



MEMORANDUM

Date: April 15, 2024

To: Leigh Simmons, DRMS

From: Hunter Ridley, DRMS

RE: Colowyo Coal Mine, Permit No. C-1981-019, Point of Compliance Data Review

On October 3, 2021, the Division of Reclamation, Mining and Safety (Division) approved the Technical Revision No. 148 application from Colowyo Coal Company L.P. (Colowyo) for the Colowyo Coal Mine. The purpose of TR-148 was to seek approval for the installation of two alluvial groundwater point of compliance (POC) wells and to remove Stipulation No. 7 (ST-07) from the permit. You assisted in the original review of TR-148 and Colowyo's POC standards. Since the approval of TR-148, Colowyo has provided the Division with well data beginning in January of 2022 and continuing through March of 2024 (see enclosed POC notification documents).

Currently, the Division's stance is that Phase III bond release requests at the Colowyo Coal Mine cannot be approved until the Division determines that mining activities have had no detrimental impact on the hydrologic balance, pursuant to regulations set forth under Rule 4.05.

Therefore, I am requesting your technical expertise in reviewing the enclosed POC data to assist the Division in determining whether the information presented demonstrates that the site is in compliance with all applicable Rules under 4.05 and that disturbances to the hydrologic balance are being properly minimized. Please submit your review comments by May 17, 2024 in the form of a Memorandum on Division letterhead. If you need more time, let me know. Feel free to reach out if you have any additional questions.

Sincerely,
Hunter C. Ridley

Encl: POC Notification data, January 2022 through March 2024

Cc: Zach Trujillo, DRMS
Amy Eschberger, DRMS





March 11, 2024

Mr. Zach Trujillo
Environmental Protection Specialist
Colorado Division of Reclamation, Mining & Safety
Department of Natural Resources
1313 Sherman Street, Room 215
Denver, CO 80203

**RE: Colowyo Coal Company L.P.
Points of Compliance Wells Notification**

Dear Mr. Trujillo,

Tri-State Generation and Transmission Association Inc. (Tri-State), is the parent company to Axial Basin Coal Company, which is the general partner to Colowyo Coal Company L.P. (Colowyo). Therefore, Tri-State on behalf of Colowyo, and in accordance with Rule 4.05.13(1)(c)(i), is providing this notification for elevated sampling results at a point of compliance wells for Colowyo.

Wells LGSW-1 and LWCW-1 were sampled on February 19, 2024, and analytical results were received from the laboratory on March 7, 2024. Table 16 in Volume 2C, Exhibit 7, Item 19 provides the applicable ground water standards for Colowyo. Per the analytical results received, parameters at LGSW-1 and LWCW-1 exceeded the permit standard as presented on the following table.

Sampling Location	Parameter	March 7, 2024 Analytical Results	Table 16 Standard
LGSW-1	Iron	0.353 mg/l	0.3 mg/l
LWCW-1	Iron	2.11 mg/l	0.3 mg/l
LWCW-1	Manganese	1.19 mg/l	0.75 mg/l

Comparing the upgradient well NGSW to LGSW-1, NGSW also had elevated iron levels (0.409 mg/l) for the same sampling event. All other parameters were below water quality standards. This indicates that ground water quality up gradient and down gradient of Colowyo on Good Spring Creek was elevated for iron. Tri-State believes the elevated iron levels are more than likely associated with snow melting events as surface water data acquired from LGSC on the same sampling day was also elevated for iron (0.339 mg/l).

Comparing upgradient Gossard Well to LWCW-1 for this same sampling event, iron and manganese analytical results were both below the laboratory method detection limit. LTC surface water site was also attempted to be sampled on February 19, 2024, and no flow was available to acquire a sample. Colowyo does not have any ground or surface water sampling locations on Wilson Creek. Given these facts, the elevated sample results are possibly associated with elevated water quality in Wilson Creek due to recent snow melting events.



March 11, 2024

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If you should have any additional questions regarding this notification, please feel free to contact Tony Tennyson at (970) 824-1232.

Sincerely,

DocuSigned by:
Chris Gilbreath
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Chris Gilbreath
Senior Manager
Remediation and Reclamation

CG:TT

Enclosure

cc: Tony Tennyson (via email)
File: C. F. 17.20 2022
G471-11.3(21)h-1



May 24, 2023

Mr. Zach Trujillo
Environmental Protection Specialist
Colorado Division of Reclamation, Mining & Safety
Department of Natural Resources
1313 Sherman Street, Room 215
Denver, CO 80203

**RE: Colowyo Coal Company L.P.
Points of Compliance Wells Notification**

Dear Mr. Trujillo,

Tri-State Generation and Transmission Association Inc. (Tri-State), is the parent company to Axial Basin Coal Company, which is the general partner to Colowyo Coal Company L.P. (Colowyo). Therefore, Tri-State on behalf of Colowyo, and in accordance with Rule 4.05.13(1)(c)(i), is providing this notification for elevated sampling results at a point of compliance well for Colowyo.

Well LGSW-1 was sampled on May 8, 2023, and analytical results were received from the laboratory on May 23, 2023. Table 16 in Volume 2C, Exhibit 7, Item 19 provides the applicable ground water standards for Colowyo. Per the analytical results received, three parameters at LGSW-1 exceeded the permit standard as presented on the following table.

Sampling Location	Parameter	April 4, 2023 Analytical Results	Table 16 Standard
LGSW-1	Total Dissolved Solids (TDS)	2,630 mg/l	1,840 mg/l
LGSW-1	Sulfate	1,320 mg/l	997 mg/l
LGSW-1	Selenium	0.035 mg/l	0.02 mg/l

The sample taken on May 8, 2023, from LGSW-1 is the seventh sample acquired since the wells were drill and completed in late October of 2021. Colowyo did obtain several quarters of baseline data from temporary wells at the same locations that were monitored prior to permanent well installation. The baseline data for LGSW-1 provided a TDS concentration of 1,570 mg/l, with the average TDS concentration being 1,331 mg/l.

Comparing upgradient well NGSW for this same sampling event, TDS and sulfate were also elevated with TDS at 2,140 mg/l and sulfate at 897 mg/l. This indicates that ground water quality upgradient and downgradient of Colowyo on Good Spring Creek was elevated. The elevated TDS and sulfate on Good Spring Creek is more than likely due to spring precipitation (snow melt) as the northwest portion of Colorado has been experiencing substantial surface water runoff from snowmelt this spring due to a highly above average snowpack that occurred this past winter.



May 24, 2023

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If you should have any additional questions regarding this notification, please feel free to contact Tony Tennyson at (970) 824-1232.

Sincerely,

DocuSigned by:
Chris Gilbreath
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Chris Gilbreath
Senior Manager
Remediation and Reclamation

CG:TT:der

Enclosure

cc: Tony Tennyson (via email)
File: C. F. 17.20 2022
G471-11.3(21)h-1



April 10, 2023

Mr. Zach Trujillo
 Environmental Protection Specialist
 Colorado Division of Reclamation, Mining & Safety
 Department of Natural Resources
 1313 Sherman Street, Room 215
 Denver, CO 80203

**RE: Colowyo Coal Company L.P.
 Points of Compliance Wells Notification**

Dear Mr. Trujillo,

Tri-State Generation and Transmission Association Inc. (Tri-State), is the parent company to Axial Basin Coal Company, which is the general partner to Colowyo Coal Company L.P. (Colowyo). Therefore, Tri-State on behalf of Colowyo, and in accordance with Rule 4.05.13(1)(c)(i), is providing this notification for elevated sampling results at a point of compliance well for Colowyo.

Well LGSW-1 was sampled on March 21, 2023, and analytical results were received from the laboratory on April 4, 2023. Table 16 in Volume 2C, Exhibit 7, Item 19 provides the applicable ground water standards for Colowyo. Per the analytical results received, three parameters at LGSW-1 exceeded the permit standard as presented on the following table.

Sampling Location	Parameter	April 4, 2023 Analytical Results	Table 16 Standard
LGSW-1	Total Dissolved Solids (TDS)	2,620 mg/l	1,840 mg/l
LGSW-1	Sulfate	1,180 mg/l	997 mg/l
LGSW-1	Selenium	0.024 mg/l	0.02 mg/l

The sample taken on March 21, 2023, from LGSW-1 is the sixth sample acquired since the wells were drill and completed in late October of 2021. Colowyo did obtain several quarters of baseline data from temporary wells at the same locations that were monitored prior to permanent well installation. The baseline data for LGSW-1 provided a TDS concentration of 1,570 mg/l, with the average TDS concentration being 1,331 mg/l.

Comparison to upgradient well NGSW for this same sampling event, TDS and sulfate up gradient were also elevated with TDS being 2,060 mg/l and sulfate 915 mg/l. This indicates that ground water quality upgradient and downgradient of Colowyo on Good Spring Creek was elevated along the entire drainage. The elevated TDS and sulfate on Good Spring Creek is more than likely due to spring precipitation (snow melt).



April 10, 2023

Page 2

If you should have any additional questions regarding this notification, please feel free to contact Tony Tennyson at (970) 824-1232.

Sincerely,

DocuSigned by:

D250C711D0BF450...

Chris Gilbreath
Senior Manager
Remediation and Reclamation

CG:TT:der

Enclosure

cc: Tony Tennyson (via email)
File: C. F. 17.20 2022
G471-11.3(21)h-1



January 9, 2023

Mr. Zach Trujillo
Environmental Protection Specialist
Colorado Division of Reclamation, Mining & Safety
Department of Natural Resources
1313 Sherman Street, Room 215
Denver, CO 80203

**RE: Colowyo Coal Company L.P.
Points of Compliance Wells Notification**

Dear Mr. Trujillo,

Tri-State Generation and Transmission Association Inc. (Tri-State), is the parent company to Axial Basin Coal Company, which is the general partner to Colowyo Coal Company L.P. (Colowyo). Therefore, Tri-State on behalf of Colowyo, and in accordance with Rule 4.05.13(1)(c)(i), is providing this notification for elevated sampling results at a point of compliance well for Colowyo.

Well LGSW-1 was sampled on December 12, 2022, and analytical results were received from the laboratory on January 3, 2023. Table 16 in Volume 2C, Exhibit 7, Item 19 provides the applicable ground water standards for Colowyo. Per the analytical results received, one parameter at LGSW-1 exceeded the permit standard as presented on the following table.

Sampling Location	Parameter	December 12, 2022 Analytical Results	Table 16 Standard
LGSW-1	Total Dissolved Solids (TDS)	1,980 mg/l	1,840 mg/l

The sample taken on December 12, 2022, from LGSW-1 is the fifth sample acquired since the wells were drill and completed in late October of 2021. Colowyo did obtain several quarters of baseline data from temporary wells at the same locations that were monitored prior to permanent well installation. The baseline data for LGSW-1 provided a maximum TDS concentration of 1,570 mg/l, with the average TDS concentration being 1,331 mg/l.

Comparison to upgradient well NGSW for this same sampling event provided the same TDS value of 1,980 mg/l.

If you should have any additional questions regarding this notification, please feel free to contact Tony Tennyson at (970) 824-1232.



January 4, 2023

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Sincerely,

DocuSigned by:
Chris Gilbreath
D250C711D0BF450...

Chris Gilbreath
Senior Manager
Remediation and Reclamation

CG:TT:der

Enclosure

cc: Tony Tennyson (via email)
File: C. F. 17.20 2022
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September 27, 2022

Mr. Zach Trujillo
Environmental Protection Specialist
Colorado Division of Reclamation, Mining & Safety
Department of Natural Resources
1313 Sherman Street, Room 215
Denver, CO 80203

**RE: Colowyo Coal Company L.P.
Points of Compliance Wells Notification**

Dear Mr. Trujillo,

Tri-State Generation and Transmission Association Inc. (Tri-State), is the parent company to Axial Basin Coal Company, which is the general partner to Colowyo Coal Company L.P. (Colowyo). Therefore, Tri-State on behalf of Colowyo, and in accordance with Rule 4.05.13(1)(c)(i), is providing this notification for elevated sampling results at point of compliance wells for Colowyo.

Wells LGSW-1 and LWCW-1 were sampled on September 14, 2022, and analytical results were received from the laboratory on September 26, 2022. Table 16 in Volume 2C, Exhibit 7, Item 19 provides the applicable ground water standards for Colowyo. Per the analytical results received, one parameter at LGSW-1, and one parameter at LWCW-1, exceeded the permit standards as presented on the following tables.

Sampling Location	Parameter	September 26, 2022 Analytical Results	Table 16 Standard
LGSW-1	Total Dissolved Solids (TDS)	2,060 mg/l	1,840 mg/l
LWCW-1	Arsenic (dissolved)	0.021 mg/l	0.01 mg/l

The samples taken on September 26, 2022, from both wells, are the fourth samples acquired since the wells were drill and completed in late October of 2021. Colowyo did obtain several quarters of baseline data from temporary wells at the same locations that were monitored prior to permanent well installation.

The baseline data for LGSW-1 provided a maximum TDS concentration of 1,570 mg/l, with the average TDS concentration being 1,331 mg/l. Comparison to upgradient well NGSW for this same sampling event provided higher TDS values (2,140 mg/l), than the values presented herein for LGSW-1. The analytical results for the second quarter sampling, the same situation occurred where LGSW-1 analytical results, while elevated from the Table 16 standards, were lower than the upgradient NGSW analytical results.




September 27, 2022

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As for LWCW-1, the baseline data indicated that the maximum arsenic concentration was 0.002 mg/l, with the minimum and average values also being 0.002 mg/l. This elevated concentration from LWCW-1 appears to be an outlier in the data set at this time. Further sampling and analytical results from this well will provide Tri-State and Colowyo with a more robust dataset to analyze.

If you should have any additional questions regarding this notification, please feel free to contact Tony Tennyson at (970) 824-1232.

Sincerely,

DocuSigned by:

D250C711D0BF450...

Chris Gilbreath
Senior Manager
Remediation and Reclamation

CG:TT:der

Enclosure

cc: Tony Tennyson (via email)
File: C. F. 17.20 2022
G471-11.3(21)h-1



May 31, 2022

Mr. Zach Trujillo
 Environmental Protection Specialist
 Colorado Division of Reclamation, Mining & Safety
 Department of Natural Resources
 1313 Sherman Street, Room 215
 Denver, CO 80203

**RE: Colowyo Coal Company L.P.
 Points of Compliance Wells Notification**

Dear Mr. Trujillo,

Tri-State Generation and Transmission Association Inc. (Tri-State), is the parent company to Axial Basin Coal Company, which is the general partner to Colowyo Coal Company L.P. (Colowyo). Therefore, Tri-State on behalf of Colowyo, and in accordance with Rule 4.05.13(1)(c)(i), is providing this notification for elevated sampling results at a point of compliance well for the Colowyo.

Well LGSW-1 was sampled on May 11, 2022, and analytical results were received from the laboratory by Colowyo on May 25, 2022. Table 16 in Volume 2C, Exhibit 7, Item 19 provides the applicable ground water standards for Colowyo. Per the analytical results received, one parameter at LGSW-1 exceeded the permit standard as presented on the following table.

<u>LGSW-1</u>		
<i>Parameter</i>	<i>May 11, 2022 Analytical Results</i>	<i>Table 16 Standard</i>
Total Dissolved Solids (TDS)	2,010 mg/l	1,840 mg/l

The sample taken on May 11, 2022, from LGSW-1 is the third samples acquired since the well was drill and completed in late October of 2021. Colowyo did obtain several quarters of baseline data from a temporary well at the same location that was drilled and monitored prior to the installation of the permanent LGSW-1. This baseline data for LGSW-1 provided a maximum TDS concentration of 1,570 mg/l, with the average TDS concentration being 1,331 mg/l.

Comparison to baseline data indicates these sample results could be an outlier in the dataset for LGSW-1. Upgradient well NGSW—1 for this same sampling event provided higher TDS values (2,140 mg/l) which may indicate seasonal influences from spring runoff that has occurred during the months of April and May at and around the Colowyo Mine site. Further sampling and analytical results from this well will provide Tri-State and Colowyo with a more robust dataset to analyze.

If you should have any additional questions regarding this notification, please feel free to contact Tony Tennyson again at (970) 326-3560.



May 31, 2022

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Sincerely,

DocuSigned by:
Chris Gilbreath
D250C711D0BF450...

Chris Gilbreath
Senior Manager
Remediation and Reclamation

CG:TT:der

Enclosure

cc: Tony Tennyson (via email)
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April 6, 2022

Mr. Zach Trujillo
Environmental Protection Specialist
Colorado Division of Reclamation, Mining & Safety
Department of Natural Resources
1313 Sherman Street, Room 215
Denver, CO 80203

**RE: Colowyo Coal Company L.P.
Points of Compliance Wells Notification**

Dear Mr. Trujillo,

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Well LGSW-1 was sampled on March 22, 2022, and analytical results were received from the laboratory by Colowyo on April 5, 2022. Table 16 in Volume 2C, Exhibit 7, Item 19 provides the applicable ground water standards for Colowyo. Per the analytical results received, one parameter at LGSW-1 exceeded the permit standard as presented on the following table.

<u>LGSW-1</u>		
<i>Parameter</i>	<i>March 22, 2022 Analytical Results</i>	<i>Table 16 Standard</i>
Total Dissolved Solids (TDS)	1,870 mg/l	1,840 mg/l

The sample taken on March 22, 2022, from LGSW-1 is the second samples acquired since the well was drill and completed in late October of 2021. Colowyo did obtain several quarters of baseline data from a temporary well at the same location that was drilled and monitored prior to the installation of the permanent LGSW-1. This baseline data for LGSW-1 provided a maximum TDS concentration of 1,570 mg/l, with the average TDS concentration being 1,331 mg/l.

Comparison to baseline data indicates the December 14, 2022 sample result could be an outlier in the dataset for LGSW-1. The first sample for LGSW-1 also exceeded the standard (1,970), however, with the second sample it appears with a very limited dataset that TDS is decreasing at LGSW-1. Further sampling and analytical results from this well will provide Tri-State and Colowyo with a more robust dataset to analyze.


If you should have any additional questions regarding this notification, please feel free to contact Tony Tennyson again at (970) 326-3560.



April 6, 2022

Page 2

Sincerely,

DocuSigned by:

D250C711D0BF450...

Chris Gilbreath
Senior Manager
Remediation and Reclamation

CG:TT:der

Enclosure

cc: Tony Tennyson (via email)
Angela Aalbers (via email)
Tom Fry (via email)
File: C. F. 17.20 2022
G471-11.3(21)h-1



January 7, 2022

Mr. Zach Trujillo
 Environmental Protection Specialist
 Colorado Division of Reclamation, Mining & Safety
 Department of Natural Resources
 1313 Sherman Street, Room 215
 Denver, CO 80203

**RE: Colowyo Coal Company L.P.
 Points of Compliance Wells Notification**

Dear Mr. Trujillo,

Tri-State Generation and Transmission Association Inc. (Tri-State), is the parent company to Axial Basin Coal Company, which is the general partner to Colowyo Coal Company L.P. (Colowyo). Therefore, Tri-State on behalf of Colowyo, and in accordance with Rule 4.05.13(1)(c)(i), is providing this notification for elevated sampling results for two points of compliance wells for the Colowyo Mine.

Wells LGSW-1 and LWCW-1 were sampled on December 14, 2021 and analytical results were received from the laboratory by Colowyo on December 27, 2021. Table 16 in Volume 2C, Exhibit 7, Item 19 provides the applicable ground water standards for Colowyo for both wells. Per the analytical results received, one parameter at each well exceed the permit standards as presented on the following tables.

LGSW-1

<i>Parameter</i>	<i>December 27, 2021 Analytical Results</i>	<i>Table 16 Standard</i>
Total Dissolved Solids (TDS)	1,960 mg/l	1,840 mg/l

LWCW-1

<i>Parameter</i>	<i>December 27, 2021 Analytical Results</i>	<i>Table 16 Standard</i>
Manganese	1.71 mg/l	0.75 mg/l

The samples taken on December 14, 2021 from LGSW-1 and LWCW-1, are the first samples acquired since both wells were drilled and completed in late October of 2021. Colowyo did obtain several quarters of baseline data from temporary wells that were drilled and monitored prior to the installation of the permeant LGSW-1 and LWCW-1 wells. This baseline data for LGSC-1 provided a maximum TDS concentration of 1,570 mg/l, with the average TDS concentration being 1,331 mg/l. The baseline data at LWCW-1 for manganese provided a maximum concentration of 0.67 mg/l, with the average manganese value being 0.39 mg/l.

Comparison to baseline data indicates the December 14, 2021 sample results could be an outlier in the datasets for LGSW-1 and LWCW-1 but given the fact that only one regulatory mandated sample



January 7, 2022

Page 2

has been acquired to date it is inclusive at this time. Further sampling and analytical analysis will provide Tri-State and Colowyo with a more robust dataset to analyzed at both well locations.

Mr. Tony Tennyson has already discussed the sample results for LGSW-1 and LWCW-1 with you over the telephone on January 6, 2021. However, if you should have any additional questions regarding this notification, please feel free to contact Tony Tennyson again at (970) 326-3560.

Sincerely,

DocuSigned by:

D250C711D0BF450...

Chris Gilbreath
Senior Manager
Remediation and Reclamation

CG:TT:der

Enclosure

cc: Tony Tennyson (via email)
Angela Aalbers (via email)
Tom Fry (via email)
File: C. F. 17.20 2022
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