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

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June 1, 2001

Rick Olsen, General Manager  
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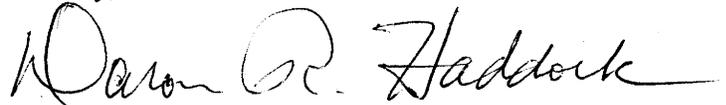
Re: Leach Field, Canyon Fuel Company, LLC, Dugout Mine, C/007/039-AM01A, Outgoing File

Dear Mr. Olsen:

The above-referenced amendment has been reviewed. There are deficiencies that must be adequately addressed prior to approval. A copy of our Technical Analysis is enclosed for your information. In order for us to continue to process your application, please respond to this deficiency by June 29, 2001.

If you have any questions, please call me at (801) 538-5325 or Gregg Galecki at (801) 538-5260.

Sincerely,



Daron R. Haddock  
Permit Supervisor

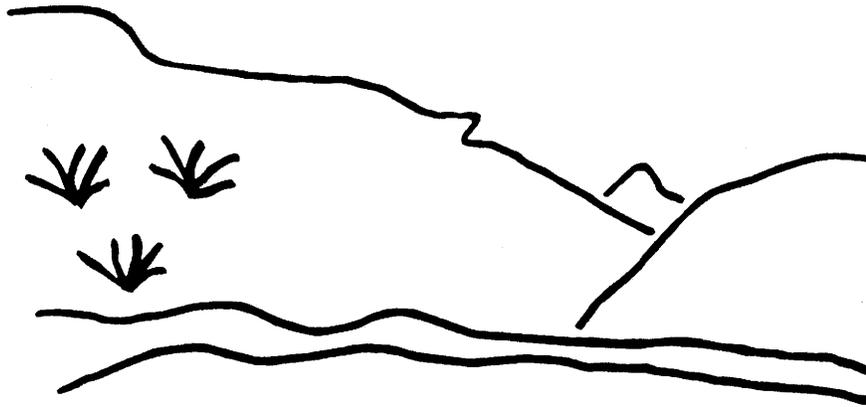
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Enclosure:

cc: Price Field Office

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# State of Utah



## Utah Oil Gas and Mining

### Coal Regulatory Program

Dugout Mine  
Leach Field  
C/007/039-AM01A  
Technical Analysis  
May 21, 2001

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## TECHNICAL ANALYSIS

### INTRODUCTION

Canyon Fuel Co. has submitted a proposed amendment to their MRP to construct a leach field approximately 1.25 miles southeast of the Dugout Mine. The Division received the proposed amendment on March 26, 2001. The leach field will be located adjacent to the Dugout Canyon road in the W  $\frac{1}{2}$  NW  $\frac{1}{4}$  NW  $\frac{1}{4}$  of T13S R12E, on a triangular tract of land between Dugout Creek and an unnamed ephemeral drainage. The field is designed for 135 employees using 35 gallons of water per day. A pipeline will convey gray water from the mine to the leach field. The pipeline constitutes approximately 1.6 acres of disturbance and will be buried below the county road drainage ditch. The applicant has proposed to remove the pipeline corridor from the disturbed area once the pipe is in place. This submittal adds 2.55 acres to the disturbed area within the permit. Of the 2.55 acres, approximately 1.8 acres will be disturbed by the proposed construction; the remainder will be held in reserve.

Information found in the proposal is not considered adequate to meet the requirements for approval. The applicant should make the requisite changes to the proposal as necessary and resubmit the proposal to meet the requirements for Amendment Approval.

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C/007/039-AM01A  
May 21, 2001

**INTRODUCTION**

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SUMMARY OF DEFICIENCIES

## SUMMARY OF OUTSTANDING DEFICIENCIES

The Technical Analysis regarding the proposed amendment to construct a waste water leach field cannot be completed at this time. To address deficiencies in the proposed amendment, additional information is requested of the Permittee, requiring further review by the Division. An itemized list of the deficiencies is below. Explanatory comments and details of the concern will be found within the text of the Draft Technical Analysis.

Upon finalization of this review, any outstanding deficiencies may become conditions of the approval issued by the Division or may result in denial of the proposed amendment.

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

### *Regulations*

- R645-300-120; R645-301-117.200**, The permittee must update this section of the current MRP to include the proof of publication for the proposed leach field and pipeline. .... 10
- R645-300-121.120; R645-301-112.800; R645-300-141; R645-301-115**, The permittee must update the legal description and status of unsuitability claims in the MRP, (Chapter 1, pages 1-28 through 1-30 and Chapter 5 pages 5-14 and 5-35). .... 9
- R645-300-132; R645-301-113**, The information in the MRP is dated May, 1999 and needs to be updated in order to make a finding that neither the applicant nor any of its subsidiaries, affiliates or persons controlled by or under common control with the applicant has had a federal or state permit revoked or suspended or revoked, nor forfeited a bond in the last five years, and that there are no outstanding notices of violation. .... 8
- R645-300-133.100** Edit page 2-5 of the submittal to refer the reader to Section 222.400 for further information about subsoil segregation and edit page 2-3 to correctly state that seven foot trenches will be dug. .... 23
- R645-300-133.100**, Correct the page divider for the SCS Soil Description to read Attachment 2-2. .... 15
- R645-300-243**, The use of nitrogen and potassium fertilizer described in Section 243 should be eliminated. .... 28
- R645-301-112**, The list of officers and directors and corporate structure of Canyon Fuel Company in the MRP need to be updated. .... 7

**SUMMARY OF DEFICIENCIES**

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**R645-301-116**, The permittee must update this section of the current MRP to include the leach field and pipeline. When making adjustments to the MRP the permittee should take into account that typically a permit term is five years. .... 10

**R645-301-230**, Describe the operation plan for laying the sewer line from the septic tank through the mine operations area to the dugout canyon road ditch..... 24

**R645-301-231.100**, Outline on a map the area of topsoil salvage and replacement and provide a figure in acres of topsoil salvage and replacement. .... 23

**R645-301-234**, Provide further description of the topsoil stockpile dimensions and storage location..... 23

**R645-301-242.200**, Rip the ground to a depth of eight inches after grading and before topsoil replacement. .... 23

**R645-301-244**, Please obtain a permit from the County to burn vegetation. Please consider utilizing a portion of this scrubbed vegetation as mulch to protect the soil from wind erosion during plant establishment and for habitat creation. .... 23

**R645-301-322, -301-333, -301-342, -301-358, Protection and Enhancement Plan**, The permittee needs to revise the application to include a reference to the mitigation plan contained in Appendix 3-3. **Wetlands and Habitats of Unusually High Value for Fish and Wildlife**, The application needs to be revised to include a mitigation plan and habitats of high value for deer and elk for the proposed leach field site. .... 21

**R645-301-322**, A current raptor survey that encompasses the area to be disturbed must be provided. Plate 3-2 of the current MRP should be revised to include the new survey, the proposed leach field and pipeline and a legend that defines EHWT, DHWT, EHYL and DCSU. Plate 1-4 or a different plate should be provided that accurately depicts the proposed disturbed area to an appropriate scale with an accurate legend. .... 14

**R645-301-323**, The proposed application and the approved MRP need to be revised to include plate 3-1. .... 18

**R645-301-330, -301-331, -301-332**, Sections 232.600, and 333 of the application need to be revised to include Appendix 3-3 section 3.1.1 of the approved MRP. .... 24

**R645-301-333, -301-342, -301-358**, , Sections, and 333, 342 and 358 of the application must be revised to include Appendix 3-3 of the approved MRP or a mitigation plan. .... 27

**R645-301-830.120**, The applicant must update the text and the reclamation cost estimate to show that during reclamation the leach field pipes will be left in place. .... 31

GENERAL CONTENTS

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## GENERAL CONTENTS

### IDENTIFICATION OF INTERESTS

Regulatory Reference: 30 CFR 773.22; 30 CFR 778.13; R645-301-112

#### Analysis:

Chapter 1 of the federal lease application is an introduction describing where mining activities are currently located, and the location of the proposed leach field addition, (plate 1-4). Over all changes to the current operation and reclamation plan are relatively minor. The site is located approximately 1.2 miles southwest of the Dugout Canyon mine adjacent to the Carbon County access road.

Ownership and control information is in Chapter 1 section 112 of the application by reference to the corresponding chapter(s) of the approved MRP. The applicant/permittee is Canyon Fuel Company LLC., organized under the laws of the State of Delaware and is in good standing and has legal corporate existence. The application includes Canyon Fuel's address, telephone number, resident agent, and employer identification number. The list of officers and directors and corporate structure of Canyon Fuel Company in the MRP are listed for 1998 and need to be updated. Current standing with the Applicant Violator System is pending final approval of the application. The Resident agent accepting service of process is C. T. Corporation Systems. The contact person is Reed Olsen and the abandoned mine fees will be paid by Richard D. Pick. The application includes by reference the MSHA numbers for the Dugout Canyon mine.

#### Findings:

Information provided in the proposal is not adequate to meet the requirements of this section of the regulations. Prior to final approval the applicant must supply the following in accordance with:

**R645-301-112**, The list of officers and directors and corporate structure of Canyon Fuel Company in the MRP need to be updated.

### VIOLATION INFORMATION

Regulatory Reference: 30 CFR 773.15(b); 30 CFR 773.23; 30 CFR 778.14; R645-300-132; R645-301-113

#### Analysis:

The application refers to the approved MRP. The information in the MRP needs to be updated in order to make a finding that neither the applicant nor any of its subsidiaries, affiliates or persons controlled by or under common control with the applicant has had a federal or state

**GENERAL CONTENTS**

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permit revoked or suspended or revoked, nor forfeited a bond in the last five years, and that there are no outstanding notices of violation.

**Findings:**

Information provided in the proposal is not adequate to meet the requirements of this section of the regulations. Prior to final approval the applicant must supply the following in accordance with:

**R645-300-132; R645-301-113,** The information in the MRP is dated May, 1999 and needs to be updated in order to make a finding that neither the applicant nor any of its subsidiaries, affiliates or persons controlled by or under common control with the applicant has had a federal or state permit revoked or suspended or revoked, nor forfeited a bond in the last five years, and that there are no outstanding notices of violation.

**RIGHT OF ENTRY**

Regulatory Reference: 30 CFR 778.15; R645-301-114

**Analysis:**

The current application/MRP have been amended to provide the correct legal description of the leach field and pipeline located within the BLM right of way. The amendment was received by the Division on April 26, 2001 for incorporation into appendix 1-3 of the MRP. The BLM is the surface owner of the property where the leach field is to be located. The right of way # UTU77895 provides Canyon Fuel Co. the right to construct, operate, maintain and terminate a pipeline and leach field right of way on public lands.

**Findings:**

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

**LEGAL DESCRIPTION AND STATUS OF UNSUITABILITY CLAIMS**

Regulatory Reference: 30 CFR 778.16; 30 CFR 779.12(a); 30 CFR 779.24(a)(b)(c); R645-300-121.120; R645-301-112.800; R645-300-141; R645-301-115.

**Analysis:**

The application refers to the MRP. The legal description and status of unsuitability claims in the current MRP do not include the proposed leach field and pipeline.

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GENERAL CONTENTS

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**Findings:**

Information provided in the proposal is not adequate to meet the requirements of this section of the regulations. Prior to final approval the applicant must supply the following in accordance with:

**R645-300-121.120; R645-301-112.800; R645-300-141; R645-301-115,** The permittee must update the legal description and status of unsuitability claims in the MRP, (Chapter 1, pages 1-28 through 1-30 and Chapter 5 pages 5-14 and 5-35).

**PERMIT TERM**

Regulatory References: 30 CFR 778.17; R645-301-116.

**Analysis:**

The application refers to the MRP. The permit term in the MRP does not include the leach field and pipeline.

**Findings:**

Information provided in the proposal is not adequate to meet the requirements of this section of the regulations. Prior to final approval the applicant must supply the following in accordance with:

**R645-301-116,** The permittee must update this section of the current MRP to include the leach field and pipeline. When making adjustments to the MRP the permittee should take into account that typically a permit term is five years.

**PUBLIC NOTICE AND COMMENT**

Regulatory References: 30 CFR 778.21; 30 CFR 773.13; R645-300-120; R645-301-117.200.

**Analysis:**

The application refers to appendix 1-2 of the approved MRP. This appendix does not contain proof of publication for the proposed leach field and pipeline.

**Findings:**

Information provided in the proposal is not adequate to meet the requirements of this section of the regulations. Prior to final approval the applicant must supply the following in accordance with:

**R645-300-120; R645-301-117.200**, The permittee must update this section of the current MRP to include the proof of publication for the proposed leach field and pipeline.

## **FILING FEE**

Regulatory Reference: 30 CFR 777.17; R645-301-118.

### **Analysis:**

This application does not require a filing fee

### **Findings:**

The information provided adequately addresses the requirements of this section of the regulations.

## **PERMIT APPLICATION FORMAT AND CONTENTS**

Regulatory Reference: 30 CFR 777.11; R645-301-120.

### **Analysis:**

The format of the application is sufficient and compatible with the current MRP. However the content by referral to the approved MRP often times does not contain the required information. These deficiencies are addressed in the findings for the specific sections

### **Findings:**

The information provided adequately addresses the requirements of this section of the regulations.

## **REPORTING OF TECHNICAL DATA**

Regulatory Reference: 30 CFR 777.13; R645-301-130.

### **Analysis:**

The technical data provided in this application is accompanied by the names of persons or organizations that collected and analyzed the data.

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GENERAL CONTENTS

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**Findings:**

The information provided is adequate to meet the requirements of this section of the regulations.

**MAPS AND PLANS**

Regulatory Reference: 30 CFR 777.14; R645-301-140.

**Analysis:**

There are several maps that need to be revised or updated with additional information. They are noted within the specific sections of this review.

**Findings:**

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

**COMPLETENESS**

Regulatory Reference: 30 CFR 777.15; R645-301-150.

**Analysis:**

This type of application, (an amendment), does not require an initial completeness review.

**Findings:**

Information provided in the proposal is adequate to meet the requirements of this section of the regulations.

## ENVIRONMENTAL RESOURCE INFORMATION

### HISTORIC AND ARCHEOLOGICAL RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.12; R645-301-411.

#### **Analysis:**

Information provided previously within the approved MRP is sufficient to fulfill the requirements of this section of the regulations. The applicant has made the commitment to notify the Division and SHPO of previously unidentified cultural resources discovered in the course of mining operations.

#### **Findings:**

The information provided is adequate to meet the requirements of this section of the regulations.

### VEGETATION RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.19; R645-301-320.

#### **Analysis:**

Vegetation in the proposed addition to the permit area is very similar to that in portions of the current permit area. The application and current Mining and Reclamation Plan, (MRP) provide the vegetative information for the Leach Field project. The location of the proposed leach field is approximately one mile below the entrance to the mine facilities yard on the east side of the access road. The vegetation map, (plate 3-1) of the MRP and Attachment 3-1 of the application describe the plant communities of the proposed site as Pinyon / Juniper and Greasewood/Sagebrush with a grass, forb understory. Plate 3-1 and the vegetation inventory map provided for in attachment 3-1 accurately characterize the vegetation of the drain field. The information in the MRP and proposal is adequate to predict the potential for re-vegetation.

#### **Findings:**

The information provided is adequate to meet the requirements of this section of the regulations.

## FISH AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.21; R645-301-322.

### Analysis:

The Fish and Wildlife Information is located in chapter 3, section 322, of the application and discussed in chapter 3 section 322.100 through 322.200 of the approved MRP. Plate 1-4 has been revised to include the proposed addition in the permit area. This map shows the proposed permit boundary change, but does not identify the proposed leach field and pipeline as disturbed areas. The legend should include identification of the disturbed area boundary. The scale of plate 1-4 does not accurately depict the proposed addition to the disturbed area. A plate to scale of 1"= 50' or 100' should be provided.

Raptor nest surveys that did encompass the proposed leach field area were conducted in 1998 and 1999 by the Utah Division of Wildlife resources. According to Chris Hansen a current survey is scheduled for May 17, 2001. Plate 3-2 of the current MRP should be revised to include the new survey, the proposed leach field and pipeline and a legend that defines EHWT, DHWT, EHYL and DCSU. Plate 3-2 appears to show high priority yearlong elk habitat and critical deer high priority winter ranges adjacent to and overlapping the proposed addition.

### Findings:

Information in the application is not adequate to meet this section of the regulations. Prior to final approval the applicant must supply the following in accordance with:

**R645-301-322**, A current raptor survey that encompasses the area to be disturbed must be provided. Plate 3-2 of the current MRP should be revised to include the new survey, the proposed leach field and pipeline and a legend that defines EHWT, DHWT, EHYL and DCSU. Plate 1-4 or a different plate should be provided that accurately depicts the proposed disturbed area to an appropriate scale with an accurate legend.

## SOILS RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.21; 30 CFR 817.22; 30 CFR 817.200(c); 30 CFR 823; R645-301-220; R645-301-411.

### Analysis:

The site is at 6,715 feet elevation on an alluvial fan. The slope is 6 – 8 %. The average annual precipitation is 12 – 14 inches. The location is in a pinyon-juniper community. An Order I soil survey (found in Attachment 2-1) was conducted by Mr. Dan Larsen, Soil Scientist with Environmental Industrial Services.

**ENVIRONMENTAL RESOURCE INFORMATION**

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Two soil test pits were dug at the site in October 1999. A third pit was dug in the reserve\* location in May 2000. The pit locations are shown on the Soil Description Location Map in Attachment 2-1. Mr. Larsen describes the soil as Map Unit 50, Haverdad loam, moist, 1 to 5 percent slopes. The soil descriptions are found in Appendix S3 of Attachment 2-1. The SCS classification of the soil is as a fine-loamy mixed (calcareous), mesic Ustic Torrifluent. An SCS description of the soil type is provided in Attachment 2-2, not Attachment 2-1 as the page divider incorrectly states.

Samples were taken of the soil adjacent to the soil test pits six months after the soil test pits were dug. These results are found in Appendix S-2 of Attachment 2-1. The three locations are represented by composite samples taken at intervals throughout the profile down to 80 inches (6.5 feet).

The soil is a deep, Haverdad loam with five percent or less coarse fragments in the upper 45 inches and no more than 25% below 45 inches. Most of those coarse fragments are less than 3 inches in diameter. Roots are generally in the upper 20 inches. For the purposes of reclamation, the soil is suitable.

**Findings:**

The information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the applicant must provide the following in accordance with

**R645-300-133.100**, Correct the page divider for the SCS Soil Description to read Attachment 2-2.

**ALLUVIAL VALLEY FLOORS**

Regulatory Reference: 30 CFR 785.19; 30 CFR 822; R645-302-320.

**Analysis:**

**Applicability of statutory exclusions**

As supporting data indicates, the leach field exists in pediment gravels (Fig. 6-1), no significant impact to the availability of water to Dugout Creek is anticipated (Sec. 728), the agricultural activities (Sec. 411) are grazing of open land, and the nearest area of irrigated agriculture is located 4 miles southwest of the Dugout Mine. The statutory exclusion is based on State Regulations R645-302-324.221 and -324.222.

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\* Attachment 5-1, Leachfield Plans and Specifications, page 3, requires enough land to develop a second complete seepage trench system (Reserve Area).

**Findings:**

The information provided in the proposed amendment is considered adequate to meet the requirements of this section.

**PRIME FARMLAND**

Regulatory Reference: 30 CFR 785.16, 823; R645-301-221, -302-270.

**Analysis:**

The soils in the vicinity of the Dugout Canyon Mine permit area were surveyed in 1980 (Appendix 2-1 and page 2-2 of Section 221). At that time, the SCS determined that prime farmland was located along the Soldier Canyon Road in the East ½ of Section 1 and East ½ of Section 12 both in T14S, R11E.

The leach field is located along the Dugout Canyon road in the W ½ NW ¼ NW ¼ of T13S, R12E. Although the soils in the vicinity of the leach field are Haverdad Loam, the lack of irrigation water and lack of historic use for farming precludes a designation of prime farmland.

**Findings:**

The information provided in the proposed amendment is considered adequate to meet the requirements of this section.

**GEOLOGIC RESOURCE INFORMATION**

Regulatory Reference: 30 CFR 784.22; R645-301-623, -301-724.

**Analysis:**

Included in the proposed amendment was site-specific information pertaining to the Leach field area. Due to limited areal extent, cross sections were not provided. The Leach field area is underlain by the Mancos Shale, which dips 4-6 degrees north. Two test pits were dug to 90 and 95-inches, respectively, and no bedrock was found. A general geologic map was provided illustrating the Leach field area is mapped in Quaternary-aged pediment gravels immediately adjacent to Quaternary-aged alluvial gravels associated with Dugout Creek.

**Findings:**

The information provided in the proposed amendment is considered adequate to meet the requirements of this section.

**ENVIRONMENTAL RESOURCE INFORMATION**

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**HYDROLOGIC RESOURCE INFORMATION**

Regulatory Reference: 30 CFR Sec. 701.5, 784.14; R645-100-200, -301-724.

**Analysis:**

**Sampling and Analysis**

No changes pertain to either the groundwater or surface water sampling programs as outlined in the current MRP. No additional sampling of groundwater or surface is necessary due to the limited impact, and limited uses of the waters in the area. Additional comments are provided within the Operational Hydrology Section of this Technical Analysis.

**Findings:**

The information provided in the proposed amendment is considered adequate to meet the requirements of this section.

**MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION**

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

**Analysis:**

**Vegetation Reference area Maps**

The text on page 3-3 of the proposed application refers the reviewer to the approved MRP. Section 323.100 Page 3-21 of the approved MRP states that "Reference area(s) are not designated on any plate or figure within this M&RP". However plate 3-1, (vegetation) of the current MRP does depict two reference areas.

**Findings:**

Information in the application is not adequate to meet this section of the regulations. Prior to final approval the applicant must supply the following in accordance with:

**R645-301-323**, The proposed application and the approved MRP need to be revised to include plate 3-1.

OPERATION PLAN

## OPERATION PLAN

### FISH AND WILDLIFE INFORMATION

Regulatory Reference: 30 CFR Sec. 784.21, 817.97; R645-301-322, -301-333, -301-342, -301-358.

#### Analysis:

##### Protection and Enhancement Plan

The proposal refers to section 333 of the MRP. This section of the MRP does not provide a wildlife mitigation and management plan for the proposed pipeline and leach field. However, appendix 3-3 does provide a mitigation plan that could be implemented for the proposed pipeline and leach field. Plate 3-2 also indicates that the area may be a high use area for deer and elk at certain times throughout the year. The legend on plate 3-2 needs to be clarified as referenced in the wildlife information of the environmental resource section. There are also several raptor nests within one mile of the proposed leach field. However, until the raptor survey has been completed it is not known if a raptor mitigation plan will be required.

##### Endangered and Threatened Species

The Fish and Wildlife Service has provided a list of proposed and listed threatened and endangered species for Carbon and Emery County for the Horizon Mine. The Division analyzed the potential for each species on this list to be affected by the proposed addition to the permit area, and, except for potential effects to the threatened and endangered fish of the upper Colorado River basin (see discussion below), there should be no effects. Species on the list are:

Graham Beardtongue	Razorback Sucker
Bald Eagle	Humpback Chub
Peregrine Falcon	Colorado Pikeminnow
Black-footed ferret	Bonytail Chub

The peregrine falcon is no longer listed, but it is still protected. Raptor surveys have failed to locate peregrine falcon scrapes in the permit area or the federal lease addition although they have been found nearby. If the current survey indicates that there are raptors within one mile from the proposed disturbed area mitigation will be required.

According to Ben Franklin of the Utah Natural Heritage Program, there is a historical collection of Graham beardtongue from the extreme northeastern corner of Carbon County a few hundred feet from the county line. It is an endemic that occurs almost exclusively on the Green River Formation in Uintah and Duchesne counties. There is virtually no likelihood the mine would affect this species.

There have been no confirmed sightings of black-footed ferrets in Carbon County in several years, so there should be no effect on this species.

Through water use, the mine could adversely affect threatened and endangered fish of the upper Colorado River basin. The Fish and Wildlife Service requires mitigation when annual water use exceeds 100 acre-feet. According to the revised Probable Hydrologic Consequences document, the increased acreage will not result in increased water use, which is currently estimated at 46.5 acre-feet per year. The water use by the personnel for the leach field is estimated at an additional 6.6 acre-feet per year. Therefore, no mitigation should be required.

The Division received a letter from the Fish and Wildlife Service dated March 28, 2000, concurring with the Division's findings on threatened and endangered species. Although water depletions are considered to jeopardize the continued existence of the threatened and endangered fish of the upper Colorado River basin, depletions are addressed by existing inter-agency Section 7 agreements. Therefore, no additional action or mitigation is required at this time. If the mine causes additional depletions, it will be necessary to reassess this determination.

The existing mining and reclamation plan contains information about threatened, endangered, and sensitive species. According to Section 322.200, no threatened or endangered plant or wildlife species were discovered in recent inventories by Wildlife Resources, the Forest Service, and other qualified personnel. Appendix 3-1 contains a letter from Robert Thompson, Forest Service botanist, indicating the area contains no threatened or endangered plant species.

A June 24, 1995, survey for canyon sweetvetch found this sensitive species along Dugout Creek approximately one-half mile below the gate. The Division is aware of a fairly extensive population in the permit area in Fish Creek Canyon, and it could occur in other parts of the permit area and proposed addition.

Section 322.200 says two listed species, the bald eagle and black-footed ferret, could potentially inhabit the area. There have been no confirmed sightings of black-footed ferrets in Carbon County in several years, but bald eagles probably occur within the permit area during the winter.

Dugout Creek is within the drainage of the Green River, which is habitat for certain threatened and endangered fish of the upper Colorado River basin. Through effects on water quantity and quality, the mine could potentially adversely affect these species.

### **Bald and Golden Eagles**

Although bald eagles are common winter residents, there are no nests or concentrated roosting sites within either the current permit area or the proposed addition. As required by R645-301-358.100, the permittee must promptly report to the Division any state or federally listed endangered or threatened species within the permit area of which it becomes aware. Seasonal or migrating bald eagles are expected and would not need to be reported.

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**Wetlands and Habitats of Unusually High Value for Fish and Wildlife**

A letter from Robert Thompson (USDA, Forest Service Botanist, 1995) states that a site inventory was conducted and no wetlands were found within the then proposed disturbed area. Although Mr. Thompson is not certified by the Army Corp of Engineers to make this statement, he is a respected professional and his statement is enough not to require a wetlands survey. A site investigation to the proposed pipeline and leach field site by this reviewer on May 9, 2001 would also support Mr. Thompson's findings.

There is a statement is made in the text of the proposal that habitats within the proposed disturbed area are not considered to be of unusually high value, (page 3-3). Appendix 3-3 identifies critical summer and winter range within the permit area. Also once the legend is clarified on plate 3-2 it is fairly certain that is will show habitats of high value for deer and elk in the proposed leach field site.

**Findings:**

Information provided in the proposal is not adequate to meet the requirements of this section of the regulations. Prior to final approval the applicant must supply the following in accordance with:

**R645-301-322, -301-333, -301-342, -301-358, Protection and Enhancement Plan, The** permittee needs to revise the application to include a reference to the mitigation plan contained in Appendix 3-3. **Wetlands and Habitats of Unusually High Value for Fish and Wildlife, The** application needs to be revised to include a mitigation plan and habitats of high value for deer and elk for the proposed leach field site.

**TOPSOIL AND SUBSOIL**

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-230.

**Analysis:**

**Removal and Storage**

Before topsoil removal, vegetation will be removed and burned (page 2-6, Chapter 2) from the entire 1.8-acre area. (A permit from the County must be obtained for this purpose.) Clearing the vegetation within the disturbed area boundary should still allow for a visual vegetation screen between the County Road and the disturbed area boundary. The Division recommends that a portion of the vegetation is not burned, but put towards a useful end, such as mulching or creation of habitat and shelter for animals.

After clearing the vegetation, an eight- inch topsoil layer will be removed from the 1.8-

acre site (colored blue on Plate 7-2), generating approximately 790 cubic yards of material (page 2-4). This topsoil will be temporarily stored in a stockpile, to be redistributed immediately after construction (location shown on Figure 2-1, page 2-1 of Chapter 2). Runoff from the stockpile will be reduced by the use of berms and a silt fence (page 2-9, Section 234.200). The location of the stockpile is indicated on Figure 2-1.

According to Mr. Gary Taylor<sup>1</sup> the exact area to be covered by the soil stockpile is not indicated by the map. By Division calculations, the 790 cubic yards (21,330 cu ft) of topsoil to be generated will require an area at least twice the size noted on the map (i.e. for a ten foot deep pile, an area of 50 X 50' would be necessary). The location noted on the map cannot be expanded without crossing into the undisturbed area. Further description of the topsoil stockpile dimensions and temporary storage location are requested.

Mr. Taylor also indicated that the size of the construction zone (40,000 sq ft) would not be as large as the 1.8 acre disturbed area. At this time, the Division is not certain whether the topsoil would be removed from the entire disturbed area or from the zone of construction. Further clarification of the area of topsoil removal is requested.

Section 222.400, page 2-3, indicates that the eight to twenty inch layer of subsoil will be mixed in with all the soils excavated from the six foot trenches. Attachment 5-1, Leach field Plans and Specifications, indicates on pages 3 that each seepage trench will be excavated to a depth of seven feet. Then, five feet of gravel will be placed in the trench and two feet of soil will be replaced on top.

Soils from each trench (from eight inches to seven feet deep) will be mixed and graded on the surface. The volume of soil excavated from each lateral will be  
(180' long x 2' wide x 7' deep) = 2,511 cubic feet

$$7 \text{ laterals} \times 2,511 \text{ cu ft} = 17,577 \text{ cu feet soil.}$$

Approximately 1,674 cu ft of this material will have been removed from the area of each lateral in the first 8-inch lift and segregated as topsoil. Therefore, there is an excess of approximately 15,903 cu ft to grade over the surface. The actual disturbed area is approximately 1.8 acres (Attachment 2-1) therefore, the 15,903 cu ft of subsoil would cover the 1.8 acres ((78,408 sq ft) to a depth of 0.2 feet (2 inches) above the original surface. However, after discussing this with Mr. Gary Taylor, it became apparent that the excess spoil would not be graded over the entire 1.8 acres, but only over the construction zone of 40,000 sq ft. Therefore, the depth of the additional material will be 4.8 inches.

The recommendation of the soil consultant, Mr. Dan Larsen, was that "Soil handling activities should consider retaining natural soil layer sequence although some soil mixing should not be detrimental." The four to five inch layer of the C-horizon over the Bk1-horizon will not be detrimental to vegetation as long as the C-horizon does not create a calcic hard pan. These lower C-horizon soils were massive, hard and high in calcium carbonates. The Division recommends ripping the soil surface after grading of the excess spoil to a depth of 8 inches to

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<sup>1</sup> Telephone conversation between Mr. Gary Taylor and Priscilla Burton on May 3, 2001.

**OPERATION PLAN**

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turn the C-horizon into the Bk1-horizon before replacement of the topsoil.

What will the procedure be for laying the sewer pipe from the septic tank to the Dugout Canyon Road within the surface facilities area? Will additional topsoil be generated?

A minor edit is required on page 2-5 of the submittal, where under Section 232.500 the reader is referred to Section 231.400. This is incorrect. The reader should be referred to Section 222.400 for information on subsoil segregation.

**Findings:**

The information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the permittee must provide the following in accordance with

**R645-300-133.100** Edit page 2-5 of the submittal to refer the reader to Section 222.400 for further information about subsoil segregation and edit page 2-3 to correctly state that seven foot trenches will be dug.

**R645-301-244**, Please obtain a permit from the County to burn vegetation. Please consider utilizing a portion of this scrubbed vegetation as mulch to protect the soil from wind erosion during plant establishment and for habitat creation.

**R645-301-234**, Provide further description of the topsoil stockpile dimensions and storage location.

**R645-301-231.100**, Outline on a map the area of topsoil salvage and replacement and provide a figure in acres of topsoil salvage and replacement.

**R645-301-242.200**, Rip the ground to a depth of eight inches after grading and before topsoil replacement.

**R645-301-230**, Describe the operation plan for laying the sewer line from the septic tank through the mine operations area to the dugout canyon road ditch.

**VEGETATION**

Regulatory Reference: R645-301-330, -301-331, -301-332.

**Analysis:**

The vegetation map, (plate 3-1) of the MRP and Attachment 3-1 of the application describe the plant communities of the proposed site as Pinyon / Juniper and Greasewood/Sagebrush with a grass, forb understory. Plate3-1 and the vegetation inventory map

## OPERATION PLAN

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provided for in attachment 3-1 accurately characterize the vegetation of the leach field. The leach field has been designed to disturb the smallest area possible and still meet the requirements of the Department of Health. The application refers to the approved MRP and the MRP only makes reference to the current disturbed area. Appendix 3-3 section 3.1.1 of the approved MRP provides a detailed description of protective enhancement measures to be taken prior to topsoil removal. In contrast the application states, "*soil removal will take place after all vegetation that could interfere with salvaging the soils has been removed and burned.*" See page 2-6 section 232.600.

### Findings:

Information provided in the proposal is not adequate to meet the requirements of this section of the regulations. Prior to final approval the applicant must supply the following in accordance with:

R645-301-330, -301-331, -301-332, Sections 232.600, and 333 of the application need to be revised to include Appendix 3-3 section 3.1.1 of the approved MRP.

## HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

### Analysis:

#### Ground-water monitoring

The location of the proposed Leach Field is mapped in Quaternary-aged pediment gravels, adjacent to alluvial sediments. No test wells were drilled in the leach field area to determine if groundwater existed at depth. However, while conducting the soil survey three holes were augered to 80-inches, 90-inches, and 95-inches, respectively. No subsurface water was encountered at these depths while conducting the soil survey. DEQ regulations require that the leach fields must exist at least 4 feet above bedrock, which is fulfilled. The affect on the groundwater in the area is expected to be minimal. Groundwater will not be encountered or used during construction, maintenance, and reclamation of the leach field.

### Findings:

Information in the proposal is adequate to meet the requirements of this section of the regulations.

**OPERATION PLAN**

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**Surface-water monitoring**

Dugout Creek, an intermittent drainage, is located approximately 150 ft west and down-slope of the proposed leach field. The nearest Surface-water monitoring point on Dugout Creek is MD-1, which is located approximately 4600 ft upstream of the proposed leach field. Recorded flows range from 1 gpm to 4500 gpm demonstrating the wide variability in the flow regime. Specific Conductance observed at MD-1, ranging from 450 to 1317 umhos/cm, is not representative of the potential water quality downstream of the leach field due to a change in geology. The water quality in the vicinity of the proposed leach field drains portions of the Mancos Shale which greatly down grades the water quality. No potential uses of the surface or ground water are adversely affected by any potential impact from the proposed leach field.

**Findings:**

Information in the proposal is adequate to meet the requirements of this section of the regulations.

**Stream buffer zones**

The leach field itself is not located within the 100-ft buffer zone, although the proposed sewer line route is within the 100-ft buffer at several locations. The sewer line will be buried in the ditch on the opposite side of the county road. The ditch will be restored to its original condition upon completion of construction activities.

**Findings:**

Information in the proposal is adequate to meet the requirements of this section of the regulations.

**Siltation structures**

Additional contributions of suspended solids and sediment to stream flow or runoff outside the permit area will be prevented to the extent possible using silt fences, berms, straw bales, and surface roughening. A total of two berms will be constructed at the leach field construction site. The upper berm is approximately 350-ft long and diverts undisturbed runoff around the site. The lower berm is approximately 160-ft long and diverts runoff from the disturbed area toward a silt fence to be treated prior to entering a ditch paralleling the main access road. Construction of the berms was based on a 10 yr-6 hr storm event of 1.35-inches. The silt fences will be installed before construction begins.

**Findings:**

Information in the proposal is adequate to meet the requirements of this section of the regulations.

## **SIGNS AND MARKERS**

Regulatory Reference: 30 CFR Sec. 817.11; R645-301-521.

### **Analysis:**

The applicant has committed to a Mine and Permit Identification sign, Perimeter markers, and Topsoil markers being utilized on the Leach Field site as outlined in Section 521.200 of the proposed amendment.

### **Findings:**

The information provided in the proposed amendment is considered adequate to meet the requirements of this section.

## RECLAMATION PLAN

### PROTECTION OF FISH, WILDLIFE, AND RELATED ENVIRONMENTAL VALUES

Regulatory Reference: 30 CFR Sec. 817.97; R645-301-333, -301-342, -301-358.

#### Analysis:

The application refers to the approved MRP. Control and mitigation measures provided for in section 333 of the MRP are general and do not provide the specificity required to address the protection of wildlife and related environmental values for the pipeline and leach field. The application should include a reference to Appendix 3-3. This appendix provides a site-specific protection and enhancement plan for the vegetative and wildlife communities located in the proposed leach field area. The proposed raptor survey may also provide information that requires mitigation.

The application refers the reviewer to the approved MRP in section 342. Section 342, page 3-46 of the MRP states, "*habitats of high value will be restored and enhanced beyond their pre-mining conditions.*" This refers to the current disturbed area and does not make reference to or appear to include the pipeline and leach field proposal. The application should include a reference to Appendix 3-3. The final reclamation seed mix in the MRP is adequate to provide cover and nutritional value for wildlife. The application also contains an interim seed mix to establish a shallow rooting cover of grasses and alfalfa.

#### Findings:

Information provided in the proposal is not adequate to meet the requirements of this section of the regulations. Prior to final approval the applicant must supply the following in accordance with:

R645-301-333, -301-342, -301-358, , Sections, and 333, 342 and 358 of the application must be revised to include Appendix 3-3 of the approved MRP or a mitigation plan.

### BACKFILLING AND GRADING

Regulatory Reference: 30 CFR Sec. 785.15, 817.102, 817.107; R645-301-234, -301-537, -301-552, -301-553, -302-230, -302-231, -302-232, -302-233.

**Analysis:**

**General**

Drawing 5 of Attachment 5-1 shows the current and final surface configurations for the leach field site. The sewer pipeline and leach field piping and concrete boxes will remain in place in perpetuity (Section 553.200). Reclamation will occur immediately after construction.

**Findings:**

The information provided in the proposed amendment is considered adequate to meet the requirements of this section.

**TOPSOIL AND SUBSOIL**

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-240.

**Analysis:**

The submittal indicates on page 2-10 that 200 lb/ac of 16% Nitrogen and 16% Potassium will be applied to the redistributed soil. The addition of soil nutrients is not desirable for reestablishment of vegetation in this arid environment. The Division has observed that the use of fertilizer generally promotes a flush of weed growth to the detriment of the native species. As reported in Appendix S2 of Attachment 2-1, nitrogen and phosphorus levels in the soil are adequate for native species.

**Findings:**

The information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the permittee must provide the following in accordance with

**R645-300-243**, The use of nitrogen and potassium fertilizer described in Section 243 should be eliminated.

**STABILIZATION OF SURFACE AREAS**

Regulatory Reference: 30 CFR Sec. 817.95; R645-301-244.

**Analysis:**

During construction, sediment control will consist of silt fences and berms (Section 553.100). Berms, surface roughening and seeding for contemporaneous reclamation of the site

## RECLAMATION PLAN

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will control runoff in the long term. The seeding that occurs immediately after construction will be with the final seed mix. The site will not be re-disturbed.

### Findings:

The information provided in the proposed amendment is considered adequate to meet the requirements of this section.

## CONTEMPORANEOUS RECLAMATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.100; R645-301-352, -301-553, -302-280, -302-281, -302-282, -302-283, -302-284.

### Analysis:

The permittee has committed to reclaiming the disturbed area contemporaneously with construction.

#### General

Upon completion of the laterals, the trenches will be back-filled and the area covered with the requisite amount of topsoil. An interim seed mix of grasses and alfalfa will be used to achieve interim reclamation success. This seed mix will provide forage for deer and elk.

### Findings:

The information provided in this section of the application is adequate to meet the requirements of this section of the regulations.

## REVEGETATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.111, 817.113, 817.114, 817.116; R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280, -302-281, -302-282, -302-283, -302-284.

### Analysis:

The applicant has addressed the revegetation requirements for the leach field in Section 353 of the application and by reference to corresponding sections of the approved MRP. The vegetation map, (plate 3-1) of the MRP and Attachment 3-1 of the application describe the plant communities of the proposed site as Pinyon / Juniper and Greasewood/Sagebrush with a grass, forb understory. Plate 3-1 and the vegetation inventory map provided for in attachment 3-1 accurately characterize the vegetation of the leach field. Reclamation techniques, timing, mulch and standards for success are provided for and discussed following this analysis. To avoid

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interference in the leach field by deeper rooting plants the permittee has proposed an interim seed mix of grasses and alfalfa. Shrubs and pinyon and juniper trees will eventually invade the area and are included in the final reclamation seed mix.

**General requirements**

The permittee has committed to establishing a vegetative cover on all reclaimed areas to allow for the designated post mining land-use of wildlife habitat.

**Timing**

The applicant has committed to following the vegetative guidelines set forth by the Division. Planting is to commence during the first favorable planting season.

**Mulching and other soil stabilizing practices**

The application refers to the approved MRP. The MRP indicates that mulch will be used on all areas that have been regraded and topsoiled.

**Standards for success**

The permittee has committed to applying the standards of success in accordance with the approved post mining land use. The approved MRP section 356 page 3-50 outlines the success standards for the Pinyon/Juniper vegetative community.

**Findings:**

The information provided in this section of the application is adequate to meet the requirements of this section of the regulations.

**BONDING AND INSURANCE REQUIREMENTS**

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

**Analysis:**

**Determination of bond amount**

On May 4, 2001, Gary Taylor stated to Wayne Western that the pipes associated with the leach field would be capped and remains in place for reclamation. The applicant received permission from the BLM to leave the pipe in place after the amendment was submitted. In the submittal the applicant show reclamation cost estimates for removing the leach field pipes. R645-301-830.120 requires the applicant to base the reclamation cost estimate on the approved plan. Since the applicant plan to leave the leach field pipe they must modify the reclamation

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plan and reclamation cost estimate accordingly. Mr. Taylor agreed to make the changes and resubmit the amendment.

**Findings:**

Information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the applicant must provide the following in accordance with:

**R645-301-830.120**, The applicant must update the text and the reclamation cost estimate to show that during reclamation the leach field pipes will be left in place.

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RECLAMATION PLAN

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The applicant has committed to following the vegetative guidelines set forth by the Division. Planting is to commence during the first favorable planting season.

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The application refers to the approved MRP. The MRP indicates that mulch will be used on all areas that have been regraded and topsoiled.

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The permittee has committed to applying the standards of success in accordance with the approved post mining land use. The approved MRP section 356 page 3-50 outlines the success standards for the Pinyon/Juniper vegetative community.

### **Findings:**

The information provided in this section of the application is adequate to meet the requirements of this section of the regulations.

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