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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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November 29, 1996

Dennis Winterringer
Denver Field Division
Office of Surface Mining
Reclamation and Enforcement
Western Regional Coordinating Center
1999 Broadway, Suite 3320
Denver, Colorado 880202-5733

ACT/007/004

Re: Sowbelly Gulch No. 5 Mine, Phase I Bond Release, Castle Gate Mine, Amax Coal Company, Folder #2, Carbon County, Utah

Dear Mr. Winterringer:

I am enclosing the Decision Document for the Phase I Bond Release for the Sowbelly Gulch No. 5 Mine (findings, technical analysis and affidavit of publication). The Division recommends release of $462,433. Your concurrence is requested.

If you have any questions, please call me.

Sincerely,

Pamela Grubaugh-Littig
Permit Supervisor

Enclosure
cc: Daron Haddock (w/o)
Joe Helfrich (w/o)
Paul Baker

Sowbelly Gulch No. 5 Mine
Phase I Bond Release
Amax Coal Company
Castle Gate Mine
ACT/007/004-96D and 96K
Carbon County, Utah

Summary

Amax Coal Company completed backfilling, grading, seeding and mulching on about 18.2 acres of the Sowbelly Gulch disturbed area in the fall of 1995. On February 8, 1996, the Division received as-built drawings for the reclamation and a completely revised Section 3.2 in the mining and reclamation plan for this area of the Castle Gate Mine.

A Phase I Bond Release application for the Sowbelly Gulch No. 5 Mine was received on September 23, 1996. The original surety bond posted for the Castle Gate Mine is $6,757,451 of which $770,721 is designated for the Sowbelly Gulch or portion of the bond and 60% of the bond or $462,433.

The Phase I bond release inspection was conducted on October 22, 1996 with OSM (Dennis Winterringer), the Division (Paul Baker, Bob Davidson, Randy Harden, Steve Johnson, Wayne Western, and Pamela Grubaugh-Littig and company representative(Johnny Pappas) in attendance. The public notice was published on October 8, 15, 22 and 29, 1996 in the Sun Advocate.

Analysis

The Division may grant Phase I bond release after an operator has satisfactorily completed backfilling and grading and established drainage controls. However, R645-301-880.210 requires the Division to make an evaluation of, among other factors, the degree of difficulty to complete any remaining reclamation. Backfilling and grading necessarily affect the potential for revegetation success and achieving the postmining land use. The pre- and postmining land uses are wildlife and grazing.

Sowbelly Gulch was originally reclaimed in 1993-1994, but in the fall of 1995, the operator reworked about two-thirds of the area. Originally, the operator had installed contour furrows to trap moisture, but reworked areas were gouged. The gouges vary but are approximately one to two feet deep and about four to six feet across. This method of water harvesting is considered superior to contour furrowing in this instance. It is anticipated these gouges will trap water and thus increase the

amount of soil moisture and the ability for plants to establish and survive. Gouging combined with the other treatments the permittee used are the best revegetation methods known to the Division for this area.

Seeding was done in the fall of 1993, 1994 and 1995 using the seed mixtures specified in the plan. Transplants were planted along the stream channel in the spring of 1996. Species used for transplanting were chokecherries, serviceberries, curlleaf mountain mahogany, Wood's rose, and elderberries. About 1200 seedlings were planted along the length of the channel.

Slopes created in the grading process are not extremely steep, but some very steep cut slopes were not regraded. As much as possible, these slopes were seeded, but it is not anticipated that much vegetation will become established on them.

About 8% of the reclaimed area, about 1.5 acres, was left as cut slopes. The total regraded area is about 18.2 acres. The revegetation reference areas are abandoned mines in the Spring Canyon area. Considering the reclamation methods used in all of these areas, it is anticipated that there will be at least as much vegetation in the Sowbelly disturbed area as at the abandoned mine reference areas. Assuming, however, there is no vegetation on the steep cut slopes, the overall amount of vegetation in the reclaimed area would be reduced by 8%. If vegetation in the rest of the reclaimed area was a much as in the reference areas, the overall amount of vegetation would be 92% of the reference areas. This would meet the revegetation success standards because the success standards consider the reclaimed area to be equal to the standard when it is within 90% of the standard with 90% confidence.

Vegetation should be adequate to control erosion on regraded areas assuming the cover will be the same as at nearby abandoned mines and that vegetation is controlling erosion in these areas. The ungraded cut slopes have been in place for many years and should be stable according to information presented in the mining and reclamation plan.

The mining and reclamation plan says the diversity index used to compare reference and reclaimed areas will be used to show revegetation success for the parameters of diversity, seasonal characteristics, permanence, and utility for the postmining land use. The seed mix used should result in diversity at least as great as in the reference areas.

The remaining cut slopes are probably not useful for either a grazing or wildlife postmining land use. The Bureau of Land Management considers any slopes steeper

than 2h:1v to be unusable for grazing, so the cut slopes that were left are not suitable for this use. Division personnel have seen deer on some of the cut slopes, but it is unlikely big game animals would use vegetation on the cuts for forage or cover.

Although the cut slopes are probably not particularly useful for the postmining land use, they are not extensive and would not keep any animals from gaining access to surrounding areas. The cuts resemble adjacent, undisturbed areas which also have very steep areas that produce little forage or cover for wildlife or livestock and may not be entirely accessible.

Findings:

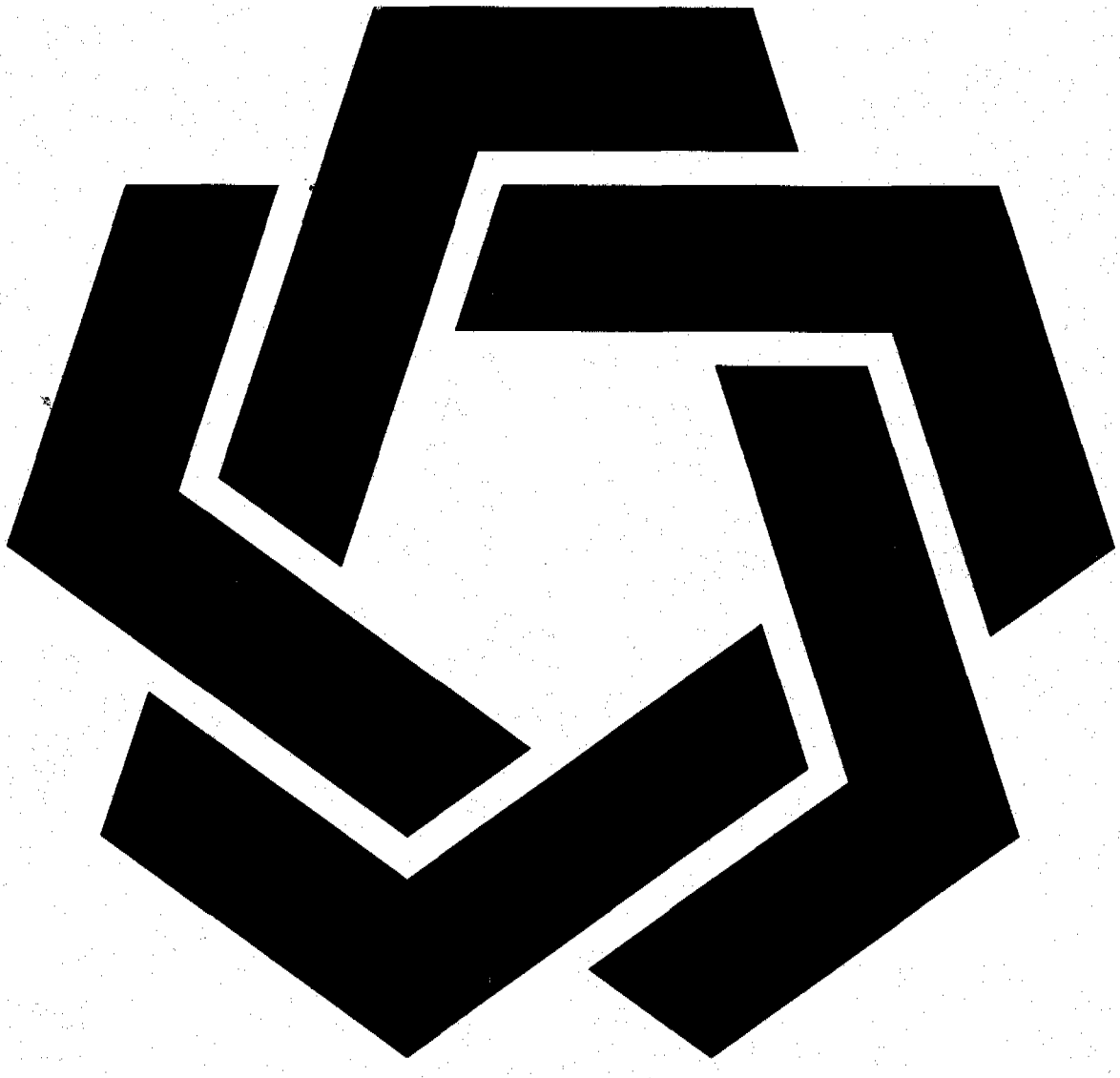
The permittee has met the backfilling and grading requirements for the postmining land use in the Sowbelly Gulch area. In addition, the permittee is likely to achieve successful revegetation if there is adequate moisture. The grading, soil surface preparation, and other reclamation methods used are the best of which the Division is aware for this area .

Although some steep cut slopes remain, they are similar to cliffs in undisturbed areas and should not adversely affect the postmining land use. There should be adequate vegetation to achieve revegetation success standards. Although the steep slopes will not produce much forage, they do not restrict movements by wildlife or livestock any more than cliffs in undisturbed areas.

Phase I Bond Release Recommendation

The permittee has completed backfilling and grading in Sowbelly Gulch in a manner that fulfills the requirements for the postmining land uses and makes it likely that revegetation efforts will succeed. Therefore, it is recommended that $462,433 be released.

State of Utah
Division of Oil, Gas and Mining
Utah Coal Regulatory Program



Analysis and Findings
Castle Gate Mine
Sowbelly Gulch Reclamation As-Builts
ACT/007/004 - 96D
September 12, 1996

TECHNICAL ANALYSIS

INTRODUCTION

Amax Coal Company completed backfilling, grading, seeding and mulching on about 18.2 acres of the Sowbelly Gulch disturbed area in the fall of 1995. On February 8, 1996, the Division received as-built drawings for the reclamation and a completely revised Section 3.2 of the mining and reclamation plan. They have also requested Phase I bond release, but the submittal was not a formal Phase I bond release application.

The Sowbelly site and the No.5 Portal are rehabilitated portions of the old Spring Canyon Coal Company No. 5 Mine. The No. 5 Mine is accessed through Sowbelly Canyon which lies approximately four miles west-northwest of Helper, Utah. Approximately 21 acres were affected by mining-related surface operations and included disturbance prior to 1977. Most of the affected area was used for storage and personnel access through Portal No. 5 which continued until the end of 1988.

Phase I of reclamation as identified in the mining and reclamation plan, removal of the structures, is complete except that the substation remains. Phase II reclamation was completed in 1995.

Amax has corrected the deficiencies noted in the original submittal, but they need to submit a formal Phase I bond release application. The application needs to include copies of letters sent to adjoining property owners, local governmental bodies, planning agencies, sewage and water treatment authorities, and water companies in the locality in which the coal mining and reclamation operation took place, notifying them of the intention to seek release from the bond. Within 30 days after an application for bond release has been filed with the Division, the operator must submit a copy of an advertisement placed at least once a week for four successive weeks in a newspaper of general circulation in the locality of the coal mining and reclamation operations. The advertisement will be considered part of any bond release application and will contain the permittee's name, permit number and approval date, notification of the precise location of the land affected, the number of acres, the type and amount of the bond filed and the portion sought to be released, the type and appropriate dates of reclamation work performed, a description of the results achieved as they relate to the operator's approved reclamation plan and the name and address of the Division to which written comments, objections, or requests for public hearings and informal conferences on the specific bond release may be submitted pursuant to R645-301-880.600 and R645-301-880.800.

Upon receipt of the bond release application, the Division will, within 30 days, or as soon thereafter as weather conditions permit, conduct an inspection and evaluation of the reclamation

work involved. The evaluation will consider, among other factors, the degree of difficulty to complete any remaining reclamation, whether pollution of surface and subsurface water is occurring, the probability of future occurrence of such pollution and the estimated cost of abating such pollution. The surface owner, agent or lessee will be given notice of such inspection and may participate with the Division in making the bond release inspection. The Division may arrange with the permittee to allow access to the permit area, upon request of any person with an interest in bond release, for the purpose of gathering information relevant to the proceeding.

ENVIRONMENTAL RESOURCE INFORMATION
SOILS RESOURCE INFORMATION

Regulatory Reference: R645-301-411, -301-233.

Analysis:

The 21 acres in Sowbelly Canyon were disturbed by mining prior to the enactment of SMCRA. No topsoil or soil resource material were salvaged from the site. The existing disturbed and undisturbed soils at the site were used for reclamation as topsoil and substitute soil material. The existing soil resource materials were evaluated using DOGM's guidelines for topsoil and overburden. The soil sampling, analyses, and disposal activities were performed as part of the 1995 reclamation activities.

Nine sites were sampled from the disturbed area - five soil pits (SB-1 thru SB-5), two trenches (T-1 and T-2), plus two surface-grab samples (SBG-1 and SBG-2). A total of 14 samples were collected from various depths in four of the pits and from the two surface locations. There were 10 overburden and 4 coal debris samples. Pit SB-2 was not sampled, nor were the top 20 inches of pit SB-4. The two trenches were not sampled or logged in detail, but were inspected for the presence of any coal debris. Although the soil pits' soil profiles were adequately described in Appendix 3.2 (see February 7, 1996, EarthFax memo to Johnny Pappas), the **original soil survey field notes for the pits were not included**.

The distribution of vegetation within the disturbed area boundary was highly variable. The soil pits' locations were chosen to determine what inherent soil properties were responsible for poor vegetative cover. The soil properties were remarkably similar while the percentage of vegetative cover was markedly different between SB-1, good vegetation cover, and SB-2 and SB-3, poor vegetation cover. Excessive hardness of the indurate soils in SB-2 and SB-3 were most likely the contributing factor for the differential vegetation growth.

Coal samples collected at the surface at SBG-1 and SBG-2 were not acidic or toxic whereas coal sampled from SB-4 is mildly acidic having a marginal pH of 5.7, with an acid-base potential of -11.2 tons of $CaCO_3$/1000 tons of material. The coal and soil sampled from SB-5 had elevated SAR values. Additionally, the soil below the coal in SB-5 exhibited elevated sodic and EC values.

Findings:

This portion of the proposal is considered complete and accurate.

RECLAMATION PLAN

TOPSOIL AND SUBSOIL

Regulatory Reference: R645-301-232, -301-233, -301-234, -301-242, -301-243.

Analysis:

To rectify poor soil quality issues, reclamation activities included:

- The soils in the area of test pits SB-2 and SB-3 were entirely redisturbed and loosened to alleviate apparent poor vegetation establishment. This area was treated by reroughening of the soils through deep gouging and incorporating 2 tons/acre of hay mulch into the soil during the gouging process. This treatment was followed by reseeding and then mulching with straw at a rate of 1 ton/acre. The straw was lightly crimped into the soil surface.

- Coal material that was present in the area of SBG-1 and SBG-2 was removed and placed in Pond 017 and used as backfill over the No. 5 fan portal. The pond and fan portal were then backfilled with approximately 2 feet of locally available soil media.

- Soil pit SB-4 was located in a topographically low area. The coal found in this location was at a depth of 20 to 27 inches below the ground surface. To achieve proper reclamation surface grade, the low area was backfilled with locally derived fill material and covered with between four and six feet of soil material.

- The sodic soils identified in SB-5 were removed as they were encountered during the reconstruction of SBRD-4B and placed in Pond 017. After the channel was at grade, the channel slopes and adjacent areas were covered by approximately three feet of soil material generated from the removal of the Pond 017 embankment.

Findings:

This portion of the proposal is considered complete and accurate.

REVEGETATION SUCCESS STANDARDS

Regulatory Reference: R645-301-350

The Division may grant Phase I bond release after an operator has satisfactorily completed backfilling and grading and established drainage controls. However, R645-301-880.210 requires the Division to make an evaluation of, among other factors, the degree of difficulty to complete any remaining reclamation. Backfilling and grading necessarily affect the potential for revegetation success and achieving the postmining land use. The pre- and postmining land uses are wildlife and grazing.

Sowbelly Gulch was originally reclaimed in 1993-1994, but in the fall of 1995, the operator reworked about two-thirds of the area. Originally, the operator had installed contour furrows to trap moisture, but reworked areas were gouged. The gouges vary but are approximately one to two feet deep and about four to six feet across. This method of water harvesting is considered superior to contour furrowing in this instance. It is anticipated these gouges will trap water and thus increase the amount of soil moisture and the ability for plants to establish and survive. Gouging combined with other treatments the permittee used are the best revegetation methods known to the Division for this area. If weather cooperates, revegetation should be successful.

Seeding was done in the fall of 1995 using the seed mixtures specified in the plan. Transplants were planted along the stream channel in the spring of 1996. Species used were chokecherries, serviceberries, curlleaf mountain mahogany, Wood's rose, and elderberries. About 1200 seedlings were planted along the length of the channel.

Slopes created in the grading process are not extremely steep, but some very steep cut slopes were not regraded. As much as possible, these slopes were seeded, but it is not anticipated that much vegetation will become established on them.

About 8% of the reclaimed area, about 1.5 acres, was left as cut slopes. The total regraded area is about 18.2 acres. The revegetation reference areas are abandoned mines in the Spring Canyon area. Considering the reclamation methods used in all of these areas, it is anticipated that there will be at least as much vegetation in the Sowbelly disturbed area as at the abandoned mine reference areas. Assuming, however, there is no vegetation on the steep cut slopes, the overall amount of vegetation in the reclaimed area would be reduced by 8%. If vegetation in the rest of the reclaimed area was as much as in the reference areas, the overall amount of vegetation would be 92% of the reference areas. This would meet the revegetation success standards because the success standards consider the reclaimed area to be equal to the standard when it is within 90% of the standard with 90% confidence.

Vegetation should be adequate to control erosion on regraded areas assuming the cover will be the same as at nearby abandoned mines and that vegetation is controlling erosion in these areas. The ungraded cut slopes have been in place for many years and should be stable according to information presented in the Mining and Reclamation Plan.

The Mining and Reclamation Plan says the diversity index used to compare reference and reclaimed areas will be used to show revegetation success for the parameters of diversity, seasonal characteristics, permanence, and utility for the postmining land use. The seed mix used should result in diversity at least as great as in the reference areas.

The remaining cut slopes are probably not useful for either a grazing or wildlife postmining land use. The Bureau of Land Management considers any slopes steeper than 2h:1v to be unusable for grazing, so the cut slopes that were left are not suitable for this use. Division personnel have seen deer on some of the cut slopes, but it is unlikely big game animals would use vegetation on the cuts for much forage or cover.

Although the cut slopes are probably not particularly useful for the postmining land use, they are not extensive and would not keep any animals from gaining access to surrounding areas. As discussed in the Mining and Reclamation Plan, the cuts are similar to cliffs in adjacent areas that also produce little forage or cover and may not be entirely accessible.

Findings:

The permittee has met the backfilling and grading requirements for the postmining land use in the Sowbelly Gulch area. In addition, the permittee is likely to achieve successful revegetation if there is adequate moisture. The grading, soil surface preparation, and other reclamation methods used are the best of which the Division is aware for this area.

Although some steep cut slopes remain, they are similar to cliffs in undisturbed areas and should not adversely affect the postmining land use. There should be adequate vegetation to achieve revegetation success standards. Although the steep slopes will not produce much forage, they do not restrict movements by wildlife or livestock any more than cliffs in undisturbed areas.

ENGINEERING

Regulatory Reference: R645-301-500

Analysis:

The Division has reviewed the as-built drawings for Sowbelly Canyon. Based on the information submitted by the Permittee, the Division has determined that the as-builts meet all of the requirements of the R645-301-500 regulations. Specifically the Division has determined that the as-builts meet all of the requirements for backfilling and grading along with highwall elimination.

The site was disturbed before 1977. Some portions of the highwall remain because there is insufficient fill material to reclaim them. The Division gave approval for the Permittee to leave some highwall remnants exposed.

The Division did not field check the as-builts. Field checks will be done prior to bond release.

Findings:

The as-built drawings of the reclamation in Sowbelly Gulch meet regulatory requirements. They should be field checked before the Division grants bond release.

HYDROLOGIC INFORMATION

Regulatory Reference: R645-301-760

Analysis:

Section 3.2-5(4) covers the reclamation alternate sediment control measures that will be implemented in the reclamation of this canyon. This section was permitted prior to reclamation activities in 1995. Section 3.2-5(4) refers to Appendix 3.2I for sediment control as-builts. Appendix 3.2I shows USLE calculations that demonstrate that the alternate sediment control measures are adequate to treat reclaimed areas. First, Amax Coal says that the amount of sediment from the undisturbed area is greater than the disturbed areas; therefore, the sediment is controlled on the reclaimed areas. Second, Amax Coal says that an analysis which uses predisturbed assumptions on the disturbed areas results in only a slightly lower sediment production. Finally, the data shows that sediment production per acre is less from the reclaimed areas than the sediment production from undisturbed areas.

Section 3.2-10 discusses the reclamation as-builts. This section discusses the reclamation activities performed in 1995. This section also describes the use of mulch as sediment in the reclaimed areas.

Appendix 3.2G is the reclamation as-built, hydrology calculations. In this section the channel configurations are shown. All channels are shown to be built to design and certified by a professional engineer, except SBRD-8. This channel was only slightly modified in order to leave a more natural, stable channel; therefore the engineer certified that the channel was stable and capable of conveying the required storm runoff, rather than certifying the designs.

Findings:

This section is complete and accurate and should be approved as part of the reclamation plan.

AFFIDAVIT OF PUBLICATION

STATE OF UTAH)

ss.

County of Carbon,)

I, Kevin Ashby, on oath, say that I am the Publisher of the Sun Advocate, a twice-weekly newspaper of general circulation, published at Price, State and County aforesaid, and that a certain notice, a true copy of which is hereto attached, was published in the full issue of such newspaper for 4 (Four) consecutive issues, and that the first publication was on the 8th day of October, 1996 and that the last publication of such notice was in the issue of such newspaper dated the 29th day of October, 1996.

Kevin Ashby

Kevin Ashby - Publisher

Subscribed and sworn to before me this 29th day of October, 1996.

Linda Thayn

Notary Public My commission expries January 10, 1999 Residing at Price, Utah

Publication fee, $548.16

NOTARY PUBLIC
LINDA THAYN
811 NORTH 10TH EAST
PRICE, UT 84501
My Commission Expires [illegible] 1999
State of Utah

PUBLIC NOTICE
Application for Phase I Bond Release
Sowbelly Gulch No. 5 Mine
Amax Coal Company
Castle Gate Mine
Permit #ACT/007/004, Approved 12/24/94
Carbon County, Utah

AMAX Coal Co. has completed Phase I of the approved reclamation plan for the Sowbelly Gulch No. 5 Mine area of the Castle Gate Mine. This is based on the completion of the backfilling and grading and drainage control on the bonded area.

The original minesite reclamation was completed in the fall of 1994. Subsequent reclamation improvements were completed in the fall of 1995. Reclamation was performed on a total of 21.0 disturbed acres.

In accordance with the provisions of R645-301-880, of the State of Utah R645-Coal Mining Rules, notice is hereby given to the general public that AMAX Coal Co. is applying for partial release of the performance bond posted for this operation.

The original surety bond posted for the Castle Gate Mine is $6,757,451.00 of which $770,721.00 is designated for the Sowbelly Gulch No. 5 Mine reclamation. AMAX Coal Co. is seeking release of 60% of the Sowbelly Gulch portion of the bond, or $462,433.00. All earthwork has been completed on this site, except for the removal of an electrical substation and access road. Reclamation of this area will be completed when transmission of power from the sub-station is no longer necessary. Costs for this reclamation are not included in this bond release request.

The Sowbelly Gulch No. 5 Mine is included in the Castle Gate Mine Permit Area. The following are legal descriptions of the Castle Gate Permit Area:

Township 12 South, Range 9 East, SLBM, Utah

Section 22:	Portions SE ¼, SW ¼, and SW ¼ SE ¼
Section 26:	All, except E ½ E ½
Section 27:	All
Section 28:	All
Section 29:	All, except N ½ NW ¼ and NW ¼ NE ¾
Section 30:	All, except N ½ N ½
Section 31:	All
Section 32:	All
Section 33:	All
Section 34:	All
Section 35:	Portions of N ½, W ½ SW ¼, and SE¼ SE ¼
Section 36:	S ½ NW ¼, and portions of SW ¼, and NE ¼

Township 13 South, Range 9 East, SLBM, Utah

Section 1:	Portion of NW ¼ NW ¼
Section 2:	Portion of NE ¼ and NW ¼

acres of disturbed and affected area located on the following described lands:

Township 13 South, Range 9 East, SLBM, Utah

Section 4:	NW ¼ SW ¼, SW ¼ SW ¼
Section 9:	NW ¼ NW ¼

The Utah Division of Oil, Gas and Mining will now evaluate the proposal to determine whether it meets all of the criteria of the Permanent Program Performance Standards according to the requirements of the Utah Coal Mining Rules.

Upon completion of the evaluation, a decision will be made as to approval or disapproval of the application. The reclamation plan is available for public review at: Division of Oil, Gas and Mining, 1594 West North Temple, Suite 1210, Salt Lake City, Utah 84114-5801, and at the Carbon County Courthouse, Price, Utah 84501.

Written comments, objections and requests for public hearing or informal conference on this proposal may be addressed to:

Mr. Jim W. Carter, Director
Utah Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, Utah 84114-5801

Published in the Sun Advocate October 8, 15, 22, and 29, 1996.