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# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

## INSPECTION REPORT

*Handwritten initials/signature*

Norman H. Bangarter  
Governor

Dee C. Hansen  
Executive Director

Dianne R. Nielson, Ph.D.  
Division Director

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340

Partial:  Complete:  Exploration:   
Inspection Date & Time: 12/16/92-10:00 am - 12:00 pm  
Date of Last Inspection: 10/28/92  
11/18/92

Mine Name: Castle Gate Coal Company County: Carbon Permit Number: ACT/007/004  
Permittee and/or Operator's Name: Amax Coal Company  
Business Address: P.O. Box 3005, 2273 Bishop Road, Gillette, WY 8277-3005  
Type of Mining Activity: Underground  Surface  Prep. Plant  Other   
State Official(s): Sharon Falvey, Paul Baker  
Company Official(s): Richard Allison, Tony Siaperas  
Federal Official(s): None Weather Conditions: Cold Clear, Snow Cover  
Existing Acreage: Permitted-8510 Disturbed-134.5 Regraded-6.5 Seeded-6.5 Bonded-134.5  
Increased/Decreased: Permitted- Disturbed- Regraded- Seeded- Bonded-  
Status:  Exploration/  Active/  Inactive/  Temporary Cessation/  Bond Forfeiture  
Reclamation ( Phase I/  Phase II/  Final Bond Release/  Liability  Year)

### REVIEW OF PERMIT, PERFORMANCE STANDARDS & PERMIT CONDITION REQUIREMENTS

#### Instructions

- Substantiate the elements on this inspection by checking the appropriate performance standard.
  - For complete inspections provide narrative justification for any elements not fully inspected unless element is not appropriate to the site, in which case check N/A.
  - For partial inspections check only the elements evaluated.
- Document any noncompliance situation by referencing the NOV issued at the appropriate performance standard listed below.
- Reference any narratives written in conjunction with this inspection at the appropriate performance standard listed below.
- Provide a brief status report for all pending enforcement actions, permit conditions, Division Orders, and amendments.

	EVALUATED	N/A	COMMENTS	NOV/ENF
1. PERMITS, CHANGE, TRANSFER, RENEWAL, SALE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. SIGNS AND MARKERS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. TOPSOIL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. HYDROLOGIC BALANCE:				
a. DIVERSIONS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. SEDIMENT PONDS AND IMPOUNDMENTS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. OTHER SEDIMENT CONTROL MEASURES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. WATER MONITORING	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. EFFLUENT LIMITATIONS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. EXPLOSIVES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. DISPOSAL OF EXCESS SPOIL/FILLS/BENCHES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. COAL MINE WASTE/REFUSE PILES/IMPOUNDMENTS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. NONCOAL WASTE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. PROTECTION OF FISH, WILDLIFE AND RELATED ENVIRONMENTAL VALUES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. SLIDES AND OTHER DAMAGE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. CONTEMPORANEOUS RECLAMATION	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12. BACKFILLING AND GRADING	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. REVEGETATION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. SUBSIDENCE CONTROL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. CESSATION OF OPERATIONS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. ROADS:				
a. CONSTRUCTION/MAINTENANCE/SURFACING	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. DRAINAGE CONTROLS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. OTHER TRANSPORTATION FACILITIES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. SUPPORT FACILITIES/UTILITY INSTALLATIONS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. AVS CHECK (4th Quarter-April, May, June)_____ (date)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. AIR QUALITY PERMIT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. BONDING & INSURANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## INSPECTION REPORT

(Continuation sheet)

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PERMIT NUMBER: ACT /007/004

DATE OF INSPECTION: 12/16/92

(Comments are Numbered to Correspond with Topics Listed Above)

#### 4. HYDROLOGIC BALANCE:

##### a. DIVERSIONS

Main culverts at the Hardscrabble drainage were observed. The culvert inlets were not obstructed at this time. Drainages were snow covered.

The refuse pile at School House Canyon was inspected. No water appears to have drained from the site recently. I suspect drainage conditions have not changed for drainages. The ditches were snow covered so conditions were difficult to determine. Drainage CGD-6 near the inlet to culvert CGC-4 has eroded below previously existing riprap. The ditch is still functioning. The operator should maintain the ditch to design standards. I pointed out that the riprap probably failed due to the use of round rocks used in the riprap and lack of a gravel filter blanket.

#### 11. CONTEMPORANEOUS RECLAMATION

The operator has removed culverts HCC-3 from the No 4 mine for reclamation purposes. However the operator is unable to complete the grading due to weather. The drainage has changed through the removal of the culvert HCC-3 such that the watershed HCWS-U9 now reports to the pond 007. The pond is not sized for the excess drainage. On December 16, 1992 a letter was received by the applicant indicating the drainage from the #4 mine above the removed culvert flows into Pond 007 the applicant states that this action is approved in the reclamation plan until grading work is complete. The Division responded in a memo dated December 21, 1991.

Discussion of measures to prevent addition of sediment off the disturbed areas were discussed for the construction period. The sequence of construction includes the following.

- Grading will begin at the top of the drainage and progress downstream.
- Drainage will be diverted to the pond until the approved alternate sediment control designs are in place.
- Following implementing the sediment control measures the channel will be connected with the undisturbed drainage HCD-7.

Additional measures to assure that undisturbed drainage does not leave the site untreated included alternate sediment control measures placed in channel HCD-5 and HCD-7 during and after channel completion.

Copy of this Report:

Mailed to: Bernie Freeman (OSM), Richard Allison (AMAX)

Given to: Joe Helfrich, Daron Haddock, Paul Baker (DOGM).

Inspector's Signature: Sharon K. Falvey # 38 Date: 12/22/92



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December 21, 1992

TO: Daron Haddock, Permit Supervisor

FROM: Sharon Falvey, Reclamation Specialist *SFI*

RE: R645-301-742.221.33 Pond 007, Castle Gate Mine, AMAX Coal Company, ACT/007/004, File #3, Carbon County, Utah

## Summary

Utah Coal Mining Rule R645.301-742.221.33 allows the Division to approve treatment of a design event less than the 10-year 24-hour design event based on terrain, climate, or other site-specific conditions and on a demonstration by the operator that the effluent limitations of R645-301-751 will be met.

The July 10, 1992 approval and attached memo states that scheduling of the reclamation progress has been planned to maintain the existing sedimentation ponds as long as possible during the back filling and grading operations.

The operator has recently removed culverts HCC-3 from the No. 4 mine for reclamation purposes. However, the operator is unable to initiate and complete the grading due to climatic conditions. The operational drainage has changed through the removal of culvert HCC-3, such that, the watershed HCWS-U9 now reports to pond 007. Pond 007 is not sized for this excess drainage.

On December 16, 1992 a letter was received from the applicant indicating that additional drainage at the #4 mine above the removed culvert flows into Pond 007. The applicant states that this action is approved in the reclamation plan until grading work is complete. The neither the approved plan nor the Divisions approval letter specifically identifies this action. Therefore this memo addresses the additional drainage to pond 007 through regulation R645.301-742.221.33.

## Analysis:

The addition of HCWS U-9 is 58.74 acres. Assuming the construction is completed at the end of May the pond would need to retain sediment control for the 5 month period plus the additional runoff. The predicted sediment erosion volume is estimated at 6,656 ft<sup>3</sup> for the 5 month period. This means that the proposed clean out elevation of 91.6 ft (7353 ft<sup>3</sup>) would be adequate to handle the estimated 5 month sediment volume. The

remaining pond volume available is 36,896 ft<sup>3</sup>, approximately 0.85 AF, for runoff volume retention. With the additional of drainage from HCWS U-9 the pond can retain the runoff from a 1.2 " storm event equivalent to a 2-year 24-hour precipitation event according to Miller et.al 1973.

The probability of a 2 year event occurring in the 5 month period is 25%. The probability of a 10 year event occurring from the pond construction and drainage plan approval in 1984 until the present, an 8 year period, is 57 %. The probability of the 10-year event occurring in the 5 month period is 4.3 %. The 2-year event has a lower probability of occurring or being exceeded within the length of expected design life (until grading is complete) than the probability of the 10-year 6-hour event occurring or being exceeded over the time period that the ponds have existed.

During the construction period, an additional 1 month period the addition of HCWS-U11 will also be contributing to the pond. The additional runoff from this event will require extra storage during the month of construction. Because the period of construction is expected to be approximately one month. The likelihood that a significant event would occur during the short time of construction is decreased further. Additionally, maximizing utilization of the pond during construction provides greater sediment control protection during earth moving operations.

The operator must demonstrate compliance with the R645-301-751 effluent limitations. In order for the operator to demonstrate compliance the operator will be required to sample each discharge from the pond for the applicable parameters. If the operator has a noncompliance discharge additional sediment control measures may be required.

**Recommendation:**

The operator should receive approval by the Division under R645-301-742.221.33 allowing pond retention of a lesser event than the 10-year 24-hour event. The short time period which the pond will receive the additional drainage, and the added protection through sediment control draining to the pond during construction activities justifies this action. The approval should be conditioned for the time period limited to completion of grading and implementation of alternate sediment controls. If construction of the no. 4 mine is delayed into June the operator may be required to provide additional sediment and water quality control measures. This approval should also be conditioned on sampling for each discharge event and to meet the conditions of the UPDES permit as well as a letter of acknowledgement from the Department of Health. If the operator has a noncompliance discharge additional sediment control measures may be required.

cc: Mike Herkimer, Department of Health  
Rick Summers  
Paul Baker