STATE OF COLORADO

Simmons - DNR, Leigh <leigh.simmons@state.co.us>

October 20th Mined Land Reclamation Board hearing - Terror Creek SI-2

Simmons - DNR, Leigh <leigh.simmons@state.co.us> Wed, Oct 13, 2021 at 10:58 AM
To: Mike Ludlow <Mike.Ludlow@oxbow.com>
Cc: Doug Smith <Doug.Smith@oxbow.com>, Jason Musick <jason.musick@state.co.us>

Mike,

I've attached two packets of documents that we intend to refer to during our presentation to the board next week.

(They should have been combined into a single packet, but documents 5 and 6 weren't available in time for the submission of the original board packet, so were submitted as an attachment).

Leigh Simmons
Environmental Protection Specialist

COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

P 303.866.3567 x 8121 | C 720.220.1180 | F 303.832.8106
1313 Sherman Street, Room 215, Denver, CO 80203
leigh.simmons@state.co.us | https://drms.colorado.gov

[Quoted text hidden]

2 attachments

0 BoardPacketDocument_SI2.pdf
2315K

00_BoardPacketAttachment_SI2.pdf
940K

COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

Date: October 12, 2021

To: Mined Land Reclamation Board

From: Leigh Simmons, Environmental Protection Specialist

RE: Formal Public Hearing
Oxbow Mining, LLC.
Terror Creek Loadout, Permit No. C-1983-059

Consideration of Surety Increase No. 2: Objection to Division's Decision.

The Board packet contains the following documents:

1. PR-1 Findings and Cost Estimate
2. MT-8 Findings and Cost Estimate
3. SI-2 Findings
4. 732 Letter re. Bond Release

The site-wide Reclamation Cost Estimate (RCE) at the Terror Creek Loadout was re-evaluated with the approval of Permit Revision No. 1 (PR-1), which changed the post-mining land use at the site. PR-1 was issued on January 21, 2020.

The RCE was updated with Mid-term Review No. 8 (MT-8), using updated unit costs for labor and materials. MT-8 was issued on September 7, 2021.

Since the total estimated costs increased from $203,796 (with PR-1) to $215,014 (with MT-8), the Division initiated Surety Increase No. 2 (SI-2) on September 9, 2021. In the SI-2 notification letter the Division set a deadline of September 17, 2021 for the operator to request an informal conference. Since no request for an informal conference was received by the deadline, the decision to approve SI-2 was proposed on September 20, 2021, and published in the Delta County Independent on September 29 and October 6.

An objection to the proposed decision and request for hearing was received from Oxbow Mining, LLC. on September 30, 2021.

1. PR-1 Findings and Cost Estimate

Proposed Decision
and
Findings of Compliance
for the

Terror Creek Loadout
C-1983-059

Permit Revision No. 1

COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

November 22, 2019

Virginia Brannon, Director
Prepared by

Leigh D. Simmons
Environmental Protection Specialist

Table of Contents

Introduction

This document is the decision package prepared by the Colorado Division of Reclamation, Mining and Safety (the Division) for the Terror Creek Loadout. This document includes: 1) the proposed decision to approve the permit revision application; 2) a summary which includes a history of the review of the permit application, a description of the environment affected by the operation and a description of the mining and reclamation plan; and 3) the written findings of compliance the Division has made as required by the Colorado Surface Coal Mining Reclamation Act. Detailed information concerning the findings of compliance can be found in the Regulations of the Colorado Mined Land Reclamation Board for Coal Mining.

The Division has received an application for a permit revision to conduct surface coal mining and reclamation operations at the Terror Creek Loadout (Loadout). The application was submitted by Oxbow Mining, LLC. The Loadout will be operated by Oxbow Mining, LLC. The Loadout is located on private lands within Delta County, Colorado. The legal description of the lands included within the permit area is:

Parts of Section 15, Township 13 South, Range 91 West of the 6th Principal Meridian.

Proposed Decision

The Colorado Division of Reclamation, Mining and Safety proposes to approve an application for a permit revision.

The application was submitted by Oxbow Mining, LLC for the Loadout. This decision is based on a finding that the operations will comply with all requirements of the Colorado State Program as found in the Colorado Surface Coal Mining Reclamation Act, Section 34-33-101 *et seq*., C.R.S., and the Regulations promulgated pursuant to the Act. If no request for a formal hearing is made within thirty (30) days of the first publication of the issuance of this proposed decision, then this decision becomes final. Upon submittal of acceptable surety by the applicant, the permit will be issued. The permit application, all supporting documentation and any stipulations or conditions will become a binding part of the permit.

No coal mining operations may be conducted on any Federal surface or Federal coal until the Secretary of the Interior has approved the proposed mining plan. The Loadout permit boundary does not include any Federal surface or minerals.

Summary

The Review Process

The Terror Creek Loadout was permitted and originally operated as an independent coal handling and train loadout facility and is located in Delta County, approximately four miles north of the town of Paonia, Colorado. The Terror Creek Loadout was permitted under the permanent state regulatory program in 1983. The loadout was originally permitted by the Terror Creek Company. The permittee has subsequently been changed twice, first to Terror Creek, LLC. through Minor Revision No. 25 (MR-25), and then to Oxbow Mining, LLC. (Oxbow), the current permittee, through Succession of Operator No. 1 (SO-1).

The original 1983 permit has been renewed six times. No applications for Permit Revision or Surety Release have been submitted. The Permit Renewals are summarized in Table 1.

Table 1: Permit Renewal History

Permitting Action	Approval Date
C-1983-059 issued by Division	8/23/1983
RN-1	9/26/1988
RN-2	8/23/1993
RN-3	8/23/1998
RN-4	8/23/2003
RN-5	7/10/2008
RN-6	2/28/2015

Revisions to the permit submitted since the last midterm review of the Terror Creek Loadout PAP (MT-7, dated February 26, 2016) are shown in Table 2.

Table 2: History of Revisions since MT-7

Revision	Brief Description	Approval Date
MR-29	2015 Midterm Review Responses	11/15/2016
SO-1	Request for Transfer of Succession of Operator	12/13/2016
MR-30	Update Ownership and Control and Threatened/Endangered Species Information	5/31/2019

Oxbow submitted the application for this Permit Revision No. 1 (PR-01) on July 26, 2019, the Division deemed the application complete for the purposes of filing on July 26, 2019. The Division sent completeness notification letters to appropriate agencies in accordance with 2.07.3(3)(b).

The ownership and control information was cross-checked against the AVS database on November 20, 2019. The check did not reveal any outstanding violations that would prevent the approval of PR-01.

Description of the Environment

Site Description and Land Use (Rule 2.04.3)

Information regarding site description and land use can be located in Section 2.04.3 of the PAP (PAP).

The loadout facilities are located approximately four miles northeast of Paonia, CO along State Highway No. 133. The 20.00 acre permit area is situated on a moderately steep colluvial deposit between State Highway No. 133 and the flood plain of the North Fork of the Gunnison River. The approximate location of the permit area is indicated by the pink polygon in Figure 1.

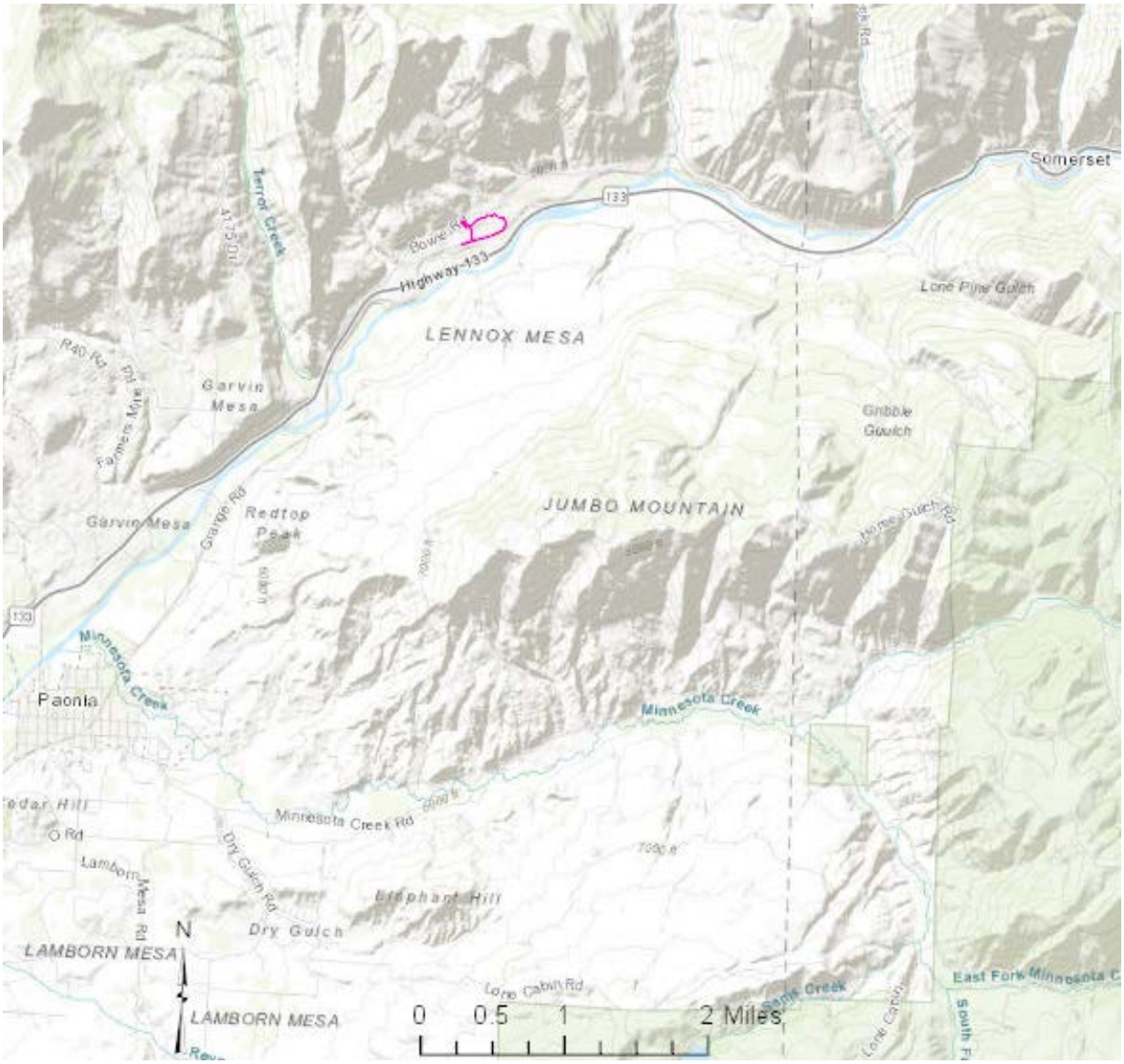


Figure 1: The approximate location of the Terror Creek Loadout Permit Area Boundary

The approximate elevation of the permit area is 5,900 feet. The surrounding area is

mountainous, with elevations ranging up to 8,300 feet at the summit of Jumbo Mountain, to the southeast of the permit area.

The North Fork of the Gunnison River has the appearance of a moderately broad alluvial valley, extending to approximately 1,500 feet wide. The valley separates high table lands south of the river from the slopes of the Grand Mesa to the north.

The permit area is drained by the North Fork of the Gunnison River and two unnamed ephemeral drainages. Water in the North Fork is characterized as a calcium bicarbonate type with moderate levels of sulfate. The flood plain of the North Fork, immediately to the south of the permit area, has been found to meet the geomorphic criteria and irrigation requirements of an alluvial valley floor (AVF).

The primary land uses in the valley are irrigated agriculture, underground coal mining, and wildlife habitat. Orchards and pasture land are irrigated via the Fire Mountain Canal, which diverts water from the North Fork of the Gunnison, and the Deer Trail Ditch, which diverts water from Hubbard Creek. The pre-disturbance land use at the Loadout was for irrigated orchards. Irrigation water at the Loadout is supplied by the Deer Trail Ditch, which flows by culvert over the Fire Mountain Canal near the northern permit boundary.

Adjacent to the Loadout site, across Old Highway 133, is the site of the Bowie No. 2 Mine (C-1996-083). This underground coal mine received its permit on April 4, 1997. Numerous pre-law underground mines exist north and east of the Loadout.

Cultural and Historic Resources (Rule 2.04.4 and 2.05.6(4))

Cultural and historic resources are discussed in Section 2.04.4 of the PAP.

In a letter dated August 8, 2019, the State Historic Preservation Officer concluded that the only known resource within the permit area of the Terror Creek Loadout is the Fire Mountain Canal, which is eligible for listing to the National Register of Historic Places (site 5DT1277). The town of Bowie, located in the project vicinity has also been officially determined eligible for inclusion in the National Register of Historic Places. Neither the Fire Mountain Canal nor the town of Bowie will be impacted by the Loadout's operation.

Geology (Rules 2.04.5 and 2.04.6)

For a description of the geology, refer to Section 2.04.6 in the PAP. Map 2 of the PAP details the Geology/Hydrology within the permit and adjacent areas.

The rocks exposed in the vicinity of the permit area are the sandstones and shales of the Upper Cretaceous Mesaverde formation. The structure of the sedimentary rocks in the area dips gently to the east. Localized faults and rolls occur as a result of tectonic activity. Due north of the permit area, the Mesaverde formation contains several sequences of coal bearing rocks. The rocks present in the area of the Loadout site are of Mancos shale formation. Within the North Fork of the Gunnison River valley quaternary age alluvial deposits are found.

A colluvial deposit in excess of 50 feet thick overlies the Mancos within the permit area and consists of an unconsolidated mixture of large, angular shaped boulders, and rocks and cobbles of various sizes. The unconsolidated material stratigraphically overlies the Mancos shale in the permit area and, since the early the 1900s, has been graded to its present surface configuration to allow for irrigated agriculture. The unconsolidated and poorly sorted nature of the colluvial material indicates that it was placed by gravitational mass wasting from the adjacent steep slopes. Some transport by overland flow of surface waters is also evident. The unconsolidated nature of the material lends itself to deep weathered zones and infiltration of surface water.

Hydrologic Balance (Rules 2.04.5, 2.04.7, 2.05.3(4), 2.05.6(3) and 4.05)

Surface water and groundwater information can be found in Section 2.04.7 of the PAP. A description of surface water and groundwater occurrence and mining impacts on groundwater within the permit and adjacent areas can be found in the "Probable Hydrologic Consequences of Mining" section of this document and the “Cumulative Hydrologic Impact Assessment" document for this mine area.

All drainage basins and associated drainages within the permit area and adjacent areas are shown on the Geology/Hydrology Map (Map 2 in the PAP). The permit area is drained primarily by the North Fork of the Gunnison River and two ephemeral tributaries to the North Fork. There are no perennial or intermittent streams on the permit area or adjacent to the permit area. The Fire Mountain Canal and the Deer Trail Ditch intersect all overland flow upstream from the permit area. Production of agricultural products at the site is possible only by irrigation.

Groundwater occurrences in areas adjacent to the permit area are found in two different formations. Alluvial material of the North Fork of the Gunnison River contains groundwater resulting primarily from runoff and flow of the North Fork. Groundwater in very minor amounts may also be found in the formations of the Mesaverde formation. Due to its higher elevation above the North Fork of the Gunnison River and relative discontinuity of sandstones, shales, and siltstone material, little groundwater is evident. A review of the Regional Geology/Hydrology Map (Map 2 in the PAP), shows no evidence of springs within the area of the Loadout facility.

As reviewed in the geologic section of this document, the permit area is located on colluvial material significantly above the elevation of the North Fork which directly affects the amount of groundwater found at the site. In fact, no groundwater is thought to be present in the colluvial material above the elevation of the North Fork. Only minor amounts of groundwater can be expected above the potentiometric surface which coincides with the North Fork. Operations at the Terror Creek facility will not intersect any groundwater within the colluvial material due to limited excavation planned for the permit area.

Climatological Information (Rule 2.04.8)

Information on the climate in the area of the Loadout is detailed in Section 2.04.8 of the PAP. In addition, Exhibit 6 of the PAP provides data from the weather station in Paonia, Colorado, on average precipitation, temperature, and wind. The wind information was developed for the West Elk Mine site which is approximately 7 miles east of the Loadout.

The climate of the region is typical of the Rocky Mountain area. The valley is semi-arid with annual precipitation averaging about 15 inches per year. The May - September precipitation is 5 inches for the lowlands and 13 inches for the mountain peaks. Temperature extremes at Paonia have ranged from -28 °F in January to 100 °F during July and August. The average annual temperature is approximately 49 °F. Snowfall averages 58 inches per year.

Soils (Rule 2.04.9)

Soil resource information is contained in Section 2.04.9 of the PAP. Exhibit 7 contains more detailed information on soils as well as soil sample cross sections and analyses, which were taken from different areas of the site.

The soil samples collected by the applicant indicate a clay loam soil with poor horizontal development overlying unconsolidated colluvial parent material at an average depth of 11 to 13 inches.

The soil mapping units which are present in the permit area consist of Progresso Loam, which is found on slopes of 6 to 12 percent, and Torriorthents-Haplargids. Review of the soils analyses indicates that no problems are expected with use of this soil material during any potential reclamation activities.

Vegetation (Rule 2.04.10)

Vegetation information is provided in Section 2.04.10 of the PAP.

As the permit area, prior to mining activities, was used for fruit orchards, the dominant vegetation type was apple and pear trees. In addition, some small areas within the orchards have been used for production of hay. Virtually all of the permit area, prior to loadout operations, has been used for agricultural purposes.

Fish and Wildlife (Rule 2.04.11)

Information on fish and wildlife resources is contained in Section 2.04.11 of the PAP.

Mule deer, elk, and black bear are located in the North Fork region in substantial numbers. Cougar, or mountain lion, have been observed in the area in the past, but their numbers are limited due to the extended territorial nature of the species. No critical habitats for the three principal species are found within the area disturbed by the applicant. Wildlife use of the permit area is largely incidental, and some use of the agricultural land by wildlife does occur, particularly during winter. Because the loadout facilities are located on an area previously used for agricultural purposes, no critical habitat is expected to be impacted.

The most common game bird found in the permit and adjacent area is the mourning dove. In limited areas, the blue grouse may occur, but only at adjacent higher elevations. During breeding season, several species of raptors are found in the vicinity of the permit area. The red-tail hawk and golden eagle have been commonly observed in the winter, and bald eagles may use the area

along the North Fork of the Gunnison River.

The North Fork of the Gunnison River begins at the confluence of Anthracite and Muddy Creeks, approximately 15 miles upstream from the permit area. The stream is classified as a fishery stream by Colorado Parks and Wildlife. Surveys assessing the condition of the aquatic environment show that the section of the stream above Paonia, CO is in good condition. Fish species in the river vary within the location of the stream.

During the adequacy review for Permit Renewal No. 5, the applicant made an evaluation of the Threatened & Endangered Species, candidate species and their Delta County habitats for the Terror Creek Loadout site. As detailed in Section 2.04.11 of the PAP, nine species were identified from the U.S. Fish & Wildlife Service list of endangered, threatened, proposed and candidate species for Delta County. The nine species include the Canada lynx, black footed ferret, yellow billed cuckoo, Colorado pikeminnow, humpback chub, bonytail chub, razorback sucker, clay-loving wild buckwheat, and the Uinta Basin hookless cactus. In addition, the possible presence of bald eagles and golden eagles was examined. The evaluation found that only the bald eagle and golden eagle had suitable habitat in that area of the North Fork of the Gunnison River valley and that both eagle species would only use the habitat for occasional seasonal foraging. The conclusion was that the Terror Creek Loadout site would not adversely affect these eleven species or their habitats.

The Threatened & Endangered Species information was reviewed and updated with Minor Revision No. 30 (MR-30) in the spring of 2019; there were no significant changes.

Description of the Operation and Reclamation Plans

Permitted facilities at the Terror Creek Loadout consist of a truck scale, raw, crushed, and sorted coal stockpiles, crushing and screening facilities, a train loadout facility, and an office, shop, bathhouse, and storage facilities. The anticipated annual coal tonnage permitted to be handled at this facility is up to 500,000 tons.

Drainage and sedimentation control consists of a diversion ditch to direct undisturbed irrigation drainage and storm runoff around the site, a berm to prevent spillage of coal over the bench, and a sediment pond and dugout pond to retain disturbed drainage and allow for NPDES compliance prior to discharge.

Sediment will be periodically removed from the sedimentation ponds to ensure proper functioning of the ponds. If needed, the sediment removed from the ponds will be placed in the sediment storage pile. Annually, during the summer months, a portion or all of the sediment pile will be spread over the site to improve drainage and to keep the size of the pile at approximately 1,500 tons. Interim revegetation of road cuts, berms, and the topsoil stockpiles further minimize wind and water erosion.

Raw coal from haulage trucks or from the raw coal stockpile is approved to be dumped into an enclosed, underground feeder. The coal is then conveyed to appropriate screens for size separation and crushed if necessary. The product coal is then either loaded directly into rail cars

or placed in an appropriate stockpile for later loading. Product coal includes lump, stoker, and fines. Limited coal crushing is performed at the loadout. Crushing, conveying and loadout operations are equipped with a water spray system to control dust.

Prior to the approval of this PR-01, the reclamation plan specified the demolition and disposal of some facilities, grading to restore the site to the approximate original contour, topsoil replacement, and seeding with adapted pasture grasses. The site was to be reclaimed to a post-mining land use of irrigated hay "Cropland". Details of the previously approved plan have been retained in section 2.05.4 of the PAP for future reference.

With the approval of this PR-01, the Division has approved a change in the post-mining land use to "Industrial or Commercial". The currently approved reclamation plan is described in section 2.05.5 of the PAP. The reclamation plan specifies that the facility pads will remain in the pads current configurations, which reflect the configurations during the active life of the loadout. Concrete walls and footers will be demolished and Loadout tunnels will be filled. The approved post-mining topography is shown on Map 10 of the PAP, which was revised with this PR-01. Map 10 and section 2.05.5 both refer to Maps 12 and 13 of the PAP, which identify topographic sections. Maps 12 and 13 of the PAP were not revised with this PR-01, however the text of section 2.05.5 and in the legend of Map 10 of the PAP clearly states that the "Present Configuration" shown in the topographic section drawings now represents the revised post-mining configuration.

Facilities to remain after reclamation include the office, garage, wooden building adjacent to the office, the paved haul road and all of the gravel access road. The siding track may remain if it is sold to the Union Pacific Railroad.

Findings of the Colorado Division of Reclamation, Mining and Safety
for the
Terror Creek Loadout

Explanation of Findings

Pursuant to Rule 2.07.6(2) of the Regulations of the Colorado Mined Land Reclamation Board for Coal Mining, and the approved state program, the Division of Reclamation, Mining and Safety or the Board must make specific written findings prior to issuance of a permit, permit renewal or permit revision. These findings are based on information made available to the Division that demonstrates that the applicant will be able to operate in compliance with the Colorado Surface Coal Mining Reclamation Act and the Regulations promulgated pursuant to the Act.

The findings in the following sections required by Rule 2.07.6(2) are listed in accordance with that Rule. The findings and specific approvals required pursuant to Rule 2.07.6(2)(m) are listed in accordance with Rule 4 and are organized under subject or discipline subtitles.

This findings document has been updated for this permit revision. The following findings have been reevaluated and updated if necessary to reflect changes which will occur as a result of this permit revision.

Section A - Rule 2.07.6

1. The permit application is accurate and complete. All requirements of the Act and these rules have been complied with (2.07.6(2)(a)).

2. Based on information contained in the permit application and other information available to the Division, the Division finds that surface coal mining and reclamation can be feasibly accomplished at the Terror Creek Loadout (2.07.6(2)(b)).

3. The assessment of the probable cumulative impacts of all anticipated coal mining in the general area on the hydrologic balance, as described in 2.05.6(3), has been made by the Division. This assessment entitled "Cumulative Hydrologic Impact Study - North Fork of the Gunnison River," is available for inspection at the offices of the Division. The Division finds that the operations proposed under the application have been designed to prevent damage to the hydrologic balance outside the proposed permit area. Please refer to Section B.III (Hydrologic Balance) of this document for additional discussion of the predicted hydrologic consequences of mining operations at the Terror Creek Loadout (2.05.6(3) and 4.05).

4. The Division finds that the affected area is, subject to valid rights existing as of August 3, 1977, not within:

    a) An area designated unsuitable for surface coal mining operations (2.07.6(2)(d)(i));

b) An area under study for designation as unsuitable for surface coal mining operations (2.07.6(2)(d)(ii));

c) The boundaries of the National Park System, the National Wildlife Refuge System, the National System of Trails, the National Wilderness Preservation System, the Wild and Scenic Rivers System including rivers under study for designation, and National Recreation Areas (2.07.6(2)(d)(iii)(A));

d) Three hundred feet of any public building, school, church, community or institutional building, or public park (2.07.6(2)(d)(iii)(B));

e) One hundred feet of a cemetery (2.07.6(2)(d)(iii)(C));

f) The boundaries of any National Forest unless the required finding of compatibility has been made by the Secretary of the U.S. Department of Agriculture (2.07.6(2)(d)(iii)(D));

g) One hundred feet of the outside right-of-way line of any public road except where mine access or haul roads join such line, and excepting any roads for which the necessary approvals have been received, notices published, public hearing opportunities provided, and written findings made (2.07.6(2)(d)(iv));

The haul /access road for the Loadout joins State Highway 133.

h) Three hundred feet of an occupied dwelling unless a written waiver from the owner has been provided (2.07.6(2)(d)(v)).

Exhibit 12 of the PAP contains a letter from a resident south of the Loadout consenting to operations within 300 feet of his dwelling.

5. On the basis of a letter sent to the Division on August 8, 2019, from the State Historic Preservation Office, the Division finds that subject to valid existing rights as of August 3, 1977, the mining operation will not adversely affect any publicly owned park or place listed on or eligible for listing in the National Register of Historic Places as determined by the State Historic Preservation Office (2.07.6(2)(e)(i)).

6. For this operation, private mineral estate has not been severed from private surface estate; therefore, the documentation specified by Rule 2.03.6(2) is not required (2.07.6(2)(f)).

7. On the basis of evidence submitted by the applicant and received from other state and federal agencies as a result of the Section 34-33-114(3) compliance review required by the Colorado Surface Coal Mining Reclamation Act, the Division finds that Oxbow Mining, LLC does not own or control any operations which are currently in violation of any law, rule, or regulation of the United States, or any State law, rule, or regulation, or any provision of the Surface Mining Control and Reclamation Act or the Colorado Surface

Coal Mining Reclamation Act (2.07.6(2)(g)(i)).

8. Oxbow Mining, LLC does not control and has not controlled mining operations with a demonstrated pattern of willful violations of the Act of such nature, duration, and with such resulting irreparable damage to the environment as to indicate an intent not to comply with the provisions of the Act (2.07.6(2)(h)).

9. The Division finds that surface coal mining and reclamation operations to be performed under this permit will not be inconsistent with other such operations anticipated to be performed in areas adjacent to the permit area (2.07.6(2)(i)).

10. The Division estimates the reclamation liability for mining operations in this permit term to be $203,796. The Division currently holds a $290,000.00 performance bond for the Terror Creek Loadout (2.07.6(20(j)).

11. The Division has made a negative determination for the presence of prime farm land within the permit area. The decision was based on mapping by the U.S. Soil Conservation Service which demonstrates that no prime farmland mapping units are found within the permit area (2.07.6(2)(k)).

12. Based on information provided in the application the Division has determined that an alluvial valley floor exists within the permit or adjacent area. The alluvial valley floor is known as the North Fork of the Gunnison River Alluvial Valley Floor and exists adjacent to the permit area (2.07.6(2)(k) and (2.06.8(3)(c)).

    For additional specific findings concerning this alluvial valley floor please see Section B, XVII.

13. The Division hereby approves the post-mining land use of “Commercial or Industrial”. It was determined that this land use meets the requirements of Rule 4.16 for the permit area (2.07.6(2)(l)).

14. Specific approvals have been granted or are proposed. These approvals are addressed in the following section, Section B (2.07.6(2)(m)).

15. The Division finds that the activities proposed by the applicant would not affect the continued existence of endangered or threatened species or result in the destruction or adverse modification of their critical habitats (2.07.6(2)(n)).

16. The Division has contacted the Office of Surface Mining, Reclamation Fees Branch. As of this time the operator, Oxbow Mining, LLC, is current in the payment of reclamation fees required by 30 CFR Chapter VII, subchapter R (2.07.6(2)(o)).

Section B - Rule 4

I. Roads - Rule 4.03

A. Haul Roads

1. Information pertaining to roads can be found on pages 2.05-5R and 2.05-9, and Maps 5 and 9 of the PAP. The haul /access road at the Loadout connects the facilities with State Highway 133. Road cross - sections and profile drawings are presented on Map 9 of the PAP. The location of road drainage ditches and culverts is provided on Map 14 of the PAP.

2. The Division proposes to approve the retention of the haul road (depicted on Map 10 of the PAP) as the road is compatible with the approved post-mining land use, and a request for its retention was submitted by the landowner.

3. Oxbow has obtained a Permit for Access from the State Highway Department for the highway approach and a License Agreement with the Bureau of Reclamation and the Fire Mountain Canal Company to allow construction of a concrete box culvert across the Fire Mountain Canal (4.03.1(1)(f)(i).

B. Access Roads

1. The Division proposes to approve the retention of the graveled access road (depicted on Map 10 of the PAP) which leads to the office area as it is compatible with the approved post-mining land use, as stated above in the haul road section, and a request for its retention was submitted by the landowner.

C. Light-Use Roads

1. The Terror Creek Loadout maintains two light-use roads. One road parts from County Road 4365 and enters the permit area from the east side, below the storage area, and ends at the water tank.

2. The second light -use road parts from County Road 4365 and enters the permit area from the east side, below the sediment pond. This road provides access to the railroad siding and the over-the-track coal bin.

3. The Division proposes to approve the retention of the light-use roads (depicted on Map 10 of the PAP) as the roads are compatible with the approved post-mining land use, and a request for their retention was submitted by the landowner.

II. Support Facilities - Rule 4.04

A. Construction of support facilities did not result in any damage to any protected structures. Therefore the Division has previously approve those activities (4.04(6)).

III. Hydrologic Balance - Rule 4.05

A. Water Quality Standards and Effluent Limitations

1. There is one sediment pond and one dugout pond at the Terror Creek Loadout that treat drainage from the disturbed area. These ponds function as designed to ensure that applicable water quality standards and effluent standards are met.

2. The Division has approved small area exemptions from the use of sediment ponds, due to the limited size of the areas, the fact that ponds and treatment facilities are not necessary for the drainage to meet the effluent limitations of Rule 4.05.2 and applicable State and Federal water quality standards for receiving streams, and due to the fact that no mixing of surface drainage with a discharge from underground workings will occur, as the operation is a loadout and no mining will occur. The small areas to be exempted include the outslope of the facilities pad, the over-the-track loadout facility, and the railroad spur track (4.05.2(3)(b)(i)).

B. Diversions and Conveyance of Overland Flow

1. Sediment control ditches have been designed and constructed in compliance with Rule 4.05.3. Locations are shown on Map 14 and designs can be found in Exhibit 9 of the PAP (4.05.3(2)).

C. Stream Channel Diversions

1. No stream channel diversions are proposed or approved.

D. Sedimentation Ponds

1. One sediment pond and one dugout pond have been constructed. The ponds have been designed, constructed and maintained in accordance with the requirements of 4.05.6 and 4.05.9. The location of the ponds is shown on Map 14 of the PAP. The ponds are located as near as practical to the disturbed area and are not located within perennial streams, in accordance with (4.05.6(1)(b)).

E. Acid-forming and Toxic-forming Spoil

1. No major subsurface disturbances are planned during the facility construction; therefore, no overburden will be removed or stored as a result of the loadout

construction (4.05.8(3)).

F. Impoundments

1. Refer to the section regarding sediment ponds (4.05.9).

G. Surface and Ground Water Monitoring

1. The applicant will not conduct groundwater monitoring as groundwater will not be affected by the construction of the loadout at the site. No disturbance of the subsurface is required or planned.

2. The applicant will conduct monitoring of surface water in a manner approved by the Division. The monitoring plan is specified in Section 2.05, Surface Water Monitoring, page 2.05-24R of the PAP (4.05.13(2)).

H. Transfer of Wells

1. No wells will be within or adjacent to the Terror Creek Loadout permit boundary. This section does not apply (4.05.14(3)).

I. Discharge of Water into an Underground Mine

1. This operation consists of loadout activities only. No extraction of coal will take place. This section does not apply (4.05.16(2)).

J. Stream Buffer Zones

1. No mining activity will occur within 100 feet of a perennial stream. This section does not apply (4.05.18(1)).

K. Probable Hydrologic Consequences

Under Rule 2.07.6(2)(c), the Division is required to make an assessment of the probable cumulative impacts of all anticipated coal mining in the general area on the hydrologic balance and to make a finding (as discussed in Section A of this document) that the operations proposed in the permit application have been designed to prevent material damage to the hydrologic balance outside of the proposed permit area. This section of the findings document is divided into the following subsections: Description of the Hydrologic Environment; Probable Hydrologic Consequences of the Terror Creek Loadout; and Summary and Findings. A separate Cumulative Hydrologic Impact Assessment (CHIA) has been conducted and is available for review. The CHIA assesses the projected cumulative hydrologic impacts for all anticipated mining operations in the general area of the Terror Creek Loadout in the North Fork of the Gunnison River Valley.

1. Description of the Hydrologic Environment

a. Regional Geology

For information regarding the geology of the site, refer back to the section entitled Description of the Environment, Geology.

b. Groundwater

For information regarding the groundwater of the site, refer back to the section entitled Description of the Environment, Hydrologic Balance.

c. Surface Water

For information regarding the surface water of the site, refer back to the section entitled Description of the Environment, Hydrologic Balance.

2. Probable Hydrologic Consequences

a. Groundwater Effects and Mitigation

There is no expected impact to groundwater by the Terror Creek Loadout due to the lack of occurrence of groundwater within the immediate area to be affected by the operation. The operation is located on colluvial material significantly above the elevation of the North Fork of the Gunnison River. This colluvium appears to be in direct hydrologic communication with the North Fork alluvial aquifer. Only minor amounts of groundwater can be expected above the piezometric surface which coincides with the North Fork. Information presented by the applicant with respect to a privately owned water well south of the permit area indicates that water is not encountered until the river elevation is reached. Operations at the Terror Creek Loadout will not intersect any groundwater within the colluvial material due to limited excavation planned for the permit area. Excavation associated with the loadout pad was completed to approximately 20 feet below ground surface and no groundwater was encountered. No springs or seeps have been identified along the colluvial deposit in the vicinity of the permit area.

Because no further surface disturbance is proposed, there is no potential for significant impacts to groundwater quantity in the area. There is a very slight potential for quality of water in the alluvial aquifer immediately downslope from the disturbed area to be degraded as a result of percolation of lower quality water from the coal storage piles and sediment pond. The potential for material damage is considered to be negligible and is further discussed in an upcoming section on Operations on Alluvial Valley Floors.

b. Surface Water Effects and Mitigation

Drainage and sediment control measures implemented by the applicant are sufficient to ensure that the quality of water downstream from the site is not impacted. The only impact on water quantity is the consumptive use of approximately 6 acre-feet per year during the operational life of the Loadout.

The Terror Creek Loadout withdraws water from two sources. Water for dust suppression is supplied by senior water rights from the Deer Trail Ditch. The ditch withdraws water from Hubbard Creek. Use averaged 5,000 gallons per day (5.6 acre-feet/year). Previously, this water was used to irrigate orchards where the loadout is now located. A domestic well which supplies about 450 gallons per day (0.5 acre-feet/year) was used for domestic use at the Loadout office and bathhouse. Total consumption at the Loadout amounted to 0.002% of the North Fork's mean annual yield at Somerset. This amount of consumption is considered by the Division to be insignificant.

3. Summary and Findings

The Division has examined the probable hydrologic consequence due to mining operations for groundwater and surface water systems at the Terror Creek Loadout. The operator has taken the necessary measures to ensure that mining operations will not affect the hydrologic regime (2.07.6(2)(c)).

IV. Topsoil

A. Baseline soils information can be found in Section 2.04.9 of the PAP. Map 3 of the PAP shows the locations of the soil mapping units. The topsoil salvage and redistribution plan can be found in Section 2.05 of the PAP. Map 8 of the PAP details the Topsoil Handling Plan and contains the locations of the topsoil stockpiles.

Prior to construction of the loadout facility, topsoil was removed and stockpiled. There are two topsoil stockpile locations. A large pile is located on the west side of the permit area, and a smaller pile is located on the east side of the permit area, near the county road.

The Division has granted a variance from topsoil removal in accordance with Rule 4.06.2(2)(a). An area containing less than one acre is being used for open storage of items and materials which will not cause any contamination or degradation of the in-place soils. Traffic in this storage area is light, primarily foot and light truck travel, and of an infrequent nature. To date, existing vegetation has not been harmed and no erosion has occurred, nor is any expected. Therefore, the Division finds that this variance was granted in an appropriate manner and reaffirms that decision.

V. Sealing of Drilled Holes and Underground Openings

A. There are no drilled holes or underground openings at the Terror Creek Loadout. This section does not apply (4.07).

VI. Use of Explosives

A. There are no explosives used at the Terror Creek Loadout. This section does not apply (4.08).

VII. Disposal of Excess Spoil

A. The Terror Creek Loadout will not require a disposal area for excess spoil. This section does not apply (4.09).

VIII. Coal Mine Waste Banks

A. The Terror Creek Loadout will not require coal mine waste banks. This section does not apply (4.10).

IX. Coal Mine Waste

A. No coal mine waste from the Terror Creek Loadout will be returned to underground workings (4.11.3).

B. Disposal of non-coal waste was handled as required (4.11.4).

C. No dams or embankments constructed of coal mine waste have been or proposed to be constructed (4.11.5).

X. Backfilling and Grading

A. Backfilling and grading information can be found on pages 2.05-8, 2.05-9, and 2.05-16R, and on Maps 10, 10A, 12, and 13 of the PAP.

With the approval of this PR-01, the Division has approved the retention of the facility pads in their current operational configuration. This is consistent with the post-mining land use "Industrial or Commercial", and requires minimal backfilling and grading (4.14.3(1)(a)).

XI. Revegetation

A. Pre-disturbance vegetation conditions are described on page 2.04-14. The revegetation plan that was approved prior to PR-01 has been retained for reference and is presented on pages 2.05-10 through 2.05-14 of the PAP.

The pre-disturbance vegetation in the permit area and vegetation existing adjacent to the permit area is predominantly irrigated agricultural crops, including fruit orchards with an understory of pasture grasses and irrigated pasture land.

Per the revegetation plan approved prior to the approval of PR-01, upon final grading and topsoil replacement, the disturbed area would be reseeded with adapted grasses and forbs to achieve a post-mine land use of irrigated cropland. Page 2.05.12R in the PAP details the seed mix that was to be used. Due to the permit area for the Terror Creek Loadout being less than 40 acres in size (13.6 acres total), the revegetation success standard is based on data collected in 1983 and 1984 from an area immediately west of the Loadout. This area is shown on Map 4 of the PAP, entitled Pre and Post Disturbance Land Use. The Division determined that the area of data collection is topographically and edaphically comparable to the disturbed area. Data submitted had been used by the Division to set a revegetation success standard for production in the reclaimed area at 2,700 lbs./acre (4.15.7(2)(d)(vi)).

With the approval of PR-01 the post-mining land use for the entire permit area has been changed to "Industrial or Commercial". As such, the ground cover of living plants shall not be less than required to control erosion (4.15.10(2))

XII. Post-mining Land Use

A. The Division is proposing to approve a post-mining land use of "Industrial or Commercial". The land use meets the criteria of Rule 4.16.3.

XIII. Protection of Fish, Wildlife and Related Environmental Values

A. The applicant has proposed the use of persistent pesticides to the site during operation and reclamation activities at the site. A weed management plan is in place to address noxious weeds, particularly white top, that appear at the Terror Creek Loadout. The operator will maintain records of herbicide use on the property for inspection by Division personnel.

XIV. Protection of Underground Mining

A. There are no current or proposed surface mining operations within or adjacent to the Terror Creek Loadout.

XV. Subsidence Control

A. This section does not apply to this operation, as Terror Creek is a coal loadout. No mining has occurred nor is mining approved to occur.

XVI. Concurrent Surface and Underground Mining

A. This section does not apply to the Terror Creek Loadout.

XVII. Operations on Alluvial Valley Floors

A. Identification of Alluvial Valley Floors

The PAP identifies an alluvial deposit extending approximately one mile to the east (upstream) and three miles to the southwest (downstream) of the permit area along the North Fork of the Gunnison River (Map 2 of the PAP). Lands upstream from the permit area are not a part of the hydrologic system that could be affected by the Loadout operation; therefore, no determination will be made by the Division for those lands at this time.

The valley bottom complex in the immediate vicinity of the proposed permit area (i.e., sections 15 and 22) consists of the current flood plain of the North Fork of the Gunnison River and a sloping colluvial deposit which rises above the flood plain to the north. Cropland, primarily fruit orchards and hay land, exists on both the colluvium and the flood plain in the vicinity and is irrigated with water diverted from the Deer Trail Ditch which roughly parallels State Highway 133 along the northern border of the permit area.

Detailed site geology (Map 1) and land use information (Map 4) provided within the PAP, with regard to the colluvial deposit, is limited to an area extending approximately 1,500 feet in all directions from the proposed permit boundary. An evaluation of the colluvial deposit with respect to alluvial valley floor inclusion will be limited to that portion of the deposit mapped as Qc (unconsolidated colluvium) on Map 11 of the PAP.

Construction of the Loadout pad and haul /access road within the permit area has disturbed approximately 13 acres, primarily orchard land. Surface disturbances have been limited to the colluvial deposit, with no surface disturbance in the present flood plain. No further surface disturbance is proposed or approved.

The PAP describes the unconsolidated deposit as being composed of colluvial

material resulting from mass wasting and slope wash from the steep slopes rising to the north of the permit area (see Map 11 of the PAP). The text indicates that, since settlement in the early 1900's, the area was graded to allow construction of the Fire Mountain Canal and accommodate flood irrigation.

The affected area occupies a transitional area (mapped as Qc on Map 2 of the PAP) between the flood plain and terrace complex below (mapped as Qa on Map 11 of the PAP) and the steeper upland slopes to the north of the permit area. It is the Division's determination that this transitional area is more appropriately considered to be an upland area rather than part of the flood plain and terrace complex as defined in Rules 1.04(10), (142), and (147).

Although colluvial deposits can be considered to be part of unconsolidated alluvial deposits in many cases, in this particular instance the deposits are fairly deep and appear to be underlain by bedrock or other fairly consolidated material (on the basis of test pits and observation by Division personnel). The permit area is also on a moderately steep slope (15%), which the applicant suggests was previously graded to accommodate agricultural activity. The type of irrigation practiced on these colluvial deposits consists of diverting the flow from a nearby irrigation canal into a system of furrows. This type of irrigation is the only feasible practice under such steep slope constraints and is considered to be artificial subirrigation rather than flood irrigation as strictly defined in Rule 1.04(48).

Based on considerations of the nature of the material, steepness of slopes and irrigation practice, the Division finds that the permit area is more appropriately considered to be within the upland area relative to the alluvial valley floor and is not within the flood plain and terrace complex. The Division therefore makes a negative determination for the presence of alluvial valley floors in the specific area of proposed disturbance for the Terror Creek operation.

The valley bottom below the proposed disturbance (below the existing railroad grade) is considered to be an alluvial valley floor. The Division therefore is required to make a finding for the impact of the disturbance on an adjacent alluvial valley floor. These findings are presented below.

B. Alluvial Valley Floor Findings

Pursuant to Rules 2.06.8 and 4.24.2, the Division is required to make specific written findings on the effect of mining upon any alluvial valley floor' s within the permit and adjacent area. The findings for the North Fork alluvial valley floor are presented below. Mining activity (construction of the loadout facility) has already disturbed approximately 13 acres of land on the colluvial slope. No further surface disturbance is proposed by the applicant.

Pursuant to Rule 2.06.8(5)(a)(i), the Division finds that the surface coal mining operations would not interrupt, discontinue, or preclude farming on the alluvial

valley floor. Loadout operations on the colluvial slope will not physically impact farming operations on the alluvial flood plain adjacent to the permit area. Groundwater is not present in the colluvium in the permit area and surface water from above the adjacent flood plain will be diverted around the disturbed area. No future impact which might interrupt, discontinue, or preclude farming on the flood plain is proposed. Thus, operations at Terror Creek would not interrupt, discontinue, or preclude farming on previously undisturbed portions of the alluvial valley floor.

Pursuant to Rule 2.06.8(5)(a)(ii), the Division finds that the surface coal mining operations would not materially damage the quality and quantity of water in surface and underground water systems that supply those alluvial valley floors or portions of alluvial valley floors. Given the small size (13.6 acres) and nature of the disturbance, no significant hydrologic impacts are anticipated. There is minimal potential for the quality of water supplied to the alluvial valley floor via the Deer Trail Ditch or the Fire Mountain Canal to be affected. The canals are located upslope from the disturbed area. Irrigation runoff and storm runoff will be diverted around the disturbance and disturbed flows will be routed through a sediment pond prior to discharge. The applicant has obtained water rights to Deer Trail Ditch water totaling 300 acre-feet per year and anticipated a maximum need of approximately 44 acre-feet per year when the loadout was operational. 44 acre-feet is approximately .01% of the mean annual flow of the North Fork.

The applicant's discussion of probable hydrologic consequences has identified no anticipated changes in surface water quality. All runoff from disturbed surface areas drains through an approved sediment control system. No material damage to the quality of surface waters supplied to the alluvial valley floor is anticipated due to sediment control at the site and the fact that the ditch, which supplies the AVF, is located upslope of the disturbance.

There is a slight potential for water quality degradation to occur in the alluvial aquifer immediately down gradient of the loadout pad as a result of percolation of degraded water through the colluvium. This potential is considered insignificant for the following reasons. First, the small amount of degraded percolation water that would infiltrate would be rapidly diluted by existing water in the system. Second, the amount of percolation water would be minimized by the small size of the contributing drainage area (less than 15 acres) and the fact that the compacted surface of the pad will favor runoff over infiltration.

Pursuant to Rules 4.24.2(1) and (2), the Division finds that surface coal mining and reclamation operations would be conducted to preserve, throughout the mining and reclamation process, the essential hydrologic functions of alluvial valley floors not within the affected area and would be conducted to reestablish the essential hydrologic functions of the alluvial valley floor within the affected area. As stated previously, operations are not expected to materially damage the quantity and quality of surface and ground water that supply the alluvial valley floor

downstream from the permit area. Pond discharge sampling, as specified in Section V of this document, will be implemented to document the assumptions of this finding. Operations, as presented in the PAP, will not interfere with or preclude irrigation of those portions of the AVF not within the affected area. Appropriate culverts and ditches have been required, where necessary.

XVIII. Operations on Prime Farmland

A. Pursuant to Rule 2.07.6(2)(k), the Division has made a negative determination for the presence of prime farmland within the proposed permit area. The decision was based on mapping by the U.S. Soil Conservation Service, which demonstrates that no prime farmland mapping units are found within the permit area.

XIX. Mountaintop Removal

A. This section does not apply to the Terror Creek Loadout.

XX. Operations on Steep Slopes

A. This section does not apply to the Terror Creek Loadout.

XXI. In Situ Processing

A. This section does not apply to the Terror Creek Loadout.

COST SUMMARY WORK

Task description: **Permit Revision 1 - Change of post-mining land use**

Site: **Terror Creek Loadout** Permit Action: PR1 Permit/Job#: C1983059

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 11/22/2019 County: Delta Filename: C059-000
User: LDS

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01A	Remove Coal Material from Disturbed Area	DOZER	1	15.45	$4,150
03A	Move Sediment Storage Pile for On-Site Disposal	DOZER	1	3.98	$1,068
05A	Compact Coal Material in On-Site Disposal Area	COMPACT	1	9.45	$1,456
12A	Plug and Seal 3 Alluvial Monitoring Wells	BOREHOLE	1	8.00	$987
15A	Demolish and Remove All Structures	DEMOLISH	1	200.00	$137,970
18A	Mobilize/Demobilize Equipment for Reclamation	MOBILIZE	1	6.00	$5,966
	SUBTOTALS:			**242.88**	**$151,597**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$3,062
Performance bond:	1.05	Total =	$1,592
Job superintendent:	104.00	Total =	$7,217
Profit:	10.00	Total =	$15,160
		TOTAL O & P =	$27,030
		CONTRACT AMOUNT (direct + O & P) =	$178,627

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	$500	Total =	$500
Engineering work and/or contract/bid preparation:	8.00	Total =	$14,290
Reclamation management and/or administration:	5.81		$10,378
CONTINGENCY:	0.00	Total =	$0
		TOTAL INDIRECT COST =	$52,199
		TOTAL BOND AMOUNT (direct + indirect) =	**$203,796**

BULLDOZER WORK

Task description: **Remove Coal Material from Disturbed Area**

Site: **Terror Creek Loadout** Permit Action: PR1 Permit/Job#: C1983059

PROJECT IDENTIFICATION

Task #: 01A State: Colorado Abbreviation: None
Date: 11/22/2019 County: Delta Filename: 059-01A
User: LDS

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU
Horsepower: 405
Blade Type: Semi-Universal
Attachment: NA
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$121.49	NA
Operating Cost/Hour:	$105.84	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$41.24	NA

Total unit Cost/Hour: $268.57
Total Fleet Cost/Hour: **$268.57**

MATERIAL QUANTITIES

Initial Volume: 8,067
Swell factor: 1.185
Loose volume: **9,559** LCY

Source of estimated volume: Division of Reclamation, Mining & Safety
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 200 feet
Unadjusted hourly production: 700.0 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %
Average site altitude: 5,800 feet

Material weight: 1,400 lbs/LCY

Weight description: Coal - Bituminous, Washed

Job Condition Correction Factor		Source
Operator Skill:	0.900	(AB.AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.643	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8837

Adjusted unit production: 618.59 LCY/hr
Adjusted fleet production: **618.59** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.434/LCY

Total job time: **15.45** Hours
Total job cost: **$4,150**

BULLDOZER WORK

Task description: **Move Sediment Storage Pile for On-Site Disposal**

Site: **Terror Creek Loadout** Permit Action: PR1 Permit/Job#: C1983059

PROJECT IDENTIFICATION

Task #: 03A State: Colorado Abbreviation: None
Date: 11/22/2019 County: Delta Filename: 059-03A
User: LDS

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU
Horsepower: 405
Blade Type: Semi-Universal
Attachment: NA
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$121.49	NA
Operating Cost/Hour:	$105.84	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$41.24	NA

Total unit Cost/Hour: $268.57
Total Fleet Cost/Hour: **$268.57**

MATERIAL QUANTITIES

Initial Volume: 1,500
Swell factor: 1.125
Loose volume: **1,688** LCY

Source of estimated volume: Map 5; Page 2.05-3
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 200 feet
Unadjusted hourly production: 700.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 0 %
Average site altitude: 5,800 feet

Material weight: 2,550 lbs/LCY

Weight description: Earth - Dry packed

Job Condition Correction Factor		Source
Operator Skill:	0.900	(AB.AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6064

Adjusted unit production: 424.48 LCY/hr
Adjusted fleet production: **424.48** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.633/LCY

Total job time: **3.98** Hours
Total job cost: **$1,068**

COMPACTION WORK

Task description: **Compact Coal Material in On-Site Disposal Area**

Site: **Terror Creek Loadout** Permit Action: PR1 Permit/Job#: C1983059

PROJECT IDENTIFICATION

Task #: 05A State: Colorado Abbreviation: None
Date: 11/22/2019 County: Delta Filename: 059-05A
User: LDS

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 815F Horsepower: 240
Compactor Type: Soil - tamping foot Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$60.28	NA
Operating Cost/Hour:	$67.72	100
Operator Cost/Hour:	$25.99	NA
Total Unit Cost/Hour:	$153.99	

Total Fleet Cost/Hour: **$153.99**

MATERIAL QUANTITIES

Loose volume: 9,559 LCY Shrinkage factor: 0.870
Compacted volume: **8,316** CCY

Source of estimated volume: Map 5 - Assume 1' Over 5 Acres
Source of estimated shrinkage factor: Cat Handbook

HOURLY PRODUCTION

Unadjusted hourly production = (W x S x L x C) / P

Compacted width per pass (W):	6.50	feet
Average Compactor Speed (S):	5.00	mph
Compacted thickness of each lift (L):	10.00	inches
Conversion Constant (C):	16.3	(5,280ft./12in./27cu.ft.)
Required number of machine passes (P):	5	passes
Unadjusted Hourly Unit Production:	1,059.50	CCY/hour

Job Condition Correction Factors Site Altitude: 5,800 feet

		Source
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.83	(1 shift/day)
Net Correction:	0.8300	multiplier

Adjusted Hourly Unit Production: 879.39 CCY/Hour
Adjusted Hourly Fleet Production: **879.39** CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s) Total job time: **9.46** Hours

Unit cost: $0.175 per CCY Total job cost: **$1,456**

BOREHOLE SEALING WORK

Task description: **Plug and Seal 3 Alluvial Monitoring Wells**

Site: **Terror Creek Loadout** Permit Action: PR1 Permit/Job#: C1983059

PROJECT IDENTIFICATION

Task #: 12A State: Colorado Abbreviation: None
Date: 11/22/2019 County: Delta Filename: 059-12A
User: LDS

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 4 in. diameter borehole	4"	100'	3.00	EA	$32.62	$97.86
- Fill Holes with Cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4"	100'	13.00	bag	$13.40	$174.20
- Cut Casing at Surface	Exposed casing removal - Calculate Circumference in Linear Feet	4"	100'	3.00	LF	$3.26	$9.78
- Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	3.00	EA	$32.00	$96.00
- Truck and Laborer	Flatbed Truck, 6x4, 45K GVW	NA	NA	8.00	EA	$76.15	$609.20

Job Hours: **8.00** **Total Cost**: **$987.00**

DEMOLITION WORK

Task description: **Demolish and Remove All Structures**

Site: **Terror Creek Loadout** Permit Action: PR1 Permit/Job#: C1983059

PROJECT IDENTIFICATION

Task #: 15A State: Colorado Abbreviation: None
Date: 11/22/2019 County: Delta Filename: 059-15A
User: LDS

Agency or organization name: DRMS

UNIT COSTS **Location adjustment: 98.20 %**

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Control Tower	16'x14'x26'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	5,824.00	CF	$0.23	$1,329.04
- Pad	16'x14'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	288.00	SF	$0.93	$268.96
Substation	16'x24'x20'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	7,680.00	CF	$0.23	$1,752.58
- Pad	12'x10'x8"	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 200 ft. push	120.00	SF	$1.25	$149.42
- Footing	1'x2'x44 LF	Demo. and on-site disposal in excavated pit, 1.0 ft. x 2 ft. - Max. 200 ft. push	44.00	LF	$3.74	$164.36
Secondary Substation	9'x4'x6'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	216.00	CF	$0.20	$42.55
- Pad	16'x6'x8"	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 200 ft. push	96.00	SF	$1.19	$114.25
Storage Building	52'x12'x8'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	4,992.00	CF	$0.20	$983.42
- Pad	52'x12'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	624.00	SF	$0.93	$582.75
Scale House	9'x8'x8'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	576.00	CF	$0.20	$113.47
- Pad	9'x8'x8"	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 200 ft. push	72.00	SF	$1.19	$85.69

Trailer Near Garage	57'x10'x11x	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	6,270.00	CF	$0.20	$1,235.19
Stoker Oil Shed	28'x10'x9'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	2,460.00	CF	$0.20	$484.62
- Floor	28'x10'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	280.00	SF	$0.93	$261.49
- Footing	3'x1.5'x76 LF	Demo. and on-site disposal in excavated pit, 1.5 ft. x 3 ft. - Max. 200 ft. push	76.00	LF	$8.40	$638.77
Bath House	60'x10'x8'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	4,800.00	CF	$0.20	$945.60
Over-the-Track Coal Bin	14'x12'x34'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	5,712.00	CF	$0.23	$1,303.48
- Footing	2'x2'x16 LF	Demo. and on-site disposal in excavated pit, 1.5 ft. x 3 ft. - Max. 200 ft. push	16.00	LF	$8.40	$134.48
Walkway and Stairway	240'x3.3'x3.5'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	2,772.00	CF	$0.20	$546.08
- Pads	5@4'x4'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	80.00	SF	$0.93	$74.71
Rail Car Puller	8'x8'x4'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	256.00	CF	$0.20	$50.43
- Pad	10'x10'x12"	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	100.00	SF	$1.87	$186.78
Primary Screener	36'x14'x14'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	7,056.00	CF	$0.23	$1,610.18
- Pad	40'x18'x8"	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 200 ft. push	720.00	SF	$1.25	$896.54
Crusher	8'x8'x8'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	512.00	CF	$0.20	$100.86
- Pad	12'x10'x8"	Demo. and on-site disposal in excavated pit, 8 in. thick - Max.	120.00	SF	$1.25	$149.42

		200 ft. push				
Secondary Screener	36'x9'x14'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	4,536.00	CF	$0.23	$1,035.12
- Pad	40'x14'x8"	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 200 ft. push	560.00	SF	$1.25	$697.31
Secondary Stacker to Reclaim	110'x3'x30'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	9,900.00	CF	$0.23	$2,259.18
- Footing	1.5'x3'x50 LF	Demo. and on-site disposal in excavated pit, 1.5 ft. x 3 ft. - Max. 200 ft. push	50.00	LF	$8.40	$420.25
Secondary Stacker to Pile	100'x3'x10'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	3,000.00	CF	$0.23	$684.60
- Footing	1.5'x3'x50 LF	Demo. and on-site disposal in excavated pit, 1.5 ft. x 3 ft. - Max. 200 ft. push	50.00	LF	$8.40	$420.25
Primary Stacker to Lump Pile	100'x3'x10'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	3,000.00	CF	$0.23	$684.60
- Footing	1.5'x3'x50 LF	Demo. and on-site disposal in excavated pit, 1.5 ft. x 3 ft. - Max. 200 ft. push	50.00	LF	$8.40	$420.25
Truck Dump	24'x18'x14'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	6,048.00	CF	$0.23	$1,380.15
CMP #2	12"x25 LF	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	25.00	LF	$3.38	$84.56
CMP #3 and CMP #4	18"x95 LF	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	95.00	LF	$4.58	$435.26
Principle Spillway at Sediment Pond	12"x80 LF	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	80.00	LF	$3.38	$270.59
Truck Dump to Primary Conveyor	180 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	3.00	EA	$2,900.00	$8,700.00
Primary to Secondary Conveyor	80 LF	Conveyor, Horizontal Belt 24" Belt, 41.5' Length	2.00	EA	$2,175.00	$4,350.00
Primary to Transfer Conveyor	100 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	2.00	EA	$2,900.00	$5,800.00
Crusher to Secondary Conveyor	80 LF	Conveyor, Horizontal Belt 24" Belt, 41.5' Length	2.00	EA	$2,175.00	$4,350.00
Secondary to	46 LF	Conveyor, Horizontal	1.00	EA	$2,900.00	$2,900.00

Transfer Conveyor		Belt 24" Belt, 61.5' Length				
Reclaim Conveyor	60 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	1.00	EA	$2,900.00	$2,900.00
Reclaim to Transfer Conveyor	100 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	2.00	EA	$2,900.00	$5,800.00
Transfer to Loadout Conveyor	100 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	2.00	EA	$2,900.00	$5,800.00
- Conveyor Footings	2'x1'x14 LF	Demo. and on-site disposal in excavated pit, 1.0 ft. x 2 ft. - Max. 200 ft. push	14.00	LF	$3.74	$52.30
Railroad Track	1,650 LF	Railroad track - Ties and track	1,650.00	LF	$9.36	$15,444.00
- Ballast	1,100 CY	Railroad track - Ballast	1,100.00	CY	$4.78	$5,258.00
Substation Fencing	164 LF	Fencing, chain link, including posts and fabric - 8 ft. to 10 ft. high	164.00	LF	$3.12	$511.68
Retaining Wall	272'x7.5'x12"	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	2,040.00	SF	$1.98	$4,030.43
- Footing	1'x2'x128 LF	Demo. and on-site disposal in excavated pit, 1.0 ft. x 2 ft. - Max. 200 ft. push	128.00	LF	$3.74	$478.14
Concrete Sump	36.5'x36.5'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	1,332.00	SF	$0.93	$1,243.95
Powerlines and Poles	1,115 LF	Utility Poles, Wood 35' - 45' high (each pole)	6.00	EA	$265.00	$1,590.00
Coal Loadout Bin	10'x6'x12'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	720.00	CF	$0.20	$141.84
Road Pavement	300'x24'x6"	Pavement, bituminous, demolition only - 4 in. to 6 in. thick	800.00	SY	$7.09	$5,672.00
- Guard Rails	1,140 LF	Railing, roadside guiderail and posts (posts on 20 ft. centers)	1,140.00	LF	$3.67	$4,182.66
Stoker Oil Building Expansion	10'x10'x110'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	1,000.00	CF	$0.20	$197.00
- Pad	10'x10'x4"	Demo. and on-site disposal in excavated pit, 4 in. thick - Max. 200 ft. push	100.00	SF	$0.62	$62.26
- Walls	10'x12'x4"	Demo. and on-site disposal in excavated pit, 4 in. thick - Max. 200 ft. push	120.00	SF	$0.66	$79.03
Reclaim Tunnel	60'x8'x8'	Bldg. (SN) demo./on-	3,840.00	CF	$0.20	$756.48

		site disposal in excavated pit - Max. 200 ft. push				
- Pad	60'x5'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	300.00	SF	$0.93	$280.17
- Escapeway	36"x180 LF	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	180.00	LF	$9.23	$1,661.53
Remove 5 Barrels of Hazardous Waste	5@55 Gallons	Hazardous waste removal - Drum solids/liquids, per drum, (1-6 drum job)	5.00	DRUM	$609.35	$3,046.73
6,000 Gallon Diesel Tank	6,000 Gallons	Comprehensive storage tank removal, non-leaking - 6,000 to 8,000 gal. tank	1.00	EA	$5,305.15	$5,305.15
4,000 Gallon Water Tank	4,000 Gallons	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	1.00	EA	$760.00	$760.00
1,500 Gallon Anti-Freeze Tank	1,500 Gallons	Comprehensive storage tank removal, non-leaking - 3,000 to 5,000 gal. tank	1.00	EA	$3,445.30	$3,445.30
5,000 Gallon Stoker Oil Tank	5,000 Gallons	Comprehensive storage tank removal, non-leaking - 3,000 to 5,000 gal. tank	1.00	EA	$3,445.30	$3,445.30
350 Gallon Fuel Tanks (2)	2@350 Gallons	Comprehensive storage tank removal, non-leaking - 3,000 to 5,000 gal. tank	2.00	EA	$3,445.30	$6,890.60
7,000 Gallon Anti-Freeze Tank	7,000 Gallons	Comprehensive storage tank removal, non-leaking - 6,000 to 8,000 gal. tank	1.00	EA	$5,305.15	$5,305.15
500 Gallon Diesel Tanks (2)	2@500 Gallons	Comprehensive storage tank removal, non-leaking - 3,000 to 5,000 gal. tank	2.00	EA	$3,445.30	$6,890.60
Dispose of powerline material	1,115 LF	Disposal of utility pole and hardware surplus material	1,115.00	LF	$0.02	$22.30
Dispose of conveyor material	746 LF	Conveyor, demolition, on-site disposal, existing pit, 200 ft. push	746.00	CF	$0.20	$149.20

Job Hours: **200.00** **Subtotal (unadjusted)**: **$140,499.04** **Total Cost (adjusted for location)**: **$137,970.06**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mobilize/Demobilize Equipment for Reclamation**

Site: **Terror Creek Loadout** Permit Action: PR1 Permit/Job#: C1983059

PROJECT IDENTIFICATION

Task #: 18A State: Colorado Abbreviation: None
Date: 11/22/2019 County: Delta Filename: 059-18A
User: LDS

Agency or organization name: DRMS

EQUIPMENT TRANSPORT RIG COST

Shift basis: 1 per day
Cost Data Source: CRG Data

Truck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED, 400 HP (2ND HALF, 2006)

Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER (25T, 50T, AND 100T)

Cost Breakdown:

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	$17.20	$29.63	$38.69
Operating Cost/Hour:	$26.56	$47.02	$55.69
Operator Cost/Hour:	$23.63	$23.63	$23.63
Helper Cost/Hour:	$0.00	$23.53	$23.53
Total Unit Cost/Hour:	$67.39	$123.81	$141.54

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D9T - 9SU	60.01	$121.49	$141.54	1	$263.03	$141.54	$250.00
CAT 815F	22.88	$60.28	$67.39	1	$127.67	$67.39	$250.00
Cat 623G	41.35	$107.73	$123.81	1	$231.54	$123.81	$250.00
CAT 14M	23.57	$64.10	$67.39	1	$131.49	$67.39	$250.00
Subtotals:					**$753.73**	**$400.13**	**$1,000.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Flatbed Truck, 6x4, 45K GVW	$48.50	1	$48.50	$48.50
Fuel Tanker, 4x2, 170 HP	$27.02	1	$27.02	$27.02
Subtotals:			**$75.52**	**$75.52**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	DELTA	
Total one-way travel distance:	40.00	miles
Average Travel Speed:	40.00	mph

Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$5,815.18
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$151.04

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	1.00	1.00
Return Time (Hours):	1.00	1.00
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	3.00	2.00

JOB TIME AND COST

Total job time:	**6.00**	Hours
Total job cost:	**$5,966**	

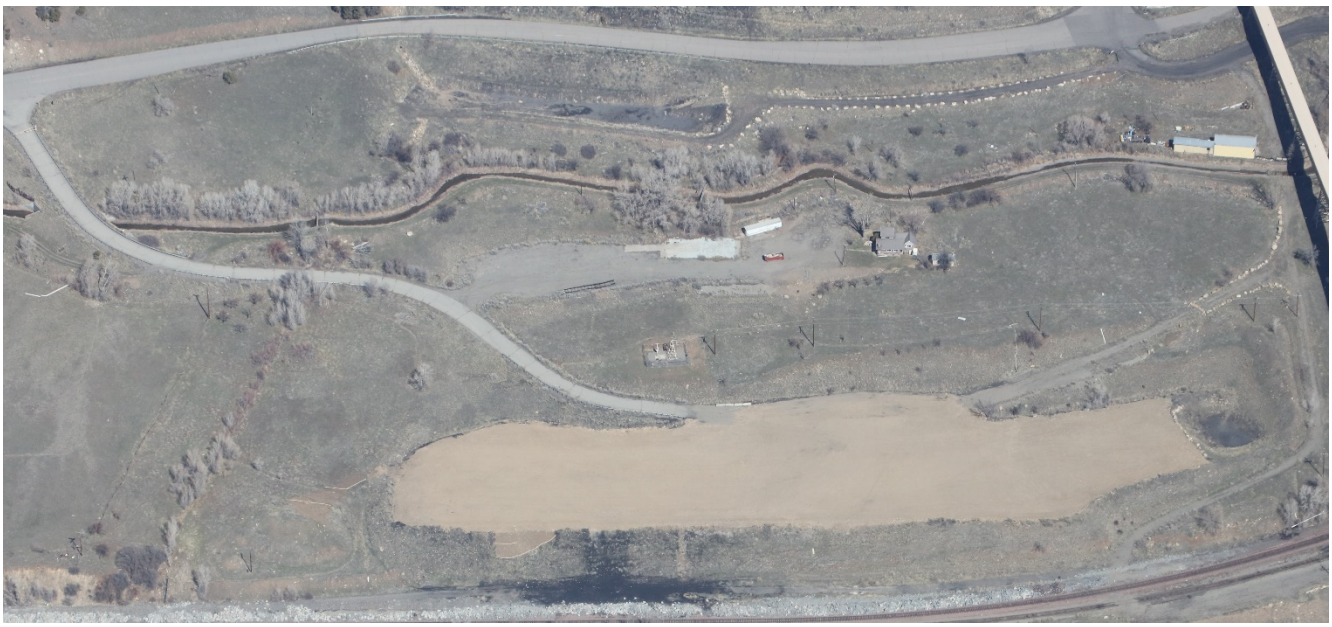
2. MT-8 Findings and Cost Estimate

COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

MIDTERM PERMIT REVIEW (MT- 8)
for
Oxbow Mining, LLC

Terror Creek Loadout

Permit No. C-1983-059



September 7, 2021

Virginia Brannon, Director

Prepared by

Leigh Simmons

In Fulfillment of C.R.S. 34-33-115 and the following
Regulations of the Colorado Mined Land Reclamation Board for Coal Mining:
Rules 2.08.3, 2.06.2, 2.06.3, 2.06.5, 2.06.7 and 3.02.2

Introduction

This document presents the results of the Midterm Review of the Terror Creek Loadout permit, conducted by the Colorado Division of Reclamation, Mining and Safety (Division). The Terror Creek Loadout is owned and operated by Oxbow Mining, LLC. This Midterm Review was conducted to fulfill the requirements of the Colorado Surface Coal Mining Reclamation Act (Act), and Rules 2.08.3, 2.06.2(9), 2.06.3(4), 2.06.5(3), 2.06.7(5), and 3.02.2(4) of the Rules and Regulations of the Colorado Mined Land Reclamation Board for Coal Mining (Rules), which were promulgated to implement the Act.

Rule 2.08.3 requires that the Division conduct a review of each permit issued not later than the middle of the permit term. Based on this review, for good cause shown, the Division may require reasonable revisions to, or modifications of, the permit provisions to ensure compliance with the Act and Regulations.

Rules 2.06.2, 2.06.3, 2.06.5, and 2.06.7 require that during the midterm review, where applicable, experimental practices, mountaintop removal variances, variances from approximate original contour (AOC), and variances from contemporaneous reclamation, respectively, be reviewed by the Division.

Rule 3.02.2(4) requires that the Division review the amount of performance bond liability and the terms of acceptance of the bond every 2½ years.

This Midterm Review consisted of a detailed review of the Terror Creek Loadout permit application package and previous Division findings of compliance to ensure that the proposed operation is in compliance with the Rules and Act. The Division also reviewed all subsequent revisions and stipulation responses to ensure that all permit commitments and conditions were being followed. Problems and observations from past Division inspection reports were also considered.

The document has seven sections.

- Section I contains a brief description of the mine history and the surrounding environment.
- Section II contains a summary of permit actions since the last Permit Renewal.
- Section III is a summary of the Division's review of the active stipulations attached to the permit.
- Section IV is a summary of the review of any previously approved experimental practices, mountaintop removal variances, variances from approximate original contour (AOC), and variances from contemporaneous reclamation.
- Section V summarizes any enforcement actions issued since the permit was last renewed, and the current status of any actions that were issued.
- Section VI is a summary of the review and a discussion of any problems identified as a result of this review that are required to be resolved.
- Section VII is a summary of the review of the reclamation cost estimate and the performance bond(s) held by the Division.

Section I - Mine History and the Environment

Mine Status and History

The Terror Creek Loadout was permitted and originally operated as an independent coal handling and train loadout facility and is located in Delta County, approximately four miles north of the town of Paonia, Colorado. The Terror Creek Loadout was permitted under the permanent state regulatory program in 1983. The loadout was originally permitted by the Terror Creek Company and through Minor Revision No. 25 the permittee changed to the current Terror Creek, LLC. The original 1983 permit has been renewed seven times.

Permit (C-1983-059)	**Date Issued**
Division issues Permit C-1983-059	August 23, 1983
Permit Renewal No. 1	September 26, 1988
Permit Renewal No. 2	August 23, 1993
Permit Renewal No. 3	August 23, 1998
Permit Renewal No. 4	August 23, 2003
Permit Renewal No. 5	July 10, 2008
Permit Renewal No. 6	February 28, 2015
Permit Renewal No. 7	February 29, 2020

Description of the Environment

The coal loadout facilities are located approximately four miles northeast of Paonia along State Highway No. 133. The 20.00 acre permit area is situated on a moderately steep colluvial deposit between State Highway No. 133 and the flood plain of the North Fork of the Gunnison River, at an approximate elevation of 5,900 feet. The permit area is located in portions of Sections 15 Township 13 South, Range 91 West of the 6th Principal Meridian.

The primary land uses in the general area are irrigated agriculture, underground coal mining, and wildlife habitat. Orchards and pasture lands are irrigated via the Fire Mountain Canal, which diverts water from the North Fork of the Gunnison, and the Deer Trail Ditch, which diverts water from Hubbard Creek. The pre-disturbance land use at the Loadout was for irrigated orchards.

Description of the Operation and Reclamation Plan

Although the Loadout is no longer being used to handle coal, and some reclamation work has taken place at the site, no bond release application has been submitted to the Division as of the date of these Findings.

Permitted facilities at the Terror Creek Loadout consist of a truck scale, raw, crushed, and sorted coal stockpiles, crushing and screening facilities, a train loadout facility, and an office, shop, bathhouse,

and storage facilities. The anticipated annual coal tonnage permitted to be handled at this facility is up to 500,000 tons.

Drainage and sedimentation control consists of a diversion ditch to direct undisturbed irrigation drainage and storm runoff around the site, a berm to prevent spillage of coal over the bench, and a sediment pond and dugout pond to retain disturbed drainage and allow for NPDES compliance prior to discharge.

Sediment will be periodically removed from the sedimentation ponds to ensure proper functioning of the ponds. If needed, the sediment removed from the ponds will be placed in the sediment storage pile. Annually, during the summer months, a portion or all of the sediment pile will be spread over the site to improve drainage and to keep the size of the pile at approximately 1,500 tons. Interim revegetation of road cuts, berms, and the topsoil stockpiles further minimize wind and water erosion.

Raw coal from haulage trucks or from the raw coal stockpile is approved to be dumped into an enclosed, underground feeder. The coal is then conveyed to appropriate screens for size separation and crushed if necessary. The product coal is then either loaded directly into rail cars or placed in an appropriate stockpile for later loading. Product coal includes lump, stoker, and fines. Limited coal crushing is performed at the loadout. Crushing, conveying and loadout operations are equipped with a water spray system to control dust.

Prior to the approval of Permit Revision No. 1 (PR-01), the reclamation plan specified the demolition and disposal of some facilities, grading to restore the site to the approximate original contour, topsoil replacement, and seeding with adapted pasture grasses. The site was to be reclaimed to a post-mining land use of irrigated hay “Cropland”. Details of the previously approved plan have been retained in section 2.05.4 of the Permit Application Package (PAP) for future reference.

With the approval of PR-01, the Division approved a change in the post-mining land use to “Industrial or Commercial”. The currently approved reclamation plan is described in section 2.05.5 of the PAP. The reclamation plan specifies that the facility pads will remain in the pads current configurations, which reflect the configurations during the active life of the loadout. Concrete walls and footers will be demolished and Loadout tunnels will be filled. The approved post-mining topography is shown on Map 10 of the PAP, which was revised with PR-01. Map 10 and section 2.05.5 both refer to Maps 12 and 13 of the PAP, which identify topographic sections. Maps 12 and 13 of the PAP were not revised with PR-01, however the text of section 2.05.5 and in the legend of Map 10 of the PAP clearly states that the “Present Configuration” shown in the topographic section drawings now represents the revised post-mining configuration.

Facilities approved to remain after reclamation include the office, garage, wooden building adjacent to the office, the paved haul road and all of the gravel access road. The siding track may remain if it is sold to the Union Pacific Railroad.

Section II - Revisions to the Permit

There have been no revisions to the permit since the issuance of Permit Renewal No. 7 (RN-7).

Section III - Status of Stipulations

The stipulation history for the Terror Creek Loadout was reviewed as part of the midterm review. The review included an investigation of any stipulations imposed since the last permit renewal, and any responses to existing stipulations received since the last permit renewal. Any stipulations associated with this permit and issued over the life of this operation which are not discussed in this midterm review have been complied with or terminated.

There are no active stipulations attached to the permit.

Section IV – Permit Variances and Specific Approvals

The Terror Creek Loadout permit does not include variances for any of the associated sub-sections identified under Section 2.06.

Section V - Enforcement Actions

No enforcement actions have been issued since the issuance of Permit Renewal No. 7 (RN-7).

Section VI - Identified Issues and Required Revisions

No issues have been identified requiring a revision to the permit, however the following issues were identified during the normal I&E (inspection and enforcement) program and will need to be addressed in order for the site to be eligible for bond release:

1. Coal containing material is clearly visible in the aerial images presented in the November aerial inspection report (dated 12/2/2020), and from the ground, around the location of the loadout facility and conveyor (as shown on Map 5). This coal-containing material must be removed prior to final bond release, regardless of the post-mining land use of the site.

2. All concrete structures (including a concrete foundation visible in the embankment, to the east of the recently backfilled area) must be broken up and buried or disposed of off-site.

3. All non-coal waste should be removed from the site.

4. Noxious weeds should be under control.

5. Additionally, for final bond release to be approved over the entire site, it will be necessary that the entire site support the approved post-mining land use, as described in section 2.05.5 of the PAP (RV/boat storage). If the existing railroad siding does not support that land use it should be reclaimed. In order to assess this, the Division will refer to the Delta County land use permit when considering a future bond release application, and specifically how the area covered by that permit compares with the boundary of the disturbance associated with the mining permit.

Section VII – Reclamation Liability and Performance Bonding

The Division estimates the reclamation liability for mining operations to be $215,014 (a copy of the revised site-wide Reclamation Cost Estimate is attached as Appendix 1). The Division currently holds a Corporate Surety in the amount of $290,000.00 for the Terror Creek Loadout. There is no need to post additional bond.

This concludes the 2021 Midterm Review of the Terror Creek Loadout.

Appendix 1: MT-8 Reclamation Cost Estimate

COST SUMMARY WORK

Task description: **Mid-term Review No. 8**

Site: **Terror Creek Loadout** Permit Action: MT8 Permit/Job#: C1983059

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 8/30/2021 12:48:26 PM County: Delta Filename: C059-000
User: LDS

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01A	Remove Coal Material from Disturbed Area	DOZER	1	15.45	$4,771
03A	Move Sediment Storage Pile for On-Site Disposal	DOZER	1	3.98	$1,227
05A	Compact Coal Material in On-Site Disposal Area	COMPACT	1	9.45	$1,739
12A	Plug and Seal 3 Alluvial Monitoring Wells	BOREHOLE	1	8.00	$1,098
15A	Demolish and Remove All Structures	DEMOLISH	1	200.00	$145,332
18A	Mobilize/Demobilize Equipment for Reclamation	MOBILIZE	1	6.00	$6,705
		SUBTOTALS:		**242.88**	**$160,872**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$3,250
Performance bond:	1.05	Total =	$1,689
Job superintendent:	121.44	Total =	$8,747
Profit:	10.00	Total =	$16,087
		TOTAL O & P =	$29,773
		CONTRACT AMOUNT (direct + O & P) =	$190,645

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	$500	Total =	$500
Engineering work and/or contract/bid preparation:	7.22	Total =	$13,765
Reclamation management and/or administration:	5.30		$10,104
CONTINGENCY:	0.00	Total =	$0
		TOTAL INDIRECT COST =	$54,142
		TOTAL BOND AMOUNT (direct + indirect) =	**$215,014**

BULLDOZER WORK

Task description: **Remove Coal Material from Disturbed Area**

Site: **Terror Creek Loadout** Permit Action: MT8 Permit/Job#: C1983059

PROJECT IDENTIFICATION

Task #:	01A	State:	Colorado	Abbreviation:	None
Date:	8/30/2021 12:34:06 PM	County:	Delta	Filename:	05901A
User:	LDS				

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine:	Cat D9T - 9SU
Horsepower:	405
Blade Type:	Semi-Universal
Attachment:	NA
Shift Basis:	1 per day
Data Source:	(CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$126.01	NA
Operating Cost/Hour:	$141.41	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$41.30	NA

Total unit Cost/Hour: $308.72
Total Fleet Cost/Hour: **$308.72**

MATERIAL QUANTITIES

Initial Volume:	8,067
Swell factor:	1.185
Loose volume:	**9,559** LCY

Source of estimated volume: Division of Reclamation, Mining & Safety
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 200 feet
Unadjusted hourly production: 700.0 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: 0 %
Average site altitude: 5,800 feet

Material weight: 1,400 lbs/LCY

Weight description: Coal - Bituminous, Washed

Job Condition Correction Factor		Source
Operator Skill:	0.900	(AB.AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.643	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8837

Adjusted unit production: 618.59 LCY/hr
Adjusted fleet production: **618.59** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.499/LCY

Total job time: **15.45** Hours
Total job cost: **$4,771**

BULLDOZER WORK

Task description: **Move Sediment Storage Pile for On-Site Disposal**

Site: **Terror Creek Loadout** Permit Action: MT8 Permit/Job#: C1983059

PROJECT IDENTIFICATION

Task #:	03A	State:	Colorado	Abbreviation:	None
Date:	8/30/2021 12:36:23 PM	County:	Delta	Filename:	05903A
User:	LDS				

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine:	Cat D9T - 9SU
Horsepower:	405
Blade Type:	Semi-Universal
Attachment:	NA
Shift Basis:	1 per day
Data Source:	(CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$126.01	NA
Operating Cost/Hour:	$141.41	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$41.30	NA

Total unit Cost/Hour: $308.72
Total Fleet Cost/Hour: **$308.72**

MATERIAL QUANTITIES

Initial Volume:	1,500
Swell factor:	1.125
Loose volume:	**1,688** LCY

Source of estimated volume: Map 5; Page 2.05-3
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 200 feet
Unadjusted hourly production: 700.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 0 %
Average site altitude: 5,800 feet

Material weight: 2,550 lbs/LCY

Weight description: Earth - Dry packed

Job Condition Correction Factor		Source
Operator Skill:	0.900	(AB.AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6064

Adjusted unit production: 424.48 LCY/hr
Adjusted fleet production: **424.48** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.727/LCY

Total job time: **3.98** Hours
Total job cost: **$1,227**

COMPACTION WORK

Task description: **Compact Coal Material in On-Site Disposal Area**

Site: **Terror Creek Loadout** Permit Action: MT8 Permit/Job#: C1983059

PROJECT IDENTIFICATION

Task #:	05A	State:	Colorado	Abbreviation:	None
Date:	8/30/2021 12:37:33 PM	County:	Delta	Filename:	05905A
User:	LDS				

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine:	CAT 815F	Horsepower:	240
Compactor Type:	Soil - tamping foot	Shift Basis:	1 per day
		Data Source:	(CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$91.25	NA
Operating Cost/Hour:	$66.66	100
Operator Cost/Hour:	$26.02	NA
Total Unit Cost/Hour:	$183.93	
Total Fleet Cost/Hour:	**$183.93**	

MATERIAL QUANTITIES

Loose volume:	9,559	LCY	Shrinkage factor:	0.870
Compacted volume:	**8,316**	CCY		

Source of estimated volume: Map 5 - Assume 1' Over 5 Acres
Source of estimated shrinkage factor: Cat Handbook

HOURLY PRODUCTION

Unadjusted hourly production = (W x S x L x C) / P

Compacted width per pass (W):	6.50	feet
Average Compactor Speed (S):	5.00	mph
Compacted thickness of each lift (L):	10.00	inches
Conversion Constant (C):	16.3	(5,280ft./12in./27cu.ft.)
Required number of machine passes (P):	5	passes
Unadjusted Hourly Unit Production:	1,059.50	CCY/hour

Job Condition Correction Factors Site Altitude: 5,800 feet

		Source
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.83	(1 shift/day)
Net Correction:	0.8300	multiplier

Adjusted Hourly Unit Production:	879.39	CCY/Hour
Adjusted Hourly Fleet Production:	**879.39**	CCY/Hour

JOB TIME AND COST

Fleet size:	1	Compactor(s)	Total job time:	**9.46**	Hours
Unit cost:	$0.209	per CCY	Total job cost:	**$1,739**	

BOREHOLE SEALING WORK

Task description: **Plug and Seal 3 Alluvial Monitoring Wells**

Site: **Terror Creek Loadout** Permit Action: MT8 Permit/Job#: C1983059

PROJECT IDENTIFICATION

Task #: 12A State: Colorado Abbreviation: None
Date: 8/30/2021 12:39:27 PM County: Delta Filename: 05912A
User: LDS

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 4 in. diameter borehole	4"	100'	3.00	EA	$33.98	$101.94
- Fill Holes with Cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4"	100'	13.00	bag	$19.95	$259.35
- Cut Casing at Surface	Exposed casing removal - Calculate Circumference in Linear Feet	4"	100'	3.00	LF	$3.26	$9.78
- Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	3.00	EA	$37.50	$112.50
- Truck and Laborer	Flatbed Truck, 6x4, 45K GVW	NA	NA	8.00	EA	$76.83	$614.64

Job Hours: **8.00** **Total Cost**: **$1,098.00**

DEMOLITION WORK

Task description: **Demolish and Remove All Structures**

Site: **Terror Creek Loadout** Permit Action: MT8 Permit/Job#: C1983059

PROJECT IDENTIFICATION

Task #: 15A State: Colorado Abbreviation: None
Date: 8/4/2021 County: Delta Filename: 05915A
User: LDS

Agency or organization name: DRMS

UNIT COSTS **Location adjustment: 98.20 %**

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Control Tower	16'x14'x26'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	5,824.00	CF	$0.24	$1,386.11
- Pad	16'x14'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	288.00	SF	$1.05	$303.26
Substation	16'x24'x20'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	7,680.00	CF	$0.24	$1,827.84
- Pad	12'x10'x8"	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 200 ft. push	120.00	SF	$1.40	$168.48
- Footing	1'x2'x44 LF	Demo. and on-site disposal in excavated pit, 1.0 ft. x 2 ft. - Max. 200 ft. push	44.00	LF	$4.21	$185.24
Secondary Substation	9'x4'x6'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	216.00	CF	$0.22	$47.09
- Pad	16'x6'x8"	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 200 ft. push	96.00	SF	$1.34	$129.02
Storage Building	52'x12'x8'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	4,992.00	CF	$0.22	$1,088.26
- Pad	52'x12'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	624.00	SF	$1.05	$657.07
Scale House	9'x8'x8'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	576.00	CF	$0.22	$125.57
- Pad	9'x8'x8"	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 200 ft. push	72.00	SF	$1.34	$96.77

Trailer Near Garage	57'x10'x11x	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	6,270.00	CF	$0.22	$1,366.86
Stoker Oil Shed	28'x10'x9'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	2,460.00	CF	$0.22	$536.28
- Floor	28'x10'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	280.00	SF	$1.05	$294.84
- Footing	3'x1.5'x76 LF	Demo. and on-site disposal in excavated pit, 1.5 ft. x 3 ft. - Max. 200 ft. push	76.00	LF	$9.48	$720.48
Bath House	60'x10'x8'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	4,800.00	CF	$0.22	$1,046.40
Over-the-Track Coal Bin	14'x12'x34'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	5,712.00	CF	$0.24	$1,359.46
- Footing	2'x2'x16 LF	Demo. and on-site disposal in excavated pit, 1.5 ft. x 3 ft. - Max. 200 ft. push	16.00	LF	$9.48	$151.68
Walkway and Stairway	240'x3.3'x3.5'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	2,772.00	CF	$0.22	$604.30
- Pads	5@4'x4'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	80.00	SF	$1.05	$84.24
Rail Car Puller	8'x8'x4'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	256.00	CF	$0.22	$55.81
- Pad	10'x10'x12"	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	100.00	SF	$1.11	$110.60
Primary Screener	36'x14'x14'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	7,056.00	CF	$0.24	$1,679.33
- Pad	40'x18'x8"	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 200 ft. push	720.00	SF	$1.40	$1,010.88
Crusher	8'x8'x8'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	512.00	CF	$0.22	$111.62
- Pad	12'x10'x8"	Demo. and on-site disposal in excavated pit, 8 in. thick - Max.	120.00	SF	$1.40	$168.48

		200 ft. push				
Secondary Screener	36'x9'x14'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	4,536.00	CF	$0.24	$1,079.57
- Pad	40'x14'x8"	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 200 ft. push	560.00	SF	$1.40	$786.24
Secondary Stacker to Reclaim	110'x3'x30'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	9,900.00	CF	$0.24	$2,356.20
- Footing	1.5'x3'x50 LF	Demo. and on-site disposal in excavated pit, 1.5 ft. x 3 ft. - Max. 200 ft. push	50.00	LF	$9.48	$474.00
Secondary Stacker to Pile	100'x3'x10'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	3,000.00	CF	$0.24	$714.00
- Footing	1.5'x3'x50 LF	Demo. and on-site disposal in excavated pit, 1.5 ft. x 3 ft. - Max. 200 ft. push	50.00	LF	$9.48	$474.00
Primary Stacker to Lump Pile	100'x3'x10'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	3,000.00	CF	$0.24	$714.00
- Footing	1.5'x3'x50 LF	Demo. and on-site disposal in excavated pit, 1.5 ft. x 3 ft. - Max. 200 ft. push	50.00	LF	$9.48	$474.00
Truck Dump	24'x18'x14'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	6,048.00	CF	$0.24	$1,439.42
CMP #2	12"x25 LF	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	25.00	LF	$4.10	$102.43
CMP #3 and CMP #4	18"x95 LF	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	95.00	LF	$5.57	$529.53
Principle Spillway at Sediment Pond	12"x80 LF	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	80.00	LF	$4.10	$327.76
Truck Dump to Primary Conveyor	180 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	3.00	EA	$3,125.00	$9,375.00
Primary to Secondary Conveyor	80 LF	Conveyor, Horizontal Belt 24" Belt, 41.5' Length	2.00	EA	$2,350.00	$4,700.00
Primary to Transfer Conveyor	100 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	2.00	EA	$3,125.00	$6,250.00
Crusher to Secondary Conveyor	80 LF	Conveyor, Horizontal Belt 24" Belt, 41.5' Length	2.00	EA	$2,350.00	$4,700.00
Secondary to	46 LF	Conveyor, Horizontal	1.00	EA	$3,125.00	$3,125.00

Transfer Conveyor		Belt 24" Belt, 61.5' Length				
Reclaim Conveyor	60 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	1.00	EA	$3,125.00	$3,125.00
Reclaim to Transfer Conveyor	100 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	2.00	EA	$3,125.00	$6,250.00
Transfer to Loadout Conveyor	100 LF	Conveyor, Horizontal Belt 24" Belt, 61.5' Length	2.00	EA	$3,125.00	$6,250.00
- Conveyor Footings	2'x1'x14 LF	Demo. and on-site disposal in excavated pit, 1.0 ft. x 2 ft. - Max. 200 ft. push	14.00	LF	$4.21	$58.94
Railroad Track	1,650 LF	Railroad track - Ties and track	1,650.00	LF	$9.98	$16,467.00
- Ballast	1,100 CY	Railroad track - Ballast	1,100.00	CY	$4.90	$5,390.00
Substation Fencing	164 LF	Fencing, chain link, including posts and fabric - 8 ft. to 10 ft. high	164.00	LF	$3.08	$505.12
Retaining Wall	272'x7.5'x12"	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	2,040.00	SF	$2.21	$4,508.40
- Footing	1'x2'x128 LF	Demo. and on-site disposal in excavated pit, 1.0 ft. x 2 ft. - Max. 200 ft. push	128.00	LF	$4.21	$538.88
Concrete Sump	36.5'x36.5'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	1,332.00	SF	$1.05	$1,402.60
Powerlines and Poles	1,115 LF	Utility Poles, Wood 35' - 45' high (each pole)	6.00	EA	$292.00	$1,752.00
Coal Loadout Bin	10'x6'x12'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	720.00	CF	$0.22	$156.96
Road Pavement	300'x24'x6"	Pavement, bituminous, demolition only - 4 in. to 6 in. thick	800.00	SY	$7.66	$6,128.00
- Guard Rails	1,140 LF	Railing, roadside guiderail and posts (posts on 20 ft. centers)	1,140.00	LF	$2.85	$3,249.00
Stoker Oil Building Expansion	10'x10'x110'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	1,000.00	CF	$0.22	$218.00
- Pad	10'x10'x4"	Demo. and on-site disposal in excavated pit, 4 in. thick - Max. 200 ft. push	100.00	SF	$0.70	$70.20
- Walls	10'x12'x4"	Demo. and on-site disposal in excavated pit, 4 in. thick - Max. 200 ft. push	120.00	SF	$0.74	$88.80
Reclaim Tunnel	60'x8'x8'	Bldg. (SN) demo./on-	3,840.00	CF	$0.22	$837.12

		site disposal in excavated pit - Max. 200 ft. push				
- Pad	60'x5'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	300.00	SF	$1.05	$315.90
- Escapeway	36"x180 LF	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	180.00	LF	$11.32	$2,037.24
Remove 5 Barrels of Hazardous Waste	5@55 Gallons	Hazardous waste removal - Drum solids/liquids, per drum, (1-6 drum job)	5.00	DRUM	$680.65	$3,403.25
6,000 Gallon Diesel Tank	6,000 Gallons	Comprehensive storage tank removal, non-leaking - 6,000 to 8,000 gal. tank	1.00	EA	$5,283.95	$5,283.95
4,000 Gallon Water Tank	4,000 Gallons	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	1.00	EA	$760.00	$760.00
1,500 Gallon Anti-Freeze Tank	1,500 Gallons	Comprehensive storage tank removal, non-leaking - 3,000 to 5,000 gal. tank	1.00	EA	$3,455.40	$3,455.40
5,000 Gallon Stoker Oil Tank	5,000 Gallons	Comprehensive storage tank removal, non-leaking - 3,000 to 5,000 gal. tank	1.00	EA	$3,455.40	$3,455.40
350 Gallon Fuel Tanks (2)	2@350 Gallons	Comprehensive storage tank removal, non-leaking - 3,000 to 5,000 gal. tank	2.00	EA	$3,455.40	$6,910.80
7,000 Gallon Anti-Freeze Tank	7,000 Gallons	Comprehensive storage tank removal, non-leaking - 6,000 to 8,000 gal. tank	1.00	EA	$5,283.95	$5,283.95
500 Gallon Diesel Tanks (2)	2@500 Gallons	Comprehensive storage tank removal, non-leaking - 3,000 to 5,000 gal. tank	2.00	EA	$3,455.40	$6,910.80
Dispose of powerline material	1,115 LF	Disposal of utility pole and hardware surplus material	1,115.00	LF	$0.02	$22.30
Dispose of conveyor material	746 LF	Conveyor, demolition, on-site disposal, existing pit, 200 ft. push	746.00	CF	$0.30	$223.80

Job Hours: **200.00** **Subtotal (unadjusted)**: **$147,995.93** **Total Cost (adjusted for location)**: **$145,332.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mobilize/Demobilize Equipment for Reclamation**

Site: **Terror Creek Loadout** Permit Action: MT8 Permit/Job#: C1983059

PROJECT IDENTIFICATION

Task #: 18A
Date: 8/30/2021 12:45:42 PM
User: LDS
State: Colorado
County: Delta
Abbreviation: None
Filename: 05918A

Agency or organization name: DRMS

EQUIPMENT TRANSPORT RIG COST

Shift basis: 1 per day
Cost Data Source: CRG Data

Truck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED, 400 HP (2ND HALF, 2006)

Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER (25T, 50T, AND 100T)

Cost Breakdown:

Available Rig Capacities	**0-25 Tons**	**26-50 Tons**	**51+ Tons**
Ownership Cost/Hour:	$21.28	$37.94	$47.67
Operating Cost/Hour:	$26.55	$50.48	$56.21
Operator Cost/Hour:	$20.54	$20.54	$20.54
Helper Cost/Hour:	$0.00	$23.53	$23.53
Total Unit Cost/Hour:	$68.37	$132.49	$147.95

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D9T - 9SU	60.01	$126.01	$147.95	1	$273.96	$147.95	$250.00
CAT 815F	22.88	$91.25	$68.37	1	$159.62	$68.37	$250.00
Cat 623G	41.35	$207.90	$132.49	1	$340.39	$132.49	$250.00
CAT 14M	23.57	$85.80	$68.37	1	$154.17	$68.37	$250.00
Subtotals:					**$928.14**	**$417.18**	**$1,000.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Flatbed Truck, 6x4, 45K GVW	$49.15	1	$49.15	$49.15
Fuel Tanker, 4x2, 170 HP	$29.70	1	$29.70	$29.70
Subtotals:			**$78.85**	**$78.85**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	DELTA	
Total one-way travel distance:	40.00	miles
Average Travel Speed:	40.00	mph

Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$6,546.92
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$157.70

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	1.00	1.00
Return Time (Hours):	1.00	1.00
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	3.00	2.00

JOB TIME AND COST

Total job time:	**6.00**	Hours
Total job cost:	**$6,705**	

3. SI-2 Findings

COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

Surety Increase No. 2
(SI-2)

Proposed Decision
and
Findings of Compliance
for the

Terror Creek Loadout

PERMIT NUMBER C-1983-059

Virginia Brannon, Director

Prepared by
Leigh D. Simmons
Environmental Protection Specialist

September 20, 2021

Introduction

This document is the proposed decision of the Colorado Division of Reclamation, Mining and Safety (the Division) for Surety Increase No. 2 (SI-2) at the Terror Creek Loadout, Permit No. C-1983-059. The package contains three parts. These include: 1) procedures and summary of the bond increase process; 2) observations and findings of the Division regarding compliance with the performance bond requirements of the Colorado Surface Coal Mining and Reclamation Act (Act) and regulations promulgated thereunder; and 3) the Division's proposed decision on the surety increase.

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 (Rules). All rules referenced within this document are contained within the Rules. Detailed information about the mining and reclamation operations can be found in the permit application on file at the Division offices, located at 1313 Sherman Street, Room 215, in Denver, Colorado.

The Terror Creek Loadout is a rail loadout facility permitted and operated by Oxbow Mining, LLC. (OMLLC). The ownership of the land and minerals for which bond increase has been proposed is private.

I. PROCEDURES AND SUMMARY OF THE INCREASE PROCESS

The Division has initiated this surety increase in order to ensure compliance with Rule 3.02.1, which requires a performance bond for all requirements of the Act, Rules, and the approved reclamation plan. Rule 3.02.1(3) requires the performance bond to cover land within the permit area upon which surface coal mining and reclamation operations are to be initiated and conducted, and Rule 3.02.1(4) states that liability of the performance bond shall continue until the entire reclamation plan has been completed.

Rule 3.02.2(4) requires the Division to adjust the required performance bond as affected land acreages are increased or decreased or when the cost of future reclamation changes. Procedures for adjustment of the required performance bond include:

a. Notification of the permittee of any proposed bond adjustment and providing the permittee with an opportunity for an informal conference on the adjustment;
b. Issuance of a written proposed decision by the Division to adjust the bond amount, publication of notice of the proposed decision in a newspaper of general circulation in the locality of the mining operation once a week for two weeks following issuance of the decision, and notification of the permittee, the surety and any person with a property interest in the collateral who has requested notification; and
c. An opportunity for a formal hearing pursuant to Rule 2.07.4(3)

II. OBSERVATIONS AND FINDINGS

A reclamation cost estimate was completed with the 2021 Mid-term Review of the Terror Creek Loadout permit, on September 7, 2021. The estimated cost for completion of the approved reclamation plan is $215,014.00. A detailed reclamation cost estimate was forwarded to OMLLC and is also available for review at the Division office.

The estimated cost of reclamation has increased due to the following:

- Equipment operating and labor costs have increased since the reclamation cost estimate for the entire operation was calculated with Permit Revision No. 1 (PR-1).

III. PROPOSED DECISION

The current required surety for the site is $203,796. The Division is proposing to increase the required surety for the Terror Creek Loadout by $11,218, such that the required surety for the site will be $215,014.

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(4). Public notice of this proposed decision will be published twice in the Delta County Independent as soon as possible. Requests for public hearing must be submitted to the Division in writing within thirty days of the date following the first publication in the Delta County Independent. If no hearing is requested within that thirty days, the Division's decision will become final.

The Division currently holds a performance bond consisting of corporate sureties totaling $290,000; OMLLC will not be required to post additional bond to meet the proposed increase in required surety.

4. 732 Letter re. Bond Release

October 22, 2003

Ronald W. Cattany, Director
Division of Minerals and Geology
1313 Sherman Street, Room 215
Denver, CO 80203

RE: Notification of Requirement for Amendment of the Colorado Regulatory Program

Dear Mr. Cattany:

The Office of Surface Mining (OSM) has recently become aware that DMG's Coal Regulatory Program has significantly changed its interpretation and implementation of its bond release regulations. Under 30 CFR 732.17(e)(2), State program amendments may be required when conditions or events change the implementation, administration, or enforcement of a State regulatory program under the Surface Mining Control and Reclamation Act of 1977 (SMCRA) [30 U.S.C. 1201 et seq.]. This letter serves as notification under 30 CFR 732.17(f) that this change in rule interpretation requires a State Program Amendment.

The specific details of DMG's changed rule interpretation, and the need to revise the Colorado Coal Regulatory Program under SMCRA, are provided in the enclosed document.

In accordance with 30 CFR 732.17(f)(1), I am requesting that, within 60 days of this letter, you submit either proposed written amendments or a description of amendments to be proposed in response to this notification, and a timetable for enactment. The timetable should include the dates by which you intend to submit the amendments and a schedule for the State legislative and rule making procedures. As always, if you believe no amendment is necessary in a specific instance, OSM will consider any rationale you wish to submit.

Please address all submittals to Jim Fulton, Chief, Denver Field Division. Any questions or requests for assistance or clarification should be directed to Randal Pair at 303-844-1400 x 1446.

We look forward to working with you on this matter.

Sincerely,

Allen D. Klein
Regional Director
Western Regional Coordinating Center

Enclosure

Enclosure to Letter of October 22, 2003
Need for Amendment to Colorado State Regulatory Program

Recently the Denver Field Division (DFD) has participated in bond release inspections in connection with bond release applications on two Federal-lands mines: the Roadside Mine (Permit No. C-1981-041) and the Bowie No. 1 Mine (Permit No. C-1981-038). In the course of this work, it has come to DFD's attention that DMG has changed its interpretation of the bond release rules of the approved Colorado Regulatory Program.

In the case of the Roadside Mine, Bond Release SL-02, DMG proposed to release some performance bond prior to completion of Phase I requirements. The exception to compliance with Rule 3.03.1 and DMG's bond release guidelines (dated April 18, 1995) was the proposed decision to release certain bond amounts designated for facilities demolition and portal sealing in areas where backfilling and grading were not complete [and that were not identified in blue overlay ("areas nominated for Phase 1 bond release") on the "Reclamation Progress Map" (certified 12/19/02) that was included with the bond release application]. That is, DMG proposed to release bond for completion of some reclamation tasks on these areas, even though these areas did not meet Phase I standards. DMG referred to this as "partial Phase I release" for those areas.

The case of the Bowie No. 1 Mine, Bond Release SL-02, is similar. Although DMG has not yet proposed a decision on the bond release application, DMG anticipates releasing bond amounts designated for facilities demolition (primarily at the East Mine) on areas where backfilling and grading have not begun, again referring to this as a "partial Phase I bond release."

The straightforward reading of Rule 3.03.1(2) and (2)(a) provides for bond release on any given geographic area ("an increment or a permit area") in three separate phases, with the first phase requiring that the permittee have successfully completed backfilling, regrading, and drainage control for that specified area. OSM interprets the language of the rule ("shall be limited to the following schedule") to exclude any release of bond other than those three specified phases. Even were the "shall be limited to" language not present, under standard principles of legal analysis, items not included in an enumerated list are construed to be deliberately excluded.

This straightforward reading is what was applied when the Colorado Program was approved, and has been the understood

interpretation (between OSM and DMG) in its implementation since that time, until these two recent cases. We further note that no "partial Phase I bond release" is mentioned or discussed in DMG's bond release guidelines (dated April 18, 1995), which indicates no ambiguity in the bond release rules on this point [see Rule 1.15.2].

This changed interpretation has been discussed by the joint DMG/OSM Oversight Team on several recent occasions, and OSM has discussed it further among ourselves. We agree that the removal of structures must be undertaken in order to progress to backfilling and grading; thus structure demolition is a required aspect of Phase I reclamation. But the Colorado Rule does not clearly provide for release of bond prior to restoration of approximate original contour (i.e., successful completion of backfilling and regrading). DMG claims that the Rule does not specifically prohibit this. But as noted above, OSM does interpret the language ("amount … which may be released shall be limited to the following schedule") does indeed exclude this.

OSM has no reason at this time to find DMG's changed interpretation to be inconsistent with SMCRA or less effective than OSM's bond release regulations (30 CFR 800.40(c)) in meeting the requirements of SMCRA. But OSM finds that the Colorado program must be amended to clearly provide for, and clearly define the limits of, any bond release prior to the restoration of AOC on a given area.

Any program amendment proposed by Colorado will be subject to public comment and to legal review by our Office of the Solicitor; this comment and review will assist in determining whether DMG's changed interpretation is inconsistent with SMCRA or less effective than OSM's bond release regulations in meeting the requirements of SMCRA.

To date, both bond release applications requesting bond release for partial completion of Phase I requirements have been prepared by one consultant. Amendment of the Colorado Rules and Guidelines to provide for this pre-AOC bond release will ensure that other operators in Colorado know that this option is available to them. Further, all parties - industry, consultants, landowners, citizen groups, and environmentalists - will have an opportunity to comment on this new interpretation of the Colorado statute [C.R.S. 34-33-125(9)] and SMCRA.

In preparing a program amendment in response to this notification, OSM/WRCC requests that Colorado DMG take into account the following considerations.

1. Natural breaks in reclamation sequence

The reclamation of a given plot of mining-disturbed ground can involve numerous consecutive steps. The three bond release phases specified in SMCRA and in the Colorado statute [C.R.S. 34-33-125(9)] divide this lengthy process at three natural breaks: completion of earthmoving; successful completion of revegetation work; and final completion of all regulatory requirements.

In developing its program amendment, OSM suggests that DMG identify similar "natural breaks" in the pre-AOC sequence. The completion of any one of the numerous consecutive steps represents completion of reclamation work covered by the bond. But OSM suggests that bond release is not appropriate for each such step. Instead, DMG should group the steps into natural units. In particular, OSM does not agree that just because one of the numerous tasks is represented by a separate line entry in the bond calculation justifies bond release for that amount when that task is completed.

For example, with reference to the Bowie No.1 Mine bond release application, backfilling of a fan shaft and construction of a concrete cap over the backfill might be two separate line items in the bond calculation. But we suggest that bond not be released until both are complete; or, better still, not until the adjoining water tank has also been removed. Or, a coal silo may have both sheet metal and concrete components, the demolition of which is represented as two separate line items in the bond calculation. We suggest that no bond be released until both are complete. In fact, we feel that the "natural break" we want DMG to identify is completion of all demolition work; our very strong preference is that no bond be released until all demolition is complete for a given area, so that the very next task for that area is to begin earthmoving.

We note that it is possible in theory to calculate a bond in so detailed a fashion that every dozer-blade of dirt pushed, and every rivet of a silo demolished, is a separate line item. And under DMG's theory that pre-AOC bond release is allowed, each blade-full pushed and each rivet cut represents reclamation work accomplished for which bond release might be requested. The program amendment that DMG develops must prohibit this, and

define one or at the most two categories of reclamation work that must be complete for a pre-AOC bond release on a given area. The reason is that such small, incremental bond releases would cost too many staff hours (for which OSM shares the cost). They would also overwhelm affected landowners, land management agencies, and the public, all of whom we rely on for valuable input and comment.

2. 60% calculation

OSM notes that under both Rule 3.03.1(2) and C.R.S. 34-33-125(9), the 60% limit on Phase I bond release is applied to any individual area within a permit, not only to the permit as a whole. Of course, earthmoving is very expensive, and prior reclamation tasks are generally cheap in comparison.

But it is possible that, on an area where little or no earthmoving is required, structural demolition in itself could represent 60% or more of the bond for that localized area. So, in evaluating such release applications, DMG should ensure that it is retaining more than 40% of the bond for that localized area, not just 40% of the bond for the whole permit area.

3. Name of this bond release process.

"Partial Phase I bond release" [which is how DMG has referred to this in the two cases known to OSM] is also a "term of art" within the nation-wide mining and reclamation community for "total completion of Phase I requirements on a part of the permit area;"; indeed, DMG also uses it this way. Thus it is confusing when applied to the current cases: only partial completion of Phase I requirements (on all or only a part of a permit area).

Colorado may want to name this proposed new release "Phase 1," and also rename all of the subsequent phases (as Phases 2-4).

4. Showing pre-AOC releases on maps

How should areas proposed for pre-AOC release be shown on the bond release maps required by the guidelines?

5. Applicable operations

Are such releases limited to underground mines? Or are they also applicable to surface mines?

6. How many pre-AOC releases will be allowed?

Is more than one pre-AOC release possible? If so, how many pre-AOC releases will be allowed? Two? Ten? One every week? This should be addressed on both a incremental-area and permit-wide basis. For example, only one pre-AOC release per incremental area, and no more than three total for the life of the permit.

In answering this question, DMG should consider both its own administrative convenience AND the degree of information (vs. confusion) the public (and local governments, water agencies, etc.) can competently handle.

7. Other reclamation phases

Does DMG propose to release "partial" bond for the other phases? For example, release "partial Phase II" bond for resoiling, before revegetation establishment is demonstrated? If so, all of the above considerations would apply to the other phases, too.

8. Legal opinion

Because OSM interprets Colorado's statutory language [C.R.S. 34-33-125(9)] to limit bond releases to the defined three phases, DMG must include with its proposed program amendment a legal opinion from the Office of the Colorado Attorney General stating that it has reviewed the proposed amendment and finds that the proposed amendment is legally authorized under the statute.

Additional note: KUDOS!

OSM wishes to note here that DMG has always taken pains in these cases to ensure that it retains sufficient bond monies, with up-to-the-date inflation adjustments, to complete all remaining reclamation on the permits involved. Thus DMG is ensuring the protection of Colorado's resources and its citizens.

COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

Date: October 13, 2021

To: Mined Land Reclamation Board

From: Leigh Simmons, Environmental Protection Specialist

RE: Formal Public Hearing
Oxbow Mining, LLC.
Terror Creek Loadout, Permit No. C-1983-059

Consideration of Surety Increase No. 2: Objection to Division's Decision.

This attachment to the Board packet contains the following documents:

5. OSM memo, January 1991
6. Action plan agreed by OSMRE and Utah Dept. of Natural Resources, May 2017

5. OSM memo, January 1991

United States Department of the Interior
OFFICE OF SURFACE MINING
Reclamation and Enforcement
WASHINGTON, D.C. 20240

JAN - 9 1991

Memorandum

To: Deputy Director, Operations and Technical Services

From: for Assistant Director, Reclamation and Regulatory Policy

Subject: Colorado Bond Reduction Practices

By memorandum dated October 30, 1990, the Director of the Albuquerque Field Office requested an evaluation of Colorado's bond reduction practices to determine their consistency with State and Federal requirements. Specifically, the Field Office sought guidance as to whether a State may return more than 60 percent of an operator's bond prior to meeting the Phase II bond release standards.

As discussed below, the Surface Mining Control and Reclamation Act (SMCRA), the Federal regulations, and the State program do not allow bond to be reduced on lands on which reclamation has begun unless all applicable bond release requirements are met. The bond release schedules established in both section 519(c) of SMCRA and section 34-33-125(9) of the State Act require that at least 40 percent of the bond amount be retained until Phase II reclamation standards are met.

Section 509(e) of SMCRA provides that the bond amount shall be adjusted as affected land acreage increases or decreases or the cost of future reclamation changes. The Federal rules at 30 CFR 800.15 repeat this language and, in paragraph (c), further provide that a permittee may request reduction of the bond amount by submitting evidence to the regulatory authority proving that changes in the method of operation or other circumstances have reduced the estimated cost to the regulatory authority of reclaiming the bonded area in the event of forfeiture. Although an argument could be made that performance of reclamation obligations reduces the cost of future reclamation, the structure of SMCRA, the language of the Federal regulation and the preambles to this rule clearly indicate that this is not the interpretation envisioned by Congress or the Office of Surface Mining Reclamation and Enforcement. The bond adjustment provisions are intended to be used to reduce bond amounts only if the acreage to be affected decreases, technological advances reduce the unit costs of reclamation, or changes in the mining plan (such as a decision not to remove the lowest coal seam) result in an operation of more limited extent than that originally approved and bonded. This interpretation is reinforced by section 519, which establishes criteria and schedules defining when and how bond may be released following the completion of specified reclamation activities. If the bond adjustment provisions of section 509 were interpreted as allowing bond reduction because the operator completed a portion of his or her reclamation obligations, section 519 would be rendered meaningless.

Furthermore, the preamble to the bond adjustment provisions of 30 CFR 800.15(c) at 48 FR 32945 (July 19, 1983) states that:

> OSM has not included in the final rule any provision characterizing as an adjustment any reduction in bond amount for reclamation work performed on disturbed areas since bond for disturbed areas can only be released or reduced through the formal release procedures of [30 CFR] 800.40.

To be approved under the bond adjustment provisions of 30 CFR 800.15(c), a proposed bond reduction must be justified solely upon either changes in the acreage to be affected (not the acreage remaining to be reclaimed) or a demonstration that the reclamation cost estimates upon which the current bond amount is based are no longer valid for reasons other than the performance of reclamation work. Any bond reduction requested as a result of reclamation work performed must be processed as an application for bond release under 30 CFR 800.40; the request cannot be approved unless the criteria specified in 30 CFR 800.40(c) and section 519(c) of SMCRA, or, in Colorado's case, Colorado Rule 3.03.1(2), are satisfied. The remaining bond amount must meet the minimum levels established in these program provisions.

Finally, the Field Office questions whether the maximum of bond that may be released for the subject site under Colorado Rule 3.03.1(2) should be calculated based on the $446,680 actually posted or the $572,000 required as a result of the midterm review. This issue is not addressed in the Federal regulations or their preambles. However, since the company has closed and reclaimed the mine in lieu of posting the additional bond, it would appear reasonable to base this calculation on the amount of bond actually posted. In any case, the amount of bond released must conform to the percentage limits established in Colorado Rule 3.03.1(2); in addition, the amount retained must be adequate to cover the cost of having a third party reestablish the revegetation, as required by Colorado Rule 3.03.1(3).

Please contact Dennis Rice (FTS 268-2829) with any questions pertaining to this review.

6. Action plan agreed by OSMRE and Utah Dept. of Natural Resources, May 2017

Action Plan # UT-2017-001

Between the

Office of Surface Mining Reclamation and Enforcement

Denver Field Branch

and the

Utah Department of Natural Resources

Division of Oil, Gas and Mining

MAY 3, 2017

I. INTRODUCTION

As part of its review of a citizen complaint and request for a State program evaluation, the Office of Surface Mining Reclamation and Enforcement (OSMRE) completed an internal technical review that identified separate, minor programmatic deficiencies. This Action Plan is intended to address and resolve these minor programmatic issues. The programmatic issues identified relate to the Utah Division of Oil, Gas and Mining's (DOGM) administration of the approved Utah coal mining regulatory program (the Utah program) and the implementation of its technical guidance with respect to DOGM's bonding practices. Through this Action Plan, both OSMRE and DOGM commit to certain activities as necessary to effectively resolve the issues identified herein. Resolving these programmatic issues will also ensure that DOGM is appropriately implementing its technical guidance and that all directives provided through technical guidance documents are in accordance with the requirements set forth in the Utah program, the Surface Mining Control and Reclamation Act of 1977 (SMCRA), and the Federal regulations.

II. BACKGROUND

In a letter dated December 21, 2015, WildEarth Guardians (WEG) presented information which it believed demonstrated that violations were occurring on three mine sites within the State of Utah. In its letter, WEG alleged site-specific violations through a citizen complaint and requested that OSMRE conduct a State program evaluation under 30 C.F.R. Part 733 to ensure that DOGM was effectively administering, implementing, maintaining, and enforcing a portion of its approved State program. WEG's assertions mostly pertained to DOGM's alleged failure to adequately review and adjust bond amounts to account for the inflated future cost of reclamation, thereby allegedly failing to assure that sufficient bonding exists to carry out the approved reclamation plans in the event of permit revocation and bond forfeiture.

On January 6, 2016, OSMRE issued three Ten-Day Notices (TDNs) to DOGM in response to WEG's alleged violations of reclamation bonding requirements at the three mine sites. DOGM responded to the TDNs on January 22, 2016. OSMRE subsequently requested internal technical assistance as part of its review of the information presented by WEG and of DOGM's TDN response. On August 16, 2016, OSMRE issued a determination in response to WEG's 733 request and concluded that the allegations did not warrant further evaluation under 30 C.F.R. § 733.12(a)(2). On October 11, 2016, OSMRE issued a written determination with respect to DOGM's TDN response and concluded that DOGM had shown good cause for not taking action to correct the potential violations because, under the Utah program, the alleged violations cited did not exist. Even though OSMRE concluded, in both the 733 and TDN determinations, that further action was not warranted under either 30 C.F.R. Part 733 or through the TDN process, the results of OSMRE's internal technical findings identified separate, minor programmatic implementation problems that form the basis of this Action Plan.

The Utah program was conditionally approved by the Secretary of the Interior on January 21, 1981.[1] Utah's approved State program consists of the Utah Coal Mining and Reclamation Act (UCMRA) and the Utah Administrative Code Rules ("UAC" or "the Utah rules").[2] The Utah rules outlining Utah's bonding requirements are codified at R645-301-800.

[1] 46 Fed. Reg. 5899 (Jan. 21, 1981).
[2] Utah Code Ann. §§ 40-10-1 to -30 and UAC R645-100 to -403.

In addition to the OSMRE-approved Utah program, DOGM implements its own technical guidance and policy, which generally sets forth non-binding internal practices and procedures as needed to supplement, or elucidate, its own State program requirements. Specifically, at issue in this Action Plan is DOGM's Technical Directive 007, "Calculation Guidelines for Determining Reclamation Bond Amounts" (Tech-007). Tech-007 establishes specific requirements and procedures for calculating and determining the amounts of reclamation bonds.

OSMRE's technical assistance findings identified minor programmatic implementation problems associated with the use of Tech-007, instances where DOGM appeared to deviate from the direction provided in Tech-007, and language within Tech-007 that conflicts with the Federal minimum standards. On October 19, 2016, a draft of this Action Plan, along with a copy of OSMRE's internal technical findings, was submitted to DOGM for its review and comment. OSMRE received DOGM's comments in response to Issue 1 of the draft Action Plan on January 5, 2017, which were discussed during a teleconference scheduled on January 19, 2017. In addition to teleconferences, OSMRE staff traveled to the DOGM office in Salt Lake City, Utah to discuss calculating reclamation cost estimates from March 27, 2017 through March 29, 2017. DOGM submitted a partial revision of Tech-007 § 8 on March 21, 2017, to which OSMRE provided feedback on April 6, 2017. OSMRE subsequently revised the Action Plan to incorporate discussions and agreements reached during the March 2017 in-person meetings and submitted the revised Action Plan to DOGM for review on April 17, 2017. The Action Plan was finalized on May 3, 2017, and became effective upon signature.

This Action Plan seeks to address and resolve each of the four program implementation problems discussed below pertaining to the calculation and determination of reclamation performance bond amounts. OSMRE and DOGM will resolve the cause of each regulatory program implementation problem. This includes reviewing and revising certain language within Tech-007 to ensure that Utah's guidance document – as written, interpreted, and applied – does not render the approved Utah program requirements less stringent than SMCRA or less effective than the Federal regulations.

After defining each of the four programmatic implementation issues in the Problem Descriptions below, OSMRE developed and tailored individual Criteria for Resolution sections to resolve each program problem. Individual Action Sequence and Schedule sections outline milestones for each of the four issues to ensure progress and the successful execution of the contents of this Action Plan. As part of this process, OSMRE, Denver Field Branch (DFB, also referred to as OSMRE) will work with DOGM to accomplish each Criterion for Resolution and ensure the identified problems are successfully resolved in a timely manner in accordance with SMCRA, the Federal regulations, and the approved Utah program.

III. REGULATORY PROGRAM PROBLEMS TO BE RESOLVED

ISSUE 1: Tech-007 Bond Adjustment Guidelines for Structure Removal Circumvent Bond Release Procedures

PROBLEM DESCRIPTION: Tech-007 § 8, entitled "*Building Demolition Prior to Final Reclamation*" as currently written, conflicts with the bond release requirements established in SMCRA, the Federal regulations, and the approved State program. Specifically, Tech-007 § 8 allows the discretion to reduce a bond amount through bond adjustments for structures removed from a disturbed area, rather than proceeding through the mandated bond release procedures for reclamation of work performed.

SMCRA, at section 509(e) requires the regulatory authority to adjust the bond amount to account for changes in the affected land acreages and where the cost of future reclamation changes. The corresponding Federal regulations outline bond adjustment procedures in 30 C.F.R. § 800.15. Subsection (c) of 30 C.F.R. § 800.15 specifically provides that:

> A permittee may request reduction of the amount of the performance bond upon submission of evidence to the regulatory authority proving that the permittee's method of operation or other circumstances reduces the estimated cost for the regulatory authority to reclaim the bonded area. Bond adjustments which involve undisturbed land or revision of the cost estimate of reclamation are not considered bond release subject to procedures of § 800.40.

The Utah program language, at Utah Code Ann. § 40-10-15(5) and UAC R645-301-830.430, is substantively identical to the language in SMCRA and 30 C.F.R. § 800.15(c).[3]

The original written language in Tech-007, however, provides at § 8, that:

> The Division at its discretion may release part of the bond amount for structures that have been removed as part of the operational phase. Before such a bond release can be approved, the entire structure must be removed and properly disposed of. The Division must verify the structure's removal with a field visit and a written report and photographs.
>
> Bond reductions that are associated with the removal of structures and facilities during the operational phase may be handled as part of the bond release process as outlined in R645-301-880. If the operator demonstrates

[3] Utah Code Ann. § 40-10-15(5) states:

> The amount of the bond, surety, or deposit required and the terms of each acceptance of the applicant's bond shall be adjusted by the division from time to time as affected land acreages are increased or decreased or where the cost of future reclamation changes.

UAC R645-301-830.430 provides:

> A permittee may request reduction of the amount of the performance bond upon submission of evidence to the Division providing that the permittee's method of operation or other circumstances reduces the estimated cost for the Division to reclaim the bonded area. Bond adjustments which involve undisturbed land or revision of the cost estimate of reclamation are not considered bond release subject to procedures of R645-301-880.100 through R645-301-880.800.

> that the reduced costs of reclamation created by structure or building removal is not related to activities governed by Phase I, II or III bond release, the operator may be eligible for a bond reduction.

Since 1983, OSMRE has consistently required that any reduction of the bond amount, for activities characterized as reclamation work performed, must occur through the bond release process. In 1983, OSMRE revised the language in 30 C.F.R. § 800.15(c) "to clarify that bond adjustments which involve only undisturbed land or revision of the cost estimate of reclamation are not considered bond release subject to procedures of § 800.40."[4]

In the early 1990s, OSMRE addressed the issue of bond reductions subsequent to structure removal in Colorado. In 1991, OSMRE Headquarters provided an internal memorandum consistently deeming bond adjustments under 30 C.F.R. § 800.15 appropriate where justification for the bond reduction included changes to acreage to be affected or a permittee's showing that the reclamation cost estimate is "no longer valid for reasons other than the performance of reclamation work."[5] The 1991 memorandum also explained that while "an argument could be made that performance of reclamation obligations reduces the cost of future reclamation, the structure of SMCRA, the language of the Federal regulation and the preambles to this rule clearly indicate that this is not the interpretation envisioned by Congress or [OSMRE]."[6]

By implementing this section of Tech-007, DOGM inappropriately allows a bond reduction through bond adjustment procedures for the removal of structures from disturbed areas, rather than through the required bond release process. This not only conflicts with the SMCRA mandate at 509(e) and Federal regulations at 30 C.F.R. § 800.15(c), but also contradicts the approved State program requirements as the provisions mirror the Federal regulations at Utah Code Ann. § 40-10-15(5) and the Utah rules at UAC R645-301-830.430.

Thus, bond reductions requested as a result of reclamation work performed must be processed as an application for bond release under 30 C.F.R. § 800.40. The request cannot be approved unless the criteria specified in 30 C.F.R. § 800.40(c) and section 519(c) of SMCRA, or in DOGM's case, the Utah rules at UAC R645-301-880, are satisfied.

Moreover, SMCRA and the Federal regulations distinguish between instances where the operator revises its reclamation plan to replace a structure on a disturbed area and where a structure is simply demolished under an approved reclamation plan. When an operator submits a permit revision application to alter the reclamation plan, such as to replace one structure with another or to construct a materials storage area on a former building pad, the costs of future reclamation may change and the bond amount may be properly adjusted to reflect the changing costs of future reclamation. In this case, the area is still considered a long-term facility and is not subject to contemporaneous reclamation requirements until it is no longer needed in support of mining or

---

[4] 48 Fed. Reg. 32945 (July 19, 1983).

[5] OSMRE Internal Memorandum at 1 (Jan. 9, 1991).

[6] *Id.* (clarifying that "To be approved under the bond adjustment provisions of 30 C.F.R. § 800.15(c), a proposed bond reduction must be justified solely upon either changes in the acreage to be affected (not the acreage remaining to be reclaimed) or a demonstration that the reclamation cost estimates upon which the current bond amount is based are no longer valid for reasons other than the performance of reclamation work. Any bond reduction requested as a result of reclamation work performed must be processed as an application for bond release under 30 C.F.R. § 800.40 . . . .").

reclamation operations. OSMRE agrees with DOGM that this is authorized by the plain language of 30 C.F.R. § 800.15 of the Federal regulations and UAC R645-301-830.410 of the Utah rules because the cost of implementing the reclamation plan has in fact changed. DFB is distinguishing this concept from the structure removal issue discussed above.

CRITERIA FOR RESOLUTION: DOGM shall revise the language in Tech-007 § 8 to indicate the appropriate distinction between structure removal actions that may be processed as a bond adjustment and those that must undergo bond release procedures. Structure replacement and revision of a reclamation plan may be processed as a bond reduction as long as the disturbed area remains classified as a long-term disturbance which must be retained in support of mining and reclamation operations. Structure removal which occurs under an existing reclamation plan, where the disturbed area is no longer required in support of mining and reclamation operations and should therefore be contemporaneously reclaimed, must undergo bond release procedures. Upon finalization of the revisions to Tech-007 and notification to operators, DOGM shall consistently implement the new guidance in accordance with its approved State program.

ACTION SEQUENCE:

- ❑ DOGM and OSMRE will hold teleconferences to discuss interpretation of programmatic requirements pertaining to bond adjustment and bond release.
- ❑ DOGM will propose revisions to Tech-007 and submit those changes to DFB for review.
- ❑ DFB will review proposed revisions to Tech-007 to ensure consistency with established interpretation and resolution of Issue 1.
- ❑ DFB shall provide any comments on DOGM's revisions to Tech-007 guidance.
- ❑ If necessary or desired, DOGM shall further revise Tech-007.
- ❑ DOGM shall finalize Tech-007 and obtain the necessary internal approvals required to finalize and implement the revised guidance document.
- ❑ DOGM shall subsequently draft and send a letter to coal mine operators and permittees notifying them of anticipated changes following the formal adoption of the revised Tech-007 document.

SCHEDULE:

- ❑ On November 9, 2016, and January 19, 2017, DFB and DOGM will hold teleconferences to discuss interpretation of programmatic requirements.
- ❑ By March 31, 2017, DOGM will draft proposed revisions to Tech-007 § 8 and submit to DFB for review.
- ❑ By April 15, 2017, OSMRE will review proposed revisions to Tech-007 and provide feedback to DOGM as appropriate.
- ❑ By June 15, 2017, DOGM will make final adjustments to Tech-007 § 8.
- ❑ By July 17, 2017, DOGM will draft and send a letter to coal mine operators and permittees informing them of changes to its bonding practices.
- ❑ By July 18, 2017, DOGM will begin implementing its revised bonding procedures.

ISSUE 2: Tech-007 "Five Percent Rule" Introduces Unnecessary Risk of Underfunding Reclamation Performance Bonds

PROBLEM DESCRIPTION: Through its use of the "Five Percent Rule," DOGM's calculations introduce additional uncertainty which could result in a posted bond amount lower than that required to ensure the cost of reclamation is covered in the event of bond forfeiture.

The "Five Percent Rule" is established and implemented by DOGM through Tech-007. Specifically, Tech-007 § 7, sets forth the "Five Percent Rule" which allows DOGM to use its discretion with respect to adjusting the bond amount "if the cumulative difference between the revised reclamation cost and the approved bond amount is less than 5%."[7] Further, this provision explains that DOGM "believes those increases in the reclamation costs of up to 5% can be made without compromising reclamation success."[8]

No federal provision or state counterpart exists to authorize this discretion provided to DOGM. However, SMCRA, the Federal regulations, and the Utah program ultimately require the bond amount to be "sufficient to assure the completion of the reclamation plan if the work had to be performed by [DOGM] in the event of forfeiture. . . ."[9] Additionally, the Utah rules establish that DOGM "will require in the permit that adequate bond coverage be in effect *at all times*."[10]

The problem arises where a permittee's revised reclamation cost exceeds the posted bond amount. When this situation occurs, as applied, the "Five Percent Rule" contradicts the requirements under SMCRA, the Federal regulations, and the Utah program by providing DOGM with discretion to deem the posted bond amount as sufficient, when State and Federal law would require a bond adjustment to ensure sufficient funds exist to cover the revised cost of reclamation, regardless of the performance bond amount being within five percent of the reclamation cost estimate. DOGM's implementation of the "Five Percent Rule" is without statutory or regulatory basis and conflicts with SMCRA and the Utah program requirements by introducing unnecessary risk, beyond the inherent uncertainty associated with reclamation cost estimation, that the posted bond amount will be insufficient to complete the reclamation plan.

CRITERIA FOR RESOLUTION: DOGM shall remove the "Five Percent Rule" provision within Tech-007. Upon finalization of the revisions to Tech-007 and notification to operators, DOGM shall consistently implement the new guidance in accordance with its approved State program.

ACTION SEQUENCE:

- ❑ DOGM shall remove the "Five Percent Rule" provision from Tech-007.
- ❑ DOGM shall incorporate all changes into a final version of Tech-007 and submit it to DFB for review.
- ❑ DFB shall review the document to ensure consistency and resolution of issues outlined within this Action Plan.
- ❑ DFB shall provide any comments on DOGM's Tech-007 guidance, as revised.

---

[7] Tech-007 at 11.
[8] *Id.*
[9] 30 U.S.C. § 1259(a), 30 C.F.R. § 800.14(b), Utah Code Ann. § 40-10-15, and UAC R645-301-830.200.
[10] UAC R645-301-812.700 (emphasis added).

- ❑ If necessary or desired, DOGM shall further revise Tech-007.
- ❑ DOGM shall finalize Tech-007 and obtain the necessary internal approvals required to finalize and implement the revised guidance document.
- ❑ DOGM shall subsequently draft and send a letter to coal mine operators and permittees notifying them of anticipated changes following the formal adoption of the revised Tech-007 document.
- ❑ DOGM will begin implementing its revised procedures.

SCHEDULE:

- ❑ By May 15, 2017, DOGM will delete the "Five Percent Rule" from Tech-007 and submit the revised guidance document to DFB for review.
- ❑ By May 30, 2017, DFB will review the revisions to Tech-007 and provide feedback to DOGM, as appropriate.
- ❑ By June 15, 2017, DOGM will make final adjustments to Tech-007.
- ❑ By July 17, 2017, DOGM will draft and send a letter to coal mine operators and permittees informing them of changes to its bonding practices.
- ❑ By July 18, 2017, DOGM will begin implementing its revised bonding procedures.

ISSUE 3: Tech-007 Guidelines and DOGM's Use of Inflation Factors

PROBLEM DESCRIPTION: OSMRE seeks to ensure that DOGM is consistently applying an acceptable construction cost index as the basis for calculating inflation rates when evaluating and escalating performance bond amounts as required under R645-301-830.300 of the Utah rules. DOGM's TDN response states that it uses a different range of R.S. Means Historical Construction Cost Index (R.S. Means) values (previous five years of January values)[11] than what is established in Tech-007 (three-year average)[12] for calculating escalation factors. OSMRE's technical findings indicated that the reviewer was unable to re-create DOGM's inflation factors based upon R.S. Means values from the given time periods.

Neither SMCRA nor the Federal regulations set forth requirements or methodologies for using inflation factors. However, the Utah rules establish the use of an inflation factor and require that "an additional inflation factor will be added to the subtotal for the permit term. This inflation factor will be based upon an acceptable Cost Index."[13]

In addition to escalating the bond amount to account for inflation, sections 509(a) and (e) SMCRA and 30 C.F.R. § 800.15(a) require the State regulatory authority to adjust the bond amount where the cost of reclamation changes. This section of the Federal regulations also allows the regulatory authority to adjust the bond amount to address issues such as inflation of the reclamation cost.[14]

In its TDN response, DOGM contends that its use of R.S. Means is appropriate because it includes costs typically associated with reclamation work. OSMRE's technical findings agreed

[11] DOGM's TDN Response at 12.
[12] Tech-007 at 10.
[13] UAC R645-301-830.300.
[14] 48 Fed. Reg. 32932 (July 19, 1983).

that DOGM's use of R.S. Means is appropriate. However, OSMRE's technical findings indicated that the reviewer also could not verify that DOGM consistently used any one acceptable construction cost index such as the R.S. Means. For instance, the inflation rates that DOGM used at the mid-term permit review bond escalation for the Dugout Canyon, Skyline, and Sufco mines were significantly lower than the corresponding rates OSMRE calculated from the R.S. Means indices over the same (or near-same) timeframe. OSMRE notes that some discrepancy may have arisen from the use of different R.S. Means values such as three year averages as set forth in Tech-007, and five year averages as set forth on page 12 of DOGM's TDN response.[15] Therefore, OSMRE initiated discussions with DOGM pertaining to its practices for calculating inflation factors. OSMRE's goal is to clarify, and ensure consistent use of inflation factors, in accordance with the approved Utah program requirements.

During the OSMRE-DOGM meeting in Salt Lake City, Utah on March 28, 2017, DOGM indicated the R.S. Means historical cost index value it employs is based solely on demolition costs. PSD suggested using the general cost index which includes all construction divisions rather than a demolition-based index. After discussing the merits of each value, OSMRE and DOGM agreed that the general cost index is a more appropriate number to employ in calculating reclamation cost estimate escalation factors. DOGM agreed to adopt and implement this change in its bond calculation procedures.

CRITERIA FOR RESOLUTION: DOGM must revise Tech-007 to reflect actual escalation factor calculation practices (five year averages) and must consistently apply the general cost index which includes all construction divisions from the R.S. Means Book.

ACTION SEQUENCE:

- ❑ DOGM and OSMRE will discuss use of R.S. Means values and determine which historical cost index is most appropriate for use in reclamation cost escalation factors.
- ❑ DOGM shall revise Tech-007 § 6(D)(1) to direct use of five year averages, rather than the three year averages currently listed, to reflect DOGM's standard calculation practices.
- ❑ DOGM shall submit Tech-007 revisions to DFB for review.
- ❑ DFB shall review the document to ensure consistency and resolution of Issue 3.
- ❑ DFB shall provide any comments on DOGM's Tech-007 guidance, as revised.
- ❑ If necessary or desired, DOGM shall further revise Tech-007.
- ❑ DOGM shall finalize Tech-007 and obtain the necessary internal approvals required to finalize and implement the revised guidance document.
- ❑ DOGM shall subsequently draft and send a letter to coal mine operators and permittees notifying them of anticipated changes following the formal adoption of the revised Tech-007 document.
- ❑ DOGM will begin implementing its revised procedures. DOGM shall then apply the general cost index, which includes all construction divisions, from R.S. Means as discussed and agreed upon during the March 2017 meeting.

SCHEDULE:

- ❑ By March 29, 2017, DOGM and OSMRE will discuss and agree upon which historical

[15] Tech-007 § 6(D)(1).

cost index is most appropriate for use in reclamation cost escalation factors.

- ❑ By May 15, 2017, DOGM shall draft revisions to Tech-007 § 6(D)(1) to indicate a 5-year average will be used and submit those changes for DFB review.
- ❑ By May 30, 2017, DFB will review proposed revisions to Tech-007 and provide feedback to DOGM as appropriate.
- ❑ By June 15, 2017, DOGM will make final adjustments to Tech-007.
- ❑ By July 17, 2017, DOGM will draft and send a letter to coal mine operators and permittees informing them of changes to its bonding practices.
- ❑ By July 18, 2017, DOGM will begin implementing its revised bonding procedures.

ISSUE 4: Cost Estimate Calculations and DOGM's Tech-007 Guidance

PROBLEM DESCRIPTION: Although Tech-007 is a non-binding state guidance document formed for the purpose of standardizing line-item bond calculations, OSMRE requested clarification of several apparent discrepancies identified through PSD's internal technical findings. OSMRE communicated that discrepancies may detrimentally impact overall reclamation cost estimates and resultant bond amounts. The specific questions and discrepancies identified here were outlined in PSD's technical findings document, entitled "Cost Estimate Review Findings for Dugout Canyon, Skyline, and Sufco Mines." For this specific problem description, please refer to those technical findings in addition to the information presented here.

SMCRA, the Federal regulations, and the Utah program require that each bond is set in an amount sufficient to cover the cost of reclamation in the event that the bond is forfeited.[16] Because a bond forfeiture would result in the reclamation responsibility shifting to the State regulatory authority, the bond amount must be determined "based on the estimated reclamation cost to the regulatory authority of completing all work at an operation in order to bring the site into full compliance with the Act, and not on the estimated cost to the permittee . . . ."[17] Consequently, the Utah program and the minimum Federal requirements set forth in SMCRA and the Federal regulations expressly state that the bond amount must depend on the reclamation requirements of the approved permit and must "[r]eflect the probable difficulty of reclamation[.]"[18]

The Utah rules at UAC R645-301-830.140 provide that the amount of each bonded area must "[b]e based on, but not limited to, the detailed estimated cost, with supporting calculations for the estimates, submitted by the permit applicant."

Moreover, in the 1983 final rule published in the Federal Register, OSMRE briefly addressed the inclusion of administrative costs to the State regulatory authority as a factor to be considered in determining bond amounts. In the 1983 final rule, two commenters stated that, in addition to the cost estimate provided by the operator, a State regulatory authority should also consider the "administrative overhead in contracting for the reclamation work[.]"[19] In response to this

[16] 30 U.S.C. § 1259(a); 30 C.F.R. § 800.14(b); Utah Code Ann. § 40-10-15(1); and UAC R645-301-830.200.
[17] 44 Fed. Reg. 14902, 15111 (Mar. 13, 1979).
[18] Utah Code Ann. § 40-10-15(1); UAC R645-301-830.130; *see also* 30 U.S.C. § 1259(a) and 30 C.F.R. § 800.14(a)(3).
[19] 48 Fed. Reg. 32932, page 22 (July 19, 1983).

comment, OSMRE explained that "[t]he bond amount, in order to be sufficient to assure completion of the reclamation plan by the regulatory authority, must include administrative costs to the regulatory authority."[20] Thus, the total bond amount determined should incorporate certain costs to the State regulatory authority, such as overhead and profit, on the chance that the bond is forfeited and the State regulatory authority becomes responsible for completing the reclamation plan.

In order to elucidate State interpretation of bonding requirements and standardize line-item bond cost calculations, DOGM developed its internal technical guidance document Tech-007. Upon reviewing DOGM's cost estimate procedures as a result of the WEG citizen complaint, PSD's internal technical findings indicated that the direction provided in Tech-007 for cost estimate calculations was sound and innovative overall. However, PSD's technical findings also identified questions regarding DOGM's cost calculation practices where the State appeared to deviate from the guidance provided in Tech-007. Specifically, PSD's findings noted that:

- Variability exists between equipment operating costs for similar pieces of equipment in the cost estimates completed for different mines within six months of each other.
- Equipment productivity calculations were omitted from an earthwork cost estimate. Equipment productivity information is integral to estimating earthwork costs.
- Revegetation units costs were inconsistent with (20% lower than) R.S. Means values. Where local costs were used, those costs were inconsistent between mines and documentation to support those cost amounts was not always available.
- Structure demolition costs were based upon mixed-material urban building demolition, and were reduced by 50% to account for structures without walls. These values are likely not representative of demolition of specialized mine structures in remote rural environments and appear to be based on the lowest available unit costs.
- Demolition costs do not include overhead and profit despite direction in Tech-007 to do so.
- General inconsistencies and potential mistakes in demolition calculations.

Altogether, the technical findings state that these discrepancies could result in a cost estimate and resultant bond amount that is lower than that required to complete the reclamation plan in the event of bond forfeiture. This is in conflict with the guidance provided in Tech-007 and the regulatory mandate to ensure sufficient bond is held for each mine. Generally, PSD determined that departure from Tech-007 guidance led to non-conservative assumptions and unit costs.

OSMRE acknowledges that primacy states are responsible for determining the reclamation bond amounts. If, after OSMRE-DOGM discussions are held, it is determined that cost estimate calculations can be improved, OSMRE will assist DOGM in this process.

CRITERIA FOR RESOLUTION: Following clarifications and changes made to Tech-007 and notification to operators, DOGM will implement improved practices and methods to ensure adequate reclamation cost estimates.

ACTION SEQUENCE:

- ☐ DFB and DOGM will conduct an in-person meeting to review and discuss PSD's

[20] *Id.*

findings and come to agreement on whether the identified questions represent areas for improvement in DOGM's cost estimation practices. Discussions will lead to a better understanding of DOGM's current practices, DFB's concerns and recommendations, and opportunities for improvement.

- ❑ DFB shall tailor Issue 4 of this Action Plan to address such areas of concern initially provided in PSD's findings and confirmed as an area in need of improvement during the DFB-DOGM in-person meeting.
- ❑ DOGM will make process improvements and ensure internal consistency among cost estimators and in a manner consistent with Tech-007 and the Utah program. Through the course of developing this Action Plan, DFB and DOGM have identified the following opportunities for improvement:
    - ❑ Including overhead and profit in demolition costs per Tech-007.
    - ❑ Ensuring equipment productivity rates and operating costs are used consistently.
    - ❑ Ensuring structure demolition costs are representative of actual activities and reflect probable difficulty (e.g. size and reinforcement of footers, buildings with or without internal walls, conveyor systems, etc.) including haulage (number of trips and distance) and disposal costs.
    - ❑ Improving accuracy of numbers by using local and rental costs in lieu of R.S. Means numbers where available (e.g. local seed sources, local disposal sites, etc.).
    - ❑ Retaining documentation to support use of local cost amounts.
    - ❑ Ensuring costs units are appropriate and consistent throughout a calculation (e.g. per acre or per square foot).
    - ❑ Consider implementing peer review or other quality control checks to ensure consistent application of bond cost estimation procedures.
- ❑ If DOGM so chooses, it may incorporate any changes resulting from Issue 4 discussions into its internal procedures within Tech-007. If DOGM opts to revise Tech-007, it shall submit those revisions to DFB for review.
- ❑ DFB shall review any proposed changes to Tech-007 to ensure resolution of identified concerns and will provide feedback to DOGM as appropriate.
- ❑ DOGM shall further revise Tech-007 as appropriate to ensure resolution of identified concerns.
- ❑ DOGM shall finalize Tech-007 and obtain the necessary internal approvals required to finalize and implement the revised guidance document.
- ❑ DOGM shall prepare a letter notifying the regulated community of changes to its cost estimation procedures following the formal adoption of the revised Tech-007.
- ❑ DOGM shall implement all changes upon adoption of the revised Tech-007 after notifying operators of such changes.

SCHEDULE:

- ❑ On March 27 through March 29, 2017, DFB and DOGM will meet in Salt Lake City to discuss items identified in Issue 4.
- ❑ By April 28, 2017, DFB will revise Issue 4 to remove invalid concerns and clarify remaining areas for improvement.
- ❑ By May 30, 2017, DOGM will review the revised Action Plan and develop internal protocols for improving implementation of Tech-007.

- ❑ If elected, by May 15, 2017, DOGM will draft proposed revisions to Tech-007 to reflect updated practices identified in Issue 4.
- ❑ If proposed, by May 30, 2017, OSMRE will review draft changes to Tech-007 under Issue 4 and provide feedback to DOGM.
- ❑ As appropriate, by June 15, 2017, DOGM will make subsequent changes and finalize Tech-007.
- ❑ By July 17, 2017, DOGM will prepare and send a letter to coal mine operators and permittees notifying them of changes to DOGM's bond cost calculation practices.
- ❑ By July 18, 2017, DOGM will begin implementing updated practices.

Target Action Plan completion date: July 18, 2017.

IV. SIGNATURES

Representing the Utah Department of Natural Resource, Division of Oil, Gas and Mining and the Department of the Interior's Office of Surface Mining Reclamation and Enforcement, the following parties agree to the goals, issues, and action sequence items and schedule identified in this Action Plan.

Howard E. Strand 5/3/2017

Howard E. Strand, Manager
Denver Field Branch
Western Region
Office of Surface Mining
Department of the Interior

Date

5/5/17

Dana Dean, Associate Director-Mining
Utah Department of Natural Resources
Division of Oil, Gas and Mining

Date