

**BOWIE RESOURCES, LLC**  
**Bowie No. 2 Mine**  
**Coal Mine Waste Bank Nos. 1, 2, & 3 Inspections 4<sup>th</sup> Quarter 2021**

On December 14<sup>th</sup> 2021, a visual inspection of the Bowie No. 2 Mine coal mine waste banks was performed by the undersigned in accordance with Rule 4.10.2. This inspection includes Gob Pile Nos. 1, 2, and 3. Pile No. 1 is considered inactive. Pile no. 2 is located north of Bowie Road and is currently idle. Pile no. 3 is located south of Bowie Road. Pile No.4 has been reclaimed and is inactive.

I, Tamme Bishop, P.E., have a wide variety of experience in the design and construction of earth fill embankments. Nothing was observed during the inspection that would indicate the piles have a potential for failure. The slips discussed in the 4Q 2016 and 1Q 2017 report had been regraded to the design contours and show no evidence that would be cause for concern of slipping again. A fair cover of volunteer vegetation has been established.

Gob Pile #2: A small area of seepage discussed in past reports at the toe of gob pile #2 and west of the haul road was not actively seeping during the inspection. There is still no movement associated with the seep and nothing seen during the inspection that would indicate the pile has a potential for failure. The aforementioned seep was first documented in 2Q of 2016. Since that time, the seep has not increased noticeably in flow and has not caused any instability in the pile. This area will continue to be monitored and discussed as needed in quarterly reports. be monitored and discussed as needed in quarterly reports.

There are no windrows remaining on top of gob pile #2. All organic material and topsoil has been removed ahead of the waste bank founding. Both the East and West upper diversion ditches were cleaned out during the fourth quarter of 2021 and were in good repair.

At gob pile #2, the first bench east of the haul road is covered with soil. The second bench east of the haul road is mostly covered with a subsoil pile. Most of the third and forth benches east of the road are covered with soil. Soil has been placed on most of the second, third, fourth and fifth benches west of the haul road and east of gob pile #4.

The top of gob pile #2 can serve as a drying area for end dumped gob, however, no gob is currently stockpiled on top of the pile. When necessary, gob is to be stacked to a maximum height of 20 feet, with a slope angle up to 1.5h:1v. A 25-foot buffer zone on the face of the gob pile will be maintained at all times. Gob will be spread and compacted to the currently approved slope configuration as soon as gob and weather conditions allow.

Gob Pile #3: The gob pile #3 area was in good condition during the inspection. The Operator has made significant progress over the last year placing gob in the western and eastern areas and will continue placement of gob in the both areas for the foreseeable future. Gob was not being placed at the pile during the inspection. The seep that is north of the east drying area was not actively seeping at the time of the inspection. Approval of the underdrain design was incorporated into the permit under Technical Revision No. 105. Revision of the east underdrain has been approved under Technical Revision Application No. 122.

There was no coal mine waste generated from the preparation plant during the quarter. Coal mine waste is to be placed in the piles in approximately horizontal lifts no more than 24-inches thick. The coal mine waste is dried and then spread and compacted by self propelled sheepsfoot compactors. There were thirteen (13) compaction tests were taken at gob pile #3 during the quarter. There were no compaction tests taken at gob pile #2 during the quarter.

During active mining conditions, the westernmost and easternmost sections of gob pile #3 serve as drying areas for end dumped material. The purpose of the gob drying area is to provide an area for temporary storage of gob for drying purposes. End-dumped gob in the gob drying areas is worked with dozers and track hoes to assist in the drying process.

During active mining conditions, it is necessary to stockpile gob material at gob pile #3 during the winter months, then place and compact the stockpiled gob when weather allows. Stockpiling of gob can commence November 15 and end April 15. Winter stockpiled material will be re-handled and compacted by September 30. Beginning on October 1, the Operator should be compacting all material concurrently, until conditions again require stockpiling. The stockpiling dates listed above should be considered flexible and may change slightly from year to year based on weather conditions. The gob material will be stockpiled in rows generally running from northwest to southeast. The rows of gob will be placed in a controlled manner and overlap will be minimized so there is space between rows to allow for drainage to the southeast. Windrows were located on top of the pile and contained gob that had been hauled out of the west drying area.

The available volume of coverfill material is sufficient to meet the requirements of Rule 4.10.4(5). No coverfill was used for blending or other uses during the quarter. A new coverfill survey was conducted in November of 2019. This survey was compared to surveys conducted in 2015 as well as evaluated estimations of material placed on gob pile #2. During years 2015 and 2016, cover was placed on gob pile #2 on benches 2, 3, 4 & 5 between the haul road and gob pile #4. Estimated placement depths vary between 1.5' and 3.5 feet and the cover placed on those benches was approximately 50,000 CY. The coverfill was generated from the "West" Coverfill stockpile, which is now depleted, and from the "East" coverfill stockpile.

No coverfill has been removed from the coverfill stockpile at gob pile #3. A coverfill survey was conducted in October 2021. Approximately 16,990 cubic yards has been placed on the outslope at the west end of the pile, and 4,304 cubic yards were placed in the east stockpile during 2021. This material came largely from material not salvaged in the founding of the east drying area. Annual cover fill surveys are conducted in the 4<sup>th</sup> Quarter, new volumes salvaged and placed will be included in the fourth quarter report which is due by February 1<sup>st</sup> of the following year.

A failure of the gob pile no. 1 would probably not be a hazard to human life. The pile is located above a large flat bench. The bench is approximately 80 to 150-feet wide directly below the pile. Additionally, the gob pile sediment pond is located below the pile. If the coal mine waste bank failed, the material would very likely be contained on the bench below the pile and or within the gob pile sediment pond.

A failure of gob pile no. 2 would probably not be a hazard to human life. A residential

dwelling is located over 300-feet below pile no. 2. The piles are located above Bowie Road. A failure of the piles might damage Bowie Road and the Fire Mountain Canal but would not likely impact the residential dwelling.

A failure of gob pile no. 3 would not be a hazard to human life. A failure of the pile might damage the rail track below the pile.

A failure of gob pile no. 4 would probably not be a hazard to human life. Gob pile no. 4 sits above gob pile no.1 and topsoil and coverfill piles and sediment pond D. If the coal mine waste bank failed it would be contained by gob pile no.1, the coverfill or topsoil piles or the sediment pond.

I certify that to the best of my knowledge and belief, that the fill and other aspects of the coal mine waste banks have been constructed as permitted in the design approved by the DRMS.



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Tammie Bishop  
Colorado Professional Engineer  
Registration No. 43402

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Date