

# Partial Phase II Bond Release

Proposed Decision  
and  
Findings of Compliance  
for the

## **Colowyo Coal Mine**

PERMIT NUMBER C-1981-019  
SL-22



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## **I. INTRODUCTION**

This document is the proposed decision of the Colorado Division of Reclamation, Mining, and Safety (Division) in response to a request for Partial Phase II Bond Release at the Colowyo Coal Mine, Permit Number C-1981-019, bond release application number SL-22. This Findings document contains five parts. These include: 1) Introduction; 2) Procedures and Summary of the Bond Release Process; 3) Criteria and Schedule for Bond Release; 4) Observations and Findings of the Division regarding compliance with the bond release requirements of the Colorado Surface Coal Mining and Reclamation Act and regulations promulgated thereunder; and 5) the Division's Proposed Decision on the request for bond release.

Detailed information about the review process can be found in the Act and the Regulations of the Colorado Mined Land Reclamation Board for Coal Mining. All Rules referenced within this document are contained within the Regulations. Detailed information about the mining and reclamation operations can be found in the permit application on file at the Division office, located at 1313 Sherman Street, Room 215, in Denver, Colorado.

The Colowyo Coal Mine is a surface mine which is permitted and operated by the Colowyo Coal Company, LP (Colowyo). The total permit area encompasses 26,173.14 acres. The Colowyo Coal Mine is located approximately 25 miles north of the town of Meeker, CO and 25 miles south of the town of Craig, CO in Moffat and Rio Blanco Counties off of Colorado State Highway 13. The land for which bond release has been requested is owned by Colowyo. The coal within the area which is being requested with SL-22 is owned by the Bureau of Land Management (BLM).

## **II. PROCEDURES AND SUMMARY OF THE REVIEW PROCESS**

Colowyo originally applied for a partial Phase II Bond Release for 148.4 acres associated with the East and West Pit as shown on Map 1 of the SL-22 application and Figure 1 of this document. The bond release area is located in the Colowyo Coal Mine's East and West Pits in portions of Township 3 North, Range 93 West of the 6<sup>th</sup> Principal Meridian, Section 9 – S 1/2 , NW ¼ SW ¼, NE ¼ E 1/2 and Section 10 – SW ¼ SW ¼. The permit area can be found on the USGS Quadrangle 7.5 Minute Series Maps of Axial and Nine Mile Gap. The permit area and surface ownership can be found on Map 1, and the coal ownership can be found on Map 2 of the Colowyo Permit Application Package (PAP).

### **Background**

The East Pit and West Pit mining sites lie just west of the northward flowing Goodspring (also referred to as Good Spring) Creek, which is paralleled by Colorado Highway 13. The area includes gently sloping uplands and valleys that cut into the upland surface. These valleys are generally narrow, v-shaped, and about 250 to 500 feet deep. Elevations range from approximately 7,650 feet in the upper portion of East Pit reclamation to 6,950 feet near East Taylor Pond.

Mining operations began in 1976 with the East Pit, a multi-seam coal operation that continued to move in a southerly direction. Eight coal seams (Y, X, A, B, C, D, E, F) were mined from the East Pit, ranging in thickness from two to fifteen feet. The East Pit is nearly 6,000 feet from east to west (width), 1,000 feet in breadth (highwall to highwall), and 450 feet deep. Due to the number of coal seams, immense size of the pit, and manpower and equipment employed, pit progression was slow, with additional disturbances of approximately 40 to 50 acres per year. Extraction of coal from the East Pit was terminated in 2006. All reclamation activities have been completed in the East Pit and is in the required final revegetation stages.

The West Pit is located to the west of the East Pit. The method of operation utilized in, and the coal seams extracted from, the West Pit were the same as those of the East Pit. The West Pit was roughly the same overall size as the East Pit. Mining in the West Pit advanced from the north to south, paralleling the movement of the adjacent East Pit. Mining operations in the West Pit were completed in 2015. Reclamation activities remaining in the West Pit include backfilling, grading, reduction of the highwall, and vegetation.

Colowyo is continuing to perform reclamation maintenance and activities in the East Pit and West Pit. Reclamation in the East Pit and West Pit is expected to conclude in 2032 with associated parcels related to the remaining in-pit haul road.

Operations in the South Taylor Pit began after the approval of PR-02 in 2007. This pit is located north and west of the northward flowing Good Spring Creek and southwest of the West Pit. It lies partially in Rio Blanco County. In the South Taylor Pit, 17 seam and sub-seam complexes

are mined. The seams are the A, B, C, D, E, F and G seams and their seam complexes (for example, the G-Seam is separated into G7, G8 and G9 in the South Taylor Area). At the peak of operations, the South Taylor Pit will be nearly 4,000 feet wide, 6,000 feet long, and 550 feet deep. Pit progression is from east to west. Mining within the South Taylor Pit concluded in 2023 including highwall mining operations. Reclamation in the South Taylor Pit is expected to conclude in 2031 as shown on Map 29 of the Colowyo PAP.

In 2017, construction began for the Collom Pit expansion approved with PR-04. Accessible seams at the Collom Pit include the Y, X, A, B, C, E, F, and G. It is estimated that coal production from the Collom Pit will range from 1.2 to about 2.4 million tons per year based pit progression and market needs. Mining methods at the Collom Pit will include a combination of dragline, truck/shovel and highwall mining operations. Current activities are limited to activities outlined in Exhibit 13C – Collom Cumulative Bond Schedule of the Colowyo PAP.

### **Permit, Performance Bond, and Bond Release History**

The permanent program mining permit was issued on November 4, 1982. Eight successive permit renewals have been approved subsequent to the initial permanent program permit approval; the most recent, Permit Renewal No. 8, was issued February 25, 2023, for a permit term that will expire November 5, 2027. The Division currently holds a reclamation bond, in the form of a corporate surety, in the amount of \$130,000,000.00. Colowyo has applied for twenty one previous bond releases:

Previous Bond Release Summary			
Bond Release	Phase	Submittal Date	Approval Date
SL-01	I and II	7/2/1987	10/8/1987
SL-02	I	9/25/1997	4/27/1998
SL-03	II	9/26/2000	8/15/2001
SL-04	I and II	6/1/2001	7/25/2001
SL-05	III	6/28/2010	7/25/2012
SL-06	I	4/26/2012	4/9/2013
SL-07	I	4/2/2013	8/29/2013
SL-08	I	5/20/2015	1/7/2016
SL-09	I	2/29/2016	9/28/2016
SL-10	III	7/18/2016	1/12/2017
SL-11	I	3/10/2017	11/13/2017
SL-12	II and III	3/10/2017	12/7/2017
SL-13	I	4/12/2018	8/30/18
SL-14	II and III	5/24/18	11/24/18
SL-15	I, II, and III	2/8/19	9/10/19
SL-16	I, II, and III	6/26/19	11/26/19

SL-17	I, II, and III	9/26/19	1/25/20
SL-18	I	3/20/20	8/22/20
SL-19	II	7/22/20	10/26/20
SL-20	I	4/13/21	5/28/21
SL-21	I	2/28/22	6/24/22

See Exhibit 2A of the Colowyo Mine Annual Reclamation Report for the locations of the previous Phase I, II and III Bond Release areas at the Colowyo Coal Mine. See Table 1 in this document for the previous bond release acreages and Table 2 in this document for the previous bond release amounts.

### **SL-22 Partial Phase II Bond Release Application**

The SL-22 application was received by the Division on July 13, 2023 and deemed complete on August 18, 2023. Colowyo published notice of the bond release application in the *Craig Daily Press* once weekly for four consecutive weeks, beginning July 19, 2023 and ending on August 9, 2023. Colowyo notified land owners within and adjacent to the mine permit area, the Office of Surface Mining (OSM), the BLM, Colorado State Land Board (CSLB) and other interested parties of the application for bond release, as required by Rule 3.03.2(1). No comments, written objections or requests for an informal conference regarding the bond release application were received by the Division.

A bond release inspection was scheduled and conducted on September 12, 2023. The site inspection was conducted in accordance with Rule 3.03.2(2). Inspection attendees included: Zach Trujillo of the Division, Tom Fry of Colowyo, and Dan MacKinnon of OSM. No representatives from the BLM, other State or local agencies, or adjacent land owners attended the inspection. A summary of the bond release inspection is presented in Section IV, of this document. Detailed observations of the inspection are documented in the inspection report that was issued September 15, 2023. See Figure 1 of this document for the location of the SL-22 partial Phase II Bond Release area.

## **III. CRITERIA FOR BOND RELEASE**

### **Phase II Bond Release**

The Division evaluated Colowyo's request for partial Phase II Bond Release on 148.4 acres in the East and West Pits in the SL-22 application, as shown on Figure 1 of this document. The process of releasing the reclamation bond for a coal mine site in Colorado is explained in Rule 3.03 and further described in the Division's 1995 *Guideline Regarding Selected Coal Mining Bond Release Issues*. The bond release process involves three phases. At Phase II, Rule 3.03.1(2) (b) states, "Up to eighty-five percent of the applicable bond amount shall be released upon the establishment of vegetation which supports the approved postmining land use and which meets the approved success standard for cover, pursuant to 4.15.8, meets applicable productivity standards for prime farmlands or alluvial valley floors pursuant to 3.03.1(3)(b), or croplands pursuant to 4.15.9. With the exception of prime farmlands, evaluation of vegetation establishment pursuant to this paragraph is based on statistically valid data collected during a single year of the liability period." In regard to Phase II bond release, Rule 3.03.1(3)(b) also states, "No more than (60) percent of the bond shall be released so long as the lands to which the release would be applicable are contributing suspended solids to streamflow or runoff outside the permit area in excess of premining levels as determined by baseline data or in excess of levels determined on adjacent nonmined areas".

Although not specifically addressed in Rule 3.03, the Division evaluates topsoil replacement in conformance with Rule 4.06 and permit requirements as a component of Phase II bond release. Evaluation and inspection of the reclaimed areas was based on the specific requirements of the reclamation plan and the functional requirements of the post-mining land use. Criteria for bond release included the following:

1. Required variable topsoil replacement per the Colowyo PAP; and
2. Required 90% vegetation cover.

Colowyo provided topsoil replacement and vegetation monitoring reports for the Phase II Bond Release areas in the SL-22 application which was verified by the Division. Locations for the topsoil verification holes are shown on Figure 2 of this document. For locations of the reclamation parcels associated with the SL-22 application, please refer to Figure 1 of this document. Sedimentology and vegetation cover is summarized under Section IV – Observations and Findings.

#### **IV. OBSERVATIONS AND FINDINGS**

The following discussion of observations and findings focuses on the results of the topsoil replacement and vegetation cover in the East and West Pits as requested in the SL-22 application. Reclamation parcels were reclaimed from 2015 through 2018 and vegetation sampling was conducted in 2022.

The evaluation of the bond release application included the bond release inspection, an office review of the permit requirements and regulatory criteria, and review of past inspection reports. The bond release inspection was conducted on September 12, 2023. Several items were reviewed by the Division during the technical evaluation of the bond release application before, during,

and after the inspection, including: topsoil depths, vegetation monitoring data and sedimentology demonstration as required by Rule 3.03.1 and approved in the Colowyo PAP.

During the SL-22 bond release inspection, participants walked the bond release request area to allow for visual assessment of compliance with pertinent requirements. Observations were made during the bond release inspection with regard to approved vegetation cover and topsoil depths. Cheatgrass was observed in three of the reclamation parcels, WP026, WP027 and WP028. Cheatgrass is classified as a List C noxious weed species in Colorado. The Colowyo representative stated that the observed cheatgrass was sprayed in reclamation parcels WP026 and WP027. Parcel WP028 was not sprayed at the time of the inspection however is being monitored and on the list for future spraying. Cheatgrass observed in these areas were not representative of the total reclamation parcel and are actively being managed by approved best management practices.

To determine compliance with Colowyo's approved variable topsoil depths in the SL-22 area, a total of 15 topsoil verification holes were dug during the August 2023 inspection. A total of 2 points were taken along the East Pit parcel EP061 and 13 along the West Pit parcels and are shown on Figure 2 of this document. More information regarding topsoil replacement associated with the SL-22 areas are discussed later in this section.

### Topsoil Replacement

As stated earlier, a total of 15 topsoil verification holes were dug and measured during the August 29, 2023 inspection prior to the SL-22 bond release inspection in order to verify topsoil depths within the areas being requested for Phase II Bond Release in the SL-22 application. Colowyo is approved for variable topsoil depth placement and per Colowyo's PAP, "Topsoil will... ..be redistributed and graded to a variable replacement depth following the general rule of thin topsoil (<6 inches) on ridge tops to gradually thicker topsoil moving down the slopes to the drainage bottoms for the grazingland land use targeted areas. Sagebrush Steppe areas will ideally receive an average of approximately 4 inches of topsoil that will likely be more uniform application to encourage proper seeding depth and overall shrub establishment conditions."

Navigation points were placed at random within the SL-22 bond release area in ArcGIS and those points were then downloaded on ArcGIS for ESRI Collector (Collector) prior to the inspection. During the bond release inspection, the Division navigated to the points using the data in Collector and then dug to a minimum depth of 9 inches or until topsoil was visibly no longer present. The depth of each hole was then documented and can be found on Figure 2 and Table 4 of this document. The topsoil holes were then immediately backfilled after the depth of topsoil was verified. All topsoil verification holes dug met the requirements stated in Colowyo's PAP and in the SL-22 application.

### Vegetation Cover

The Colowyo Coal Mine uses two reference areas for the comparison of success of their SL-22

reclamation parcels. The reference areas are the sagebrush reference area and the mountain shrub reference area. Success standards are based on weighted average of the pre-mining vegetation communities in each reclamation block (as shown on Map 3 and 4 in Colowyo's PAP).

Permit Page 4.15-18 states that the "...herbaceous cover of the revegetated area will be considered adequate for final bond release if it is not less than 90% of the herbaceous cover as determined from the reference areas with 90% statistical confidence utilizing a standard student's statistical t-test comparison of the means."

All reclamation parcels contained in SL-22 being requested for Phase II bond release were sampled in 2022 in accordance with the vegetation monitoring plan, detailed in Volume 1, Section 4.15 in the Colowyo PAP. Sample adequacy was determined using the Cochran formula. Both the sampling plan and the sample adequacy determination are acceptable to the Division. Results for vegetation cover for each reclamation parcel is summarized below.

### Sedimentology

The Division reviewed the sedimentology evaluation provided in the SL-22 application. As per Rule 4.15.1(2)(b), vegetation cover shall be capable of stabilizing the soil surface to achieve erosion control equal to or greater than pre-mining levels. To demonstrate this, Colowyo provided estimation on soil loss based upon post-mining site specific data using the Revised Universal Soil Loss Equation (RUSLE). Results from the RUSLE were then compared to baseline data from associated slopes to the reclamation blocks being requested for Phase II bond release. For SL-22, there was a total of 2 slopes, Slope A and Slope B (as labeled and shown in the application), associated with the SL-22 reclamation blocks that were evaluated. Results of this demonstration as well as vegetative cover results are summarized below.

### Phase II Bond Release Parcel Result Summary – Cover

Herbaceous cover: 28.3%

Herbaceous cover standard (90%): 16.4%

The 2022 sample data successfully exceeds 90% of the herbaceous cover standard.

### Phase II Bond Release Parcel Result Summary – Sedimentology

Post-Mining – Slope A: 0.137 tons/acre/year

Pre-Mining – Slope A: 0.252 tons/acre/year

The 2022 sedimentology evaluation data shows post-mining condition sediment loss to be less than pre-mining conditions.

Post-Mining – Slope B: 0.060 tons/acre/year

Pre-Mining – Slope B: 0.092 tons/acre/year

The 2022 sedimentology evaluation data shows post-mining condition sediment loss to be less than pre-mining conditions.



## Summary and Conclusions

The Division has completed its review and evaluation of the SL-22 partial Phase II Bond Release application submitted by Colowyo for the Colowyo Coal Mine. The Division proposes to approve this Partial Phase II Bond Release on 148.4 acres for portions of the East and West Pits. Based upon a review of the mine permit, the applicant's bond release application, and site inspections, the Division finds that Colowyo has completed topsoil replacement and vegetation cover requirements per Rule 3.03.1 and Colowyo's PAP. The Division finds that Colowyo has achieved the requirements for partial Phase II Bond Release at the Colowyo Coal Mine.

## V. PROPOSED DECISION

Based on the observations in Section IV above, the Colorado Division of Reclamation, Mining and Safety proposes to approve Colowyo's request for a partial Phase II bond release for the Colowyo Coal Mine. This proposed decision will release the applicant of Phase II reclamation liability on 148.4 acres for portions of the East and West Pits, as shown on Figure 1 at the end of this document.

The Division holds a performance bond in the amount of \$130,000,000.00 for the Colowyo Coal Mine. The Division has calculated the amount associated with the partial phase II bond release area and it totals **\$537,225.00**. The Division estimates its cost to complete remaining reclamation work at the Colowyo Coal Mine to be \$117,265,293.00. This amount is sufficient to assure completion of the remaining reclamation work to the Colowyo Coal Mine if the work had to be performed by the Division, including the cost of reestablishing vegetation on any revegetated areas, should those areas fail.

With the releasable amount of \$537,225.00, the Division will still hold a bond in the amount of \$130,000,000.00 which is \$12,734,707.00 more than the minimum required liability to fully reclaim the remaining disturbed areas at the Colowyo Coal Mine.

Any person with a valid legal interest which might be adversely affected by this proposed decision may request a formal public hearing before the Mined Land Reclamation Board in accordance with Rule 3.03.2(6). Public notice of this proposed decision will be published twice in the *Craig Daily Press* as soon as possible. Requests for public hearing must be submitted to the Division in writing within thirty days of the first publication in the *Craig Daily Press*. If no hearing is requested within those thirty days, the Division's decision will become final.

This concludes the Proposed Decision and Findings of Compliance for the Colowyo Coal Mine Partial Phase II Bond Release SL-22.

## TABLES AND FIGURES

**Table 1. Summary of All Liability Releases (acres)**

	Total Disturbed	Phase I Released	Phase II Released	Phase III Released
Permitted	4,977.60			
SL-01		226.4	176.4	
SL-02		712.1		
SL-03			762.1	
SL-04		494.2	420.9	
SL-05				979.5
SL-06		692.4		
SL-07		125.2		
SL-08		189.6		
SL-09		65.6		
SL-10				202.4
SL-11		129.6		
SL-12			47.5	182.5
SL-13		103.1		
SL-14			822.4	222.6
SL-15		68.7	3.7	3.7
SL-16		8.5	43.7	5.2
SL-17		0.4	0.4	0.4
SL-18		44.6		
SL-19			238.2	
SL-20		18.0		
SL-21		13.3		
Totals	4,977.60	2,891.7	2,515.3	1,596.3

**Table 2. Summary of All Bond Release Dollars**

Action	Liability*	Phase I Released	Phase II Released	Phase III Released
SL-01	\$ 19,581,899.00	\$ 0.00	\$ 857,342.00	\$ 0.00
SL-02	\$ 15,670,521.00	\$ 0.00	\$ 0.00	\$ 0.00
SL-03	\$ 14,102,823.00	\$ 0.00	\$ 0.00	\$ 0.00
SL-04	\$ 80,570,965.00	\$ 0.00	\$ 2,585,974.00	\$ 0.00
SL-05	\$ 68,825,509.00	\$ 0.00	\$ 0.00	\$ 692,320.00
SL-06	\$ 78,052,169.00	\$ 2,465,660.00	\$ 0.00	\$ 0.00
SL-07	\$ 80,517,829.00	\$ 727,269.00	\$ 0.00	\$ 0.00
SL-08	\$ 77,073,267.00	\$ 3,444,562.00	\$ 0.00	\$ 0.00
SL-09	\$ 80,517,829.00	\$ 347,500.00	\$ 0.00	\$ 0.00
SL-10	\$ 290,663,566.00	\$ 0.00	\$ 0.00	\$ 140,224.00
SL-11	\$ 190,651,458.00	\$ 350,934.00	\$ 0.00	\$ 0.00
SL-12	\$ 190,651,458.00	\$ 0.00	\$ 443,001.00	\$ 220,263.00
SL-13	\$ 148,228,626.00	\$ 1,039,169.00	\$ 0.00	\$ 0.00
SL-14	\$ 148,228,626.00	\$ 0.00	\$ 782,526.00	\$ 189,028.00
SL-15	\$ 148,228,626.00	\$ 1,196,800.00	\$ 242,065.00	\$ 145,239.00
SL-16	\$ 148,228,626.00	\$ 0.00	\$ 42,088.00	\$ 54,330.00
SL-17	\$ 152,797,828.00	\$ 943.00	\$ 539.00	\$ 378.00
SL-18	\$ 152,797,828.00	\$ 444,003.00	\$ 0.00	\$ 0.00
SL-19	\$ 152,797,828.00	\$ 0.00	\$ 477,276.00	\$ 0.00
SL-20	\$ 152,797,828.00	\$ 14,129.00	\$ 0.00	\$ 0.00
SL-21	\$ 117,802,518.00	\$ 616,470.00	\$ 0.00	\$ 0.00
Totals	N/A	\$ 10,647,439.00	\$ 5,430,811.00	\$ 1,441,782.00
*Liability amount may not correlate from one SL to another due to other revisions being approved in the interim				

**Table 3. SL-22 Releasable Amount**

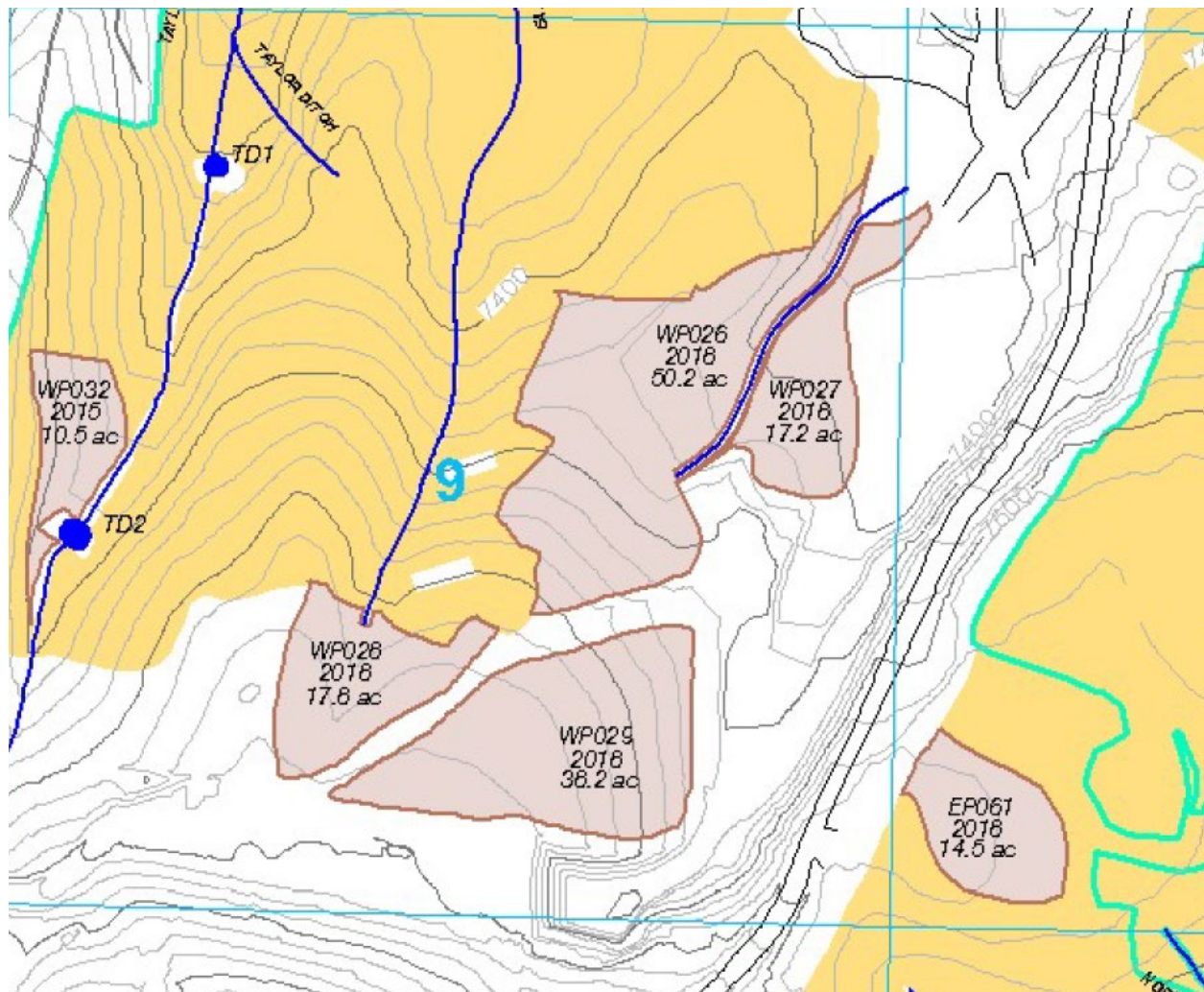
<b>Task (Phase II)</b>	<b>Cost</b>
Backfill and Regrade WP032 (SL-9)*	\$ 55,621.00
Backfill and Regrade WP026 (SL-13)*	\$ 994,025.00
Backfill and Regrade WP027 (SL-13)*	
Backfill and Regrade WP028 (SL-15)	\$ 504,271.00
Backfill and Regrade WP029 (SL-15)	
Backfill and Regrade EP061 (SL-15)	
Haul/Regrade Topsoil from Pile 15B to West Pit	\$ 145,025.00
Reseed West Pit with Grazing Land Seed Mix	\$ 80,126.00
Reseed East Pit with Grazing Land Seed Mix	\$ 8,677.00
Weed Control - 10% of Reseeded Areas Four Times	\$ 11,823.00
Subtotal of Direct Costs	\$ 1,799,568.00
Indirect Costs (rounded to nearest dollar)	\$ 349,330.00
Total Amount	\$ 2,148,898.00
<b>25% of Total Amount (Phase II)</b>	<b>\$ 537,225.00</b>

\*Based on acreage ratio between SL-22 and associated Phase I Release

**Table 4. SL-22 Topsoil Verification Depths**

Parcel	Hole #	Depth (in)
EP061	1	6
	2	5
WP026	3	9
	4	7
	5	6
WP027	6	7
	7	9
	8	10
WP028	9	7
	10	6
WP029	11	6
	12	6
	13	8
WP032	14	9
	15	6

**Figure 1. SL-22 Location Map**



**Figure 2. SL-22 Topsoil Verification Locations**

