



October 26, 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 Mine
Permit No. C-1981-019
Valley Fill Monitoring Certifications
Fourth Quarter 2023**

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 is submitting the West Taylor, East Taylor, and Little Collom Gulch Fill Construction Certifications for the fourth quarter of 2023.

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

Sincerely,

DocuSigned by:
A handwritten signature in black ink that reads "Chris Gilbreath".
D250C711D0BF450...

Chris Gilbreath
Senior Manager
Remediation and Reclamation

CG:TT:der

Enclosure

cc: Tony Tennyson (via email)
File: CF 24.20.03
G471-11.3(21)h-4

South Taylor Fill Inspection Certification

On October 18, 2023, I inspected the South Taylor Fill areas, which includes the East Taylor Fill and the West Taylor Fill, identified on Map 23 and Map 45 of the approved permit. The purpose of this inspection was to observe the status of the fill placement. This inspection is necessary to satisfy the requirements of CDRMS Rule 4.09.1(1)(c) and Rule 4.09.1(11). Weather conditions at the time of inspection were approximately 50°F and sunny.

West Taylor Fill with A-A' and B-B' Underdrain Area The East Tributary of the West Taylor fill has rip-rap installed up to the 7840' elevation. The West Tributary of the West Taylor fill has rip-rap installed up to the 7820' elevation.

Six survey monuments were established and a baseline location survey on each one was performed on May 21st 2021. A quarterly comparison survey was performed on October 19th 2023. The survey showed no significant change from baseline. The small movement from the 1st quarter 2023 surveys, which were attributed to extreme snow drifting, does not appear in the latest survey. Tables of the survey results are attached below.

The West Taylor Fill underdrain was flowing at the time of inspection.

No structural weakness, signs of instability, or other hazards were noted at the time of inspection.

East Taylor Fill with C-C' Underdrain Area:

No structural weakness, signs of instability, or other hazards were noted at the time of inspection.

Design requirements for the spoil pile are addressed in Volume 13, Exhibit 21, Item 1, Introductory Letter. Inspection requirements during construction are further detailed in Volume 12, Section 4.09.

I am a Registered Professional Engineer in the State of Colorado. Being familiar with the Colowyo operation, and relying on the information provided to me by Colowyo Personnel, the construction activities related to the West and East Taylor Fill are in conformance, to the best of my knowledge and experience, as specified in the Introductory pages and the associated report found in Volume 13, Exhibit 21, Item 1, and other applicable requirements of the approved permit documents, a portion of CDRMS Permit C-1981-019.



INSPECTION REPORT ~ SOUTH TAYLOR FILL
(Including Both the East Taylor and West Taylor Fill Segments)

INDICATE QUARTER → 1ST ☐ 2ND ☐ 3RD ☐ 4TH ☒ 2023
YEAR

* ALL QUARTERS NEED TO BE CERTIFIED *

THE FOLLOWING ITEMS ARE TO BE INSPECTED AND REPORTED AS NOTED:

- 1) Has any significant change been noted in the survey monuments on the fill?
No X Yes _____
If yes, explain: _____
Date of Survey: 10/19/23
Reviewed By: Trevor Ragsdale

- 2) Has any significant change been noted in the water level found in the fill monitoring well?
No NA Yes _____ Measured Level NA If yes, explain: _____
Date of Measurement: NA
Measured By: NA

- 3) Has there been any evidence of surficial slope failure on the face of the fill?
No X Yes _____
If yes, explain: _____
Date of P.E. Inspection: 10/18/23
Inspected By: Trevor Ragsdale, Thomas Fry

- 4) Has there been any formation of springs or seeps on the face of the fill?
No X Yes _____
If yes, explain: _____
Date of Inspection: 10/18/23
Inspected By: Trevor Ragsdale, Thomas Fry



I am a Registered Professional Engineer in the State of Colorado. Being familiar with the Colowyo operation and relying on the information provided to me by Colowyo Personnel, the West and East Taylor Fill are observed to be stable, at the time of inspection. Construction activities related to the West and East Taylor Fill are in conformance, to the best of my knowledge and experience, as specified in the Introductory pages and the associated report found in Volume 13, Exhibit 21, Item 1, and other applicable requirements of the approved permit documents, a portion of CDRMS Permit C-1981-019.

West Taylor FILL - 7590 Mid MONUMENT

	DATE	ELEV.	NORTHING	EASTING	DeltaH	Notes
BASELINE SURVEY	05/21/21	7591.73	337028.63	1344201.88		Initial Baseline survey of prisms completed by Peter Epp
Difference	06/15/21	-0.007	-0.005	0.035	0.035	
Difference	09/20/21	0.006	-0.002	-0.006	0.006	
Difference	10/07/21	0.004	0.006	-0.012	0.013	
Difference	03/25/22	0.005	0.006	0.017	0.018	
Difference	06/10/22	0.006	0.005	0.018	0.019	
Difference	08/10/22	0.002	0.004	0.004	0.006	
Difference	10/19/22	0.000	0.004	-0.009	0.010	
Difference	03/21/23	-0.006	0.246	0.027	0.247	Surveyor noted extreme snow which may have pushed monument posts
Difference	05/25/23	-0.093	-0.044	0.064	0.078	
Difference	08/14/23	-0.097	-0.046	0.034	0.057	
Difference	10/19/23	-0.087	-0.017	0.014	0.022	

West Taylor FILL - 7670 East MONUMENT

	DATE	ELEV.	NORTHING	EASTING	DeltaH	Notes
BASELINE SURVEY	05/21/21	7669.07	336769.27	1344339.66		Initial survey of prisms completed by Peter Epp
Difference	06/15/21	-0.015	0.008	0.042	0.043	
Difference	09/20/21	-0.009	0.011	-0.015	0.019	
Difference	10/07/21	-0.003	0.022	-0.031	0.038	
Difference	03/25/22	0.007	0.028	0.003	0.028	
Difference	06/10/22	-0.009	0.024	0.009	0.026	
Difference	08/10/22	-0.011	0.031	-0.016	0.035	
Difference	10/19/22	-0.019	0.026	-0.030	0.040	
Difference	03/21/23	-0.055	0.531	-0.037	0.532	Surveyor noted extreme snow which may have pushed monument posts
Difference	05/25/23	-0.120	0.094	0.017	0.096	
Difference	08/14/23	-0.133	0.106	-0.035	0.112	
Difference	10/19/23	-0.124	0.137	-0.063	0.151	

West Taylor FILL - 7670 West MONUMENT

	DATE	ELEV.	NORTHING	EASTING	DeltaH	Notes
BASELINE SURVEY	05/21/21	7671.33	336791.55	1344032.85		Initial survey of prisms completed by Peter Epp
Difference	06/15/21	-0.014	-0.012	0.038	0.040	
Difference	09/20/21	-0.005	-0.003	-0.002	0.004	
Difference	10/07/21	-0.004	0.009	-0.012	0.015	
Difference	03/25/22	0.000	0.013	0.018	0.022	
Difference	06/10/22	-0.007	0.009	0.013	0.016	
Difference	08/10/22	-0.011	0.013	0.009	0.016	
Difference	10/19/22	-0.021	0.006	-0.003	0.007	
Difference	03/21/23	-0.092	0.654	0.221	0.690	Surveyor noted extreme snow which may have pushed monument posts
Difference	05/25/23	-0.071	0.076	0.127	0.148	
Difference	08/14/23	-0.083	0.078	0.106	0.132	
Difference	10/19/23	-0.080	0.112	0.084	0.140	

West Taylor FILL - 7730 Mid MONUMENT

	DATE	ELEV.	NORTHING	EASTING	DeltaH	Notes
BASELINE SURVEY	05/21/21	7728.08	336570.24	1344181.69		Initial survey of prisms completed by Peter Epp
Difference	06/15/21	-0.020	0.001	0.055	0.055	
Difference	09/20/21	-0.040	0.007	-0.001	0.007	
Difference	10/07/21	-0.036	0.023	-0.013	0.026	
Difference	03/25/22	-0.063	0.027	0.047	0.054	
Difference	06/10/22	-0.080	0.031	0.059	0.067	
Difference	08/10/22	-0.101	0.038	0.035	0.052	
Difference	10/19/22	-0.115	0.035	0.026	0.044	
Difference	03/21/23	-0.138	0.243	0.078	0.255	Surveyor noted extreme snow which may have pushed monument posts
Difference	05/25/23	-0.253	0.092	0.164	0.188	
Difference	08/14/23	-0.285	0.102	0.130	0.165	
Difference	10/19/23	-0.278	0.139	0.096	0.169	

West Taylor FILL - 7800 EAST MONUMENT

	DATE	ELEV.	NORTHING	EASTING	DeltaH	Notes
BASELINE SURVEY	05/21/21	7803.62	336294.60	1344496.79		Initial survey of prisms completed by Peter Epp
Difference	06/15/21	-0.030	0.013	0.064	0.065	
Difference	09/20/21	-0.059	0.005	-0.018	0.019	
Difference	10/07/21	-0.046	0.023	-0.046	0.051	
Difference	03/25/22	-0.062	0.044	-0.013	0.046	
Difference	06/10/22	-0.118	0.037	0.005	0.037	
Difference	08/10/22	-0.141	0.047	-0.019	0.051	
Difference	10/19/22	-0.167	0.042	-0.046	0.062	
Difference	03/21/23	-0.196	0.206	-0.050	0.212	Surveyor noted extreme snow which may have pushed monument posts
Difference	05/25/23	-0.254	0.079	0.077	0.110	
Difference	08/14/23	-0.281	0.089	0.002	0.089	
Difference	10/19/23	-0.274	0.125	-0.038	0.131	

West Taylor FILL - 7800 West MONUMENT

	DATE	ELEV.	NORTHING	EASTING	DeltaH	Notes
BASELINE SURVEY	05/21/21	7803.60	336342.73	1343942.01		Initial survey of prisms completed by Peter Epp
Difference	06/15/21	-0.020	-0.001	0.050	0.050	
Difference	09/20/21	-0.031	0.018	-0.017	0.025	
Difference	10/07/21	-0.019	0.038	-0.028	0.047	
Difference	03/25/22	-0.032	0.035	0.042	0.055	
Difference	06/10/22	-0.044	0.034	0.043	0.055	
Difference	08/10/22	-0.059	0.050	0.024	0.055	
Difference	10/19/22	-0.078	0.048	0.014	0.050	
Difference	03/21/23	-0.128	0.353	0.159	0.387	Surveyor noted extreme snow which may have pushed monument posts
Difference	05/25/23	-0.124	0.043	0.175	0.180	
Difference	08/14/23	-0.138	0.068	0.134	0.150	
Difference	10/19/23	-0.127	0.116	0.111	0.161	

Little Collom Valley Fill Inspection Certification

On October 18, 2023, I inspected the Little Collom Valley Fill, identified on Maps 23B and 29C of the approved permit. The purpose of this inspection was to observe the status of the fill placement. This inspection is necessary to satisfy the requirements of CDRMS Rule 4.09.1(1)(c) and Rule 4.09.1(11). Weather conditions at the time of inspection were approximately 50°F and sunny.

In my opinion, the Little Collom Valley fill is currently stable, with no structural weakness, signs of instability or other hazards noted. The Little Collom Valley fill has a subdrain system running the length of the fill. Design criteria for the subdrain can be found in Exhibit 23 of CDRMS Permit C-1981-019. Visible water was discharging from the toe, indicating the subdrain is working.

I am a Registered Professional Engineer in the State of Colorado. Being familiar with the Colowyo operation, and relying on the information provided to me by Colowyo Personnel, the construction activities related to the West and East Taylor Fill are in conformance, to the best of my knowledge and experience, as specified in the Introductory pages and the associated reports found in Exhibit 23, and other applicable requirements of the approved permit documents, a portion of CDRMS Permit C-1981-019.

