




PERMIT INFORMATION

Permit Number: C-1981-035 Mine Name: King Coal Mine Operator: GCC Energy, LLC Operator Address: Mr. Tom Bird 6473 County Road 120 Hesperus, CO 81326	County: La Plata Operation Type: Underground Permit Status: Active Ownership: Federal
	Operator Representative Present: M. McFarland
Operator Representative Signature: (Field Issuance Only)	

INSPECTION INFORMATION

Inspection Start Date: July 25, 2017 Inspection Start Time: 08:30 Inspection End Date: Inspection End Time:		Inspection Type: Coal Partial Inspection Inspection Reason: Normal I&E Program Weather: Cloudy	
Joint Inspection Agency: None		Joint Inspection Contacts:	
Post Inspection Agency: None		Post Inspection Contacts:	
Inspector(s): Robert D. Zuber, P.E.	Inspector's Signature: 		Signature Date: 8/1/2017

Inspection Topic Summary

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

N - Air Resource Protection

R - Roads

N - Availability of Records

N - Reclamation Success

N - Backfill & Grading

R - Revegetation

R - Excess Spoil and Dev. Waste

N - Subsidence

NA - Explosives

N - Slides and Other Damage

N - Fish & Wildlife

R - Support Facilities On-site

R - Hydrologic Balance

R - Signs and Markers

N - Gen. Compliance With Mine Plan

NA - Support Facilities Not On-site

N - Other

NA - Special Categories Of Mining

NA - Processing Waste

R - Topsoil

COMMENTS

A partial inspection was conducted by Rob Zuber of DRMS on July 25, 2017. Michael McFarland of GCC accompanied Rob in the field. The weather was cloudy and the ground was somewhat muddy from recent storms.

EXCESS SPOIL and DEVELOPMENT WASTE – Rule 4.09

Placement; Drainage Control; Surface Stabilization:

The un-reclaimed portion of the Refuse Pile (upper portion) has been graded to spread the piles of waste rock from previous months. There appears to be an adequate slope from north to south across the pile. No trash was seen in the recently graded area.

No flow was seen from the underdrains of the refuse pile.

GCC is adding material to the lower portion of the Refuse Pile because the slope of this portion is steeper than the design (2.5:1). The lower lift appears to be well compacted (from visual observation and walking on it). As part of this work, the rock underdrain (as opposed to the pipe underdrain) needs to be extended.

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:

At the King I Mine, the East Pond was holding a very small water and not discharging, nor were there any signs that water has discharged from this pond in recent times. It is likely the water was from recent storms rather than alluvial water. Continual monitoring will determine if the addition of material to this pond has stopped the pond from intercepting groundwater. Work on this pond needs to continue. This includes cleaning up the vehicle entrance and making sure the pond meets the PAP specifications.

Number of Partial Inspection this Fiscal Year: 1

Number of Complete Inspections this Fiscal Year: 0

The West Pond was holding about two feet of water but not discharging, nor were there any signs that water has discharged from this pond in recent times. No problems were seen with the pond's structures.

No issues were found at the SAE near the King I entrance; the silt fences appear to be in good shape.

At King I, Reach 1 was inspected and found to be in compliance. Other drainage structures required repairs at the time of the inspection:

- At the lower end of Reach 3, holes in the pipe need to be patched.
- The lower end of Reach 7 (and possibly the upper portion of the pipe as well) needed to be cleaned of sediment (it was nearly full).

The West Clearwater Ditch at King II (CWD-2) was found to be generally in good shape. The BMPs below this ditch (sumps at the King II entrance) appear to be functioning well. However, the ditch below this area (CWD-1D) is overgrown with vegetation, and the bottom of the channel could not be seen, so it is unclear if sediment is being transported into the ditch through the BMPs. It is recommended that some of this vegetation be removed to insure that the ditch has flow capacity and (perhaps more importantly) to allow inspection of this ditch.

Only a small amount of water was in the King II pond, and no problems were seen with the structures.

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):

The road to the Refuse Pile requires repair of erosion.

REVEGETATION – Rule 4.15

Vegetative Cover; Timing:

Yellow-flowered plants (likely yellow toadflax) were near the coal storage pile at Coal Stack Tube #2. GCC staff were instructed to pull the weeds that day.

SUPPORT FACILITIES - Rule 4.04:

The cut slopes at the King I facilities appear to be stable.

Behind the coal storage pile at Coal Stack Tube #2 no coal was spilling onto the undisturbed area.

Number of Partial Inspection this Fiscal Year: 1

Number of Complete Inspections this Fiscal Year: 0

SIGNS AND MARKERS – Rule 4.02:

Disturbed Area Boundary markers were seen in several locations. Topsoil markers are on all of the piles, including the Plant Growth Medium piles. This is acceptable. No problems were seen with entrance signs.

TOPSOIL – Rule 4.06

Removal 4.06.2; Substitute Materials 4.06.4(4); Storage and Protection 4.06.3; Redistribution 4.06.4:

The volume of the topsoil stockpile beside the King II pond was estimated. Cross-sections were estimated with a laser rangefinder in the field, and satellite photography (Google Earth) was used in the office to measure the length of the pile (360 feet). The average cross-sectional area was estimated as follows:

- The area of a single cross-section could be estimated by multiplying the horizontal and vertical distances from the top of the pile to the toe of the pile. The pile was determined to have somewhat convex sides so areas were multiplied by 110 percent.
- Using the rangefinder, horizontal and vertical distances were measured at five locations on the east side of the pile (locations about 60 feet apart).
- Using the rangefinder, horizontal and vertical distances were measured at five locations on the west side of the pile (locations about 60 feet apart).
- The averages of the eight horizontal values and eight vertical values were calculated.
- These two averages were multiplied and then multiplied by 110 percent to get an average cross-sectional area.
- The average cross-section was multiplied by the length to get the volume.

The measured horizontal distances were 28 feet, 30 feet, 30 feet, 27 feet, and 27 feet on the east side and 32 feet, 36 feet, 29 feet, 29 feet, and 33 feet on the west side. The average of these distances is 30.1 feet. The measured vertical distances were: 8 feet, 8 feet, 7 feet, 6 feet, and 7 feet on the east side and 6 feet, 7 feet, 7 feet, 7 feet, and 7 feet on the west side. The average of these distances is 7.0 feet. The estimated average cross-sectional area is 231.8 square feet (30.1' x 7.0' x 110%), and the estimated volume is 83,437 cubic feet (231.8' x 360') or 3,090 cubic yards. This is somewhat less than the volume of topsoil (3,500 cubic yards) that should be in this pile per the PAP (Section 2.05.3), but the discrepancy is not large enough to be a concern given the accuracy of the measurement method.

The vegetation cover on the topsoil stockpile beside the King II pond is good.

At King I, the recent earth work on the Plant Growth Medium Storage Areas looks to be adequate. No significant erosion or sediment transport off the piles was seen.

Number of Partial Inspection this Fiscal Year: 1

Number of Complete Inspections this Fiscal Year: 0

ENFORCEMENT ACTIONS/COMPLIANCE

No enforcement actions were initiated as a result of this inspection, nor are any pending.

PHOTOGRAPHS



King II Pond

Number of Partial Inspection this Fiscal Year: 1

Number of Complete Inspections this Fiscal Year: 0



Sediment sump at King II entrance



King I entrance and adjacent field

Number of Partial Inspection this Fiscal Year: 1

Number of Complete Inspections this Fiscal Year: 0



East Pond at King I



Cut slope at Fan Bench

Number of Partial Inspection this Fiscal Year: 1

Number of Complete Inspections this Fiscal Year: 0



Refuse Pile face



**Lower part of Refuse Pile face where the slope is being flattened
(recently graded and compacted material within oval)**

Number of Partial Inspection this Fiscal Year: 1

Number of Complete Inspections this Fiscal Year: 0



End of underdrain that needs to be extended as slope is extended away from Refuse Pile



Refuse Pile

Number of Partial Inspection this Fiscal Year: 1

Number of Complete Inspections this Fiscal Year: 0



Broken pipe at King I (Reach 3)



Clogged culvert at King I (lower end of Reach 7)

Number of Partial Inspection this Fiscal Year: 1

Number of Complete Inspections this Fiscal Year: 0



Likely yellow toadflax near topsoil stockpile at King II

Number of Partial Inspection this Fiscal Year: 1

Number of Complete Inspections this Fiscal Year: 0