



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



### PERMIT INFORMATION

<b>Permit Number:</b> C-1996-083 <b>Mine Name:</b> Bowie No. 2 Mine <b>Operator:</b> Bowie Resources, LLC <b>Operator Address:</b> Mr William A Bear P.O. Box 483 Paonia, CO 81428	<b>County:</b> Delta <b>Operation Type:</b> Underground <b>Permit Status:</b> Active <b>Ownership:</b> Federal and Forest
<b>Operator Representative Present:</b>  Bill Bear	
<b>Operator Representative Signature:</b> (Field Issuance Only)	

### INSPECTION INFORMATION

<b>Inspection Start Date:</b> May 9, 2013 <b>Inspection Start Time:</b> 08:30 <b>Inspection End Date:</b> May 9, 2013 <b>Inspection End Time:</b> 11:30	<b>Inspection Type:</b> Coal Partial Inspection <b>Inspection Reason:</b> Normal I&E Program <b>Weather:</b> Cloudy
<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>  Susan L. Burgmaier	<b>Inspector's Signature:</b>  <i>Susan Burgmaier</i> <b>Signature Date:</b>  05/16/2013

**Inspection Topic Summary**

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

Y - Air Resource Protection	N - Roads
N - Availability of Records	N - Reclamation Success
R - Backfill & Grading	N - Revegetation
R - Excess Spoil and Dev. Waste	N - Subsidence
N - Explosives	N - Slides and Other Damage
N - Fish & Wildlife	N - Support Facilities On-site
R - Hydrologic Balance	N - Signs and Markers
Y - Gen. Compliance With Mine Plan	NA - Support Facilities Not On-site
NA - Other	NA - Special Categories Of Mining
V - Processing Waste	R - Topsoil

**COMMENTS**

This was a partial inspection of the Bowie No. 2 Mine conducted by Susan Burgmaier of DRMS. Bill Bear, of Bowie Resources, LLC, was present during the inspection. Weather conditions at the time of the inspection were clear and cool; ground conditions were extremely wet due to rainfall in the days prior to the inspection.

**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 backfilled Hubbard Creek fan shaft site was inspected. There did not appear to be additional settling or vertical displacement since the last site inspection (March 19, 2013), but it was still apparent that the immediate shaft fill area was lower than its original surface configuration. This area should continue to be visually monitored to ensure that it does not become a public safety hazard, and repairs should be made as necessary. If additional backfill material is required, the topsoil should first be removed, segregated, and properly stored until it is redistributed.

**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:

Ponds B, C, D, F, and K all held water; none were discharging or being pumped. Pond J was dry. Pond F had a 2' delta of sediment at the inlet. The aerial extent of the delta was roughly .05-.075 acres, which would equate to roughly 0.10-0.15 acre feet of sediment. This is a very rough estimation, given the irregularity of the deposition of sediment, but does indicate that a significant amount of sediment has collected in the pond inlet. The sediment capacity of this pond is only 0.20 acre feet, so this should be monitored closely to ensure that the available capacity in the pond is adequate to treat runoff from the design event (10 yr - 24 hr). The operator indicated that Ponds B, C, F, and possibly D would be dredged this summer. The operator will also be placing elevation markers in Pond F (required by June 15, 2013) to assist in determining the available capacity of the pond.

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Gullies from recent erosion were observed along ditch D-C6 on the southern outslope of the D Seam bench. It appeared that the culvert (designated '36" Undesigned Culvert' on Map 15-2) that flows to ditch D-C6 had been blocked, causing flow over the road berm and out onto the outslope. At the time of the inspection, the culvert was clear and flow was through ditch D-C6, as designed. There was no off-site damage as a result of the overflow, since all of this area flows to Ponds B or C, and the gully was within the disturbed area boundary.

Some of the ditches on Gob Piles 2 and 4 were blocked, causing surface water runoff on the pile to pool and not flow off of the pile as required by Rules 4.10.1(1)(a) and 4.09.2(7). Ditches F1, F3, F12, F16, F17, F18, and F20 were backed up with standing water because end dumped gob material and partially excavated cover material in the central part of the pile prevented flow as depicted on Map 21-3 of the currently approved permit application package. Flow along ditches F5 and F6 was prevented by the temporary cover fill stockpile located on the second bench above Pond F.

#### PROCESSING WASTE/COAL MINE WASTE PILES – Rule 4.10 and 4.11

##### Drainage Control; Surface Stabilization; Placement:

Cover fill material was being excavated in the Gob Pile 2 expansion area. Because it was too wet to access Gob Pile 4 to spread the excavated cover material, it was being temporarily stored on the second bench of Gob Pile 2.

Refuse material had been end dumped in the Gob Pile #2 expansion area, where cover fill material had yet to be excavated. Care should be taken when rehandling the refuse to ensure that cover fill material resources are not contaminated with refuse material.

Refuse material was being hauled to Gob Pile 2, and being end dumped in the central area of the pile. At the time of the inspection, end dumped material was located in the northernmost area of the pile, in the newly approved expansion area, and on the western edge. No compaction operations were underway during the inspection, as none of the end dumped material was dry enough for handling. Material on the western edge of Gob Pile 2 had been placed at an approximate 2:1 slope; the approved slope angle is 3:1.

The manner of end dumping material throughout the pile is inconsistent with Rule 4.09.1(1)(c), which requires placement of waste material in a controlled manner to ensure stability of the fill. The pace of compactive effort does not appear to meet the requirements of Rule 4.09.1(7), which requires concurrent compaction of fill material that is placed on the refuse pile.

As discussed above, under the "Hydrologic Balance" section of this report, water was pooling in several of the drainage ditches on Gob Piles 2 and 4. Additionally, water was pooling between piles that had been end dumped and also along the haul road on Gob Pile 2.

The combination of pooled water and steepness of the end dumped material on Gob Pile 2 would indicate that the required factor of safety of 1.5, per Rule 4.10.4(2) is not being maintained.

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Gob Pile 3 was idle at the time of the inspection; the operator indicated that additional topsoil resources had been recently salvaged in the area, and ditch construction was still underway.

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

Additional topsoil material had been recently placed in the Gob Pile 3 topsoil stockpile. There is still topsoil to be salvaged in the stockpile area of Gob Pile 3, as well. The operator indicated that there will continue to be hay production in this area until the gob pile area is fully developed for disposal. At that time, the remainder of the topsoil would be stripped as necessary to accommodate additional cover fill storage.

Blocked drainage ditches on Gob Piles 2 and 4 were causing water to pool at the base of the topsoil stockpile between Gob Piles 2 and 4 (bounded by ditches F-9, F-13, F-14, and F-17). The topsoil stockpile should be protected from water erosion, as required by Rule 4.06.3(2). The topsoil stockpile and immediate area should be regraded to ensure protection of the topsoil resource.

### **ENFORCEMENT ACTIONS/COMPLIANCE**

**Infraction Number:** CV2013004

Inspection Date: May 9, 2013

Date Issued: May 15, 2013

Primary Topic: Processing Waste

Secondary Topic: Hydrologic Balance

Tertiary Topic: Topsoil

Description: Failure to construct Gob Pile #2 in a controlled manner to ensure stability of the fill; failure to control surface water runoff on Gob Pile #2 and Gob Pile #4.

Abatement #: 1

Abatement Due Date: 6/28/2013

Abatement Description: Place and compact all existing end-dumped material on Gob Pile #2 in accordance with the Rules and approved permit application package.

Abatement #: 2

Abatement Due Date: 6/28/2013

Abatement Description: Remove cover fill material from ditches D-F5 and D-F6 and repair or reconstruct all lateral ditches on Gob Piles 2 and 4 to ensure positive drainage as designed in the approved permit application package.

Abatement #: 3

Abatement Due Date: 6/30/2013



Abatement Description: Conduct quarterly inspections of Gob Pile #2 in accordance with all of the requirements of Rule 4.10.2, beginning with the second quarter of 2013.

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**PHOTOGRAPHS**

Please see the aerial photograph of the site below for locations of photographs.

	<p>End dumped material on Gob Pile 2.</p> <p>Compacted area on lower portion of Gob Pile 2.</p> <p>Photo 1</p>
	<p>Standing water on Gob Pile 2</p> <p>Photo 2</p>

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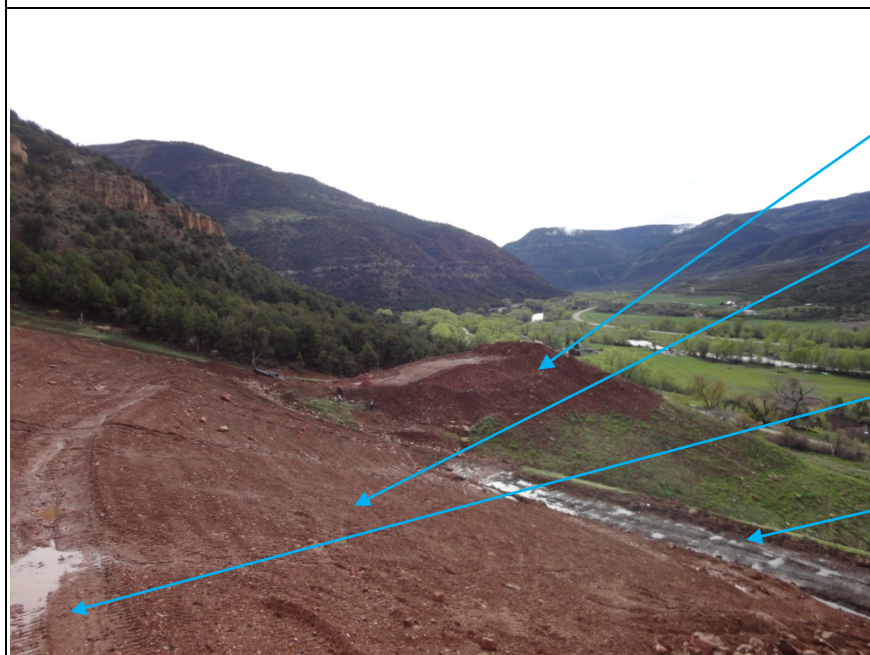
Number of Complete Inspections this Fiscal Year: 3





Haulage road up Gob Pile 2, standing water.

Photo 3



Cover fill stockpile on east end of Gob Pile 2

Covered compacted gob



Ditch D-F12

Ditch D-F6

Photo 4

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	<p>Covered compacted Gob</p> <p>Gully off of Haul Road</p> <p>Ditch D-F-12</p> <p>Photo 5</p>
	<p>Ditch D-F5</p> <p>Cover fill material blocking ditch</p> <p>Photo 6</p>

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Pond F

Ditch D-F6

Cover fill material  
blocking ditch

Photo 7

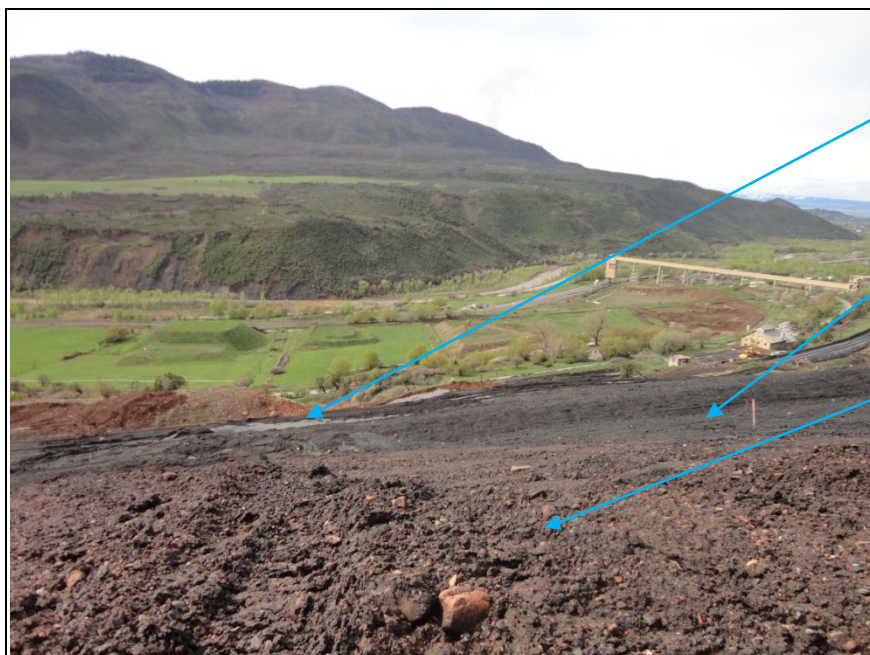
Excavation area at head of  
Gob Pile 2 expansion area

Photo 8

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Ditches D-F17

and D-F20

Compacted outslope of  
Gob Pile 4

Photo 9



Ditch D-F18

Photo 10

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Compacted outslope of  
Gob Pile 4

Photo 11



Gob Pile 4


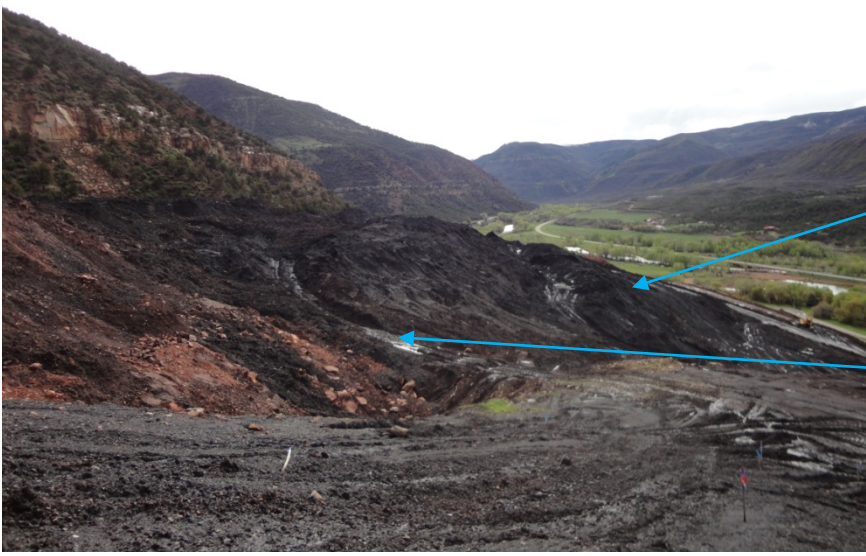
Ditch D-F17

Ditch D-F20

Photo 12

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	<p>Gob Pile 2 expansion area</p> <p>End dumped material</p> <p>Area to be excavated</p> <p>Photo 13</p>
	<p>Gob Pile 2</p> <p>End dumped material</p> <p>Water standing on roadway</p> <p>Photo 14</p>

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	<p>Topsoil Stockpile</p> <p>Ditch D-F16</p> <p>Ditch D-F17</p> <p>Photo 15</p>
	<p>Pond F Inlet</p> <p>Photo 16</p>

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Hubbard Creek Fan Site

Photo 17



D Portal Bench Outslope

Photo 18

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Gob Pile 2 from just east of D Portal Bench

Photo 19



Portion of DRMS aerial photo April 19, 2013 with locations of Photos 1-16

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