location:

27646 W 5 AVE
NUCLA, CO 81424

Permitted Feature:

012
External Outfall

Discharge:

012-A
SR and Mine Drainage to Tuttle Draw

Report Dates & Status

Monitoring Period:

From 06/01/19 to 06/30/19

DMR Due Date:

07/28/19

Status:

NetDMR Validated

Considerations for Form Completion

TSS & Fe limits will be waived & settleable solids limit applied for 10YR/24HR precip event - see pp 8-9 for requirements.

Principal Executive Officer

First Name:

Barbara

Last Name:

Walz

Title:

SVP, Policy and Compliance, CCO

Telephone:

303-452-6111

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			
00400	pH	1 - Effluent Gross	0	--	Sample														02/30 - Twice Per Month	GR - GRAB
					Permit Req.						>=	6.5 MINIMUM			<=	9 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	GR - GRAB
					Permit Req.								<=	35 30DA AVG	<=	70 MX 7D AV	19 - mg/L			
					Value NODI									C - No Discharge		C - No Discharge				
00980	Iron, total recoverable	1 - Effluent Gross	0	--	Sample														02/30 - Twice Per Month	GR - GRAB
					Permit Req.								<=	3000 30DA AVG	<=	6000 DAILY MX	28 - ug/L			
					Value NODI									C - No Discharge		C - No Discharge				
03582	Oil and grease	1 - Effluent Gross	0	--	Sample														77/77 - Contingent	GR - GRAB
					Permit Req.										<=	10 INST MAX	19 - mg/L			
					Value NODI											C - No Discharge				
50050	Flow, in conduit or thru treatment plant	1 - Effluent Gross	0	--	Sample														01/30 - Monthly	IN - INSTAN
					Permit Req.	<=	1.09 30DA AVG		Req Mon DAILY MX	03 - MGD										
					Value NODI		C - No Discharge		C - No Discharge											
84066	Oil and grease visual	1 - Effluent Gross	0	--	Sample														01/07 - Weekly	VI - VISUAL
					Permit Req.				Req Mon INST MAX	9P - N=0;Y=1										
					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

Elk Ridge Mining and Reclamation LLC

User:

dcrosby@tristategt.org

Name:

Darlene Crosby

E-Mail:

dcrosby@tristategt.org

Date/Time:

2019-06-19 15:12 (Time Zone: -06:00)

Report Last Signed By

User:

BARBARAWALZ1

Name:

Barbara Walz

E-Mail:

bwalz@tristategt.org

Date/Time:

2019-07-24 16:14 (Time Zone: -06:00)

DMR Copy of Record

Permit

Permit #:

CO0000213

Major:

No

Permittee:

Elk Ridge Mining and Reclamation LLC

Permittee Address:

PO Box 33695
Denver, CO 80233-0695

Facility:

NEW HORIZON MINE

Facility Location:

27646 W 5 AVE
NUCLA, CO 81424

Permitted Feature:

012
External Outfall

Discharge:

012-Q
Quarterly Monitoring for 012A

Report Dates & Status

Monitoring Period:

From 04/01/19 to 06/30/19

DMR Due Date:

07/28/19

Status:

NetDMR Validated

Considerations for Form Completion

Quarterly monitoring - see Appendix B, #29, pg 43.

Principal Executive Officer

First Name:

Barbara

Last Name:

Walz

Title:

SVP, Policy and Compliance, CCO

Telephone:

303-452-6111

No Data Indicator (NODI)

Form NODI:

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Comments

Attachments

No attachments.

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User:

dcrosby@tristategt.org

Name:

Darlene Crosby

E-Mail:

dcrosby@tristategt.org

Date/Time:

2019-06-19 15:12 (Time Zone: -06:00)

Report Last Signed By

User:

BARBARAWALZ1

Name:

Barbara Walz

E-Mail:

bwalz@tristategt.org

Date/Time:

2019-07-24 16:14 (Time Zone: -06:00)

DMR Copy of Record

Permit

Permit #:

CO0000213

Major:

No

Permittee:

Elk Ridge Mining and Reclamation LLC

Permittee Address:

PO Box 33695
Denver, CO 80233-0695

Facility:

NEW HORIZON MINE

Facility Location:

27646 W 5 AVE
NUCLA, CO 81424

Permitted Feature:

012
External Outfall

Discharge:

012-S
Semi-Annual Monitoring for 012A

Report Dates & Status

Monitoring Period:

From 01/01/19 to 06/30/19

DMR Due Date:

07/28/19

Status:

NetDMR Validated

Considerations for Form Completion

Principal Executive Officer

First Name:

Barbara

Last Name:

Walz

Title:

SVP, Policy and Compliance, CCO

Telephone:

303-452-6111

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		
01303	Zinc, potentially dissolved	1 - Effluent Gross	0	--	Sample													02/YR - Twice Per Year	GR - GRAB
					Permit Req.									Req Mon 30DA AVG		Req Mon DAILY MX	28 - ug/L		
					Value NODI									C - No Discharge		C - No Discharge			
04262	Chromium, trivalent total recoverable	1 - Effluent Gross	0	--	Sample													02/YR - Twice Per Year	GR - GRAB
					Permit Req.											Req Mon DAILY MX	28 - ug/L		
					Value NODI											C - No Discharge			
50092	Mercury, total low level	1 - Effluent Gross	0	--	Sample													02/YR - Twice Per Year	GR - GRAB
					Permit Req.											Req Mon DAILY MX	28 - ug/L		
					Value NODI											C - No Discharge			
51202	Sulfide-hydrogen sulfide [undissociated]	1 - Effluent Gross	0	--	Sample													02/YR - Twice Per Year	GR - GRAB
					Permit Req.											Req Mon DAILY MX	19 - mg/L		
					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

Elk Ridge Mining and Reclamation LLC

User:

dcrosby@tristategt.org

Name:

Darlene Crosby

E-Mail:

dcrosby@tristategt.org

Date/Time:

2019-06-19 15:13 (Time Zone: -06:00)

Report Last Signed By

User:

BARBARAWALZ1

Name:

Barbara Walz

E-Mail:

bwalz@tristategt.org

Date/Time:

2019-07-24 16:14 (Time Zone: -06:00)

DMR Copy of Record

Permit

Permit #:

CO0000213

Major:

No

Permittee:

Elk Ridge Mining and Reclamation LLC

Permittee Address:

PO Box 33695
Denver, CO 80233-0695

Facility:

NEW HORIZON MINE

Facility Location:

27646 W 5 AVE
NUCLA, CO 81424

Permitted Feature:

013
External Outfall

Discharge:

013-A
SR & Mine Drainage to Tuttle Draw

Report Dates & Status

Monitoring Period:

From 06/01/19 to 06/30/19

DMR Due Date:

07/28/19

Status:

NetDMR Validated

Considerations for Form Completion

TSS & Fe limits will be waived & settleable solids limit applied for 10YR/24HR precip event - see pg 7 for requirements.

Principal Executive Officer

First Name:

Barbara

Last Name:

Walz

Title:

SVP, Policy and Compliance, CCO

Telephone:

303-452-6111

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			
00400	pH	1 - Effluent Gross	0	--	Sample						=	7.39			=	7.5	12 - SU		04/30 - Four Per Month	GR - GRAB
					Permit Req.						>=	6.5 MINIMUM			<=	9 MAXIMUM	12 - SU	0	02/30 - Twice Per Month	GR - GRAB
					Value NODI															
00978	Arsenic, total recoverable	1 - Effluent Gross	0	--	Sample								=	0.8			28 - ug/L		04/30 - Four Per Month	GR - GRAB
					Permit Req.									Req Mon 30DA AVG			28 - ug/L	0	02/30 - Twice Per Month	GR - GRAB
					Value NODI															
00980	Iron, total recoverable	1 - Effluent Gross	0	--	Sample								=	1413	=	2500	28 - ug/L		04/30 - Four Per Month	GR - GRAB
					Permit Req.								<=	3000 30DA AVG	<=	6000 DAILY MX	28 - ug/L	0	02/30 - Twice Per Month	GR - GRAB
					Value NODI															
01303	Zinc, potentially dissolved	1 - Effluent Gross	0	--	Sample								=	14	=	22	28 - ug/L		04/30 - Four Per Month	GR - GRAB
					Permit Req.									Req Mon 30DA AVG		Req Mon DAILY MX	28 - ug/L	0	02/30 - Twice Per Month	GR - GRAB
					Value NODI															
01319	Manganese, potentially dissolvd	1 - Effluent Gross	0	--	Sample								=	438	=	680	28 - ug/L		04/30 - Four Per Month	GR - GRAB
					Permit Req.								<=	4120 30DA AVG	<=	4738 DAILY MX	28 - ug/L	0	01/30 - Monthly	GR - GRAB
					Value NODI															
01323	Selenium, potentially dissolvd	1 - Effluent Gross	0	--	Sample								=	0.4	=	0.6	28 - ug/L		04/30 - Four Per Month	GR - GRAB
					Permit Req.								<=	26 30DA AVG	<=	26 DAILY MX	28 - ug/L	0	02/30 - Twice Per Month	GR - GRAB
					Value NODI															
03582	Oil and grease	1 - Effluent Gross	0	--	Sample															
					Permit Req.										<=	10 INST MAX	19 - mg/L		77/77 - Contingent	GR - GRAB
					Value NODI											9 - Conditional Monitoring - Not Required This Period				
50050	Flow, in conduit or thru treatment plant	1 - Effluent Gross	0	--	Sample	=	1.221	=	1.841	03 - MGD									01/01 - Daily	IN - INSTAN
					Permit Req.	<=	1.44 30DA AVG		Req Mon DAILY MX	03 - MGD								0	01/30 - Monthly	IN - INSTAN
					Value NODI															
84066	Oil and grease visual	1 - Effluent Gross	0	--	Sample			=	0	AB - abst=0;prst=1									04/30 - Four Per Month	VI - VISUAL
					Permit Req.				Req Mon INST MAX	AB - abst=0;prst=1								0	02/30 - Twice Per Month	VI - VISUAL
					Value 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

Elk Ridge Mining and Reclamation LLC

User:

dcrosby@tristategt.org

Name:

Darlene Crosby

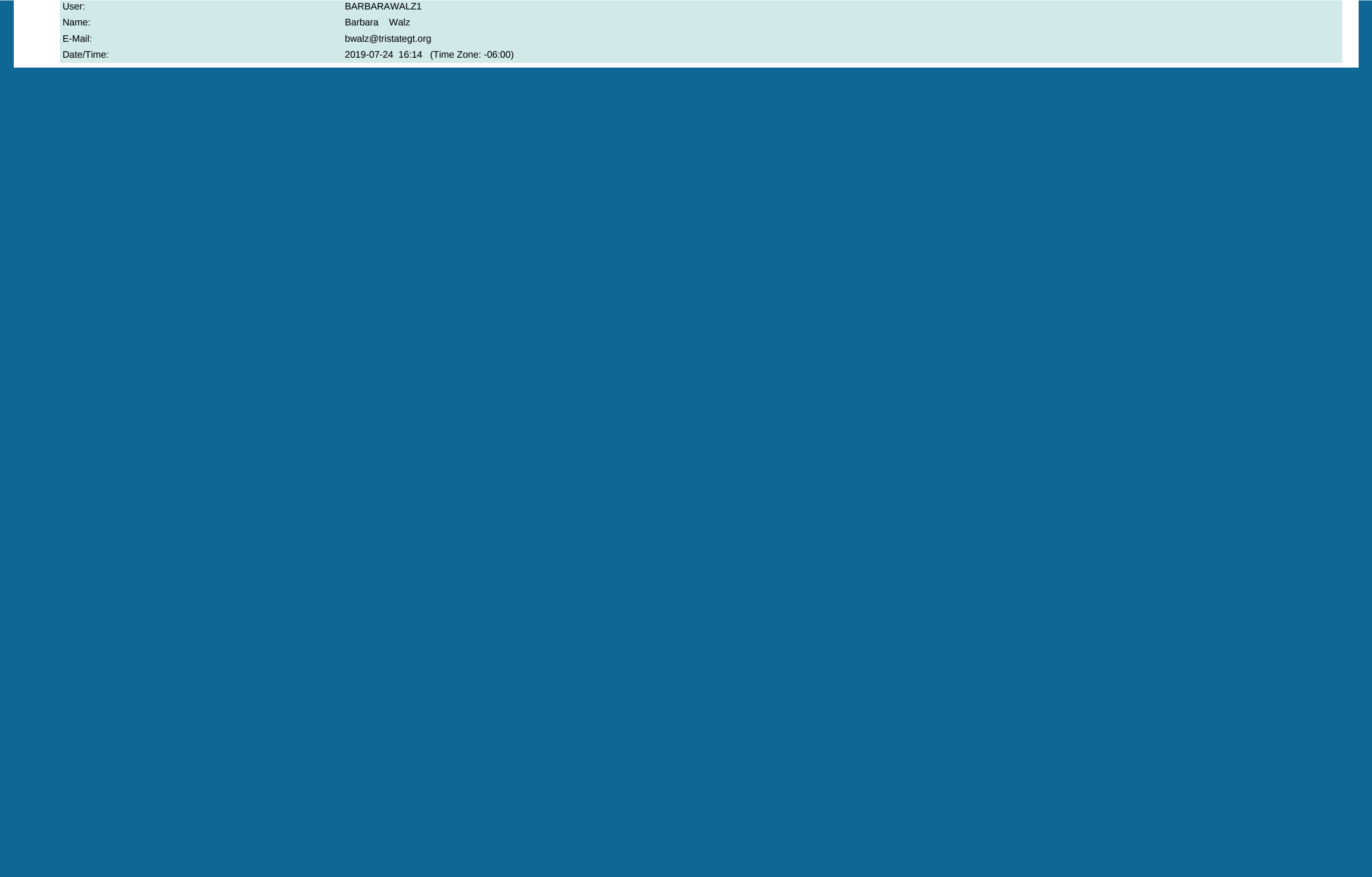
E-Mail:

dcrosby@tristategt.org

Date/Time:

2019-07-19 08:38 (Time Zone: -06:00)

Report Last Signed By



DMR Copy of Record

Permit

Permit #:

CO0000213

Major:

No

Permittee:

Elk Ridge Mining and Reclamation LLC

Permittee Address:

PO Box 33695
Denver, CO 80233-0695

Facility:

NEW HORIZON MINE

Facility Location:

27646 W 5 AVE
NUCLA, CO 81424

Permitted Feature:

013
External Outfall

Discharge:

013-Q
Quarterly Monitoring for 013A

Report Dates & Status

Monitoring Period:

From 04/01/19 to 06/30/19

DMR Due Date:

07/28/19

Status:

NetDMR Validated

Considerations for Form Completion

Quarterly Monitoring - see Appendix B, #29, pg 43

Principal Executive Officer

First Name:

Barbara

Last Name:

Walz

Title:

SVP, Policy and Compliance, CCO

Telephone:

303-452-6111

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

Elk Ridge Mining and Reclamation LLC

User:

dcrosby@tristategt.org

Name:

Darlene Crosby

E-Mail:

dcrosby@tristategt.org

Date/Time:

2019-07-19 08:19 (Time Zone: -06:00)

Report Last Signed By

User:

BARBARAWALZ1

Name:

Barbara Walz

E-Mail:

bwalz@tristategt.org

Date/Time:

2019-07-24 16:14 (Time Zone: -06:00)

DMR Copy of Record

Permit

Permit #:

CO0000213

Major:

No

Permittee:

Elk Ridge Mining and Reclamation LLC

Permittee Address:

PO Box 33695
Denver, CO 80233-0695

Facility:

NEW HORIZON MINE

Facility Location:

27646 W 5 AVE
NUCLA, CO 81424

Permitted Feature:

013
External Outfall

Discharge:

013-S
Semi-Annual Monitoring for 013A

Report Dates & Status

Monitoring Period:

From 01/01/19 to 06/30/19

DMR Due Date:

07/28/19

Status:

NetDMR Validated

Considerations for Form Completion

Principal Executive Officer

First Name:

Barbara

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Edit Check Errors

No errors.

Comments

Attachments

No attachments.

Report Last Saved By

Elk Ridge Mining and Reclamation LLC

User:

dcrosby@tristategt.org

Name:

Darlene Crosby

E-Mail:

dcrosby@tristategt.org

Date/Time:

2019-07-19 08:45 (Time Zone: -06:00)

Report Last Signed By

User:

BARBARAWALZ1

Name:

Barbara Walz

E-Mail:

bwalz@tristategt.org

Date/Time:

2019-07-24 16:14 (Time Zone: -06:00)

DMR Copy of Record

Permit

Permit #:

CO0000213

Major:

No

Permittee:

Elk Ridge Mining and Reclamation LLC

Permittee Address:

PO Box 33695
Denver, CO 80233-0695

Facility:

NEW HORIZON MINE

Facility Location:

27646 W 5 AVE
NUCLA, CO 81424

Permitted Feature:

013
External Outfall

Discharge:

013-X
CHRONIC WET TESTING FOR 013A

Report Dates & Status

Monitoring Period:

From 04/01/19 to 06/30/19

DMR Due Date:

07/28/19

Status:

NetDMR Validated

Considerations for Form Completion

See Part I.D.1 of permit for details of test procedure. Report NOEC using test code "S". Report IC25 using test code "P". Report highest number between "P" and "S" at "T" for each parameter. IWC=100%.

Principal Executive Officer

First Name:

Barbara

Last Name:

Walz

Title:

SVP, Policy and Compliance, CCO

Telephone:

303-452-6111

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

Parameter		Monitoring Location	Field	Type	Description	Acknowledge
Code	Name					
TKP6C	Static Renewal 7 Day Chronic Pimephales promelas	T - See Comments	Quality or Concentration Sample Value 1	Soft	The provided sample value is outside the permit limit. (Error Code: 1)	Yes
TKP3B	Static Renewal 7 Day Chronic Ceriodaphnia dubia	T - See Comments	Quality or Concentration Sample Value 1	Soft	The provided sample value is outside the permit limit. (Error Code: 1)	Yes

Comments

On July 9, 2019, Tri-State notified WQCD of Quarter 2 WET test results for Outfall 013 and initiated a Targeted Toxicity Identification Evaluation (attached).

Attachments

Name	Type	Size
190709_NHM_Notification_of_Q2_2019_Chronic_WET_Results_for_Outfall_013_Commencement_of_TIE_Walz_to_Mink.pdf	pdf	2129745
NH2_CDPS_CO0000213_Outfall013_WETresults_June2019_COC.pdf	pdf	517176

Report Last Saved By

Elk Ridge Mining and Reclamation LLC

User:

dcrosby@tristategt.org

Name:

Darlene Crosby

E-Mail:

dcrosby@tristategt.org

Date/Time:

2019-07-18 13:42 (Time Zone: -06:00)

Report Last Signed By

User:

BARBARAWALZ1



DMR Copy of Record

Permit

Permit #:

CO0000213

Major:

No

Permittee:

Elk Ridge Mining and Reclamation LLC

Permittee Address:

PO Box 33695
Denver, CO 80233-0695

Facility:

NEW HORIZON MINE

Facility Location:

27646 W 5 AVE
NUCLA, CO 81424

Permitted Feature:

016
External Outfall

Discharge:

016-A
SR & Mine Drainage Tributary to Tuttle Draw

Report Dates & Status

Monitoring Period:

From 06/01/19 to 06/30/19

DMR Due Date:

07/28/19

Status:

NetDMR Validated

Considerations for Form Completion

TSS & Fe limits will be waived & settleable solids limits applied for 10YR/24HR precip event - see pp 8-9 for requirements.

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Last Name:

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Title:

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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			
00400	pH	1 - Effluent Gross	0	--	Sample														02/30 - Twice Per Month	GR - GRAB
					Permit Req.						>=	6.5 MINIMUM			<=	9 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	GR - GRAB
					Permit Req.								<=	35 5 DA AVG	<=	70 MX 7D AV	19 - mg/L			
					Value NODI									C - No Discharge		C - No Discharge				
00980	Iron, total recoverable	1 - Effluent Gross	0	--	Sample														02/30 - Twice Per Month	GR - GRAB
					Permit Req.								<=	3000 30DA AVG	<=	6000 DAILY MX	28 - ug/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	IN - INSTAN
					Permit Req.	<=	3.123 30DA AVG		Req Mon DAILY MX 03 - MGD											
					Value NODI		C - No Discharge		C - No Discharge											

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Comments

Attachments

No attachments.

Report Last Saved By

Elk Ridge Mining and Reclamation LLC

User:

dcrosby@tristategt.org

Name:

Darlene Crosby

E-Mail:

dcrosby@tristategt.org

Date/Time:

2019-06-19 15:13 (Time Zone: -06:00)

Report Last Signed By

BARBARAWALZ1

User:

BARBARAWALZ1

Name:

Barbara Walz

E-Mail:

bwalz@tristategt.org

Date/Time:

2019-07-24 16:14 (Time Zone: -06:00)

DMR Copy of Record

Permit

Permit #:

CO0000213

Major:

No

Permittee:

Elk Ridge Mining and Reclamation LLC

Permittee Address:

PO Box 33695
Denver, CO 80233-0695

Facility:

NEW HORIZON MINE

Facility Location:

27646 W 5 AVE
NUCLA, CO 81424

Permitted Feature:

016
External Outfall

Discharge:

016-Q
Quarterly Monitoring for 016A

Report Dates & Status

Monitoring Period:

From 04/01/19 to 06/30/19

DMR Due Date:

07/28/19

Status:

NetDMR Validated

Considerations for Form Completion

Quarterly monitoring - see Appendix B, #29, pg 43.

Principal Executive Officer

First Name:

Barbara

Last Name:

Walz

Title:

SVP, Policy and Compliance, CCO

Telephone:

303-452-6111

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

Elk Ridge Mining and Reclamation LLC

User:

dcrosby@tristategt.org

Name:

Darlene Crosby

E-Mail:

dcrosby@tristategt.org

Date/Time:

2019-06-19 15:26 (Time Zone: -06:00)

Report Last Signed By

User:

BARBARAWALZ1

Name:

Barbara Walz

E-Mail:

bwalz@tristategt.org

Date/Time:

2019-07-24 16:14 (Time Zone: -06:00)

DMR Copy of Record

Permit

Permit #:

CO0000213

Major:

No

Permittee:

Elk Ridge Mining and Reclamation LLC

Permittee Address:

PO Box 33695
Denver, CO 80233-0695

Facility:

NEW HORIZON MINE

Facility Location:

27646 W 5 AVE
NUCLA, CO 81424

Permitted Feature:

016
External Outfall

Discharge:

016-S
Semi-Annual Monitoring for 016A

Report Dates & Status

Monitoring Period:

From 01/01/19 to 06/30/19

DMR Due Date:

07/28/19

Status:

NetDMR Validated

Considerations for Form Completion

Principal Executive Officer

First Name:

Barbara

Last Name:

Walz

Title:

SVP, Policy and Compliance, CCO

Telephone:

303-452-6111

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

Elk Ridge Mining and Reclamation LLC

User:

dcrosby@tristategt.org

Name:

Darlene Crosby

E-Mail:

dcrosby@tristategt.org

Date/Time:

2019-06-19 15:27 (Time Zone: -06:00)

Report Last Signed By

User:

BARBARAWALZ1

Name:

Barbara Walz

E-Mail:

bwalz@tristategt.org

Date/Time:

2019-07-24 16:14 (Time Zone: -06:00)

**TRI-STATE GENERATION AND TRANSMISSION ASSOCIATION, INC.**

HEADQUARTERS: P.O. BOX 33695 DENVER, COLORADO 80233-0695 303-452-6111

July 9, 2019

Submitted via email eric.mink@state.co.us

Mr. Eric Mink
Water Quality Control Division
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

RE: CDPS Permit #CO-0000213
New Horizon Mine (Outfall 013)
Notification of Q2 2019 Chronic WET Results for Outfall 013 and
Commencement of a TIE (targeted)

Dear Mr. Mink:

Pursuant to our discussion on June 27, 2019, we reviewed the results from the three attempted chronic Whole Effluent Toxicity (WET) testing events in the second quarter (Q2) 2019 for the Elk Ridge Mining and Reclamation, LLC (Elk Ridge) New Horizon Mine (CDPS Permit #CO-0000213) due to shipping delivery issues. Tri-State Generation and Transmission Association (Tri-State) is the parent of Elk Ridge. In accordance with your direction, we are submitting the notification of WET conditions for Outfall 013 for samples collected April 29th through May 3, 2019, in accordance with Part I.D.1b of the permit.

Outfall	Species	Reproduction/Growth Results		IWC
		NOEC*	IC25**	
013	<i>Ceriodaphnia dubia</i>	20%	47.9%	100%
013	<i>Pimephales</i> (Fathead minnow)	40%	60.1%	100%

*NOEC means “no observed effect concentration” at which concentration there are no observable adverse effects on the organisms.

**IC25 means inhibition concentration causing a 25% reduction in the biological measurement.

The third party ecological laboratory, GEI Consultants, analyzed the late April samples for WET. In accordance with the automatic compliance response requirements of the permit and our discussions in September 2018, the facility is commencing a targeted Toxicity Identification Evaluation (TIE) with GEI for the most sensitive species, *Ceriodaphnia dubia*, for this outfall location. We will report these results to the Division when available and in accordance with the 60-day and 120-day status reports and 180-day final report.

We will also be submitting the initial WET test summary and chains of custody with the June 2019 Discharge Monitoring Report (DMR) by July 28, 2019.





Mr. Eric Mink, WQCD
July 9, 2019
Page 2

If you have any questions on this submittal, please contact Chantell Johnson at 303-254-3185 (cjohnson@tristategt.org) or Chris Gilbreath at 303-254-3291 (cgilbreath@tristategt.org).

Sincerely,

Barbara A. Walz
Senior Vice President
Policy and Compliance
Chief Compliance Officer

BAW:CJ:der

Enclosure

cc: Chris Gilbreath (via email)
Chantell Johnson (via email)
File G474-11.3(10)a-5



Whole Effluent Toxicity Testing Report

**Tri-State Generation and Transmission
Association, Inc. – New Horizon Mine
013 Q2 Compliance Tests**

Submitted to:
Chantell Johnson
1100 W. 116th Ave.
Westminster, CO 80234

Submitted by:
GEI Consultants, Inc.
Ecological Division
4601 DTC Boulevard, Suite 900
Denver, CO 80237

July 9, 2019
Project 1902149
Report prepared by: JC



1.0 Test Summary

Enclosed are the results of the chronic *Ceriodaphnia dubia* and *Pimephales promelas* tests performed April 30 to May 7, 2019 on the discharge from Outfall 013 effluent. Chronic toxicity test procedures followed methods described in EPA documentation (USEPA 2002).

There were no significant effects on survival in the *C. dubia* test, however, there were significant effects on reproduction with an IC₂₅ of 47.9% effluent (95% C.I. 27.2 to 82.0) and a NOEC of 20% effluent. The temperature in the *C. dubia* test differed by 3.9°C. Control performance criteria were met.

There were significant effects on survival in the *P. promelas* test detected by the IC₂₅ test statistic with an IC₂₅ of 63.3% effluent (95% C.I. unavailable). No effects on survival were detected with the NOEC test statistic with a NOEC of 100% effluent. There were significant effects on growth with an IC₂₅ of 60.1% effluent (95% C.I. 39.7 to 82.6) and a NOEC of 40% effluent. The CETIS statistical software erroneously identified a concentration-response inversion at the 60% effluent concentration. Evaluation of the concentration-response curve identifies an ideal concentration-response relationship (decreasing growth with increasing effluent concentrations). Based on the concentration-response, the lower NOEC is appropriate, with the IC₂₅ of 60.1% effluent for growth remaining unchanged.

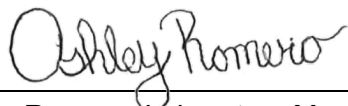
The percent minimum significant difference (PMSD) was 33%, which exceeds the upper boundary set by the EPA of 30%, indicating high variability in growth, however, due to the fact that toxicity was detected, the PMSD upper bound requirement does not apply and the data are considered valid. The high PMSD was likely the result of pathogen interference as fungal contamination was detected in all concentrations except the control. Control performance criteria were met.

Both species failed both statistical endpoints for the sublethal WET requirement. Due to the fact that a TIE is already underway for the *C. dubia* species, accelerated testing is not required as long as TIE testing continues.

Table 1: Test results summary based on the Outfall 013 IWC of 100% effluent.

Sample	Test Species	Survival		Reproduction/Growth	
		IC ₂₅	NOEC	IC ₂₅	NOEC
Outfall 013	<i>C. dubia</i>	Pass	Pass	Fail	Fail
	<i>P. promelas</i>	Fail	Pass	Fail	Fail

Report approved by:



Ashley Romero, Laboratory Manager



Natalie Love, Laboratory Director

2.0 Test Conditions

2.1 *Ceriodaphnia dubia* 7-day toxicity test to estimate chronic toxicity

Method: EPA-821-R-02-013 -- Short-Term Method for Estimating Chronic Toxicity. . .

Test Duration: until at least 60% of control organisms release 3 broods

Sample Collection Procedure: grab

Sample Collection Date: 4/29/19, 5/1/19, 5/2/19

Dilution water: moderately hard reconstituted water

Age of organisms at start: <24 hours old

Feeding: 0.1 ml YCT/*Selenastrum* daily

End Point: mortality, normalized reproduction

Start Date and Time: 4/30/19 14:05

End Date and Time: 5/7/19 13:30

Type of exposure chamber: 30 ml disposable plastic cup

Volume of exposure chamber: 15 mL

Number of animals exposed/chamber: 1

Number of replicates/treatment: 10

Test temperature: 25.6°C ± 2.0°C
EPA recommended range: 25.0°C ± 1.0°C

Standard toxicant used: NaCl

2.2 *Pimephales promelas* 7-day toxicity test to estimate chronic toxicity

Method: EPA-821-R-02-013 -- Short-Term Method for Estimating Chronic Toxicity. . .

Test Duration: 7 days

Sample Collection Procedure: grab

Sample Collection Date: 4/29/19, 5/1/19, 5/2/19

Dilution water: moderately hard reconstituted water

Age of organisms at start: <24 hours old

Feeding: 0.15 mL *Artemia* nauplii 2 times per day

End Point: mortality, growth

Start Date and Time: 4/30/19 13:10

End Date and Time: 5/7/19 12:30

Type of exposure chamber: 250 mL plastic cup

Volume of exposure chamber: 230 mL

Number of animals exposed/chamber: 10

Number of replicates/treatment: 4

Test temperature: 25.2°C ± 1.0°C
EPA recommended range: 25.0°C ± 1.0°C

Aeration: none

Standard toxicant used: NaCl

3.0 QA/QC Summary

3.1 Sample QA/QC

Client: Tri-State Generation and Transmission

Date tests start: 4/30/19

Chain of custody received Yes

Chain of custody completed Yes

Samples received within holding times Yes

Samples at correct temperature (0-6°C) Yes

Samples used within 36 hours of collection Yes

3.2 Test Acceptability

Control performance criteria met (Table 2) Yes

Table 2: Chronic control performance criteria requirements by species and sample type.

Test Species	Survival		Reproduction/Growth	
	Test (%)	Acceptable (%)	Test (# or mg)	Acceptable (# or mg)
<i>C. dubia</i>	100	≥80	38.5	≥15.0
<i>P. promelas</i>	80	≥80	0.439	≥0.250

Tests renewed within acceptable timeframe Yes

At least 60% of control organisms in chronic *C. dubia* test released at least 3 broods Yes

3.3 Statistical QA/QC

Percent minimum significant difference (PMSD) below upper bound (Table 3) Yes/No*

**P. promelas* PMSD high; toxicity detected in the test, high PMSD ok.

Table 3: Calculated and allowable PMSD upper bounds by species.

Test Species	Calculated PMSD	EPA PMSD Upper Bound
<i>C. dubia</i>	20	47
<i>P. promelas</i>	33	30

Evaluation of concentration-response curve conducted for all endpoints

(Figures 1-4 & Table 4).....Yes

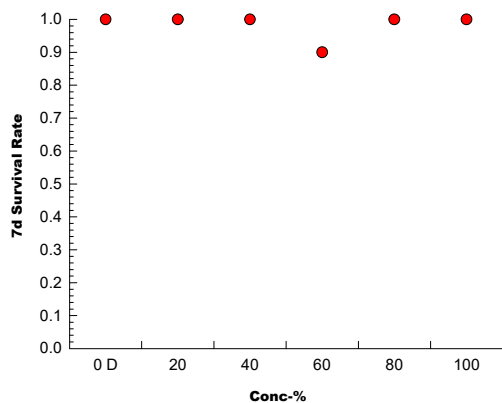


Figure 1: *C. dubia* survival

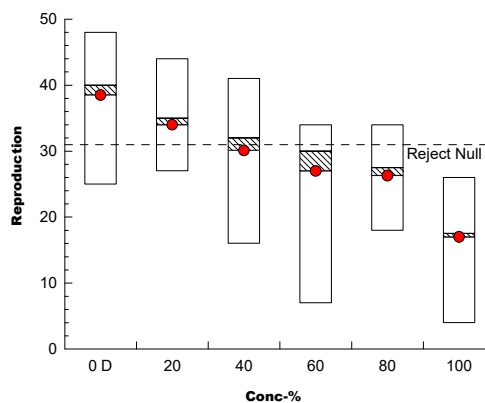


Figure 2: *C. dubia* reproduction

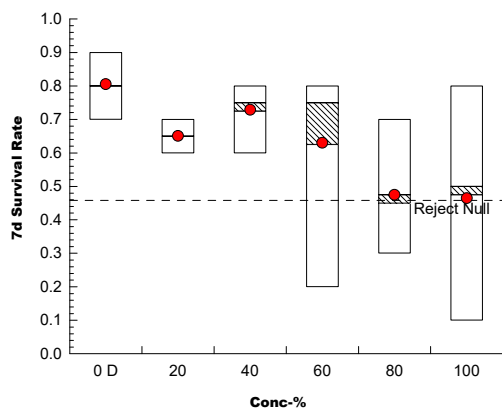


Figure 3: *P. promelas* survival

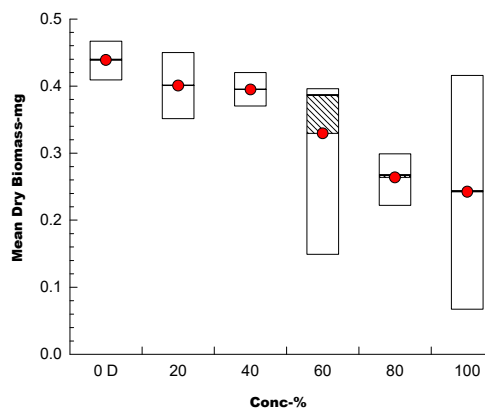


Figure 4: *P. promelas* growth

Table 4: Concentration-response curve evaluation summary.

Species	Endpoint	Concentration-Response Pattern	Valid Curve	Data Acceptability
<i>C. dubia</i>	Survival	Varied with no significant effects	Yes	Approved
	Reproduction	Ideal concentration-response with significant effects in the four highest concentrations	Yes	Approved
<i>P. promelas</i>	Survival	Varied with no significant effects	Yes	Approved
	Growth	Ideal concentration-response with significant effects in three highest concentrations	Yes	Approved with Lower NOEC

3.4 Reference Toxicant Summary

Most recent reference toxicant tests met performance requirements (Tables 5 & 6).....Yes

Most recent reference toxicant tests within control chart requirements.....Yes

Table 5: Chronic *Ceriodaphnia dubia* reference toxicant test with NaCl, conducted April 9 to April 15, 2019.

mg NaCl/L	Control	150	300	600	1200	2400
#alive/#exposed	10/10	10/10	9/10	10/10	9/10	0/10
% survival	100	100	90	100	90	0
Normalized reproduction $\pm$ SD	43.6 $\pm$ 2.7	36.7 $\pm$ 9.5	32.8 $\pm$ 14.9	37.2 $\pm$ 4.0	23.9 $\pm$ 10.1	0.0 $\pm$ 0.0

Normalized Reproduction:

IC₂₅ (ICp Method) = 724.3 mg NaCl/L (95% C.I. 210.9 to 891.3)

Note: This is within our accepted performance range (356.1 to 1359.4) determined by 20 previous reference tests performed.

Table 6: Chronic *Pimephales promelas* reference toxicant test with NaCl, conducted April 30 to May 7, 2019.

g NaCl/L	Control	0.5	1.5	3.0	5.0	7.0
#alive/#exposed	34/40	33/40	25/30*	21/40	17/40	4/40
% survival	85.0	82.5	83.3	52.5	42.5	10.0
Dry Weight (mg) $\pm$ SD	0.385 $\pm$ 0.028	0.384 $\pm$ 0.049	0.363 $\pm$ 0.046	0.151 $\pm$ 0.025	0.082 $\pm$ 0.030	0.016 $\pm$ 0.012

*Technician error, cup accidentally spilled; Replicate D excluded from all statistical analyses.

Growth:

IC₂₅ (ICp Method) = 2.03 g NaCl/L (95% C.I. 1.63 to 2.21)

Note: This is within our accepted performance range (1.35 to 2.51) determined by 20 previous reference tests performed.

4.0 Results

4.1 *Ceriodaphnia dubia* Chronic Toxicity Test

TEST: 7- day chronic with *Ceriodaphnia dubia*

OPERATORS: BK, MH, KG, SR

Start: 4/30/19 14:05

End: 5/7/19 13:30

Test Substance: Outfall 013 Effluent

Client/Project: Tri-State Generation and Transmission – New Horizon Mine

Table 7: Summary results of *C. dubia* chronic toxicity test.

Treatment % Effluent	0	20	40	60	80	100
#alive/#exposed	10/10	10/10	10/10	9/10	10/10	10/10
% survival	100	100	100	90	100	100
Normalized repro / # females exposed $\pm$ SD	38.5 $\pm$ 7.0	34.0 $\pm$ 5.4	30.1 $\pm$ 8.8	27.0 $\pm$ 8.4	26.3 $\pm$ 6.2	17.0 $\pm$ 7.6
Dissolved O ₂ range (mg/L)	<u>7.3</u> 7.0	<u>7.3</u> 7.0	<u>7.5</u> 7.1	<u>7.5</u> 7.1	<u>7.7</u> 7.0	<u>7.8</u> 7.1
pH range	<u>8.66</u> 8.47	<u>8.64</u> 8.54	<u>8.46</u> 8.37	<u>8.33</u> 8.26	<u>8.26</u> 8.19	<u>8.23</u> 8.16
Conductivity range (μ mho/cm)	<u>414</u> 336	<u>1127</u> 950	<u>1670</u> 1449	<u>2250</u> 1879	<u>2743</u> 2311	<u>3230</u> 2683
Temperature range in test chambers (°C)	<u>25.1</u> 24.0	<u>25.7</u> 24.2	<u>26.6</u> 23.9	<u>27.5</u> 25.0	<u>26.6</u> 24.6	<u>26.8</u> 24.5
Temperature in test chambers on final day (°C)	24.8	26.1	24.6	26.6	23.6	24.5

Statistical Analysis:

Survival:

NOEC (Fisher Exact/Bonferroni-Holm) = 100% Effluent

IC₂₅ (IC_p Method) = >100% Effluent (95% C.I. unavailable)

Normalized Reproduction:

NOEC (Dunnett Multiple Comparison) = 20% Effluent

IC₂₅ (IC_p Method) = 47.9% Effluent (95% C.I. 27.2 to 82.0)

4.2 *Pimephales promelas* Chronic Toxicity Test

TEST: 7-day chronic with *Pimephales promelas*

OPERATORS: KG, MH, SR

Start: 4/30/19 13:10

End: 5/7/19 12:30

Test Substance: Outfall 013 Effluent

Client/Project: Tri-State Generation and Transmission – New Horizon Mine

Table 8: Summary results of *P. promelas* chronic toxicity test.

Treatment % Effluent	0	20	40	60	80	100
#alive/#exposed	32/40	26/40	29/40	25/40	19/40	19/40
% survival	80.0	65	72.5	62.5	47.5	47.5
Dry weight (mean wt. (mg)/ #exposed $\pm$ SD)	0.439 $\pm$ 0.024	0.401 $\pm$ 0.051	0.395 $\pm$ 0.027	0.330 $\pm$ 0.121	0.264 $\pm$ 0.034	0.243 $\pm$ 0.156
Dissolved O ₂ range (mg/L)	<u>6.1</u> 5.3	<u>5.8</u> 4.9	<u>5.7</u> 4.8	<u>5.7</u> 4.8	<u>5.6</u> 4.6	<u>5.7</u> 4.8
pH range	<u>8.27</u> 7.71	<u>8.18</u> 8.03	<u>8.23</u> 8.14	<u>8.11</u> 8.04	<u>7.98</u> 7.93	<u>7.93</u> 7.88
Conductivity range (μ mho/cm)	<u>363</u> 316	<u>1034</u> 926	<u>1648</u> 1451	<u>2156</u> 1907	<u>2658</u> 2335	<u>3160</u> 2771
Temperature range in test chambers (°C)	<u>26.0</u> 24.4	<u>25.8</u> 24.5	<u>25.4</u> 24.4	<u>25.1</u> 24.5	<u>25.7</u> 24.4	<u>25.5</u> 24.2
Temperature in test chambers on final day (°C)	26.1	25.6	25.6	25.6	25.3	25.3

Statistical Analysis:

Survival:

NOEC (Dunnett Multiple Comparison) = 100% Effluent

IC₂₅ (IC_p Method) = 63.3% Effluent (95% C.I. unavailable)

Growth:

Approved: Lower NOEC (Steel Many-One Rank Sum) = 40% Effluent

Not used: Higher NOEC (Steel Many-One Rank Sum) = 100% Effluent

IC₂₅ (IC_p Method) = 60.1% Effluent (95% C.I. 39.9 to 89.7)

4.3 Water Chemistry Results from Samples Received for Toxicity Tests

Table 9: Chemistry on reconstituted waters and effluent samples.

Measurement	MH Recon Water*	100% Effluent Received 4/30/19	100% Effluent Received 5/2/19	100% Effluent Received 5/3/19
Analysis Temperature (°C)	25.0	25.0	25.0	25.0
Total Hardness (mg CaCO ₃ /L)	97	2250	1870	1990
pH	8.26	7.75	7.77	7.79
Alkalinity (mg CaCO ₃ /L)	68	416	402	408
Conductivity (µmho/cm)	315	3340	3020	2872
Total Dissolved Solids (mg/L)	--	1638	1479	1407
Dissolved Oxygen (mg/L)	7.2	10.5	9.7	10.4
Ammonia (mg NH ₃ /L)	--	0.34	0.55	0.75
Un-ionized Ammonia (mg NH ₃ /L)	--	<0.10	<0.10	<0.10
Total Residual Chlorine (mg/L)	--	0.02	<0.02	<0.02

*Represents an average of three reconstituted waters used.

5.0 References

Tidepool Scientific Software. 2000-2015. CETIS - Comprehensive Environmental Toxicity Information System. V1.9.0.8. McKinleyville, CA.

U.S. Environmental Protection Agency (EPA). 2002. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA-821-R-02-013. Office of Water, Washington D.C.

Appendix A

Colorado CDPS WET test report forms

COLORADO – CDPS WET TEST REPORT FORM – CHRONIC

 PERMITEE NAME: Tri State, NH2 Mine

 CDPS NO: CO-0000213

 OUTFALL: 013

 TYPE TEST: ROUTINE ☒

ACCELERATED

 TEST SPECIES: Ceriodaphnia dubia

Test Results:

Lethality

Growth

Reproduction

CONC. WITH STAT. DIFFERENCE	>100%	NA	40%
PASS/FAIL	PASS	NA	FAIL
NOEC	100%	NA	20%
PASS/FAIL	PASS	NA	FAIL
IC ₂₅	>100%	NA	47.9% (95% C.I. 27.2 to 82.0)
PASS/FAIL	PASS	NA	FAIL

STAT. METHOD USED: STATISTICAL DIFF.:

NOEC, LC₅₀
IC₂₅
ICp METHOD

TEST DATE/TIME: START

4/30/19 14:05

END

5/7/19 13:30

DILUTIONS (%EFFLUENT)

	CONTROL	20%	40%	60%	80%	100%
% SURVIVAL FOR DAY: 1	100	100	100	100	100	100
2	100	100	100	100	100	100
3	100	100	100	100	100	100
4	100	100	100	100	100	100
5	100	100	100	100	100	100
6	100	100	100	90	100	100
7	100	100	100	90	100	100
MEAN 3 BROOD TOTAL:	38.5	34.0	30.1	27.0	26.3	17.0
7 DAY MEAN DRY WEIGHT:						
pH MAX/MIN:	8.66/8.47	8.64/8.54	8.46/8.37	8.33/8.26	8.26/8.19	8.23/8.16

 MEAN HARDNESS (mg/L) RECEIVING WATER: NA EFFLUENT: 2037 RECON WATER: 97

 MEAN ALKALINITY (mg/L) RECEIVING WATER: NA EFFLUENT: 409 RECON WATER: 68

 MEAN T. AMMONIA as N (mg/L) INITIAL EFFLUENT: 0.55 FINAL EFFLUENT: NA

 MEAN T. RESIDUAL CHLORINE (mg/L) 100%: <0.02 RECEIVING WATER USED FOR DILUTIONS? (Y/N) N

 WERE ALL TEST CONDITIONS IN CONFORMANCE WITH DIVISION GUIDELINES? (Y/N) Y

IF NO, LIST DEVIATIONS FROM TEST SPECIFICATIONS:

 ANALYST: Natalie Love

SIGNATURE:



 LABORATORY: GEI Consultants, Inc./Ecological Division

DATE:

7/9/19

 COMMENTS: Test temperature differed by 3.9°C.

COLORADO – CDPS WET TEST REPORT FORM – CHRONIC

 PERMITEE NAME: Tri State, NH2 Mine

 CDPS NO: CO-0000213

 OUTFALL: 013

 TYPE TEST: ROUTINE ☒

ACCELERATED

 TEST SPECIES: Pimephales promelas

Test Results:

Lethality

Growth

Reproduction

CONC. WITH STAT. DIFFERENCE	>100%	60%	NA
PASS/FAIL	PASS	FAIL	NA
NOEC	100%	40%	NA
PASS/FAIL	PASS	FAIL	NA
IC ₂₅	63.3% (95% C.I. unavailable)	60.1% (95% C.I. 39.9 to 89.7)	NA
PASS/FAIL	FAIL	FAIL	NA

STAT. METHOD USED: STATISTICAL DIFF.:

NOEC, LC₅₀
IC₂₅
ICp METHOD

TEST DATE/TIME: START

4/30/19 13:10

END

5/7/19 12:30

DILUTIONS (%EFFLUENT)

	CONTROL	20%	40%	60%	80%	100%
% SURVIVAL FOR DAY: 1	100	100	100	97.5	100	100
2	90	92.5	92.5	90	80	80
3	87.5	77.5	77.5	85	67.5	72.5
4	85	77.5	75	77.5	65	57.5
5	85	72.5	72.5	65	60	52.5
6	80	67.5	72.5	62.5	55	52.5
7	80	65	72.5	62.5	47.5	47.5
MEAN 3 BROOD TOTAL:						
7 DAY MEAN DRY WEIGHT:	0.439	0.401	0.395	0.330	0.264	0.243
pH MAX/MIN:	8.27/7.71	8.18/8.03	8.23/8.14	8.11/8.04	7.98/7.93	7.93/7.88

 MEAN HARDNESS (mg/L) RECEIVING WATER: NA EFFLUENT: 2037 RECON WATER: 97

 MEAN ALKALINITY (mg/L) RECEIVING WATER: NA EFFLUENT: 409 RECON WATER: 68

 MEAN T. AMMONIA as N (mg/L) INITIAL EFFLUENT: 0.55 FINAL EFFLUENT: NA

 MEAN T. RESIDUAL CHLORINE (mg/L) 100%: <0.02 RECEIVING WATER USED FOR DILUTIONS? (Y/N) N

 WERE ALL TEST CONDITIONS IN CONFORMANCE WITH DIVISION GUIDELINES? (Y/N) Y

IF NO, LIST DEVIATIONS FROM TEST SPECIFICATIONS:

 ANALYST: Natalie Love

SIGNATURE:



 LABORATORY: GEI Consultants, Inc./Ecological Division

DATE:

7/9/19

COMMENTS:

Appendix B

Chain-of-custody forms and laboratory bench sheets from whole effluent toxicity tests

013-1
~~HH414-1~~ Period
to

BIOASSAY CHAIN-OF-CUSTODY

[illegible]

GEI Consultants, Inc./Ecological Division
4601 DTC BLVD., SUITE L100
DENVER, CO 80237
Main: (303) 662-0100 Lab: (303) 264-1120

NH 419-203-2 BIOASSAY LABORATORY CHAIN-OF-CUSTODY

CLIENT/PROJECT		ADDRESS		CITY		STATE		ZIP		PHONE #		PROJ. MANAGER		SAMPLER		DATE COLLECTED		TIME COLLECTED		TESTS REQUIRED		CHLORINE		COMMENTS	
ACUTE		CHRONIC		C		F		D		T		C		F		A		O		Measured by:		Client		Lab	
C		F		D		T		C		F		A		O		T		C		F		D		T	
E		F		D		T		C		F		A		O		T		C		F		D		T	
R		F		D		T		C		F		A		O		T		C		F		D		T	
I		F		D		T		C		F		A		O		T		C		F		D		T	
O		F		D		T		C		F		A		O		T		C		F		D		T	
D		F		D		T		C		F		A		O		T		C		F		D		T	
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G&I Consultants, Inc./Ecological Division
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NH419-013-3

BIOASSAY LABORATORY CHAIN-OF-CUSTODY

PROJECT INFORMATION		LABORATORY RECEIVING INFORMATION		TESTS REQUIRED		CHLORINE	
				ACUTE	CHRONIC		
				C E R I O F A T H E A D D A P H N I A T R O U T	C E R I O F A T H E A D A L G A E O T H E R		
CLIENT/PROJECT	ERME/outfall 013	DATE COLLECTED	TIME COLLECTED	TRC (mg/L)	Date/Time Measured	COMMENTS:	
ADDRESS	27646 W 5th Ave.	5-2-19	10:45	60.02	5/3/19 4:50 ^{10:30} AM	3G	
CITY	Nucola						
STATE	CO						
ZIP	81424						
PHONE #	970-864-1072						
PROJ. MANAGER	C Johnson						
SAMPLER	Mindy Sicks						
TOTAL NUMBER OF CONTAINERS:		TEMPERATURE (°C): 5.0		LABORATORY RECEIVED BY: Kete Steen			
COMMENTS:		CONDITION: Good		DATE/TIME: 5-2-19/12:30			
				DATE/TIME: 5/3/19 930			

GEL Consultants, Inc./Ecological Division
4601 DTC BLVD., SUITE L100
DENVER, CO 80237
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NAH19-3

BIOASSAY LABORATORY CHAIN-OF-CUSTODY

CLIENT/PROJECT		TESTS REQUIRED										CHLORINE Measured by: Client ☐ Lab ☒		COMMENTS:
		ACUTE					CHRONIC							
		C E R I O	F A T H E A D	D A P H N I A	T R O U T	C E R I O	F A T H E A D	A L G A E	O T H E R					
ADDRESS <u>ERM/R/Dakota Springs</u>														
CITY <u>NUCHA</u> STATE <u>CO</u>														
ZIP <u>81424</u> PHONE # <u>864-1072</u>														
PROJ. MANAGER <u>LEONARD</u> SAMPLER <u>TF/pus</u>														
SAMPLE TYPE/SITE	Date Collected	Time Collected									TRC (mg/L)	Date/Time Measured		
<u>OUTFALL 013</u>	<u>5.2.19</u>	<u>1045</u>									<u>40.02</u>	<u>5/31/19</u>	<u>1G</u>	
<u>IRIGATION</u>	<u>5.2.19</u>	<u>1105</u>									<u>0.02</u>	<u>5/31/19</u>	<u>1G</u>	
PROJECT INFORMATION		LABORATORY RECEIVING INFORMATION												
COURIER:		CONDITION: <u>Good</u>												
TOTAL NUMBER OF CONTAINERS:		TEMPERATURE (°C): <u>4.0</u>												
COMMENTS		LABORATORY RECEIVED BY: <u>Kyle Stearns</u> DATE/TIME: <u>5/31/19 930</u>												

1300 Blue Spruce Drive, Suite C
Fort Collins, Colorado 80524



Toll Free: 800/331-5916
Tel: 970/484-5091 Fax: 970/484-2514

NH419

ORGANISM HISTORY

DATE: 4/29/2019

SPECIES: *Pimephales promelas*

AGE: N/A

LIFE STAGE: Embryo

HATCH DATE: 4/29/2019

BEGAN FEEDING: N/A

FOOD: N/A

Water Chemistry Record:

	Current	Range
TEMPERATURE:	<u>25°C</u>	<u>--</u>
SALINITY/CONDUCTIVITY:	<u>--</u>	<u>--</u>
TOTAL HARDNESS (as CaCO ₃):	<u>126 mg/l</u>	<u>--</u>
TOTAL ALKALINITY (as CaCO ₃):	<u>95 mg/l</u>	<u>--</u>
pH:	<u>8.10</u>	<u>--</u>

Comments:



Facility Supervisor

INITIAL CHEMISTRY BENCH SHEET

Client/Project: TH State NH419-013

Samples Received: Date/Time 4/30/19 920

Test Substance: Feed Water ^{kg} 013 Effluent What test/s will samples be used in? check Dilution Water: lab water or receiving water

SAMPLE TYPE LOG NUMBER DATE COLLECTED	DATE/TIME ANALYZED	DATES USED	ANALYSES TEMP. °C	TOTAL HARDNESS mg/L	pH	TOTAL ALKALINITY mg/L	D.O. mg/L	COND. µS	TDS CALCULATED FROM COND. mg/L	TRC mg/L	AMMONIA mg/L	ANALYST
Effluent NH419-1 4/29/19	4/30/19 1300	4/30/19 — 5/1/19	25.0	$\frac{22.5 \times 100}{2250}$ 100	7.75	$\frac{20.8}{416}$ 416	10.5	3340	1638	0.02	0.34	BK
Effluent NH419-2 5/1/19	5/2/19 1050	5/2/19 — 5/12/19	25.0	$\frac{18.7 \times 100}{1870}$ 100	7.77	$\frac{20.1}{402}$ 402	9.7	3020	1472.9	<0.02	0.55	SN
Effluent NH419-013-3 5/2/19	5/3/19 1350	5/3/19 — 5/10/19	25.0	$\frac{19.9 \times 100}{1990}$ 100	7.79	$\frac{20.4}{408}$ 408	10.4	2872	1407	<0.02	0.75	KG
Average			25.0	2037	7.77	409	10.2	3077	1508	<0.02	0.55	

Site Daily measurements	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
pH / initials	7.75 / BK	7.81 / JMS	7.77 / SN	7.79 / KG	7.74 / KG	7.83 / BK	7.89 / KG
pH / initials							
pH / initials							
pH / initials							

COMMENTS:

Samples stored in refrigerator: N

Data Checked and Approved by Laboratory Manager (Initials): ABJ/ur

RECONSTITUTED SYNTHETIC LABORATORY WATER CHEMISTRY BENCH SHEET

Client/Project: Tristate NH419B-013

Test Substance: Effluent

What test/s will samples be used in? Un-C/FH

Analyst: KG

Test/s Start Date: 5/2/19

BATCH #	ANALYSES TEMP. °C	TOTAL HARDNESS mg/L	pH	TOTAL ALKALINITY mg/L	D.O. mg/L	COND. µS
MH087	25.0	96	8.25	66	7.6	315
MH059	25.0	100	8.27	70	7.3	313
MH088	25.0	96	8.25	68	6.8	316
AVERAGE VALUE	25.0	97	8.26	68	7.2	315

COMMENTS:

Data Checked and Approved by Laboratory Manager (Initials): AR/m

CHRONIC TOXICITY CHEMISTRY BENCH SHEET

START Date 4/30/19

FINISH Date: 5/7/19

Dilution Water: MH Recon

Test Substance: Pond water ^{KA} 013 Effluent

Client/Project: Tri-state NH4/9-013

Organism: C. dubia

Test Conc.	Chemical Parameter	Day of Test								COMMENTS
		1	2	3	4	5	6	7		
0	DO (mg/L)	7.1	7.1	7.0	7.2	7.2	7.3	7.1		
	Cond. (µS)	336	372	355	414	353	338	359		
	pH	8.56	8.60	8.54	8.66	8.63	8.47	8.48		
	Temp. (°C)	24.9	24.1	25.1	24.8	24.4	24.0	24.8		
20	DO (mg/L)	7.2	7.2	7.0	7.3	7.3	7.3	7.1		
	Cond. (µS)	1000	1093	996	1127	1005	950	1004		
	pH	8.60	8.59	8.60	8.64	8.64	8.64	8.54		
	Temp. (°C)	25.0	24.8	25.7	24.6	24.2	25.3	26.1		
40	DO (mg/L)	7.2	7.3	7.1	7.4	7.5	7.4	7.1		
	Cond. (µS)	1477	1637	1494	1670	1518	1449	1525		
	pH	8.41	8.37	8.39	8.41	8.43	8.46	8.40		
	Temp. (°C)	24.6	23.9	26.6	26.1	26.0	24.6	24.6		
60	DO (mg/L)	7.2	7.3	7.1	7.5	7.5	7.4	7.1		
	Cond. (µS)	1935	2156	1974	2250	2014	1879	1999		
	pH	8.29	8.28	8.27	8.31	8.32	8.33	8.26		
	Temp. (°C)	27.5	25.0	26.6	27.4	25.8	26.3	26.6		
80	DO (mg/L)	7.3	7.4	7.3	7.7	7.7	7.5	7.0		
	Cond. (µS)	2372	2555	2371	2743	2415	2311	2439		
	pH	8.23	8.23	8.20	8.24	8.26	8.26	8.19		
	Temp. (°C)	24.6	24.6	25.9	24.9	24.6	26.6	23.6		
100	DO (mg/L)	7.3	7.5	7.3	7.8	7.8	7.6	7.1		
	Cond. (µS)	2728	2995	2817	3230	2897	2683	2847		
	pH	8.18	8.20	8.16	8.21	8.22	8.23	8.16		
	Temp. (°C)	24.5	26.4	26.8	25.9	26.4	26.3	24.5		
	DO (mg/L)									
	Cond. (µS)									
	pH									
	Temp. (°C)									
Incubator Temperature (°C)		24.5	25.0	25.0	25.5	25.0	26.5	26.0		Max: 27.5
ANALYST		JMS	MJ	KG	KG	SM	JMS	MG		Min: 23.6
TIME ANALYZED		1520	1440	1330	1315	1420	1540	1400		Range: 3.9
Environmental Chamber		P	P	P	P	P	P	P		Mean: 25.6 ± 2.0

Data Checked and Approved by Laboratory Manager (Initials): AR/M

CHRONIC TOXICITY CHEMISTRY BENCH SHEET

START Date 4/30/19

FINISH Date: 5/7/19

Dilution Water: MH Recon

Test Substance: Pond water^{KG} 013 Effluent

Client/Project: Tri-state NH 419-013

Organism: P. promelas

Test Conc.	Chemical Parameter	Day of Test								COMMENTS
		1	2	3	4	5	6	7		
0	DO (mg/L)	5.7	5.7	5.3	5.7	5.4	5.3	6.1		
	Cond. (µS)	338	335	326	363	330	336	316		
	pH	7.85	7.84	7.84	7.75	7.71	7.77	8.27		
	Temp. (°C)	25.0	24.4	24.5	25.1	24.0	25.0	26.1		
20	DO (mg/L)	5.5	5.6	5.3	5.4	4.9	5.1	5.8		
	Cond. (µS)	1034	1006	955	1055	950	968	926		
	pH	8.10	8.16	8.17	8.14	8.03	8.09	8.18		
	Temp. (°C)	24.5	24.8	24.6	24.6	25.8	25.0	25.6		
40	DO (mg/L)	5.6	5.5	5.4	5.4	4.8	5.0	5.7		
	Cond. (µS)	1628	1568	1475	1648	1485	1506	1451		
	pH	8.23	8.21	8.22	8.16	8.14	8.19	8.18		
	Temp. (°C)	24.4	24.7	24.8	24.9	25.4	25.1	25.6		
60	DO (mg/L)	5.7	5.5	5.4	5.3	4.8	5.0	5.7		
	Cond. (µS)	2138	2065	1949	2156	1956	1969	1907		
	pH	8.11	8.06	8.08	8.04	8.04	8.08	8.00		
	Temp. (°C)	24.7	24.8	24.6	24.5	25.0	25.1	25.6		
80	DO (mg/L)	5.6	5.3	5.1	5.3	4.6	4.8	5.6		
	Cond. (µS)	2630	2514	2367	2658	2377	2411	2335		
	pH	7.98	7.96	7.98	7.93	7.93	7.95	7.95		
	Temp. (°C)	24.4	24.8	24.9	25.7	25.3	25.2	25.3		
100	DO (mg/L)	5.7	5.4	5.2	5.2	4.8	4.9	5.5		
	Cond. (µS)	3090	2993	2889	3160	2833	2880	2771		
	pH	7.88	7.90	7.93	7.89	7.90	7.91	7.90		
	Temp. (°C)	24.3	25.0	24.8	24.7	25.5	25.3	25.3		
	DO (mg/L)									
	Cond. (µS)									
	pH									
	Temp. (°C)									
Incubator Temperature (°C)		24.0	26.0	26.5	26.0	24.0	26.0	26.0		Max: 26.1
ANALYST		SM	MH	SM	SM	SM	SM	MH		Min: 24.2
TIME ANALYZED		1120	1435	1450	1430	1415	1430	1445		Range: 1.9
Environmental Chamber		✓	✓	✓	✓	✓	✓	✓		Mean: 25.2 ± 1.0

Data Checked and Approved by Laboratory Manager (Initials): AR/m

CERIODAPHNIA DUBIA 3-BROOD CHRONIC TOXICITY TEST BENCH SHEET

PAGE 2/2

START Date/Time 4/30/19 1405

FINISH Date/Time 5/7/19 1330

Dilution Water: MH ReCan

Test Substance: Pond water 013 Effluent

Client/Project: Tri-Stage NH419-013

Begun By: Sn

Conc.	day	Replicate										D.O. (mg/L)	Analyst	Time Renewed and Fed	NOTES: 4 Dead/undeveloped neonates, number not counted		
		A	B	C	D	E	F	G	H	I	J						
60	1	0									0	7.5	KG	1310			
	2	0									0	7.0	Sn	1420			
	3	0									0	7.9	KG	1225			
	4	7	6	7	8	8	6 ^Δ	4	8	6	7	7.3	KG	1250			
	5	5	8	10	5	7	7	12	6	9	0	7.1	BK	1315			
	6	0				0	21	17	18	13	0 ^d	7.0	KG	1400			
	7	15	18	16	12	4 ^Δ	0			0		-	MH	1330			
	8																
TOTALS		27	32	33	25	19	34	33	32	28	7d				9	—	27.0 ± 8.4

Conc.	day	Replicate										D.O. (mg/L)	Analyst	NOTES:	
		A	B	C	D	E	F	G	H	I	J				
80	1	0									0	7.7	KG		
	2	0									0	7.2	SK		
	3	0									0	7.9	KG		
	4	5	4	8	0	6	7	8	7	6	7	7.1	KG		
	5	7	7	9	8	4	5	5	6	5	6	7.0	BK		
	6	17	11	0	10	0	0	1	6	18	0	7.2	KG		
	7	0	0	17	0	10	20	20	0	0	13	-	MH		
	8													# live adults	normalized reproduction ± S.D.
TOTALS		29	22	34	18	20	32	34	19	29	26			10	26.3 ± 6.2

Conc.	day	Replicate										D.O. (mg/L)	Analyst	NOTES:			
		A	B	C	D	E	F	G	H	I	J						
100	1	0									0	8.7	KG	Δ Dead / undeveloped neonates. Number not counted			
	2	0									0	7.7	Sn				
	3	0									0	10.4	KG				
	4	6	0	0	5	7	6	0	7	3	1	8.6	KG				
	5	5	2	5	6	4	7	4	5	6	7	7.8	BK	Summarized Results:			
	6	5	1	0	6	0	13	0	7	9	10	7.6	KG				
	7	0 ^Δ	13	0 ^Δ	0	12	0	0 ^Δ	0	0	8	—	MH			# live adults	normalized reproduction ± S.D.
	8																
TOTALS		16	16	5	17	23	26	4	19	18	26			10	17.0 ± 7.6		

Board Used	4/22 Cup 1 4/23									
	9	15	20	24	30	34	44	3	30	31

Date/time adults isolated	4/30/19 600/640
Date/time neonates harvested	4/30/19 1230/1240

Template number 6

Data Checked and Approved by Laboratory Manager (Initials): AR/M

FATHEAD MINNOW 7-DAY CHRONIC TOXICITY TEST BENCH SHEET

START Date/Time 4/30/19 1310

FINISH Date/Time 5/6/19 1230

Dilution Water: MH Recon

Test Substance: Pond water 013 Effluent

Client/Project: Tri-State NH419-013

Begun By: KG

CONCENTRATION & REPLICATE		Number alive/day of test								# alive # exposed (% survival)	COMMENTS
		Start	1	2	3	4	5	6	7		
0	A	10	10	9	9	9	9	8	8	32/40 80%	# Tech error MG
	B	10	10	10	9	9	9	9	9		
	C	10	10	9	9	8	8	8	7		
	D	10	10	8	8	8	8	8	8		
20	A	10	10	10	6	6	6	6	6	26/40 65%	
	B	10	10	10	10	10	9	7	7		
	C	10	10	9	7	7	6	6	6		
	D	10	10	8	8	8	8	8	7		
40	A	10	10	8	8	8	8	8	8	29/40 72.5%	
	B	10	10	10	8	8	8	8	8		
	C	10	10	10	7	6	6	6	6		
	D	10	10	9	8	8	7	7	7		
60	A	10	10	9	9	9	9	8	8	25/40 62.5%	
	B	10	10	10	9	8	8	8	8		
	C	10	10	8	7	7	7	7	7		
	D	10	9	9	9	7	2	2	2		
80	A	10	10	9	8	8	8	8	7	19/40 47.5%	
	B	10	10	9	7	6	6	6	5		
	C	10	10	7	7	7	6	4	4		
	D	10	10	7	5	5	4	4	3		
100	A	10	10	9	9	8	8	8	7	19/40 47.5%	
	B	10	10	9	9	9	9	9	8		
	C	10	10	6	5	1	1	1	1		
	D	10	10	8	6	5	3	3	3		
	A										
	B										
	C										
	D										
ANALYST		KG	KG	SM	KG	KG	SM	KG	MH	Day 1 - Growth present - all bowls except 0's white and stringy. Day 2 - Growth present - in 40-100% treatments	
TIME FED AM		840	840	835	835	735	755	830	-		
TIME FED PM		1720	1540	1635	1630	1625	1635	1725	-		
TIME RENEWED		1310	1110	1335	1415	1350	1340	1610	1230		

Template Number 10

Data Checked and Approved by Laboratory Manager (Initials): AR/m

FATHEAD MINNOW 7-DAY CHRONIC TOXICITY WEIGHT BENCH SHEET

DRYING START Date/Time 5/7/19 1320 Temp. 60.0 °C END Date/Time 5/8/19 1350 Temp. 60.0 °C

Client/Project: Tri State 013 NH419-013 Analyst: MH

CONTROLS & REPLICATE	Larvae Wt. (g)	# FISH		MEAN WT Weight/Surviving Fish/Rep (mg)	MEAN WT Mean Weight/Surv. Fish (mg) ± SD	GROWTH Weight/Fish Exposed/Rep (mg)	GROWTH Mean Wt/fish exp. (mg) ± SD
		BEGIN	END				
0	A	0.00467	10	8	0.584	0.551 ± 0.043	0.467 0.443 0.409 0.436
	B	0.00443	10	9	0.492		
	C	0.00409	10	7	0.584		
	D	0.00436	10	8	0.545		
A							
B							
C							
D							
CONCENTRATION & REPLICATE	Larvae Wt. (g)	# Fish Begin		GROWTH Weight/Fish Exposed/Rep (mg)		GROWTH Mean Weight/Fish Exposed (mg) ± SD	
20	A	0.00363	10		0.363	0.401 ± 0.051	
	B	0.00351	10		0.351		
	C	0.00450	10		0.450		
	D	0.00439	10		0.439		
40	A	0.00416	10		0.416	0.395 ± 0.027	
	B	0.00374	10		0.374		
	C	0.00370	10		0.370		
	D	0.00420	10		0.420		
60	A	0.00396	10		0.396	0.330 ± 0.121	
	B	0.00380	10		0.380		
	C	0.00393	10		0.393		
	D	0.00149	10		0.149		
80	A	0.00283	10		0.283	0.264 ± 0.034	
	B	0.00299	10		0.299		
	C	0.00251	10		0.251		
	D	0.00222	10		0.222		
100	A	0.00321	10		0.321	0.243 ± 0.156	
	B	0.00416	10		0.416		
	C	0.00067	10		0.067		
	D	0.00166	10		0.166		
A							
B							
C							
D							

Data Checked and Approved by Laboratory Manager (Initials): AR/m

CETIS Summary Report

013

Report Date: 21 May-19 08:35 (p 1 of 1)
Test Code/ID: 11754DBA / 02-9290-0282

Ceriodaphnia 7-d Survival and Reproduction Test

GEI Consultants, Inc

Batch ID: 15-1535-7993	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 30 Apr-19 14:05	Protocol: EPA/821/R-02-013 (2002)	Diluent: Mod-Hard Synthetic Water
Ending Date: 07 May-19 13:30	Species: Ceriodaphnia dubia	Brine:
Test Length: 6d 23h	Taxon: Branchiopoda	Source: In-House Culture Age:
Sample ID: 01-3708-6750	Code: NH419-013	Project: Special Studies
Sample Date: 29 Apr-19 11:25	Material: Mining Effluent	Source: Special Studies
Receipt Date: 30 Apr-19 09:20	CAS (PC):	Station:
Sample Age: 27h (1.5 °C)	Client: Tri State New Horizon Mine	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	TU	PMSD	S
21-0666-8593	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test		100	>100	n/a	1	n/a	1
04-5606-6195	Reproduction	Dunnett Multiple Comparison Test		20	40	28.28	5	19.5%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	%	95% LCL	95% UCL	TU	S
13-7503-7260	7d Survival Rate	Linear Interpolation (ICPIN)		EC5	>100	n/a	n/a	<1	1
				EC10	>100	n/a	n/a	<1	
				EC15	>100	n/a	n/a	<1	
				EC20	>100	n/a	n/a	<1	
				EC25	>100	n/a	n/a	<1	
				EC40	>100	n/a	n/a	<1	
				EC50	>100	n/a	n/a	<1	
07-6110-4071	Reproduction	Linear Interpolation (ICPIN)	✓	IC5	8.556	4.511	34.3	11.69	1
			✓	IC10	17.11	9.022	45.37	5.844	
			✓	IC15	26.54	13.53	54.14	3.768	
			✓	IC20	36.41	18.04	66.97	2.746	
			✓	IC25	47.9	27.2	81.97	2.088	
			✓	IC40	86.88	58.87	92.79	1.151	
			✓	IC50	95.16	87.77	n/a	1.051	

Test Acceptability

TAC Limits

Analysis ID	Endpoint	Attribute	Test Stat	Lower	Upper	Overlap	Decision
13-7503-7260	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
21-0666-8593	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
04-5606-6195	Reproduction	Control Resp	38.5	15	>>	Yes	Passes Criteria
07-6110-4071	Reproduction	Control Resp	38.5	15	>>	Yes	Passes Criteria
04-5606-6195	Reproduction	PMSD	0.1951	0.13	0.47	Yes	Passes Criteria

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
20		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
40		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
60		10	0.9000	0.6738	1.0000	0.0000	1.0000	0.1000	0.3162	35.14%	10.00%
80		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	10	38.5	33.51	43.49	25	48	2.207	6.98	18.13%	0.00%
20		10	34	30.16	37.84	27	44	1.7	5.375	15.81%	11.69%
40		10	30.1	23.77	36.43	16	41	2.799	8.85	29.40%	21.82%
60		10	27	20.97	33.03	7	34	2.667	8.433	31.23%	29.87%
80		10	26.3	21.86	30.74	18	34	1.961	6.201	23.58%	31.69%
100		10	17	11.57	22.43	4	26	2.399	7.587	44.63%	55.84%

CETIS Summary Report

013

Lower NOEC/LOEC

Report Date: 21 May-19 08:37 (p 1 of 1)
Test Code/ID: 6DFC6E6A / 18-4525-9882

Fathead Minnow 7-d Larval Survival and Growth Test

GEI Consultants, Inc

Batch ID: 16-1675-3961	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Apr-19 13:10	Protocol: EPA/821/R-02-013 (2002)	Diluent: Mod-Hard Synthetic Water
Ending Date: 07 May-19 12:30	Species: Pimephales promelas	Brine:
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age:
Sample ID: 20-9059-6046	Code: NH419-013	Project: Special Studies
Sample Date: 29 Apr-19 11:25	Material: Mining Effluent	Source: Special Studies
Receipt Date: 30 Apr-19 09:20	CAS (PC):	Station:
Sample Age: 26h (1.5 °C)	Client: Tri State New Horizon Mine	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	TU	PMSD	S
12-2802-1333	7d Survival Rate	Dunnett Multiple Comparison Test	100	>100	n/a	1	42.8%	1
12-9862-5631	Mean Dry Biomass-mg	Steel Many-One Rank Sum Test	40	60	48.99	2.5	33.2%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
08-0340-5994	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC5	7.111	2.987	62.67	14.06	1
			✓ EC10	14.22	5.973	93.35	7.031	
			✓ EC15	42.4	n/a	85.39	2.358	
			EC20	55.2	n/a	92.58	1.812	
			EC25	63.33	33.45	n/a	1.579	
			✓ EC40	79.33	41.33	n/a	1.261	
			✓ EC50	>100	n/a	n/a	<1	
04-8964-0210	Mean Dry Biomass-mg	Linear Interpolation (ICPIN)	IC5	11.55	3.353	58.47	8.661	1
			IC10	40.04	n/a	74.5	2.498	
			IC15	46.74	2.8	76.66	2.14	
			✓ IC20	53.44	38.66	79.29	1.871	
			✓ IC25	60.13	39.87	89.72	1.663	
			IC40	80.47	41.66	n/a	1.243	
			✓ IC50	>100	n/a	n/a	<1	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
08-0340-5994	7d Survival Rate	Control Resp	0.8	0.8	>>	Yes	Passes Criteria
12-2802-1333	7d Survival Rate	Control Resp	0.8	0.8	>>	Yes	Passes Criteria
04-8964-0210	Mean Dry Biomass-mg	Control Resp	0.4388	0.25	>>	Yes	Passes Criteria
12-9862-5631	Mean Dry Biomass-mg	Control Resp	0.4388	0.25	>>	Yes	Passes Criteria
12-9862-5631	Mean Dry Biomass-mg	PMSD	0.3318	0.12	0.3	Yes	Above Criteria

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	4	0.8000	0.6701	0.9299	0.7000	0.9000	0.0408	0.0817	10.21%	0.00%
20		4	0.6500	0.5581	0.7419	0.6000	0.7000	0.0289	0.0577	8.88%	18.75%
40		4	0.7250	0.5727	0.8773	0.6000	0.8000	0.0479	0.0957	13.21%	9.37%
60		4	0.6250	0.1680	1.0000	0.2000	0.8000	0.1436	0.2872	45.96%	21.88%
80		4	0.4750	0.2032	0.7468	0.3000	0.7000	0.0854	0.1708	35.95%	40.63%
100		4	0.4750	0.0000	1.0000	0.1000	0.8000	0.1652	0.3304	69.56%	40.63%

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	4	0.4388	0.4008	0.4767	0.409	0.467	0.01193	0.02387	5.44%	0.00%
20		4	0.4007	0.3197	0.4818	0.351	0.45	0.02548	0.05095	12.71%	8.66%
40		4	0.395	0.3526	0.4374	0.37	0.42	0.01333	0.02666	6.75%	9.97%
60		4	0.3295	0.1377	0.5213	0.149	0.396	0.06027	0.1205	36.58%	24.90%
80		4	0.2637	0.2093	0.3182	0.222	0.299	0.01712	0.03425	12.98%	39.89%
100		4	0.2425	-0.005576	0.4906	0.067	0.416	0.07795	0.1559	64.29%	44.73%

CETIS Summary Report

013

Higher NOEC/LOEC

Report Date: 21 May-19 08:37 (p 1 of 1)
Test Code/ID: 6DFC6E6A / 18-4525-9882

Fathead Minnow 7-d Larval Survival and Growth Test

GEI Consultants, Inc

Batch ID: 16-1675-3961	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Apr-19 13:10	Protocol: EPA/821/R-02-013 (2002)	Diluent: Mod-Hard Synthetic Water
Ending Date: 07 May-19 12:30	Species: Pimephales promelas	Brine:
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age:
Sample ID: 20-9059-6046	Code: NH419-013	Project: Special Studies
Sample Date: 29 Apr-19 11:25	Material: Mining Effluent	Source: Special Studies
Receipt Date: 30 Apr-19 09:20	CAS (PC):	Station:
Sample Age: 26h (1.5 °C)	Client: Tri State New Horizon Mine	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	TU	PMSD	S
12-2802-1333	7d Survival Rate	Dunnett Multiple Comparison Test	100	>100	n/a	1	42.8%	1
17-7414-9785	Mean Dry Biomass-mg	Steel Many-One Rank Sum Test	100	>100	n/a	1	33.2%	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
08-0340-5994	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC5	7.111	2.987	62.67	14.06	1
			✓ EC10	14.22	5.973	93.35	7.031	
			✓ EC15	42.4	n/a	85.39	2.358	
			EC20	55.2	n/a	92.58	1.812	
			EC25	63.33	33.45	n/a	1.579	
			✓ EC40	79.33	41.33	n/a	1.261	
			✓ EC50	>100	n/a	n/a	<1	
19-5384-7857	Mean Dry Biomass-mg	Linear Interpolation (ICPIN)	IC5	11.55	3.159	57.57	8.661	1
			IC10	40.04	n/a	73.35	2.498	
			IC15	46.74	2.219	75.5	2.14	
			✓ IC20	53.44	36.84	78.32	1.871	
			✓ IC25	60.13	39.68	82.57	1.663	
			IC40	80.47	43.05	n/a	1.243	
			✓ IC50	>100	n/a	n/a	<1	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
08-0340-5994	7d Survival Rate	Control Resp	0.8	0.8	>>	Yes	Passes Criteria
12-2802-1333	7d Survival Rate	Control Resp	0.8	0.8	>>	Yes	Passes Criteria
17-7414-9785	Mean Dry Biomass-mg	Control Resp	0.4388	0.25	>>	Yes	Passes Criteria
19-5384-7857	Mean Dry Biomass-mg	Control Resp	0.4388	0.25	>>	Yes	Passes Criteria
17-7414-9785	Mean Dry Biomass-mg	PMSD	0.3318	0.12	0.3	Yes	Above Criteria

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	4	0.8000	0.6701	0.9299	0.7000	0.9000	0.0408	0.0817	10.21%	0.00%
20		4	0.6500	0.5581	0.7419	0.6000	0.7000	0.0289	0.0577	8.88%	18.75%
40		4	0.7250	0.5727	0.8773	0.6000	0.8000	0.0479	0.0957	13.21%	9.37%
60		4	0.6250	0.1680	1.0000	0.2000	0.8000	0.1436	0.2872	45.96%	21.88%
80		4	0.4750	0.2032	0.7468	0.3000	0.7000	0.0854	0.1708	35.95%	40.63%
100		4	0.4750	0.0000	1.0000	0.1000	0.8000	0.1652	0.3304	69.56%	40.63%

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	4	0.4388	0.4008	0.4767	0.409	0.467	0.01193	0.02387	5.44%	0.00%
20		4	0.4007	0.3197	0.4818	0.351	0.45	0.02548	0.05095	12.71%	8.66%
40		4	0.395	0.3526	0.4374	0.37	0.42	0.01333	0.02666	6.75%	9.97%
60		4	0.3295	0.1377	0.5213	0.149	0.396	0.06027	0.1205	36.58%	24.90%
80		4	0.2637	0.2093	0.3182	0.222	0.299	0.01712	0.03425	12.98%	39.89%
100		4	0.2425	-0.005576	0.4906	0.067	0.416	0.07795	0.1559	64.29%	44.73%

COLORADO – CDPS WET TEST REPORT FORM – CHRONIC

 PERMITEE NAME: Tri State, NH2 Mine

 CDPS NO: CO-0000213

 OUTFALL: 013

 TYPE TEST: ROUTINE ☒

ACCELERATED

 TEST SPECIES: Ceriodaphnia dubia

Test Results:

Lethality

Growth

Reproduction

CONC. WITH STAT. DIFFERENCE	>100%	NA	40%
PASS/FAIL	PASS	NA	FAIL
NOEC	100%	NA	20%
PASS/FAIL	PASS	NA	FAIL
IC ₂₅	>100%	NA	47.9% (95% C.I. 27.2 to 82.0)
PASS/FAIL	PASS	NA	FAIL

STAT. METHOD USED: STATISTICAL DIFF.:

NOEC, LC₅₀
IC₂₅
ICp METHOD

TEST DATE/TIME: START

4/30/19 14:05

END

5/7/19 13:30

DILUTIONS (%EFFLUENT)

	CONTROL	20%	40%	60%	80%	100%
% SURVIVAL FOR DAY: 1	100	100	100	100	100	100
2	100	100	100	100	100	100
3	100	100	100	100	100	100
4	100	100	100	100	100	100
5	100	100	100	100	100	100
6	100	100	100	90	100	100
7	100	100	100	90	100	100
MEAN 3 BROOD TOTAL:	38.5	34.0	30.1	27.0	26.3	17.0
7 DAY MEAN DRY WEIGHT:						
pH MAX/MIN:	8.66/8.47	8.64/8.54	8.46/8.37	8.33/8.26	8.26/8.19	8.23/8.16

 MEAN HARDNESS (mg/L) RECEIVING WATER: NA EFFLUENT: 2037 RECON WATER: 97

 MEAN ALKALINITY (mg/L) RECEIVING WATER: NA EFFLUENT: 409 RECON WATER: 68

 MEAN T. AMMONIA as N (mg/L) INITIAL EFFLUENT: 0.55 FINAL EFFLUENT: NA

 MEAN T. RESIDUAL CHLORINE (mg/L) 100%: <0.02 RECEIVING WATER USED FOR DILUTIONS? (Y/N) N

 WERE ALL TEST CONDITIONS IN CONFORMANCE WITH DIVISION GUIDELINES? (Y/N) Y

IF NO, LIST DEVIATIONS FROM TEST SPECIFICATIONS:

 ANALYST: Natalie Love

SIGNATURE:



 LABORATORY: GEI Consultants, Inc./Ecological Division

DATE:

7/9/19

 COMMENTS: Test temperature differed by 3.9°C.

COLORADO – CDPS WET TEST REPORT FORM – CHRONIC

 PERMITEE NAME: Tri State, NH2 Mine

 CDPS NO: CO-0000213

 OUTFALL: 013

 TYPE TEST: ROUTINE ☒

ACCELERATED

 TEST SPECIES: Pimephales promelas

Test Results:

Lethality

Growth

Reproduction

CONC. WITH STAT. DIFFERENCE	>100%	60%	NA
PASS/FAIL	PASS	FAIL	NA
NOEC	100%	40%	NA
PASS/FAIL	PASS	FAIL	NA
IC ₂₅	63.3% (95% C.I. unavailable)	60.1% (95% C.I. 39.9 to 89.7)	NA
PASS/FAIL	FAIL	FAIL	NA

STAT. METHOD USED: STATISTICAL DIFF.:

NOEC, LC₅₀
IC₂₅
ICp METHOD

 TEST DATE/TIME: START 4/30/19 13:10

END

5/7/19 12:30

DILUTIONS (%EFFLUENT)

	CONTROL	20%	40%	60%	80%	100%
% SURVIVAL FOR DAY: 1	100	100	100	97.5	100	100
2	90	92.5	92.5	90	80	80
3	87.5	77.5	77.5	85	67.5	72.5
4	85	77.5	75	77.5	65	57.5
5	85	72.5	72.5	65	60	52.5
6	80	67.5	72.5	62.5	55	52.5
7	80	65	72.5	62.5	47.5	47.5
MEAN 3 BROOD TOTAL:						
7 DAY MEAN DRY WEIGHT:	0.439	0.401	0.395	0.330	0.264	0.243
pH MAX/MIN:	8.27/7.71	8.18/8.03	8.23/8.14	8.11/8.04	7.98/7.93	7.93/7.88

 MEAN HARDNESS (mg/L) RECEIVING WATER: NA EFFLUENT: 2037 RECON WATER: 97

 MEAN ALKALINITY (mg/L) RECEIVING WATER: NA EFFLUENT: 409 RECON WATER: 68

 MEAN T. AMMONIA as N (mg/L) INITIAL EFFLUENT: 0.55 FINAL EFFLUENT: NA

 MEAN T. RESIDUAL CHLORINE (mg/L) 100%: <0.02 RECEIVING WATER USED FOR DILUTIONS? (Y/N) N

 WERE ALL TEST CONDITIONS IN CONFORMANCE WITH DIVISION GUIDELINES? (Y/N) Y

IF NO, LIST DEVIATIONS FROM TEST SPECIFICATIONS:

 ANALYST: Natalie Love

SIGNATURE:



 LABORATORY: GEI Consultants, Inc./Ecological Division

DATE:

7/9/19

COMMENTS:

GEI Consultants, Inc./Ecological Division
4601 DTC BLVD., SUITE L100
DENVER, CO 80237
Main: (303) 662-0100 Lab: (303) 264-1120

NH419-013-1
+ Pond
kg

BIOASSAY LABORATORY CHAIN-OF-CUSTODY

CLIENT/PROJECT <u>POND 013/ERM</u> ADDRESS <u>27646 W 5th</u> CITY <u>Neur</u> STATE <u>CO</u> ZIP <u>81424</u> PHONE # <u>970.864.1073</u> PROJ. MANAGER <u>C. JOHNSON</u> SAMPLER <u>TFRy</u>			TESTS REQUIRED <table border="1"> <tr> <th colspan="4">ACUTE</th> <th colspan="4">CHRONIC</th> </tr> <tr> <td>C E R I O</td> <td>F A T H E A D</td> <td>D A P H N I A</td> <td>T R O U T</td> <td>C E R I O</td> <td>F A T H E A D</td> <td>A L G A E</td> <td>O T H E R</td> </tr> </table>								ACUTE				CHRONIC				C E R I O	F A T H E A D	D A P H N I A	T R O U T	C E R I O	F A T H E A D	A L G A E	O T H E R	CHLORINE Measured by: Client ☐ Lab ☒		
ACUTE				CHRONIC																									
C E R I O	F A T H E A D	D A P H N I A	T R O U T	C E R I O	F A T H E A D	A L G A E	O T H E R																						
SAMPLE TYPE/SITE	Date Collected	Time Collected								TRC (mg/L)	Date/Time Measured	COMMENTS:																	
<u>NPDRS013</u>	<u>4-29-19</u>	<u>1125</u>					<u>✓</u>	<u>✓</u>		<u>0.02</u>	<u>4/30/19 930</u>																		
PROJECT INFORMATION			LABORATORY RECEIVING INFORMATION					CLIENT RELINQUISHED BY: <u>TFRy</u> DATE/TIME: <u>4.29.19 / 1230</u>																					
COURIER: <u>UPS</u>			CONDITION: <u>Good</u>					LABORATORY RECEIVED BY: <u>[Signature]</u> <u>9205</u>																					
TOTAL NUMBER OF CONTAINERS:			TEMPERATURE (°C): <u>1.5</u>					DATE/TIME: <u>4/30/19 920</u>																					
COMMENTS <u>3-1 GAL</u>																													

GEI Consultants, Inc./Ecological Division
4601 DTC BLVD., SUITE L100
DENVER, CO 80237
Main: (303) 662-0100 Lab: (303) 264-1120

NH 419-⁰⁶2 013-2 BIOASSAY LABORATORY CHAIN-OF-CUSTODY

CLIENT/PROJECT <u>ERM/R / OUTFALL 013</u> ADDRESS <u>27646 W 5TH</u> CITY <u>NUCLA</u> STATE <u>CO</u> ZIP <u>81424</u> PHONE # <u>970 864 1072</u> PROJ. MANAGER <u>C JOHNSON</u> SAMPLER <u>T Fry / M Seckels</u>			TESTS REQUIRED <table border="1"> <tr> <th colspan="4">ACUTE</th> <th colspan="4">CHRONIC</th> </tr> <tr> <td>C</td><td>F</td><td>D</td><td>T</td> <td>C</td><td>F</td><td>A</td><td>O</td> </tr> <tr> <td>E</td><td>A</td><td>A</td><td>R</td> <td>E</td><td>A</td><td>L</td><td>T</td> </tr> <tr> <td>R</td><td>T</td><td>P</td><td>O</td> <td>R</td><td>T</td><td>G</td><td>H</td> </tr> <tr> <td>I</td><td>H</td><td>H</td><td>U</td> <td>I</td><td>H</td><td>A</td><td>E</td> </tr> <tr> <td>O</td><td>E</td><td>N</td><td>T</td> <td>O</td><td>E</td><td>E</td><td>R</td> </tr> <tr> <td></td><td>A</td><td>I</td><td></td> <td></td><td>A</td><td></td><td></td> </tr> <tr> <td></td><td>D</td><td>A</td><td></td> <td></td><td>D</td><td></td><td></td> </tr> </table>								ACUTE				CHRONIC				C	F	D	T	C	F	A	O	E	A	A	R	E	A	L	T	R	T	P	O	R	T	G	H	I	H	H	U	I	H	A	E	O	E	N	T	O	E	E	R		A	I			A				D	A			D			CHLORINE Measured by: Client ☐ Lab ☒		COMMENTS:
ACUTE				CHRONIC																																																																									
C	F	D	T	C	F	A	O																																																																						
E	A	A	R	E	A	L	T																																																																						
R	T	P	O	R	T	G	H																																																																						
I	H	H	U	I	H	A	E																																																																						
O	E	N	T	O	E	E	R																																																																						
	A	I			A																																																																								
	D	A			D																																																																								
SAMPLE TYPE/SITE	Date Collected	Time Collected								TRC (mg/L)	Date/Time Measured																																																																		
<u>OUTFALL 013</u>	<u>5.1.19</u>	<u>0735</u>					☒	☒		<u>10.02</u>	<u>5/2/19 950</u>																																																																		
PROJECT INFORMATION		LABORATORY RECEIVING INFORMATION		CLIENT RELINQUISHED BY: <u>[Signature]</u>																																																																									
COURIER:		CONDITION: <u>Good</u>		DATE/TIME: <u>5.1.19 / 1230</u>																																																																									
TOTAL NUMBER OF CONTAINERS:		TEMPERATURE (°C): <u>2.0</u>		LABORATORY RECEIVED BY: <u>[Signature]</u>																																																																									
COMMENTS				DATE/TIME: <u>5/2/19</u> <u>940</u>																																																																									

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DENVER, CO 80237
Main: (303) 662-0100 Lab: (303) 264-1120

NH419-013-3

BIOASSAY LABORATORY CHAIN-OF-CUSTODY

CLIENT/PROJECT <u>ERM/ outfall 013</u> ADDRESS <u>27046 W 5th Ave.</u> CITY <u>NucLa</u> STATE <u>CO</u> ZIP <u>81424</u> PHONE # <u>970-864-1072</u> PROJ. MANAGER <u>C Johnson</u> SAMPLER <u>Mindy Sickels</u>			TESTS REQUIRED								CHLORINE Measured by: Client ☐ Lab ☒		
			ACUTE				CHRONIC						
			C E R I O	F A T H E A D	D A P H N I A	T R O U T	C E R I O	F A T H E A D	A L G A E	O T H E R			
SAMPLE TYPE/SITE	Date Collected	Time Collected									TRC (mg/L)	Date/Time Measured	COMMENTS:
outfall 013	5-2-19	10:45					✓	✓			0.02	5/3/19 ^{10:10} 9:30 _{10:45}	3G
PROJECT INFORMATION			LABORATORY RECEIVING INFORMATION						CLIENT RELINQUISHED BY: <u>12:30 Mindy Sickels</u>				
COURIER:			CONDITION: <u>Good</u>						DATE/TIME: <u>5-2-19/10 12:30</u>				
TOTAL NUMBER OF CONTAINERS:			TEMPERATURE (°C): <u>5.0</u>						LABORATORY RECEIVED BY: <u>Kate Johnson</u>				
COMMENTS									DATE/TIME: <u>5/3/19 930</u>				

GEI Consultants, Inc./Ecological Division
4601 DTC BLVD., SUITE L100
DENVER, CO 80237
Main: (303) 662-0100 Lab: (303) 264-1120

NH419-3

BIOASSAY LABORATORY CHAIN-OF-CUSTODY

CLIENT/PROJECT <u>ERM/R/DAKOTA SPRINGS</u> ADDRESS <u>27646 W 5TH</u> CITY <u>NOLA</u> STATE <u>CO</u> ZIP <u>81424</u> PHONE # <u>864-1072</u> PROJ. MANAGER <u>C. JOHNSON</u> SAMPLER <u>TF/MS</u>			TESTS REQUIRED								CHLORINE Measured by: Client ☐ Lab ☒		
			ACUTE				CHRONIC						
			C E R I O	F A T H E A D	D A P H N I A	T R O U T	C E R I O	F A T H E A D	A L G A E	O T H E R			
SAMPLE TYPE/SITE	Date Collected	Time Collected									TRC (mg/L)	Date/Time Measured	COMMENTS:
OUTFALL 013	5.2.19	1045					✓	✓			40.02	5/3/19	IG
IRRIGATION	5.2.19	1105					✓	✓			0.02	5/3/19	IG
PROJECT INFORMATION		LABORATORY RECEIVING INFORMATION				CLIENT RELINQUISHED BY: <u>[Signature]</u> <u><TRAY></u>							
COURIER:		CONDITION: <u>Good</u>				DATE/TIME: <u>1230 / 5.2.19</u>							
TOTAL NUMBER OF CONTAINERS:		TEMPERATURE (°C): <u>4.0</u>				LABORATORY RECEIVED BY: <u>Rita Greener</u>							
COMMENTS						DATE/TIME: <u>5/3/19 930</u>							