



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

February 19, 1986

CERTIFIED RETURN RECEIPT REQUESTED
(P592 431 330)

Mr. Kenneth B. Hutchinson
Chief Engineer
Price River Coal Company
P. O. Box 629
Helper, Utah 84526

FILE COPY

Dear Mr. Hutchinson:

RE: MRP Amendment, Drainage Control Modifications in
Hardscrabble Canyon, Price River Complex, ACT/007/004, #3,
Carbon County, Utah

The Division has completed its review of Price River Coal Company's latest (January 16, 1986) submittal concerning the proposed drainage modifications in Hardscrabble Canyon. The proposal is still unacceptable in several areas. The enclosed technical review memorandum outlines the specific deficiencies which must be addressed before the Division can continue its review.

Please provide a response to these comments by March 3, 1986, if possible. An expeditious response will help speed the amendment review and approval process.

Thank you for your cooperation in this permitting matter. Should you have any questions, please contact us at your earliest convenience.

Sincerely,

D. Wayne Hedberg
Permit Supervisor/
Reclamation Hydrologist

DMW/btb
Enclosure
cc: Allen Klein
Lowell Braxton
Dave Cline
Sue Linner
0505R-18

Wayne

February 4, 1986

TO: Technical File
FROM: David Cline, Reclamation Hydrologist *DSC*
RE: Submittal of January 16, 1986, Price River Coal Complex,
Drainage Control Modifications in Hardscrabble Canyon,
ACT/007/004, Folder 3, Carbon County, Utah

Summary:

Price River Coal Company submitted a proposal for Drainage Control Modification in Hardscrabble Canyon on October 31, 1985. A deficiency letter was sent to Price River Coal Company from the Division in November 6, 1985. A response to the deficiency letter was received by the Division on November 14, 1985. On January 15, 1986, Rick Summers, Dave Cline and Randy Harden of the Division accompanied Rich Allison and Dennis Bryant of Amax and Ken Hutchinson of Price River Coal Company on a field visit to Hardscrabble Canyon. The purpose of the visit was for the Division to become familiar with all aspects of the drainage control modifications. On January 16, 1986, Price River Coal Company submitted their response to the December 30, 1985 deficiency letter from the Division. The Division has reviewed the latest submittal and is still unable to approve the modifications. Several deficiencies still exist concerning the technical adequacy of the proposal.

Body:

The following deficiencies should be addressed by the applicant.

1. Comment #2 made by the Division in the December 30, 1985, deficiency letter required that the plan view of diversion D-6 on Exhibit 3.3-11 be correlated and referenced to a topographic map depicting all diversion structures. The applicant must delineate the locations of the cross-sections on Exhibit 3.3-11 on Exhibit 3.3-4a.

2. Comment #5 made by the Division in the December 30, 1985 deficiency letter required that the proposal must contain designs for the channel to replace culvert C-3. The applicant has stated that a small diversion, D-3A, will replace culvert C-3. The proposal states that the diversion will be excavated into rock. An on site visit performed by the Division on January 15, 1986 indicated that the location for diversion D-3A is not in rock but rather on an unstable slope. Therefore, complete designs for stabilizing the fill prior to the excavation of diversion D-3A are required. Additionally, Table 3.3-5(D) includes a Mannings "n" value of 0.045. Since the diversion will have to be excavated in stabilized fill a Mannings "n" value that is representative of a riprapped lined channel must be used to compute the velocity during the design event.
3. Comment #6 made by the Division in the December 30, 1985 deficiency letter requested channel stability measures for the reclaimed section of diversion D-5 in the vicinity of culvert C-2 after removal. Table 3.3-5(c) indicates that the design discharge will flow with a velocity of approximately 9.8 feet/second. Therefore, plans for a channel lining to minimize erosion at the design discharge must be submitted. Additionally, Table 3.3-5(c) includes a Mannings "n" value of 0.045. A Mannings "n" value that corresponds to the D50 rip rap size must be used for computation of velocity at the design event. Figure 3.3-11(A) must be revised to incorporate the channel lining design to be used.
4. Comment #9 made by the Division in the December 30, 1985, deficiency letter required designs to demonstrate that each proposed channel will be stable at the design flows. The applicant must submit channel lining designs for diversions D-2, D-3, D-3A, D-5 and D-6. A Mannings "n" value that is representative of the riprap size to be used must be used for velocity computations. All figures of diversion cross-sections must be drawn to scale and revised to incorporate channel lining designs. Additionally, the applicant must commit to placing riprap on all sections of diversion D-6 that are not excavated in bedrock.

5. Exhibit 3.3-4a depicts diversion D-3 as extending only to within 300 feet of the Number 4 Mine Portal. The applicant must clarify how diversion D-3 collects runoff from the portion of sub-watershed Hc-3 that is located upstream of the head of the diversion.
6. Section 3.3-3(1)B states that diversion D-2 was constructed in rock. An on site visit performed by the Division on January 15, 1986 indicated that diversion D-2 is not constructed in rock but rather a valley fill material. The slope of diversion D-2, as determined from Exhibit 3.34a is 26% rather than the 10% which was used on Table 3.3-5(A). The design of diversion D-2 must be modified to reflect the unstable nature of the material, the correct slope, and a Manning's "n" value that corresponds to the size of rip rap to be used as a channel lining.

RECOMMENDATIONS:

The above deficiencies should be sent to Mr. Ken Hutchinson of PRCC and copied to Mr. Jim Buck of Amax in the form of a deficiency letter. Additionally, the letter from OSM to DOGM dated January 16, 1986 should be included with the deficiency letter.

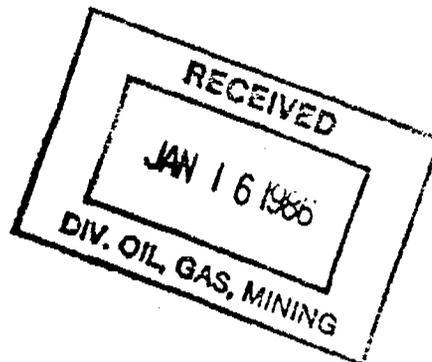
jvb
cc: W. Hedberg
S. Linner
R. Summers
T. Wright
0363R-11

orig mine file
cc R. Summers



United States Department of the Interior
OFFICE OF SURFACE MINING
Reclamation and Enforcement
BROOKS TOWERS
1020 15TH STREET
DENVER, COLORADO 80202

Dianne Nielson
Division of Oil, Gas & Mining
355 W. North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203



Dear Dr. Nielson:

This letter is intended to confirm and clarify the conference call of December 16, 1985, between Rick Summers of Utah Division of Oil, Gas and Mining (DOGM) and the Office of Surface Mining Reclamation and Enforcement (OSMRE) Hydrologist, Lynn Shown and project leader Vernon Maldonado. The following items were discussed in regard to the Price River Coal Company's submission of a November 29, 1985, Sediment Control Plan for the Price River Complex Mine (ACT/007/004) located in Hardscrabble Canyon.

1. Diversion #2 proposed design slope of 0.1 ft. per ft. is quite steep and will result in flow velocities in excess of 9 ft. per second with a flow of approximately 69 cfs. The bed of this diversion will probably have to be lined. Rip-rap was proposed as a link for channel sides but no sizing designs for the rip-rap was provided.
2. The print out from the HEC-2 model for the water-surface profile should better identify the output parameters and a key to all abbreviations is needed.
3. Diversions D-2 and D-5 are located on the topographic map; however, D-6 is not. The profile diagram provided for the D-6 diversion indicated that the slopes were too steep.
4. OSMRE's preliminary review comments were not based on an analysis of the submission with the OSMRE runoff model, but were compiled from SCS curve number (CN) diagrams and tables.
5. This initial review is in the final completeness stage, and OSMRE will submit to Utah DOGM more comprehensive technical comments during the technical review stage.

I hope that you find these comments to accurately reflect the discussion. Should you have any questions, please call Vernon Maldonado or Richard Holbrook at (303) 844-2451.

Sincerely,

Richard E. Daves
Allen D. Klein
Administrator
Western Technical Center

PRCC - Drainage Control Modifications
 Tc for Hardscrabble Canyon - Kents formula
 Reviewer: D. Clive 1/23/86

Watershed	L (ft)	h (ft)	S _o (%)	A (ft ²)	S = ^{(1000kV)⁻¹⁰}	Tc (hrs)
HC-4	29,000	200	74.0	4600	2.34	.20
HC-1+17	16,500	200	59.0	3500	2.82	.19
HC-2	7,000	200	55.1	2500	2.65	.15
HC-3	9,000	200	69.0	2750	1.90	.13
HC-3A	1250	40	50.1	550	3.15	.05
HC-4						
HC-5	38,250	200	48.9	7,000	2.82	.38
HC-6	4750	200	76.6	2,000	3.15	.12
HC-7	5500	40	51.5	1,000	3.15	.08
HC-8	8500	40	68.7	1,400	3.15	.09
HC-9	7000	40	48.7	1,500	1.23	.08
HC-9A	2500	40	59.0	500	1.24	.03
HC-10	5750	40	76.0	1250	1.49	.06
HC-11	8000	200	72.0	2300	2.05	.11
HC-12	7250	40	67.0	1,750	3.16	.11
HC-13	1300	40	65.0	500	3.16	.04
HC-14	2000	40	76.0	700	3.16	.05
HC-15	3000	200	66.0	1,750	2.66	.11
HC-16	3000	200	79.0	1,750	2.50	.09
HC-17						
HC-18	2750	40	69.0	700	3.16	.05
HC-19	1700	40	78.0	700	3.16	.05

PRCC - Hardscrabble Canyon - Drainage Control Plan

Reviewer: D. Clie 1/23/86

Area

Pent

Structure # Watersheds Down PRCC

D1

—

D2

9, 3

72.7

73.4

D3

3

59.4

60.7

D3A

3A

2.3

1.8

D4

9A

3.9

3.5

D5

2, 3, 4, 5, 6, 7, 8, 9, 14

721.0

712.7

D6

1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 14, 16, 17

918.12

911.7

D7

1 + 17

128.9

126.4

C1

3, 9

72.6

73.4

C2

4, 5, 6, 7, 8

587.7

584.1

C3

3

59.5

60.7

C4

3, 4, 5, 6, 7, 8, 9

660.4

657.5

C5

3, 4, 5, 6, 7, 8, 9

660.4

657.5

C6

11

50.7

55.0

C7

2, 3, 4, 5, 6, 7, 8, 9, 11,
14, 16

789.2

785.3

PRCC - Hardscrabble Canyon

Watershed Areas - in acres

1/23/86 - D.C. line

	<u>UNDOGM</u>	<u>PRCC</u>
HC - 1 + 17 -	128.96 Acres	126.4 Acres
HC - 2 -	58.25	
HC - 3 -	59.46	60.7
HC-4	179.41	
HC-5	358.64	
HC-6	28.46	
HC-7	9.81	
HC-8	11.36	
HC-9	13.20	
HC-10	6.94	
HC-11	50.73	
HC-12	9.87	
HC-13	1.83	
HC-13A	2.18	
HC-14	2.41	
HC-15	20.83	
HC-16	17.44	
HC-18	3.67	
HC-19	2.00	
HC-9A	3.90	4.9
HC-3A	2.29	1.5 -