




## COLORADO DIVISION OF RECLAMATION, MINING AND SAFETY COAL PROGRAM INSPECTION REPORT



### PERMIT INFORMATION

<b>Permit Number:</b> C-1981-019 <b>Mine Name:</b> Colowyo Coal Mine <b>Operator:</b> Colowyo Coal Company L.P. <b>Operator Address:</b> Mr. Tony Tennyson 5731 State Highway 13 Meeker, CO 81641	<b>County:</b> Moffat, Rio Blanco <b>Operation Type:</b> Surface <b>Permit Status:</b> Active <b>Ownership:</b> Federal
<b>Operator Representative Present:</b>  Tennyson and Blunt	
<b>Operator Representative Signature:</b> (Field Issuance Only)	

### INSPECTION INFORMATION

<b>Inspection Start Date:</b> May 21, 2013 <b>Inspection Start Time:</b> 08:00 <b>Inspection End Date:</b> May 22, 2013 <b>Inspection End Time:</b> 15:00	<b>Inspection Type:</b> Coal Complete Inspection <b>Inspection Reason:</b> Surety Release Requested <b>Weather:</b> Clear	
<b>Joint Inspection Agency:</b>  None	<b>Joint Inspection Contacts:</b>	
<b>Post Inspection Agency:</b>  None	<b>Post Inspection Contacts:</b>	
<b>Inspector(s):</b>  Robert D. Zuber, P.E.  Jason D. Musick	<b>Inspector's Signature:</b>  	<b>Signature Date:</b>  6/3/2013

**Inspection Topic Summary**

NOTE: Y=Inspected N=Not Inspected R=Comments Noted V=Violation Issued NA=Not Applicable

R - Air Resource Protection

R - Availability of Records

R - Backfill & Grading

R - Excess Spoil and Dev. Waste

Y - Explosives

Y - Fish & Wildlife

R - Hydrologic Balance

R - Gen. Compliance With Mine Plan

N - Other

NA - Processing Waste

R - Roads

R - Reclamation Success

R - Revegetation

NA - Subsidence

Y - Slides and Other Damage

R - Support Facilities On-site

Y - Signs and Markers

NA - Support Facilities Not On-site

NA - Special Categories Of Mining

R - Topsoil

**COMMENTS**

A complete inspection was conducted by Rob Zuber of DRMS on May 21 and 22. Jason Musick of DRMS and Jennifer Maiolo of the BLM (Little Snake Field Office) participated on May 21 (afternoon) for the portion of the inspection related to the SL-07 bond release application. Colowyo employees who participated in the inspection included Kurt Blunt (May 21) and Tony Tennyson (May 22).

The weather was clear on both days. The ground was slightly muddy.

On May 22, in the South Taylor Pit the large excavator (115) was seen loading trucks with overburden.

**AIR RESOURCE PROTECTION – Rule 4.17:**

Water trucks were observed controlling dust from roads.

**AVAILABILITY OF RECORDS – Rule 5.02.4(1):**

A list of records is provided in the inspection report.

**BACKFILL and GRADING – Rule 4.14**

Contemporaneous Reclamation 4.14.1; Approximate Original Contour 4.14.2; Highwall Elimination 4.14.1(2)(f); Steep Slopes 4.14.2, 4.27; Handling of Acid and Toxic Materials 4.14.3; Stabilization of Rills and Gullies 4.14.6:

The 102 dragline was idle in the West Pit reclamation area. The 103 dragline was being maintained in the West Pit.

To determine compliance with Colowyo's approved approximate original contour (AOC) in the SL-07 areas, elevation data provided in the SL-07 Bond Release application was compared to GPS data collected by DRMS staff. Twenty-five points were selected near the cross-sections of the reclamation areas and 10 locations were selected along the Final East Pit Ditch and the West Taylor Fill side ditches. These points were selected by

Number of Partial Inspection this Fiscal Year: 10

Number of Complete Inspections this Fiscal Year: 4

utilizing Exhibit 1 of the SL-07 application. Points were placed at selected contour elevations in ArcGIS (to try to cover the majority of the area), and those points were then downloaded into a Trimble Yuma. During the bond release inspection, Jason Musick navigated to the points using the data in the Trimble, and a GPS data point was collected at each site. The points collected at the site were downloaded from the Trimble into Pathfinder office and converted into a point shape file to utilize in ArcGIS.

Elevation data using the Trimble Yuma is not exact. The Geoid used in the Trimble GeoXT is DMA 10X10 Global, which is a global elevation Geoid and not as accurate as a localized Geoid. For this reason a known point was collected at the Colowyo Mine office to determine a correction factor for the elevation collected in the Trimble Yuma. The elevation at the base station was 7287.6' on the Trimble Yuma, which utilizes a projected coordinate system of UTM, NAD 83, Zone 13 North. In Colowyo's coordinate system (UTM NAD 27 Colorado State Plane) the elevation is 7263.1. Thus, a correction of approximately +24.5 feet is necessary to make comparisons of elevation data. The elevation data was corrected and post-processed.

The elevations of the data collected by Jason have been compared to elevation information provided in the SL-7 Bond Release application. After the correction described above, all elevation points were found to be between +/- 20 feet of the as-built elevations, shown on SL-07 Exhibits 1, 2A, and 2B. Given the expanse of the mine site and the steepness of the terrain at Colowyo, the difference in elevation is acceptable.

All of the measured and corrected elevations in the permanent post-mining drainage channels in the SL-07 area were also +/- 20 feet of the elevations shown on the approved channel profiles. Again, the difference in elevation is acceptable.

Observations regarding rills:

- Rills were observed in the East Pit reclamation.
- Rills have been repaired on the surface of the West Taylor fill, although some remain.
- A rill was observed near the upper contour ditch that flows to Taylor Ditch.

Slumps above East Taylor Pond still exist but do not appear to be growing; repairs have been completed on a slump west of the drainage.

#### EXCESS SPOIL and DEVELOPMENT WASTE – Rule 4.09

Placement; Drainage Control; Surface Stabilization:

As noted elsewhere in this report, rills have been repaired on the surface of the West Taylor fill, although some remain. Also, the contour ditches and side ditches are in compliance with the PAP.

Number of Partial Inspection this Fiscal Year: 10

Number of Complete Inspections this Fiscal Year: 4

HYDROLOGIC BALANCE - Rule 4.05 □ Drainage Control 4.05.1, 4.05.2, 4.05.3; Siltation Structures 4.05.5, 4.05.6; Discharge Structures 4.05.7, 4.05.10; Diversions 4.05.4; Effluent Limits 4.05.2; Ground Water Monitoring 4.05.13; Surface Water Monitoring 4.05.13; Drainage – Acid and Toxic Materials 4.05.8; Impoundments 4.05.6, 4.05.9; Stream Buffer Zones 4.05.18:

For the SL-07 bond release application, ditches were inspected to determine if they were constructed to meet the specifications in the PAP. The following table documents the dimensions and rock size that were estimated during the May 21 inspection.

<u>Ditch</u>	<u>Bottom width (ft)</u>	<u>Depth (ft)</u>	<u>Side slope</u>	<u>Riprap D50 (inches)</u>
East Pit	> 20	> 4	3:1	18
West Taylor EastTributary	> 10	> 4	3:1	18
West Taylor WestTributary	> 10	> 4	3:1	18

All of the channels met the specifications of the PAP or were somewhat larger (in terms of channel dimensions or riprap size) than the specifications.

Pond EP2 was found to meet the specifications in the PAP, including a spillway of approximately 15 feet in width; however the depth could not be determined because the pond was full of turbid water.

Observations related to contour ditches:

- In the East Pit area, blowouts of contour ditches have been repaired.
- On the West Taylor Fill, the contour ditches appear to be built to specifications in terms of depth and side slopes, although sediment accumulation has resulted in the ditches being slightly smaller in depth (based on general observation) than the 3.4 feet in the PAP (page Exh. 7-20G-7 of the PAP). Future maintenance of these ditches may be needed.
- On the south side of Prospect Ditch (about 100 feet from the ditch), a contour ditch has blown out.

Some observed ponds were not discharging: EP2, PD1, Prospect, Gulch A, Rail Loop, Gossard, Section 16, West Pit, and Work Area. The following ponds were discharging: Streeter, West Taylor, and East Taylor. For all discharging ponds, no sign of pollutants was observed, although water in all ponds was turbid (likely due to recent runoff). No major problems were found with embankments or other structures. Some additional observations regarding the ponds:

- On Prospect dam vegetation is emerging.
- Rail Loop requires cleaning.
- Section 16 flume contains mud that should be removed.
- A delta above East Taylor Pond has formed; there is no sign of erosion at this point in the channel.

In the X-Pod area two constructed ditches, Tributary D and Tributary F, were inspected. In Tributary F the D50 of rock is greater than 12 inches. In Tributary D, the rock is smaller than in Tributary F, appearing to be smaller than

Number of Partial Inspection this Fiscal Year: 10

Number of Complete Inspections this Fiscal Year: 4

a D50 of 12 inches. There is no erosion in either channel.

Culvert K requires cleaning but it is not yet urgent.

Several sumps along Taylor Creek require cleaning, including 1, 2, 4, and 5.

The section of Prospect Ditch that was repaired in 2012 (at the edge of the undisturbed area) was inspected, and it generally looked good. Some of the wattles require maintenance. Upper Prospect Ditch (above PD1 Pond) was inspected, and the following dimensions were estimated: the bottom was found to be approximately 12 feet wide, and the riprap D50 is greater than 18 inches. In the vegetated portion of the ditch below PD2 Pond, the bottom was estimated at 12 feet and the shape is basically trapezoidal; the depth appears to be less than two feet, however, only minor erosion was seen in the channel.

#### GENERAL MINE PLAN COMPLIANCE:

The Colowyo Coal Mine was generally found to be in compliance with the mine plan.

ROADS – Rule 4.03□ Construction 4.03.1(3)/4.03.2(3)□ Drainage 4.03.1(4)/4.03.2(4)□ Surfacing and Maintenance 4.03.1(5) and (6)/4.03.2(5) and (6)□ Reclamation 4.03.1(7)/4.03.2(7):

Haul Roads were in need of some grading due to the recent precipitation.

#### RECLAMATION SUCCESS - Rule 4.15, Rule 3:

The surface of the West Taylor Fill has been roughened well.

#### REVEGETATION – Rule 4.15□ Vegetative Cover; Timing:

Near the Work Area Pond, small numbers of weeds were seen including houndstongue and white top (the latter exhibited stress from spraying last year).

In the X Pod area, near the shrub study area, sage and other shrubs were emerging, although several small weeds were also seen.

In the West Pit reclamation area, good vegetation growth was seen in the reclamation blocks from 2008 – 2011. The 2012 area is still relatively bare.

#### SUPPORT FACILITIES - Rule 4.04:

The Gossard Loadout was inspected; no problems were observed. The South Taylor ready line requires routine grading due to muddy spring conditions.

TOPSOIL – Rule 4.06□ Removal 4.06.2; Substitute Materials 4.06.4(4); Storage and Protection 4.06.3; Redistribution 4.06.4:

Topsoil stockpile 16I, which runs parallel to West Taylor West Tributary Ditch, was inspected from both ends (the pile is very long). No problems were seen with the diversion ditch that is above this stockpile. The feature that appeared to be a scarp in an aerial photograph (aerial inspection report from May 2013), was

Number of Partial Inspection this Fiscal Year: 10

Number of Complete Inspections this Fiscal Year: 4

determined to be an old road. The pile looks stable and well vegetated, and there is no sign that topsoil has been transported into the valley below. The stockpile does need markers at access points.

At topsoil stockpile 16A a sign was seen on the west side of the stockpile, which is the access point. At topsoil stockpile 15A a sign has been added near the Work Area Pond, which is an access point. No problems were seen with either of these stockpiles.

### **ENFORCEMENT ACTIONS/COMPLIANCE**

No enforcement actions were taken as a result of this inspection, and none are pending.

Number of Partial Inspection this Fiscal Year: 10  
Number of Complete Inspections this Fiscal Year: 4

**PHOTOGRAPHS**



**Prospect Pond embankment with emerging vegetation**



**Sump #1 – needs to be cleaned**

Number of Partial Inspection this Fiscal Year: 10

Number of Complete Inspections this Fiscal Year: 4





**Pond EP2 with spillway in foreground**



**East Pit reclamation with contour ditch**

Number of Partial Inspection this Fiscal Year: 10

Number of Complete Inspections this Fiscal Year: 4





**West Taylor Fill contour ditch (Jennifer Maiolo in background)**



**West Taylor Fill side ditch**

Number of Partial Inspection this Fiscal Year: 10

Number of Complete Inspections this Fiscal Year: 4



**West Pit reclamation with stockpile of riprap for channel construction**



**West Pit reclamation with scraper road on edge of SL-07 parcel**

Number of Partial Inspection this Fiscal Year: 10

Number of Complete Inspections this Fiscal Year: 4





**Repair of slump above East Taylor Pond**



**Topsoil Stockpile 16I (from south) – feature in middle of photo is old road**

Number of Partial Inspection this Fiscal Year: 10

Number of Complete Inspections this Fiscal Year: 4



**South Taylor Pit (facing northeast)**



**West Pit reclamation (looking north from runaway truck ramp)**

Number of Partial Inspection this Fiscal Year: 10

Number of Complete Inspections this Fiscal Year: 4





**Prospect Ditch - repairs with wattles**



**Slump above East Taylor Pond**

Number of Partial Inspection this Fiscal Year: 10

Number of Complete Inspections this Fiscal Year: 4

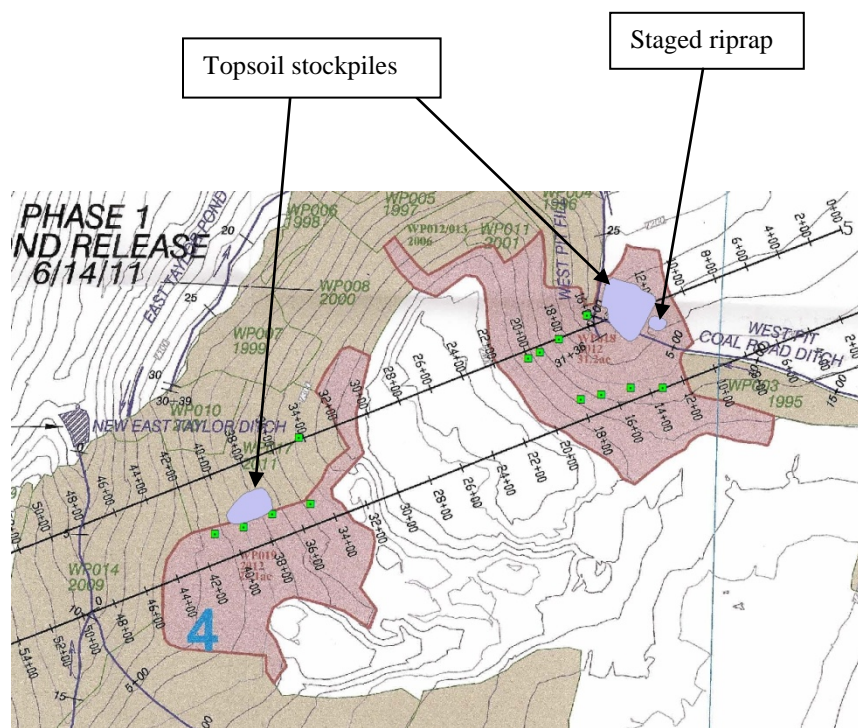


**West Taylor Fill – rills have been repaired**

Number of Partial Inspection this Fiscal Year: 10

Number of Complete Inspections this Fiscal Year: 4

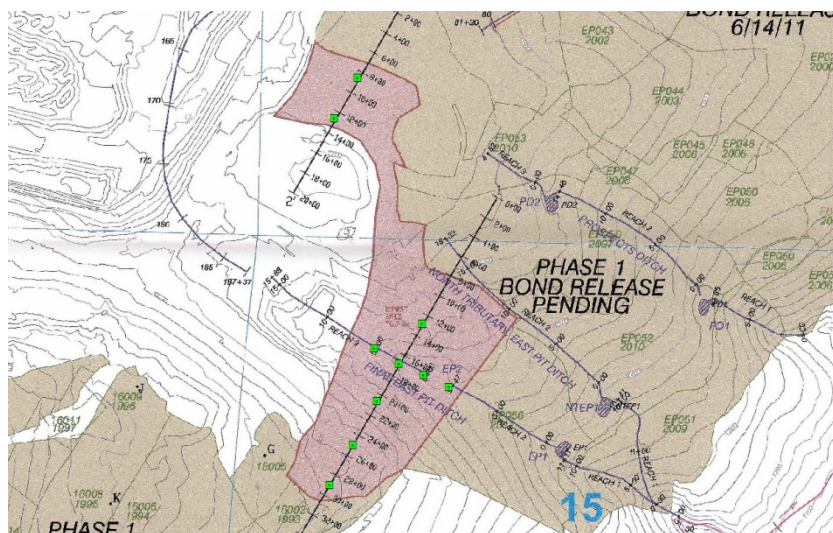


**FIGURES**

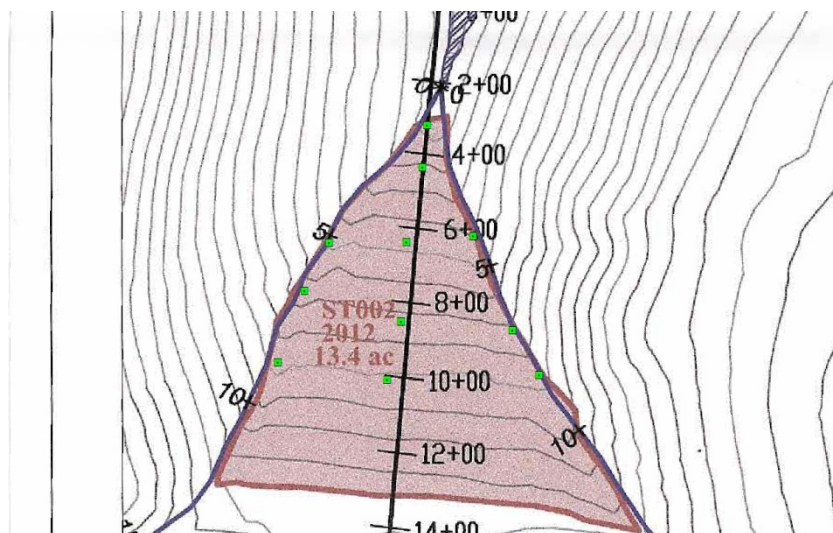
**West Pit – approximate locations of GPS points for elevation check**

Number of Partial Inspection this Fiscal Year: 10

Number of Complete Inspections this Fiscal Year: 4



**East Pit – approximate locations of GPS points for elevation check**



**West Taylor Fill – approximate locations of GPS points for elevation check**

Number of Partial Inspection this Fiscal Year: 10

Number of Complete Inspections this Fiscal Year: 4

**AVAILABILITY OF RECORDS****PERMIT RECORDS**

DRMS Permit	Comment 1
Permit Application w/Revisions	yes
Findings Document	PR-03
Insurance Certificate	Exp 1/1/14
Bond Document	Comment 2
Phased Bond Release	
Documents/Findings	SL-05
Air Emission Permits	Comment 3
County Special Use Permits	Comment 4
UG Mining Landowner Notification	NA
Subsidence Monitoring Reports	NA
Subsidence Monitoring Data	NA
Rill & Gully Survey	May 2012
Vegetation Monitoring Data	2012 ARR and SL-05
Specific Variance Approvals	Yes, in PAP
Annual Reclamation Reports	2012
Midterm Review Documents	MT-05
DRMS/OSM Inspection Reports/Enforcement Actions (3 Years)	Thru April 2013, Nov. 2012 for OSM
Transfers/Succession of Operator	MR-113
Temporary Cessation Notification	NA
Reclamation Cost Estimate	PR-03
<b>CERTIFICATIONS</b>	
Pond Certifications	yes
Annual Certifications for Impoundments	NA
Fill Certifications for Excess Spoil or Underground Development Waste	Comment 5
• Quarterly Inspections	yes
• Compaction Testing	NA
• Final Certification	NA
Coal Processing Waste Banks	NA
Haul Road Certifications	yes
Access Road Certifications	NA

**HYDROLOGIC RECORDS**

NPDES Permit	CO 0045161
NPDES Records	Thru 4th Q 2012
Stormwater Management Plan	yes
SPCC Plan	April 2012
MSHA Pond Inspections	NA
State Engineer's Pond Inspection	NA
Quarterly Pond Inspections	Thru 1st Q 2013
Annual Hydrology Reports	2012
• Ground Water Monitoring	yes
• Surface Water Monitoring	yes
• Spring & Seep Monitoring	yes
• Mine Water Discharge Monitoring	NA
• Mine Inflow Study	NA
• Water Consumption Records	4/30/2013
Well Permits	yes

**BLASTING RECORDS**

Blasting Publication	Comment 6
Blasting Records (3 years)	Thru 5/21/2013
ATFE Explosives Permit	Comment 7
Blasting Variances	NA
Pre-Blast Surveys	Yes, 1997

**ADDITIONAL RECORDS (specify)**


**COMMENTS:**

1.	Expired on 11/5/2012, but Colowyo is operating under the right for successful renewal (Rule 2.08.5).
2.	Bond numbers 929528345 and 190022683 for total of \$80,517,829.
3.	Air permits 95MF1040 and 06RB1317.
4.	Rio Blanco County SUP08-10, Moffat County C-05-05
5.	Through 1st quarter 2013. South Taylor Fill and West Pit Fill inspected April 10, 2013.
6.	Published on 12/10/12 and 12/13/12.
7.	Permit 5-CO-103-20-3E-12055.

Number of Partial Inspection this Fiscal Year: 10Number of Complete Inspections this Fiscal Year: 4