TRI-STATE

March 21, 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.
Permit No. C-1981-019
Minor Revision No. 254
Minor Permit Clean Up Revision

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 minor revision 254 (MR-254) to Permit No. C-1981-019.

MR-254 proposes to correct issues with tables numbers for Colowyo's seed mixture and contingency seed mixture. MR-254 also proposes to revise the surface water monitoring plan, by changing the correct laboratory methodology for Mercury from total recoverable to total. The 2019 EPA Method 245.1 Mercury method does not provide any distinction between total and total recoverable; therefore, the correct Mercury method should be listed as total.

Also included in this minor revision is a change of index sheet to ease incorporation of this minor revision into the permit document. If you should have any additional questions or concerns, please feel free to contact Tony Tennyson at (970) 824-1232 at your convenience.

Sincerely,

DocuSigned by:
Chris Gilbreath
4BE980BE59E442F...

Chris Gilbreath
Senior Manager,
Remediation and Reclamation

CG:TT

Enclosure

cc: Foster Beckett (BLM-LSFO)
Tony Tennyson (via email)
File: C. F. 1.1.1.236 - G471-11.3(21)d

P.O. BOX 33695
DENVER, CO 80233-0695
303-452-6111
WWW.TRISTATE.COOP

CHANGE SHEET FOR PERMIT REVISIONS, TECHNICAL REVISION, AND MINOR REVISIONS

Mine Company Name: **Colowyo Coal Company** Permit Number: **C-1981-019**

Date: **March 20, 2024** Revision Description: **MR-254**

Volume Number	Page, Map or other Permit Entry to be REMOVED		Page, Map or other Permit Entry to be ADDED		Description of Change
1	Tables Pages 115 to 117 (3 pages)		Tables Pages 115 to 117 (3 pages)		Table numbers and references on Tables 2.05-7 through 9 have been corrected.
2A					No Change
2B					No Change
2C					No Change
2D					No Change
2E					No Change
3					No Change
4					No Change
5A					No Change
5B					No Change
6					No Change
7					No Change
8					No Change
9					No Change
10					No Change
12					No Change
13					No Change
14					No Change
15					No Change
16					No Change
15	Collom, Rule 4 Page 9 (1 page)		Collom, Rule 4 Page 9 (1 page)		Mercury method has been changed to total.
17					No Change
18A					No Change
18B					No Change
18C					No Change

CHANGE SHEET FOR PERMIT REVISIONS, TECHNICAL REVISION, AND MINOR REVISIONS

Mine Company Name: **Colowyo Coal Company** Permit Number: **C-1981-019**

Date: **March 20, 2024** Revision Description: **MR-254**

Volume Number	Page, Map or other Permit Entry to be REMOVED		Page, Map or other Permit Entry to be ADDED		Description of Change
18D					No Change
19					No Change
20					No Change
20					No Change
21					No Change
22					No Change

Table 2.05-7 Grazingland Seed Mixture

App.	Species	Synonym	Common Name	Origin	Life Form	Seeds/ lb.	Rec. PLS lbs. / acre	Avg. seeds / sq. foot
Drilled	*Agropyron dasystachyum*	*Elymus lanceolatus ssp. lanceolatus*	Thickspike Wheatgrass	N	Grass	154,000	1.25	4.4
	Agropyron smithii	*Pascopyrum smithii*	Western Wheatgrass	N	Grass	110,000	1.50	3.8
	Agropyron spicatum inerme	*Pseudoroegneria spicata ssp. inerme*	Beardless Bluebunch Wheatgrass	N	Grass	117,000	2.00	5.4
	Agropyron trachycaulum	*Elymus trachycaulus ssp. trachycaulus*	Slender Wheatgrass	N	Grass	159,000	0.75	2.7
	Bromus marginatus	*Bromopsis marginatus*	Mountain Brome	N	Grass	90,000	1.00	2.1
	Elymus cinereus	*Leymus cinereus*	Great Basin Wildrye	N	Grass	130,000	0.50	1.5
	Stipa viridula (New Taxon to CCC)	*Nassella viridula*	Green Needlegrass	N	Grass	181,000	0.75	3.1
	Astragalus cicer		Cicer Milkvetch	I	Forb	145,000	0.30	1.0
	Linum lewisii		Lewis Flax	N	Forb	293,000	0.25	1.7
	Atriplex canescens		Fourwing Saltbush	N	Shrub	52,000	1.60	1.9
	Symphoricarpos rotundifoliius		Mountain Snowberry	N	Shrub	75,000	0.75	1.3
						Subtotal =	**10.65**	**28.87**
Broadcast	*Festuca saximontana*		Rocky Mountain Fescue	N	Grass	680,000	0.50	7.8
	Achillea millifolium		Western Yarrow	N	Forb	2,770,000	0.10	6.4
	Penstemon strictus		Rocky Mountain Penstemon	N	Forb	592,000	0.25	3.4
	Artemisa tridentata vaseyana		Mountain Big Sagebrush	N	Shrub	2,500,000	0.50	28.7
						Subtotal =	**1.35**	**46.26**
Grass PLS/ Seeds/ft^2 Subtotal = 8.25/30.8		**Forb PLS/ Seeds/ft^2 Subtotal =0.9/12.44**	**Shrub PLS/ Seeds/ft^2 Subtotal = 2.85/31.9**			**Total**	**12.00**	**75.13**
Note: Where desirable to draw Elk away from particular locations, *Elymus cinereus* may be substitued with Orchard Grass (sought by Elk) at the quantity indicated below (i.e. 0.5 lb of Elci replaced by 0.5 lb of Dagl). Furthermore, this substitution should not occur on more than approximately 25% of the acreage targeting the grazingland land use, and it would be most beneficial to be placed in or near draw bottoms. If at some future point it is desirable to substitute for a species other than Elci, or on more than 25% of the grazingland acreage, permission will first be gained from CDRMS.								
	Dactylis glomerata		Orchard Grass	I	Grass	654,000	0.50	7.51

Seed Mix Comments

1) The correct sagebrush seed (*Artemisia vaseyana – pauciflora*) from sources as close as possible to the Axial Basin will be requested from seed suppliers along with tag verification. A stipulation will be added to bid documentation to require the successful supplier(s) to verify sage subspecies and collection location and elevation.

Table 2.05-8 Wildlife Habitat Seed Mixture

Seed Mix Comments

App.	Species	Synonym	Common Name	Origin	Life Form	Seeds/ lb.	Rec. PLS lbs. / acre	Avg. seeds / sq. foot
Drilled or Broadcast * (w/ Trillion or similar)	*Agropyron spicatum inerme*	*Pseudoroegneria spicata ssp. inerme*	Beardless Bluebunch Wheatgrass	N	Grass	117,000	0.50	1.3
	Agropyron trachycaulum	*Elymus trachycaulus ssp. trachycaulus*	Slender Wheatgrass	N	Grass	159,000	0.20	0.7
	Bromus marginatus	*Bromopsis marginatus*	Mountain Brome	N	Grass	90,000	0.30	0.6
	Elymus cinereus	*Leymus cinereus*	Great Basin Wildrye	N	Grass	130,000	0.20	0.6
	Stipa viridula (New Taxon to CCC)	*Nassella viridula*	Green Needlegrass	N	Grass	181,000	0.20	0.8
	Artemisia ludoviciana		Louisiana Sagewort	N	Forb	33,600	0.50	0.4
	Astragalus cicer		Cicer Milkvetch	I	Forb	145,000	0.30	1.0
	Linum lewisii		Lewis Flax	N	Forb	293,000	0.20	1.3
	Atriplex canescens		Fourwing Saltbush	N	Shrub	52,000	1.25	1.5
	Purshia tridentata		Bitterbrush	N	Shrub	15,000	3.00	1.0
	Rosa woodsii		Wood's Rose	N	Shrub	45,300	0.50	0.5
	Symphoricarpos rotundifoliius		Mountain Snowberry	N	Shrub	75,000	1.00	1.7
						Subtotal =	**8.15**	**11.62**
Broadcast * (w/ Trillion or similar)	*Poa ampla*		Big Bluegrass	N	Grass	882,000	0.20	4.0
	Festuca saximontana		Rocky Mountain Fescue	N	Grass	680,000	0.20	3.1
	Achillea millifolium		Western Yarrow	N	Forb	2,770,000	0.10	6.4
	Penstemon palmeri		Palmer Penstemon	N	Forb	610,000	0.10	1.4
	Penstemon strictus		Rocky Mountain Penstemon	N	Forb	592,000	0.20	2.7
	Artemisia cana		Silver Sagebrush	N	Shrub	850,000	0.75	14.6
	Artemisa tridentata vaseyana		Mountain Big Sagebrush	N	Shrub	2,500,000	2.00	114.8
	Chrysothamnus nauseosus		Rubber Rabbitbrush	N	Shrub	400,000	0.30	2.8
						Subtotal =	**3.85**	**149.82**
Grass PLS/ Seeds/ft^2 Subtotal = 1.8/11.25		**Forb PLS/ Seeds/ft^2 Subtotal =1.4/13.21**	**Shrub PLS/ Seeds/ft^2 Subtotal = 8.8/136.94**			**Total**	**12.00**	**161.44**

*** The application techniques indicated here should be implemented as follows at the discretion of the reclamation coordinator. 1) If a seed drill is to be used, only those species under that subheading should be drilled. Those species under the broadcast heading should be broadcast by one of two methods. If a standard rotary seed spreader is utilized to "spray" seed across the ground, then a very light harrowing should follow (e.g., light tine method). Under this scenario, a single pass procedure could occur if the rotary spreader is attached to the seed drill and the seed drill also pulls a light tine harrow. If the second broadcast method is utilized (such as use of a Truax "Trillion" seeder that "dribbles" seed between cultipacker wheels), a second pass with different equipment would be necessary. However, a third scenario would also be a very effective means to plant seed. Under this last scenario, all seed would be broadcast with the use of equipment such as the Truax "Trillion" seeder. This would be a single pass protocol and NO harrowing should be utilized. This last method is preferred.**

1) The correct sagebrush seed (*Artemisia vaseyana – pauciflora*) from sources as close as possible to the Axial Basin will be requested from seed suppliers along with tag verification. A stipulation will be added to bid documentation to require the successful supplier(s) to verify sage subspecies and collection location and elevation.

Table 2.05-9 List of Contingency Seed Mixture Substitutions

Priority	Species	Synonym	Common Name	Origin	Life Form	Seeds/ lb.	Rec. PLS lbs. / acre	Avg. seeds / sq. foot
2	*Agropyron spicatum*	*Pseudoroegneria spicata ssp spicata*	Bluebunch wheatgrass	N	Grass	140,000	0.5 - 2.0	1.3 - 5.4
1	*Bromus ciliatus*	*Bromopsis ciliatus*	Nodding Brome	N	Grass	80,000	0.3 - 1.0	0.6 - 1.8
4	*Festuca idahoensis*		Idaho Fescue	N	Grass	450,000	0.2 - 0.5	2.1 - 5.2
5	*Oryzopsis hymenoides*	*Achnatherum hymenoides*	Indian Ricegrass (needs sandy soi	N	Grass	141,000	0.50	1.6
3	*Poa sandbergii*		Sandberg Bluegrass	N	Grass	925,000	0.20	4.2
2	*Helianthelia uniflora*		Oneflower Sunflower	N	Forb	103,000	0.30	0.7
1	*Heliomeris multiflora*		Goldeneye	N	Forb	1,055,000	0.30	7.3
3	*Sanguisorba minor*		Small Burnet	I	Forb	55,000	0.25	0.3
4	*Vicia americana*		American Vetch	N	Forb	33,000	0.30	0.2
1	*Artemisia cana*		Silver Sagebrush	N	Shrub	850,000	0.50	9.8
2	*Chrysothamnus viscidiflorus*		Douglas Rabbitbrush	N	Shrub	782,000	0.30	5.4
4	*Rhus trilobata*		Skunkbrush Sumac	N	Shrub	20,300	0.50	0.2
3	*Symphoricarpos rotundifolius*		Snowberry	N	Shrub	75,000	0.75 - 1.0	1.3 - 1.7

Should one or more of the species in Table 2.05-7 and 8 be unavailable or proven ineffective, then substitutes from this list will be selected in the priority stated. They will be placed in the seed mix at the rate specified in the priority stated. They will be placed in the seed mix at the rate specified for the unavailable/unsuitable species or as appropriate. If more than one species of a given lifeform cannot be obtained or is otherwise unsuitable, then the first and second priorities in the substitute list will be used. Colowyo can also choose to increase a seeding rate of an approved species if a corresponding substitute is not available rather than choose a substitute from Table 2.05-9.

Water	Fork Good Spring Creek (UWFGSC)[9]		Flume. See List Below	See List Below
Surface Water	New Upper Good Spring Creek (NUGSC)[10]	Quarterly	See List Below. Flow estimated by combining measurements taken from LWFGSC & EFGSC.	See List Below. Flow estimated by combining measurements taken from LWFGSC & EFGSC.
Surface Water	Lower Good Spring Creek (LGSC)[11]	Quarterly	Flow from Parshall Flume. See List Below	Flow from Parshall Flume. See List Below

1. Upper Collom Gulch (UCG) represents the water quality conditions in Collom Gulch upstream of the Collom Lite mining area. No impact on flow or water quality at UCG is anticipated.
2. Lower Collom Gulch (LCG) represents the conditions in Collom Gulch downstream of mining impacts. No impact on flow or water quality at UCG is anticipated.
3. Lower Little Collom Gulch (LLCG) represents the conditions in Little Collom Gulch downstream of all mining disturbances. Because Little Collom Gulch is ephemeral, and the mining area extends nearly to the headwaters, no upstream monitoring location can be established.
4. West Fork of Jubb Creek (WFJC) represents conditions in the Jubb Creek watershed adjacent to the mining disturbance.
5. Confluence of Jubb Creek (CJC) represents the aggregate water quality in the Jubb Creek basin, downstream of potential mining impact areas.
6. Lower Taylor Creek (LTC) represents the water quality conditions of Taylor Creek directly downstream of the South Taylor mining area and immediately prior to the confluence with Wilson Creek and immediately downstream of the Gossard Loadout.
7. Lower West Fork Good Spring Creek (LWFGSC) represents this tributary after potential impacts caused by South Taylor mining.
8. East Fork Good Spring Creek (EFGSC) represents the upstream, undisturbed background condition of the East Fork Good Spring Creek.
9. Upper West Fork Good Spring Creek (UWFGSC) represents the upstream, undisturbed background condition of the West Fork Good Spring Creek.
10. New Upper Good Spring Creek (NUGSC) represents the water quality of Good Spring Creek downstream of the confluence of the east and west forks of the creek and downstream of the South Taylor mining area.
11. Lower Good Spring Creek (LGSC) represents the water quality downstream of the South Taylor and existing mining areas.

Quarterly Surface Water Field Parameters

Temperature	Flow	pH	Conductivity

Quarterly Surface Water Laboratory Parameters

pH	Conductivity @ 25ºC	Total Dissolved Solids	Total Suspended Solids
Calcium (Ca^{+2})^{D}	Magnesium (Mg^{+2})^{D}	Ammonia (NH_3)^{D}	Nitrate-Nitrite^{D}
Sodium (Na^{+})^{D}	Sulfate (SO_4^{-})^{D}	Arsenic (As)^{TR}	Iron - Total^{T}
Mercury (Hg)^{T}	Manganese (Mn)^{TR}	Selenium (Se)^{TR}	Zinc (Zn)^{TR}
Phosphorus (P)^{T}	Lead (Pb)^{TR}	Bicarbonate (HCO_3)^{D}	
D = Dissolved T = Total TR = Total Recoverable			

Prior to mining at Lower Wilson, the following three surface water monitoring sites will be added to the sampling schedule: