

0007



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

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
James W. Carter
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

ACT/007/018
#3

October 19, 1995

Rick Olsen, President
Soldier Creek Coal Company
P.O. Box 1029
Wellington, Utah 84542

Re: Draft Technical Analysis, Soldier Creek Coal Company, Soldier Canyon Mine,
ACT/007/018, Folder #3, Carbon County, Utah

Dear Mr. Olsen:

The Division has completed a review of the Alkali Lease Incidental Boundary Change application dated September 13, 1995. The Draft Technical Analysis is enclosed for your information and records. You will note that there are a few deficiencies that must be addressed before your application can be approved. Please provide a response to these issues within 30 days.

Don't hesitate to call if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Daron R. Haddock".

Daron R. Haddock
Permit Supervisor

Enclosure

cc: P. Grubaugh-Littig
J. Smith
P. Baker
J. Kelley

ALKCOVE.SC3



DRAFT TECHNICAL ANALYSIS

ALKALI LEASE INCIDENTAL BOUNDARY CHANGE

Soldier Creek Coal Company
Soldier Canyon Mine

ACT/007/018-95B

October 17, 1995

TECHNICAL ANALYSIS

SUMMARY OF PERMIT CONDITIONS

As determined in the analysis and findings of this Technical Analysis, approval of the plan is subject to the following Permit Conditions. The applicant is subject to compliance with the following Permit Conditions and must commit to comply with the requirements of these conditions as referenced in the approved Permit.

Accordingly, as a condition of this permit, the permittee must do the following, in accordance with the requirements of:

R645-301-521.111, -521.141, -521.142

In the September 13, 1995 letter which accompanied the Alkali Lease/IBC amendment application package, the permittee made no commitment to include mine workings on the maps now in the approved plan. Therefore, during the next 5-year permit renewal in late 1996 and early 1997, the permittee must revise the relevant maps to show the mine workings as they then exist, as well as those anticipated during the next 5-year permit term, within the 1995 IBC.

R645-301-521.132, -521.141, -521.162

When the Alkali Lease and the IBC were added to the approved plan in 1995, the permittee revised only Exhibit 5.21-5--Rock Canyon Seam Mine Plan and Exhibit 1.12-2--Coal Ownership and Lease Map to show those new features. The permittee and the Division agreed that the rest of the maps in the approved plan did not have to be revised at that time to include the Alkali Lease and the IBC, but that the permittee should instead make the necessary revisions in the rest of the maps during the next 5-year permit renewal in late 1996 and early 1997. This the permittee committed to do in a September 13, 1995 letter which accompanied the Alkali Lease/IBC amendment application package.

R645-301-525.140

Since only first mining will be done in the 1995 Alkali Lease IBC during the remaining 15 months of the present 5-year permit term, which began February 2, 1992 and will go to February 2, 1997, the permittee expects no subsidence to occur during that time. Based on the extraordinarily deep cover over the Rock Canyon Seam, the integrity and thickness of the strata which overlie the seam, and the permittee's past experience in this area, the Division agrees with this prediction. But as first mining is done over a larger and larger area, and of course when the pulling of pillars is eventually begun, subsidence will occur and its magnitude and extent will almost certainly increase. Therefore, the permittee must plan and install a subsidence monitoring system in the IBC during the next 5-year permit renewal, which will take place in late 1996 and early 1997.

SUMMARY OF OUTSTANDING DEFICIENCIES

The Technical Analysis regarding the proposed permit changes is not complete at this time, pending submittal of additional information by the permittee and further review by the Division, to address outstanding deficiencies in the proposal. A summary of those outstanding deficiencies is provided below. Additional comments, concerns and deficiencies may also be found within the analysis and findings made in this Draft Technical Analysis which have not been presented in this summary. Upon finalization of this review, any outstanding deficiencies will be evaluated for compliance with the regulatory requirements. Such deficiencies may be conditioned to the requirements of the permit issued by the Division, result in denial of the proposed permit changes, or may result in other executive or enforcement action as deemed necessary by the Division at that time to achieve compliance with the Utah Coal Regulatory Program.

Accordingly, the permittee must address those deficiencies as found within this Draft Technical Analysis and provide the following, prior to approval, in accordance with the requirements of:

R645-301-114

The right of entry portion of the application needs to be updated to reference the lease, including the date it was issued.

R645-301-115

The application needs to contain information indicating whether the proposed incidental boundary change area contains roads or buildings.

R645-301-321

To comply with lease stipulation nine, the application must contain a plan to monitor the progressive and final effects of mining on vegetation.

R645-301-522, 43 CFR 3480

Before the Division can approve the plan, the Bureau of Land Management must approve a Resource Recovery and Protection Plan (R2P2) and a mining plan for the Alkali Lease and the included IBC.

R645-301-728

Exhibit 5.21-5 shows the mine plan for the entire Alkali Lease and not just the entries to be mined under the IBC. This map needs to be redone to show only the mining proposed under the requested IBC.

IDENTIFICATION OF INTERESTS, VIOLATION INFORMATION, AND RIGHT OF ENTRY INFORMATION

Regulatory Reference: UCA R645-301-112; R645-301-113; R645-301-114

Analysis:

Other than right of entry, the applicant has not provided new information for this portion of the mining and reclamation plan. Ownership and control and violation information does not change with this amendment.

The area proposed to be included in the incidental boundary change does not border land (either surface or mineral) owned by entities not already shown in the mining and reclamation plan. Therefore, no new land ownership information is required.

The proposed incidental boundary change is within federal lease UTU-69635 . Sage Point Coal Company is the lessee, and the application lists the date of the lease as "pending."

The Division received a letter from the Bureau of Land Management on September 27, 1995, saying the lease has been issued to Sage Point Coal Company. The amendment application should be updated with this information.

Findings:

This portion of the application is considered complete and accurate with the following exception:

1. The right of entry portion of the application needs to be updated to reference the lease, including the date it was issued.

UNSUITABILITY CLAIMS

Regulatory Reference: UCA R645-301-115

Analysis:

The application does not address this regulation. A representative of the applicant stated in a telephone conversation there are no roads or buildings within the proposed addition to the permit area, but this information needs to be included in the application.

The Division is unaware of any proposal to designate the area as unsuitable for mining. The Bureau of Land Management, in its decision to hold a lease sale, determined the lease application was in conformance with the approved land use plan. They also determined that the lease application, using the standard lease stipulations, will have no significant impacts on the human environment.

Findings:

The application does not address this regulation but is, nevertheless, considered complete and accurate with the following exception:

1. The application needs to contain information indicating whether the proposed incidental boundary change area contains roads or buildings.

The Division is unaware of any proposal to designate the area as unsuitable for mining, and the Bureau of Land Management has found the lease application to be in conformance with the approved land use plan.

Page 5
ACT/007/018
October 5, 1995

**PERMIT TERM, INSURANCE, PROOF OF PUBLICATION, NOTARIZED
SIGNATURE**

Regulatory Reference: UCA R645-301-116; R645-301-117; R645-301-121; R645-301-123; R645-301-142

Analysis:

The application does not address most of these regulations. The permit term would not change as a result of this application, and the permittee has insurance coverage meeting the division's requirements. The amendment is not a significant revision, so no public notice is required.

The application includes a statement with the notarized signature of Barry Barnum indicating he is a responsible official of the applicant and that the information in the application is true and correct to the best of his information and belief.

Findings:

The applicant has complied with the requirements of these regulations.

ENVIRONMENTAL RESOURCE INFORMATION

VEGETATION RESOURCE INFORMATION

Regulatory Reference: R645-301-321

Analysis:

The application contains no new vegetation information.

Lease stipulation nine requires the lessee to establish a monitoring system to locate, measure and quantify the progressive and final effects of underground mining on the topographic surface, underground and surface hydrology, and vegetation. This is a standard stipulation in federal leases. No monitoring plan was found in the amendment or the current mining and reclamation plan.

Since no new surface disturbance is proposed, the Division does not require the application to contain additional vegetation information.

Findings:

The application is considered complete and accurate with the following exception:

1. To comply with lease stipulation nine, the application must contain a plan to monitor the progressive and final effects of mining on vegetation.

FISH AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: R645-301-322

Analysis:

The applicant conducted a raptor and bird survey in the Alkali Lease area in May 1995. A map showing the results of the survey is in Appendix 3G. This map shows four golden eagle nests in the area of the incidental boundary change, including two nests that were tended in 1995.

The Division does not anticipate significant effects on other wildlife species, so additional wildlife information is not required. The Utah Division of Wildlife Resources was

consulted about the need for further wildlife information for the proposed incidental boundary change area and concurs with the decision not to require more information. The Bureau of Land Management's environmental assessment says it is not likely longwall mining could be justified, and no subsidence is anticipated with room and pillar mining. No subsidence has been detected at two adjacent mines that mine with room and pillar methods.

Soldier Creek's current plan discusses a few candidate threatened or endangered plant species that could occur in the area. Even if there is subsidence, there is virtually no likelihood of subsidence cracks or other surface expressions of subsidence negatively affecting these species. The plants do not grow in areas, such as cliffs, that are particularly susceptible to subsidence damage.

A small portion of the proposed incidental boundary change area includes federal surface land. Therefore, the Division and the Office of Surface Mining need to obtain approval from the Fish and Wildlife Service. However, the Fish and Wildlife Service said in a letter dated September 22, 1995, that they cannot offer comments at this time due to a lack of staff and time. It also says this should not be construed as concurrence. It says they may later provide comments if issues of concern arise or come to their attention. While no issues of concern are anticipated, the Division and OSM need concurrence before permitting the area.

Findings:

The applicant has complied with the requirements of this regulation.

**LAND USE RESOURCE INFORMATION
HISTORIC AND ARCHAEOLOGICAL RESOURCES
POSTMINING LAND USES
AIR QUALITY**

Regulatory References: UCA R645-301-411.100; R645-301-411.200, R645-301-411.140, R645-301-412, R645-301-420

Analysis:

A letter accompanying the application says all information in the land use and air quality section of the permit applies to the permit change with the exception of an archaeological survey performed over the entire lease.

Land owners in the proposed incidental boundary change area are the Bureau of Land Management and Louise Iriart. Mrs. Iriart was notified of the potential mining beneath her property and responded by letter dated September 1, 1995. Her letter is included in the application. It says she expects the postmining use of the surface properties to be the same as the current usage, including wildlife habitat, livestock grazing, and big game hunting and other recreational activities.

In 1992, Soldier Creek wrote the Bureau of Land Management and said they anticipate the use of the land following mining to be livestock grazing, wildlife habitat, and recreation. The Bureau of Land Management concurred with the letter by signing and returning it.

The archaeological study of the Alkali Lease concentrated on upper ridges and escarpment crests. Two isolated artifacts were observed. They consisted of chert primary and secondary flakes. The presence of these together with two similar artifacts found nearby suggests the terrain feature may have been used anciently as a transportation corridor linking lower elevations with the Whitmore Park area. However, these items are not considered significant historic or prehistoric resources that could be susceptible to surface subsidence. The Division of State History recommended a determination of "No Historic Properties."

By adding the incidental boundary change to its permit area, Soldier Creek is not proposing to increase the amount of coal it mines. Because of this and because all disturbance will be underground, there are no requirements to change the air quality section of the mining and reclamation plan.

Findings:

Soldier Creek has complied with the requirements of these regulations. Based on the information in the application, the State Historic Preservation Officer has recommended a determination of No Historic Properties.

PERMIT AREA

Regulatory Requirements: 30 CFR Sec. 783.12; R645-301-521.

Analysis:

Federal Coal Lease UTU-69635, which is also called the "Alkali Lease" and lies to the west of the original permit area, was added to the approved permit area in 1995 as part

of Amendment 95B. No new surface disturbance resulted from the addition of the Alkali Lease to the permit area.

The entire permit boundary, including the Alkali Lease, is shown on maps designated Exhibit 5.21-5--Rock Canyon Seam Mine Plan and Exhibit 1.12-2--Coal Ownership and Lease Map. These maps were revised to include the Alkali Lease on March 15, 1995 and August 8, 1995, respectively. Both maps were recertified on September 13, 1995 by Barry J. Barnum, a professional engineer licensed and registered in the state of Utah.

When the Alkali Lease was added to the approved plan in 1995, the permittee revised only Exhibit 5.21-5--Rock Canyon Seam Mine Plan and Exhibit 1.12-2--Coal Ownership and Lease Map to show its extended boundaries. The permittee and the Division agreed that the rest of the maps in the approved plan did not have to be revised at that time to include the Alkali Lease, but that the permittee should instead make the necessary revisions in the rest of the maps during the next 5-year permit renewal in late 1996 and early 1997. This the permittee committed to do in a September 13, 1995 letter which accompanied the Amendment 95B application package.

Findings:

The plan fulfills the requirements of this section. However, as a condition of this permit, the permittee must fulfill the requirements set forth under **R645-301-521.132, -521.141, -521.162** in the findings of **MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION** below.

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

Analysis:

Affected Area Boundary Maps

Federal Coal Lease UTU-69635, which is also called the "Alkali Lease" and lies to the west of the original permit area, was added to the approved permit area in 1995. An Incidental Boundary Change (IBC) was also made in 1995 to extend the area of subsurface disturbance due to coal mining to include approximately 276 acres in the southeast corner of the Alkali Lease. Both the Alkali Lease and the IBC were included in the approved plan as a

single amendment--Amendment 95B. No new surface disturbance resulted from the addition of either the Alkali Lease or the IBC.

The entire permit boundary, including the Alkali Lease, plus the additional subsurface disturbed area in the 1995 IBC, are shown on maps designated Exhibit 5.21-5--Rock Canyon Seam Mine Plan and Exhibit 1.12-2--Coal Ownership and Lease Map. These maps were revised to include the Alkali Lease and the 1995 IBC on March 15, 1995 and August 8, 1995, respectively. Both maps were recertified on September 13, 1995 by Barry J. Barnum, a professional engineer licensed and registered in the state of Utah.

When the Alkali Lease and the IBC were added to the approved plan in 1995, the permittee revised only Exhibit 5.21-5--Rock Canyon Seam Mine Plan and Exhibit 1.12-2--Coal Ownership and Lease Map to show those new features. The permittee and the Division agreed that the rest of the maps in the approved plan did not have to be revised at that time to include the Alkali Lease and the IBC, but that the permittee should instead make the necessary revisions in the rest of the maps during the next 5-year permit renewal in late 1996 and early 1997.

Coal Resource and Geologic Information Maps

Federal Coal Lease UTU-69635, which is also called the "Alkali Lease" and lies to the west of the original permit area, was added to the approved permit area in 1995. An Incidental Boundary Change (IBC) was also made in 1995 to include, as part of the coal mining operation, approximately 276 acres in the southeast corner of the Alkali Lease.

Since the Alkali Lease lies adjacent to the existing permit area, the permittee analyzed the coal resource and geology of the Alkali Lease long before applying to extend the coal mining operation into the area. Thus, when the Alkali Lease and the IBC were added to the approved plan as Amendment 95B, the maps in the approved plan already contained this information and it was, therefore, unnecessary that the permittee revise those maps.

The depth and thickness of the Rock Canyon Seam are shown by isopach on the map designated Exhibit 5.21-5--Rock Canyon Seam Mine Plan. This map was revised on March 15, 1995 to include this additional information on the coal seam within the Alkali Lease. The map was recertified on September 13, 1995 by Barry J. Barnum, a professional engineer licensed and registered in the state of Utah. Additional coal resource and geologic information is included in the plan as Appendix 1A, which contains BLM's Environmental Assessment (EA) of the Alkali Lease area.

The coal in the Alkali Lease and the 1995 IBC is in 2 minable seams--the Rock

Canyon Seam and the Gilson Seam. However, because of the thin interburden between these seams, only the Rock Canyon Seam will be mined.

The Alkali Lease contains approximately 35.4 million tons of in-place coal. Using existing room-and-pillar mining methods, the permittee expects to be able to recover approximately 18 million tons, or just over 50%, of this in-place coal. This recovery rate is approximately that of the existing operation.

Mine Workings Maps

Federal Coal Lease UTU-69635, which is also called the "Alkali Lease" and lies to the west of the original permit area, was added to the approved permit area in 1995. An Incidental Boundary Change (IBC) was also made in 1995 to include, as part of the coal mining operation, approximately 276 acres in the southeast corner of the Alkali Lease.

The location and extent of all existing and anticipated mine workings within the original permit area, within the Alkali Lease, and in all the adjacent area, are shown on the map designated Exhibit 5.21-5--Rock Canyon Seam Mine Plan. This map was revised on March 15, 1995 to include all anticipated mine workings within the Alkali Lease. The map was recertified on September 13, 1995 by Barry J. Barnum, a professional engineer licensed and registered in the state of Utah.

When the Alkali Lease and the IBC were added to the approved plan in 1995, the permittee revised only Exhibit 5.21-5--Rock Canyon Seam Mine Plan to show the mine workings anticipated within the IBC. The permittee and the Division agreed that the rest of the maps in the approved plan did not have to be revised at that time to show the anticipated mine workings, but that the permittee should instead revise the relevant maps to show the current and anticipated workings during the next 5-year permit renewal in late 1996 and early 1997.

Permit Area Boundary Maps

Federal Coal Lease UTU-69635, which is also called the "Alkali Lease" and lies to the west of the original permit area, was added to the approved permit area in 1995. The entire permit boundary, including the Alkali Lease, is shown on maps designated Exhibit 5.21-5--Rock Canyon Seam Mine Plan and Exhibit 1.12-2--Coal Ownership and Lease Map.

An Incidental Boundary Change (IBC) was made in 1995 to include approximately 276 acres of the Alkali Lease in the coal mining operation. This additional area lies in the southeast corner of the Alkali Lease. The area is shown on maps designated Exhibit

5.21-5--Rock Canyon Seam Mine Plan and Exhibit 1.12-2--Coal Ownership and Lease Map.

Exhibit 5.21-5--Rock Canyon Seam Mine Plan and Exhibit 1.12-2--Coal Ownership and Lease Map were revised to include the Alkali Lease and the 1995 IBC on March 15, 1995 and August 8, 1995, respectively. Both maps were recertified on September 13, 1995 by Barry J. Barnum, a professional engineer licensed and registered in the state of Utah.

When the Alkali Lease and the IBC were added to the approved plan in 1995, the permittee revised only Exhibit 5.21-5--Rock Canyon Seam Mine Plan and Exhibit 1.12-2--Coal Ownership and Lease Map to show the extended permit boundary. The permittee and the Division agreed that the rest of the maps in the approved plan did not have to be revised at that time to include the Alkali Lease, but that the permittee should instead make the necessary revisions in the rest of the maps during the next 5-year permit renewal in late 1996 and early 1997. This the permittee committed to do in a September 13, 1995 letter which accompanied the Amendment 95B application package.

Findings:

The plan fulfills the requirements of this section. However, as a condition of this permit, the permittee must do the following, in accordance with the requirements of:

R645-301-521.111, -521.141, -521.142

In the September 13, 1995 letter which accompanied the Alkali Lease/IBC amendment application package, the permittee made no commitment to include mine workings on the maps now in the approved plan. Therefore, during the next 5-year permit renewal in late 1996 and early 1997, the permittee must revise the relevant maps to show the mine workings as they then exist, as well as those anticipated during the next 5-year permit term, within the 1995 IBC.

R645-301-521.132, -521.141, -521.162

When the Alkali Lease and the IBC were added to the approved plan in 1995, the permittee revised only Exhibit 5.21-5--Rock Canyon Seam Mine Plan and Exhibit 1.12-2--Coal Ownership and Lease Map to show the Alkali Lease, the IBC within the Alkali Lease, and the anticipated mine workings within the IBC. The permittee and the Division agreed that the rest of the maps in the approved plan did not have to be revised at that time to include the Alkali Lease and the IBC, but that the permittee should instead make the necessary revisions in the rest of the maps during the next 5-year permit renewal in late 1996 and early 1997. This the permittee committed to do in a September 13, 1995 letter which accompanied the Alkali Lease/IBC amendment application package.

OPERATION PLAN

FISH AND WILDLIFE PROTECTION

Regulatory Reference: R645-301-333

Analysis:

As discussed under "Fish and Wildlife Resource Information," the Bureau of Land Management does not expect subsidence. Even if subsidence does occur, the potential for damage to most wildlife species is very small.

Subsidence has caused cliff spalling at some mines in Utah. This has resulted in loss of golden eagle nests. The current plan contains a commitment to complete a nesting survey if significant subsidence occurs or is about to occur during the April to July nesting period. If active nests are found, the Division and the Division of Wildlife Resources will be notified so all appropriate actions can be taken.

The commitments in the existing plan are considered sufficient for wildlife in the new lease area. However, additional protection measures or mitigation is probably needed for the current mining and reclamation plan. Wildlife Resources has not completed its review and made its recommendations about the amendment. However, they have expressed a need to reduce deer mortality through reducing the speed of trucks and by using habitat enhancement to lure deer away from the road. At this point, this is not Wildlife Resources' official position.

Findings:

The section of the application is considered complete and accurate. When the Division receives comments from Wildlife Resources, Soldier Creek may need to make some changes to the wildlife protection part of the mining and reclamation plan.

REVEGETATION

Regulatory Reference: R645-301-340

Analysis:

Soldier Creek does not plan any surface disturbance with the proposed incidental

boundary change.

Findings:

Soldier Creek has complied with the requirements of this section of the regulations.

COAL RECOVERY

Regulatory Reference: 30 CFR Sec. 817.59; R645-301-522.

Analysis:

Federal Coal Lease UTU-69635, which is also called the "Alkali Lease" and lies to the west of the original permit area, was added to the approved permit area in 1995. An Incidental Boundary Change (IBC) was also made in 1995 to include, as part of the coal mining operation, approximately 276 acres in the southeast corner of the Alkali Lease.

Since the Alkali Lease lies adjacent to the existing permit area, the permittee analyzed the coal resource and geology of the Alkali Lease long before applying to extend the coal mining operation into the area. Thus, when the Alkali Lease and the IBC were added to the approved plan as Amendment 95B, the maps in the approved plan already contained this information and it was, therefore, unnecessary that the permittee revise those maps.

The location and extent of all anticipated mine workings in the Rock Canyon Seam within the Alkali Lease, including those in the 1995 IBC, are shown on the map designated Exhibit 5.21-5--Rock Canyon Seam Mine Plan. The depth and thickness of the Rock Canyon Seam are also shown by isopach on this map. This map was revised on March 15, 1995 to include this additional information on the coal seam within the Alkali Lease. The map was recertified on September 13, 1995 by Barry J. Barnum, a professional engineer licensed and registered in the state of Utah. Additional information regarding coal recovery is included in the plan as Appendix 1A, which contains BLM's Environmental Assessment (EA) of the Alkali Lease area.

The coal in the Alkali Lease and the 1995 IBC is in 2 minable seams--the Rock Canyon Seam and the Gilson Seam. However, because of the thin interburden between these seams, only the Rock Canyon Seam will be mined.

The Alkali Lease contains approximately 35.4 million tons of in-place coal. Using existing room-and-pillar mining methods, the permittee expects to be able to recover

approximately 18 million tons, or just over 50%, of this in-place coal. This recovery rate is approximately that of the existing operation.

In order to insure maximum economic recovery of the coal resource, 43 CFR 3480 requires that the Bureau of Land Management (BLM) approve a Resource Recovery and Protection Plan (R2P2) and a mining plan for all Federal leases. However, the permittee has not yet submitted these to the BLM as required.

Findings:

The plan does not fulfill the requirements of this section. The permittee must provide the following, prior to approval, in accordance with the requirements of:

R645-301-522, 43 CFR 3480

Before the Division can approve the plan, the Bureau of Land Management must approve a Resource Recovery and Protection Plan (R2P2) and a mining plan for the Alkali Lease and the included IBC.

SUBSIDENCE CONTROL PLAN

Regulatory Reference: 30 CFR Sec. 784.20, 817.121, 817.122; R645-301-521, -301-525, -301-724.

Analysis:

Subsidence control plan.

Federal Coal Lease UTU-69635, which is also called the "Alkali Lease" and lies to the west of the original permit area, was added to the approved permit area in 1995. An Incidental Boundary Change (IBC) was also made in 1995 to include, as part of the coal mining operation, approximately 276 acres in the southeast corner of the Alkali Lease.

At the time of the addition of the Alkali Lease and the IBC in 1995, only first mining was planned for the remainder of that 5-year permit term. For that reason, the permittee anticipated no subsidence of the surface area above the IBC during the rest of the permit term. Based on the extraordinarily deep cover over the Rock Canyon Seam, the integrity and thickness of the strata which overlie the seam, and the permittee's past experience in this area, the Division agreed with this prediction. The subsidence monitoring network was not,

therefore, extended at that time to include the IBC. However, the permittee committed to plan and install a subsidence monitoring system in the IBC during the next 5-year permit renewal in late 1996 and early 1997.

Findings:

The plan fulfills the requirements of this section. However, as a condition of this permit, the permittee must do the following, in accordance with the requirements of:

R645-301-525.140

Since only first mining will be done in the 1995 Alkali Lease IBC during the remaining 15 months of the present 5-year permit term, which began February 2, 1992 and will go to February 2, 1997, the permittee expects no subsidence to occur during that time. Based on the extraordinarily deep cover over the Rock Canyon Seam, the integrity and thickness of the strata which overlie the seam, and the permittee's past experience in this area, the Division agrees with this prediction. But as first mining is done over a larger and larger area, and of course when the pulling of pillars is eventually begun, subsidence will occur and its magnitude and extent will almost certainly increase. Therefore, the permittee must plan and install a subsidence monitoring system in the IBC during the next 5-year permit renewal, which will take place in late 1996 and early 1997.

MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-512, -301-521, -301-542, -301-632, -301-731, -302-323.

Analysis:

Affected area maps.

Federal Coal Lease UTU-69635, which is also called the "Alkali Lease" and lies to the west of the original permit area, was added to the approved permit area in 1995. An Incidental Boundary Change (IBC) was also made in 1995 to extend the area of subsurface disturbance due to coal mining to include approximately 276 acres in the southeast corner of the Alkali Lease. Both the Alkali Lease and the IBC were included in the approved plan as a single amendment--Amendment 95B. No new surface disturbance resulted from the addition of either the Alkali Lease or the IBC.

The entire permit boundary, including the Alkali Lease, plus the additional subsurface disturbed area in the 1995 IBC, are shown on maps designated Exhibit 5.21-5--Rock Canyon Seam Mine Plan and Exhibit 1.12-2--Coal Ownership and Lease Map. These maps were revised to include the Alkali Lease and the 1995 IBC on March 15, 1995 and August 8, 1995, respectively. Both maps were recertified on September 13, 1995 by Barry J. Barnum, a professional engineer licensed and registered in the state of Utah.

When the Alkali Lease and the IBC were added to the approved plan in 1995, the permittee revised only Exhibit 5.21-5--Rock Canyon Seam Mine Plan and Exhibit 1.12-2--Coal Ownership and Lease Map to show those new features. The permittee and the Division agreed that the rest of the maps in the approved plan did not have to be revised at that time to include the Alkali Lease and the IBC, but that the permittee should instead make the necessary revisions in the rest of the maps during the next 5-year permit renewal in late 1996 and early 1997.

Mine workings maps.

Federal Coal Lease UTU-69635, which is also called the "Alkali Lease" and lies to the west of the original permit area, was added to the approved permit area in 1995. An Incidental Boundary Change (IBC) was also made in 1995 to include, as part of the coal mining operation, approximately 276 acres in the southeast corner of the Alkali Lease.

The location and extent of all existing and anticipated mine workings within the original permit area, within the Alkali Lease, and in all the adjacent area, are shown on the map designated Exhibit 5.21-5--Rock Canyon Seam Mine Plan. This map was revised on March 15, 1995 to include all anticipated mine workings within the Alkali Lease. The map was recertified on September 13, 1995 by Barry J. Barnum, a professional engineer licensed and registered in the state of Utah.

When the Alkali Lease and the IBC were added to the approved plan in 1995, the permittee revised only Exhibit 5.21-5--Rock Canyon Seam Mine Plan to show the mine workings anticipated within the IBC. The permittee and the Division agreed that the rest of the maps in the approved plan did not have to be revised at that time to show the anticipated mine workings, but that the permittee should instead revise the relevant maps to show the current and anticipated workings during the next 5-year permit renewal in late 1996 and early 1997.

Monitoring and sample location maps.

Federal Coal Lease UTU-69635, which is also called the "Alkali Lease" and lies to

the west of the original permit area, was added to the approved permit area in 1995. An Incidental Boundary Change (IBC) was also made in 1995 to include, as part of the coal mining operation, approximately 276 acres in the southeast corner of the Alkali Lease.

At the time of the addition of the Alkali Lease and the IBC in 1995, only first mining was planned for the remainder of that 5-year permit term. For that reason, the permittee anticipated no subsidence of the surface area above the IBC during the rest of the permit term. Based on the extraordinarily deep cover over the Rock Canyon Seam, the integrity and thickness of the strata which overlie the seam, and the permittee's past experience in this area, the Division agreed with this prediction. The subsidence monitoring network was not, therefore, extended at that time to include the IBC. However, the permittee committed to plan and install a subsidence monitoring system in the IBC during the next 5-year permit renewal in late 1996 and early 1997.

Findings:

The plan fulfills the requirements of this section. However, as a condition of this permit, the permittee must fulfill the requirements set forth under **R645-301-521.111, -521.141, -521.142** in the findings of **MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION** above, those set forth under **R645-301-521.132, -521.141, -521.162** in the findings of **MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION** above, and those set forth under **R645-301-525.140** in the findings of **SUBSIDENCE CONTROL PLAN** above.

RECLAMATION PLAN

MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-323, -301-512, -301-521, -301-542, -301-632, -301-731.

Analysis:

Affected area boundary maps.

Federal Coal Lease UTU-69635, which is also called the "Alkali Lease" and lies to the west of the original permit area, was added to the approved permit area in 1995. An Incidental Boundary Change (IBC) was also made in 1995 to extend the area of subsurface disturbance due to coal mining to include approximately 276 acres in the southeast corner of the Alkali Lease. Both the Alkali Lease and the IBC were included in the approved plan as a single amendment--Amendment 95B. No new surface disturbance resulted from the addition of either the Alkali Lease or the IBC.

The entire permit boundary, including the Alkali Lease, plus the additional subsurface disturbed area in the 1995 IBC, are shown on maps designated Exhibit 5.21-5--Rock Canyon Seam Mine Plan and Exhibit 1.12-2--Coal Ownership and Lease Map. These maps were revised to include the Alkali Lease and the 1995 IBC on March 15, 1995 and August 8, 1995, respectively. Both maps were recertified on September 13, 1995 by Barry J. Barnum, a professional engineer licensed and registered in the state of Utah.

When the Alkali Lease and the IBC were added to the approved plan in 1995, the permittee revised only Exhibit 5.21-5--Rock Canyon Seam Mine Plan and Exhibit 1.12-2--Coal Ownership and Lease Map to show those new features. The permittee and the Division agreed that the rest of the maps in the approved plan did not have to be revised at that time to include the Alkali Lease and the IBC, but that the permittee should instead make the necessary revisions in the rest of the maps during the next 5-year permit renewal in late 1996 and early 1997.

Reclamation monitoring and sampling location maps.

Federal Coal Lease UTU-69635, which is also called the "Alkali Lease" and lies to the west of the original permit area, was added to the approved permit area in 1995. An Incidental Boundary Change (IBC) was also made in 1995 to include, as part of the coal mining operation, approximately 276 acres in the southeast corner of the Alkali Lease.

At the time of the addition of the Alkali Lease and the IBC in 1995, only first mining was planned for the remainder of that 5-year permit term. For that reason, the permittee anticipated no subsidence of the surface area above the IBC during the rest of the permit term. Based on the extraordinarily deep cover over the Rock Canyon Seam, the integrity and thickness of the strata which overlie the seam, and the permittee's past experience in this area, the Division agreed with this prediction. The subsidence monitoring network was not, therefore, extended at that time to include the IBC. However, the permittee committed to plan and install a subsidence monitoring system in the IBC during the next 5-year permit renewal in late 1996 and early 1997.

Findings:

The plan fulfills the requirements of this section. However, as a condition of this permit, the permittee must fulfill the requirements set forth under **R645-301-521.132, -521.141, -521.162** in the findings of **MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION** above, and those set forth under **R645-301-525.140** in **SUBSIDENCE CONTROL PLAN** above.

BONDING AND INSURANCE REQUIREMENTS

Regulatory Reference: 30 CFR Sec. 800; R645-301-800, et seq.

Analysis:

Determination of bond amount.

Federal Coal Lease UTU-69635, which is also called the "Alkali Lease" and lies to the west of the original permit area, was added to the approved permit area in 1995. An Incidental Boundary Change (IBC) was also made in 1995 to include, as part of the coal mining operation, approximately 276 acres in the southeast corner of the Alkali Lease.

No new surface disturbance resulted from either the addition of the Alkali Lease or the extension of the coal mining operation into the IBC in 1995. Therefore, it was not necessary at that time to revise the existing reclamation cost estimate or to increase the reclamation bond.

Findings:

The plan fulfills the requirements of this section.

CUMULATIVE HYDROLOGIC IMPACT ASSESSMENT (CHIA)

The CHIA for the Soldier Canyon Mine is dated February 4, 1987. The proposed Incidental Boundary Change (IBC) is within the boundary of the Cumulative Impact Area (CIA) determined for that CHIA. The irregular western boundary of the IBC was made to correspond with the CIA boundary with the idea that the IBC would be covered by the existing CHIA. The common boundary is a ridge and effects to surface and ground water from the proposed mining in the IBC should not extend outside the CIA. There should be no material damage to the hydrologic balance outside the permit area from the proposed mining in the IBC area.

There are only ephemeral surface drainages and no known springs or seeps within or adjacent to the IBC. The proposed mining will advance entries by room-and-pillar method and there should be no subsidence. This mining activity should create no hydrologic consequences at the surface. Exhibit 5.21-5 shows the more extensive mining planned for the entire Alkali Lease and needs to be redone to show only the mining of entries proposed under the IBC request.

The only probable hydrologic consequence of mining coal in this area is interception of perched water in the Blackhawk Formation. When a perched water table is encountered by the coal mines in the Book Cliffs, water flow rapidly diminishes and often ceases soon after the water bearing zone is breached. Water intercepted in this manner in the Soldier Creek Mine is collected in sumps and used for in-mine operations, with excess water discharged into Soldier Creek. The mine was discharging roughly 130 gpm in 1987 when, in addition to water intercepted by mining, water was being pumped to dewater a sealed area where a fire had occurred. From 1988 to 1991 water discharge increased from 259 acre-feet (approximately 160 gpm) to 927 acre-feet (approximately 580 gpm) as the mine intercepted a fracture zone with flowing water. In 1993 the discharge from the mine was down to 528 acre-feet (approximately 330 gpm), and down to approximately 300 gpm in 1994. No appreciable change in the amount of ground water intercepted or discharged should be expected from the proposed mine operations in the area of the IBC.

Before approval can be granted to add the entire Alkali Lease to the permit, the CHIA will need to be modified or redone.

Findings:

The application is considered complete and accurate with the following exception:

Page 23
ACT/007/018
October 5, 1995

1. Exhibit 5.21-5 shows the mine plan for the entire Alkali Lease and not just the entries to be mined under the IBC. This map needs to be redone to show only the mining proposed under the requested IBC.

ALKIBCTA.SC3