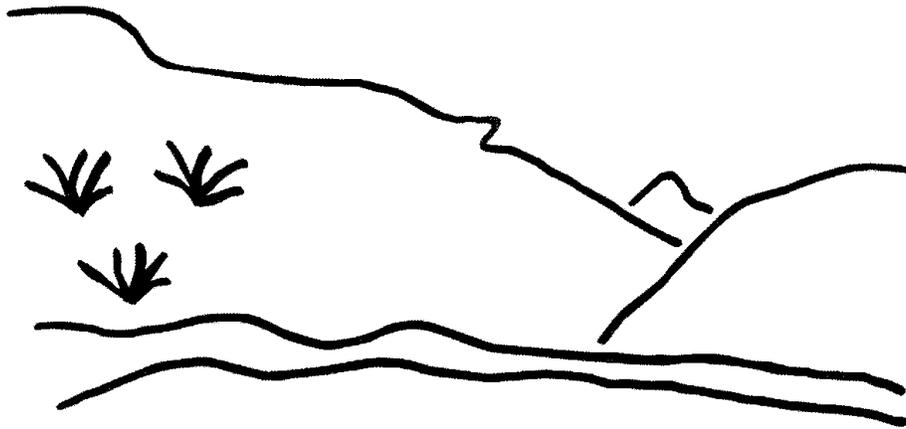


# State of Utah



## Utah Oil Gas and Mining

### Coal Regulatory Program

Centennial Project  
Mathis/Summit Creek Incidental Boundary Change (IBC)  
C/007/0019, Task ID # 1979  
Technical Analysis  
July 27, 2004



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## TECHNICAL ANALYSIS

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# TECHNICAL ANALYSIS

The Division ensures compliance with the Surface Mining Control and Reclamation Act of 1977(SMCRA). When mines submit a Permit Application Package or an amendment to their Mining and Reclamation Plan, the Division reviews the proposal for conformance to the R645-Coal Mining Rules. This Technical Analysis is such a review. Regardless of these analyses, the permittee must comply with the minimum regulatory requirements as established by SMCRA.

Readers of this document must be aware that the regulatory requirements are included by reference. A complete and current copy of these regulations and a copy of the Technical Analysis and Findings Review Guide can be found at <http://ogm.utah.gov/coal>

This Technical Analysis (TA) is written as part of the permit review process. It documents the Findings that the Division has made to date regarding the application for a permit and is the basis for permitting decisions with regard to the application. The TA is broken down into logical section headings, which comprise the necessary components of an application. Each section is analyzed and specific findings are then provided which indicate whether or not the application is in compliance with the requirements.

Often the first technical review of an application finds that the application contains some deficiencies. The deficiencies are discussed in the body of the TA and are identified by a regulatory reference, which describes the minimum requirements. In this Technical Analysis we have summarized the deficiencies at the beginning of the document to aid in responding to them. Once all of the deficiencies have been adequately addressed, the TA will be considered final for the permitting action.

It may be that not every topic or regulatory requirement is discussed in this version of the TA. Generally only those sections are analyzed that pertain to a particular permitting action. TA's may have been completed previously and the revised information has not altered the original findings. Those sections that are not discussed in this document are generally considered to be in compliance.

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**TECHNICAL ANALYSIS**

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## INTRODUCTION

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## INTRODUCTION

On May 7, 2004 the Division of Oil, Gas, & Mining (Division) received an application for an Incidental Boundary Change (IBC) for the Centennial Project / Tower Mine (task ID #1919). The application was returned to the Mine with deficiencies on June 18, 2004, and resubmitted to the Division on July 2, 2004 (task ID #1979). The IBC is located in the Mathis tract (20 acres) and Summit Creek Lease areas (72.32 acres), respectively. The leases are located on the Deadman Canyon quadrangle in Township 12 South Ranges 10 and 11 East, Sections 31 and 36. The following review addresses only regulations germane to the proposed modifications to the currently approved Mine Reclamation Plan (MRP). The proposed change is for underground mining only, which will take place beneath 2,600 to 3,000 feet of cover; no additional surface facilities are proposed. Surface effects such as subsidence and effects to the hydrologic regime are anticipated to be negligible. Deficiencies cited earlier have been adequately addressed. Incorporation into the currently approved MRP is recommended.

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## INTRODUCTION

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## GENERAL CONTENTS

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# GENERAL CONTENTS

## VIOLATION INFORMATION

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

### **Analysis:**

Information for the last three years of violation history was submitted for the Applicant and all coal mining reclamation operations owned or controlled by the Applicant or by any person who owns or controls the Applicant.

### **Findings:**

The information provided adequately addresses the minimum requirements of the General Contents – Violation Information section of the regulations.

## RIGHT OF ENTRY

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

### **Analysis:**

Appendix J of the MRP contains approvals of lease agreements and other approved activities. Documentation showing approval to enter the Mathis Tract Fee Lease was provided for inclusion into Appendix J. Documentation showing the right of entry for UTU-79975 Federal Lease will be provided to the Division for inclusion in Appendix J upon receipt.

### **Findings:**

Information showing the right of entry into Federal Lease UTU-79975 still needs to be provided to the Division. The applicant has committed to provide the information for inclusion into Appendix J upon receipt. The application can be conditionally approved upon receipt of the right of entry information into Appendix J.

## **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 applicant submitted the legal descriptions of the lease areas that are to be included into the permit area. It should be clarified that these descriptions are not necessarily the entire lease areas, but only the portions that are within the permit area. Descriptions found on page 1-21 of the submittal for federal lease UTU-79975 and the additions to the Mathis Tract Fee lease were checked and found to be accurate with the submitted maps.

### **Findings:**

The information submitted adequately addresses the minimum requirements of the General Contents – Legal Description and Status of Unsuitability Claims section of the regulations.

## **MAPS AND PLANS**

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

### **Analysis:**

The vegetation map is identified as plate 19A. A portion of the Right Fork of Summit Creek is included in the proposed IBC. The wildlife distribution map is identified as plate 34. The map depicts the location of raptor nests at that point in time. A current raptor inventory is included in the application as appendix D. The Mule Deer, Elk and Sage Grouse ranges are identified on plate 34 and are included in the legend.

### **Findings:**

The information provided adequately addresses the minimum requirements of the General Contents – Maps and Plans section of the regulations.

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## ENVIRONMENTAL RESOURCES INFORMATION

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# ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

## HISTORIC AND ARCHEOLOGICAL RESOURCE INFORMATION

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

### **Analysis:**

Historic and Archeological resource information is provided for on page 4-1 of the application. Additional information is included on pages 4-2,3,4 and Appendix C of the approved MRP. Since the 92-acre parcel is located 2,600 feet above the current mine workings and is an extension of the current mine workings there should be no impacts to the surface land resources.

### **Findings:**

The information provided in the application and approved MRP adequately addresses the minimum requirements of the Historic and Archeological Resource Information section of the regulations.

## VEGETATION RESOURCE INFORMATION

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

### **Analysis:**

The vegetation resource information is provided for in chapter three of the MRP. Text changes for this IBC include page 3-1 of the Biology section of the application. The vegetation map is identified as plate 19A. The vegetation communities for the mine plan area include Mountain –Brush, Desert-Shrub, Pinyon-Juniper Woodland, Sagebrush-Grass, Conifer-Aspen, and Minor streamside vegetative types that cover the entire mine plan area. The vegetation community for this IBC is predominately Sagebrush-Grass and Aspen.

The application includes a list of possible threatened, endangered and candidate plant species identified in the U. S. Fish and Wildlife Service current listing for Carbon County as appendix M.

**Findings:**

The information provided adequately addresses the minimum requirements of the Vegetation Resource Information section of the regulations.

**FISH AND WILDLIFE RESOURCE INFORMATION**

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

**Analysis:**

The Fish and Wildlife resource information is addressed on pages 3-2, 3-3, 3-11 and provided for in appendices A, D and M of the application.

**Findings:**

The information provided adequately addresses the minimum requirements of the Fish and Wildlife Resource Information section of the regulations.

**LAND-USE RESOURCE INFORMATION**

Regulatory Reference: 30 CFR 783.22; R645-301-411.

**Analysis:**

The Land Use resource information is provided for on page 4-1 of the application. The 93.32 acre parcel is located 2,600 feet above the current mine workings. As such impacts to the surface land resources should be negligible.

The area is currently used for grazing, recreation and wildlife. Section 645-301-411.110 on page 4-1 indicates that Deadman, Straight and Hoffman Canyons would fall into three categories: 1) fish and wildlife habitat, 2) recreation lands and 3) range lands. According to the application the land has also historically been used for coal mining. By the early 1900's the majority of the Book Cliffs coal field had been prospected. Knight -Ideal, Zion, Olsen, and Sutton were mines that produced coal from the Gilson and Aberdeen coal seams. An additional prospect in the Sunnyside seam produced 1,400 tons of coal in 1964.

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## ENVIRONMENTAL RESOURCES INFORMATION

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### **Findings:**

The information provided adequately addresses the minimum requirements of the Land-Use Resource Information section of the regulations.

## **GEOLOGIC RESOURCE INFORMATION**

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

### **Analysis:**

The information provided in the currently approved Mine Plan adequately addresses the geology in the proposed Mathis / Summit Creek IBC. The IBC areas are all within the Flagstaff Formation. Strike and dip information previously missing from Plate 21 has been provided.

### **Findings:**

The information provided adequately addresses the minimum requirements of the Environmental Resource Information - Geologic Resource Information section of the regulations.

## **HYDROLOGIC RESOURCE INFORMATION**

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

### **Probable Hydrologic Consequences Determination**

A separate Probable Hydrologic Consequences Determination (PHC) was prepared by Petersen Hydrologic (Inc.) for Adalex Resources, Inc. specifically addressing the Summit Creek and North Mathis tracts. The current IBC addresses only a small fraction of those two tracts. The determination is consistent with other findings along the Book Cliffs escarpment and Wasatch Plateau. Adverse impacts to the hydrologic balance in the area are extremely unlikely based on the combination of the following: 1) extensive cover (2,600 – 3,000 ft.); 2) extensive barrier walls between panels; 3) shallow groundwater systems and surface-water flows responding rapidly to climate and season; and 4) deep groundwater systems that are not in hydraulic communication with shallow recharge sources or shallow groundwater systems. The Division agrees with this assessment.

Using local streams and springs the PHC illustrates the shallow groundwater systems and surface-water flows respond rapidly to climate conditions and season. Specific R645-301

## **ENVIRONMENTAL RESOURCE INFORMATION**

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regulations that were addressed in the PHC include -728.200 (water quality and quantity), -728.310 (adverse impacts to hydrologic balance), -728.310 (acid- or toxic-forming materials), -728.331 (sediment yields), -728.333 (stream flow alteration), -728.334 (groundwater and surface-water availability), and -728.350 (affects to State-appropriated water).

To address concerns cited in the June 18, 2004 Technical Analysis, Andalex commits to replace any State-appropriated water should it become contaminated, diminished, or interrupted in section 728.350 of the PHC (Appendix L). To aid in the monitoring of State-appropriated water, pond site 31-1, which has an associated water right was added to the water-monitoring program. The pond will be monitored on a quarterly basis documenting the presence or lack of water. This will include and estimate of the quantity of water in the pond and measurements of the rate of inflow to the pond and the rate of outflow from the pond. The commitment and addition of monitoring the pond adequately addresses concerns cited earlier.

### **Findings:**

The information provided adequately addresses the minimum requirements of the Hydrologic Resources Information section of the State regulations.

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## OPERATION PLAN

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# OPERATION PLAN

## MINING OPERATIONS AND FACILITIES

Regulatory Reference: 30 CFR 784.2, 784.11; R645-301-231, -301-526, -301-528.

### **Analysis:**

The Permittee proposes to add 93.32 acres as an Incidental Boundary Change to the Aberdeen Mine. Andalex Resources needed to add the IBC to accommodate a new longwall panel setup. The IBC would not significantly change the mine plan. There are no surface facilities associated with the IBC.

### **Findings:**

The information provided adequately addresses the minimum requirements of the Operation Plan – Mining Operations and Facilities section of the regulations.

## EXISTING STRUCTURES:

Regulatory Reference: 30 CFR 784.12; R645-301-526.

### **Analysis:**

There are no existing structures associated with the IBC that could be affected by mining.

### **Findings:**

The information provided adequately addresses the minimum requirements of the Operation Plan – Existing Structures section of the regulations.

## RELOCATION OR USE OF PUBLIC ROADS

Regulatory Reference: 30 CFR 784.18; R645-301-521, -301-526.

**Analysis:**

There are no public roads associated with the IBC and no roads will need to be relocated.

**Findings:**

The information provided adequately addresses the minimum requirements of the Operation Plan – Relocation or Use of Public Roads section of the regulations.

**COAL RECOVERY**

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

**Analysis:**

Andalex Resources needs the IBC in order to set up longwall panels to increase coal production. The coal to be recovered is at a depth of 2,600 to 3,000 ft. The IBC is consistent with the mine plan to maximize coal recovery in the permit area.

**Findings:**

The information provided adequately addresses the minimum requirements of the Operation Plan – Coal Recovery section of the regulations.

**SUBSIDENCE CONTROL PLAN**

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

**Analysis:**

**Subsidence Control Plan**

In 2003 the Division fielded a complaint by a local landowner that their spring had dried up due to mining in the area. The Division's finding of no surface impacts due to mining was based, in part, on the Subsidence Control monitoring stations located in the area. However, subsidence control stations are not always ideally located. Information useful for evaluating surface subsidence would be to combine the Subsidence Monitoring Stations map with the longwall mining plan information.

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## OPERATION PLAN

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Plate 25 – Subsidence Monitoring Stations, has been modified to make the topography legible and include both the current mining and mining projections of longwalls in the Aberdeen seam (information found on Plate 29). The combination of having subsidence monitoring stations, topography, and the location of longwall panels on one map will provide a useful tool to ground-truth any potential areas of subsidence.

The existing subsidence control plan is sufficient to adequately monitor the addition of the IBC area. The addition of 93.32 acres would not have a significant impact on subsidence.

### **Findings:**

The information provided adequately addresses the minimum requirements of the Operation Plan – Subsidence Control Plan section of the State regulations.

## **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 protection and enhancement plan is addressed in appendix A of the approved MRP. The application states that “the Mathis/Summit Creek Incidental Boundary Change is simply an extension of our underground mine workings under roughly 2,600 to 3,000 feet of cover. Therefore there should be no effect to the surface biology of the area. The application also includes a commitment to develop a mitigation plan with the Division of Wildlife Resources should problems occur.

#### **Endangered and Threatened Species**

The application includes a list, (appendix M), of possible threatened, endangered and candidate plant and wildlife species identified in the U. S. Fish and Wildlife Service current listing for Carbon County. There are no threatened or endangered plant species known for the area according to information from Bob Thompson of the Forest Service and the Division of Wildlife Resources survey. Of the 10 species listed for Carbon County, only one, the bald eagle, could potentially occur in the permit area. However, the occurrence is most likely to be migration through the area rather than nesting or roosting. Most threatened or endangered species that could occur in Carbon County occur at lower elevations than the mine and have no habitat in the proposed permit area expansion.

## **OPERATION PLAN**

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In addition to the species discussed in the application, there is also a potential to affect the threatened and endangered fish of the upper Colorado River basin through surface water depletion. The mine has potential, through water depletions, of adversely affecting four listed threatened and endangered fish species of the upper Colorado River drainage. The Fish and Wildlife Service requires mitigation when water depletions exceed 100 acre-feet annually. According to the information in the application 47.61acre feet/year net gain of water are provided to the upper Colorado River basin. Calculations are provided in table III-12.

### **Bald and Golden Eagles**

Bald Eagles do not nest in the area. They could possibly be seen migrating through the area during the winter months.

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

There are no known wetlands within the proposed IBC.

### **Findings:**

The information provided adequately addresses the minimum requirements of the Operation Plan – Fish and Wildlife Information section of the regulations.

## **VEGETATION**

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

### **Analysis:**

Vegetation should not be affected by the addition of the Mathis/Summit IBC. There is no surface disturbance associated with this permitting activity.

### **Findings:**

The information provided in the current MRP adequately addresses the minimum requirements of the Operation Plan - Vegetation section of the regulations.

## **ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES**

Regulatory Reference: 30 CFR Sec. 784.24, 817.150, 817.151; R645-301-521, -301-527, -301-534, -301-732.

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## OPERATION PLAN

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### **Analysis:**

No new roads are proposed with the addition of the IBC. No additional information is required.

### **Findings:**

The information provided adequately addresses the minimum requirements of the Operation Plan – Road Systems and Other Transportation Facilities section of the regulations.

## **SPOIL AND WASTE MATERIALS**

Regulatory Reference: 30 CFR Sec. 701.5, 784.19, 784.25, 817.71, 817.72, 817.73, 817.74, 817.81, 817.83, 817.84, 817.87, 817.89; R645-100-200, -301-210, -301-211, -301-212, -301-412, -301-512, -301-513, -301-514, -301-521, -301-526, -301-528, -301-535, -301-536, -301-542, -301-553, -301-745, -301-746, -301-747.

### **Analysis:**

The IBC will not alter the existing spoil and waste materials program.

### **Findings:**

The information provided in the currently approved MRP adequately addresses the minimum requirements of the Operation Plan – Spoils and Waste Materials section of the regulations.

## **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, -300-148, -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:**

#### **Groundwater Monitoring**

No springs or seeps were sampled during the 2001 and 2003 surveys, which illustrates the dry conditions currently being experienced in the region. This is indicative of the shallow groundwater systems and surface-water flows responding rapidly to climate and season. During

## **OPERATION PLAN**

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wet climatic conditions, groundwater naturally discharges from the Flagstaff and North Horn Formation in the area, although in small quantities for short periods of time. Seeps and springs in the area show rapid response to both season and climate, suggesting short flow paths and shallow circulation depths. This is illustrated by the lack of data for the majority of water monitoring sites in the area. Due to dry conditions, the little moisture that is received is critical to livestock and wildlife. Numerous water rights exist on stock ponds that are fed by springs or streams. Monitoring site 31-1, a stock pond has been added to the water-monitoring program to document any loss of water in the event subsidence does occur in the area.

A total of two (2) additional springs are proposed for monitoring as part of the current amendment. Spring B261 has a total of five (5) samples collected from 1996 through 2001. Spring B362 has only one (1) sample (May 2001) collected from 1997 through 2002. The existing water quality information for springs B261 and B362 has been submitted electronically to the Division database.

Table 3 of the Peterson Hydrologic report, that was previously absent, has been provided.

### **Surface Water Monitoring**

During sampling in both 2001 and 2003 no springs, seeps, or streams were found to be flowing, likely demonstrating the current drought conditions and the ephemeral nature of the streams in the area. Of the four (4) proposed additional surface water monitoring sites, two (AC-1 and SC-1) are new sites with no baseline data provided. It will be a few years before these two sites provide any useful information. Stream site B263 has been monitored since 1996 and has a total of 10 samples collected from 5/96 – 10/02. The existing data from site B263 has been input into the Division electronic database as requested. Pond 31-1 has an associated water right. The pond will be monitored for the presence or absence of water and also document any inflow or outflow from the pond.

### **Water-Quality Standards And Effluent Limitations**

Page 7-2 of the proposal has been modified to accurately reflect the number of UPDES sites under the permit as four (4). Figure IV-II has also been modified to reflect the correct information. This adequately addresses earlier deficiencies.

### **Findings:**

The information provided adequately addresses the minimum requirements of the Operation Plan – Hydrologic Information section of the State regulations.

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## OPERATION PLAN

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### SUPPORT FACILITIES AND UTILITY INSTALLATIONS

Regulatory Reference: 30 CFR Sec. 784.30, 817.180, 817.181; R645-301-526.

#### **Analysis:**

Andalex Resources will not construct any new surface facilities with the addition of the IBC area.

#### **Findings:**

The information provided adequately addresses the minimum requirements of the Operation Plan – Support Facilities and Utility Installations section of the regulations.

### 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:**

##### **Monitoring and Sampling Location Maps**

On Plate 21 – Surface Geology, has been modified to include the strike and dip numbers on the map.

Figure 5 - Surface and Ground Water Rights of the Vaughn Hansen Associates report has been modified to reflect the proper naming convention ‘Water Rights Number’.

Figure IV-11 has been modified to include the following: 1) the IBC has been correctly identified as the Mathis/Summit Creek IBC; 2) the symbol designation of streams and springs/wells has been included; and 3) all four (4) UPDES sites have been identified. This adequately addresses earlier deficiencies.

##### **Affected Area Maps**

Plate I has been modified to include the new permit boundary with the addition of the IBC area. Plates 21, 22, 25, 29, 34, and Figures 4, 5, and 6 have been modified to include the proposed IBC in the permit boundary. This adequately addresses earlier cited deficiencies.

**Certification Requirements**

Dan Guy, a registered professional engineer, certified Plate 29. The Permittee has met the certification requirements.

**Findings:**

The information provided adequately addresses the minimum requirements of the Operation Plan – Maps, Plans, and Cross Sections of Mining Operations section of the State regulations.

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## RECLAMATION PLAN

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# RECLAMATION PLAN

## GENERAL REQUIREMENTS

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR Sec. 784.13, 784.14, 784.15, 784.16, 784.17, 784.18, 784.19, 784.20, 784.21, 784.22, 784.23, 784.24, 784.25, 784.26; R645-301-231, -301-233, -301-322, -301-323, -301-331, -301-333, -301-341, -301-342, -301-411, -301-412, -301-422, -301-512, -301-513, -301-521, -301-522, -301-525, -301-526, -301-527, -301-528, -301-529, -301-531, -301-533, -301-534, -301-536, -301-537, -301-542, -301-623, -301-624, -301-625, -301-626, -301-631, -301-632, -301-731, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-732, -301-733, -301-746, -301-764, -301-830.

### Analysis:

Since there are no surface facilities associated with the addition of 93.32 acres within the proposed IBC; no changes to the engineering portion of the reclamation plan are needed.

The reclamation plan will not be affected by the addition of the Mathis/Summit IBC. There is no surface disturbance associated with this permitting activity.

### Findings:

The information provided adequately addresses the minimum requirements of the Reclamation Plan – General Requirements section of the regulations.

## POSTMINING LAND USES

Regulatory Reference: 30 CFR Sec. 784.15, 784.200, 785.16, 817.133; R645-301-412, -301-413, -301-414, -302-270, -302-271, -302-272, -302-273, -302-274, -302-275.

### Analysis:

The reclamation plan will not be affected by the addition of the Mathis/Summit IBC. There is no surface disturbance associated with this permitting activity.

### Findings:

The information provided in the current MRP is adequately addresses the minimum requirements of the Reclamation Plan – Post-mining Land Uses section of the regulations.

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

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

### **Analysis:**

The reclamation plan will not be affected by the addition of the Mathis/Summit IBC. There is no surface disturbance associated with this permitting activity. The protection and enhancement plan is addressed in appendix A of the approved MRP. The application states that “the Mathis/Summit Creek Incidental Boundary Change is simply an extension of our underground mine workings under roughly 2,600 to 3,000 feet of cover. Therefore, there should be no effect to the surface Biology of the area. The application also includes a commitment to develop a mitigation plan with the Division of Wildlife Resources should problems occur.

### **Findings:**

The information provided adequately addresses the minimum requirements of the Reclamation Plan – Protection of Fish, Wildlife, and Related Environmental Values section of the regulations.

## **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:**

Contemporaneous reclamation will not be affected by the addition of the Mathis/Summit IBC. There is no surface disturbance associated with this permitting activity.

### **Findings:**

The information provided in the current MRP adequately addresses the minimum requirements of the Reclamation Plan – Contemporaneous Reclamation 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.

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## RECLAMATION PLAN

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### **Analysis:**

#### **Revegetation: General Requirements**

Revegetation will not be affected by the addition of the Mathis/Summit IBC. There is no surface disturbance associated with this permitting activity.

#### **Revegetation: Timing**

Timing will not be affected by the addition of the Mathis/Summit IBC. There is no surface disturbance associated with this permitting activity.

#### **Revegetation: Mulching and Other Soil Stabilizing Practices**

These practices will not be affected by the addition of the Mathis/Summit IBC. There is no surface disturbance associated with this permitting activity.

#### **Revegetation: Standards For Success**

Standards for success will not be affected by the addition of the Mathis/Summit IBC. There is no surface disturbance associated with this permitting activity.

### **Findings:**

The information provided in the current MRP adequately addresses the minimum requirements of the Reclamation Plan - Revegetation section of the regulations.

## **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:**

#### **Reclamation Monitoring And Sampling Location Maps**

Reclamation monitoring and sampling location maps will not be affected by the addition of the Mathis/Summit IBC. There is no surface disturbance associated with this permitting activity.

## RECLAMATION PLAN

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### **Reclamation Treatments Maps**

Reclamation treatment maps will not be affected by the addition of the Mathis/Summit IBC. There is no surface disturbance associated with this permitting activity

### **Revegetation and Restoration of Soil Productivity**

Revegetation and restoration of soil productivity will not be affected by the addition of the Mathis/Summit IBC. There is no surface disturbance associated with this permitting activity.

### **Findings:**

The information provided in the current MRP adequately addresses the minimum requirements of the Reclamation Plan – Maps, Plans, and Cross Sections of Reclamation Operations section of the regulations.

## **BONDING AND INSURANCE REQUIREMENTS**

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

### **Analysis:**

#### **Determination of Bond Amount**

No changes to the surface facilities will result as a result of the addition of 93.32 acres for an incidental boundary change. No change in the reclamation cost estimate is necessary at this time.

### **Findings:**

The information provided adequately addresses the minimum requirements of the Reclamation Plan – Bonding and Insurance Requirements section of the regulations.

## **CUMULATIVE HYDROLOGIC IMPACT ASSESSMENT (CHIA)**

Regulatory Reference: 30 CFR Sec. 784.14; R645-301-730.

### **Analysis:**

The Division has evaluated the PHC provided by the Mine Operator and determined that the addition of the Mathis/Summit Creek IBC will not have an adverse affect on the cumulative hydrologic regime in the area based on the information provided and the analysis articulated above.

### **Findings:**

The information provided adequately addresses the minimum requirements of the Cumulative Hydrologic Impact Assessment section of the State regulations.