

July 30, 2003

Wendell Owen, Mine Manager
Co-Op Mining Company
P.O. Box 1245
Huntington, Utah 84528

Re: Reformatted MRP, Co-Op Mining Company, Bear Canyon Mine, C/015/02-AM03A,
Outgoing File

Dear Mr. Owen:

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 these deficiencies by October 1, 2003.

If you have any questions, please call me at (801) 538-5325 or Joe Helfrich at (801) 538-5290.

Sincerely,

Daron R. Haddock
Permit Supervisor

an
Enclosure
cc: Price Field Office
O:\015025.BCN\FINAL\DEF03A.DOC

State of Utah



Utah Oil Gas and Mining

Coal Regulatory Program

Bear Canyon
Reformatted MRP
C/015/025-AM03A
Technical Analysis
July 28, 2003

TABLE OF CONTENTS

INTRODUCTION.....	3
GENERAL CONTENTS.....	11
IDENTIFICATION OF INTERESTS	11
VIOLATION INFORMATION.....	11
RIGHT OF ENTRY	12
LEGAL DESCRIPTION AND STATUS OF UNSUITABILITY CLAIMS.....	12
PERMIT TERM.....	13
PUBLIC NOTICE AND COMMENT	13
FILING FEE	14
PERMIT APPLICATION FORMAT AND CONTENTS	14
REPORTING OF TECHNICAL DATA	19
MAPS AND PLANS	20
COMPLETENESS.....	20
ENVIRONMENTAL RESOURCE INFORMATION	21
GENERAL.....	21
HISTORIC AND ARCHEOLOGICAL RESOURCE INFORMATION.....	22
VEGETATION RESOURCE INFORMATION	23
FISH AND WILDLIFE RESOURCE INFORMATION	24
SOILS RESOURCE INFORMATION.....	24
LAND-USE RESOURCE INFORMATION.....	25
PRIME FARMLAND.....	26
HYDROLOGIC RESOURCE INFORMATION	26
Baseline Information.....	27
Baseline Cumulative Impact Area Information	27
Probable Hydrologic Consequences Determination	27
MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION.....	28
Affected Area Boundary Maps	28
Coal Resource and Geologic Information Maps.....	29
Existing Structures and Facilities Maps.....	29
Mine Workings Maps	29
Monitoring and Sampling Location Maps	29
Permit Area Boundary Maps	30
OPERATION PLAN	31
MINING OPERATIONS AND FACILITIES.....	31
PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES	32
COAL RECOVERY	32
SUBSIDENCE CONTROL PLAN.....	34
SLIDES AND OTHER DAMAGE	35
TOPSOIL AND SUBSOIL.....	37
Topsoil Removal and Storage.....	37
VEGETATION.....	38
ENGINEERING.....	39
ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES	39
SPOIL AND WASTE MATERIALS	40

TABLE OF CONTENTS

Coal Mine Waste.....	40
Refuse Piles.....	45
HYDROLOGIC INFORMATION	46
General.....	46
Groundwater Monitoring	47
Acid- and Toxic-Forming Materials and Underground Development Waste	48
SUPPORT FACILITIES AND UTILITY INSTALLATIONS.....	48
SIGNS AND MARKERS.....	49
USE OF EXPLOSIVES.....	49
MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS.....	50
Affected Area Maps.....	50
Certification Requirements.....	50
RECLAMATION PLAN.....	51
GENERAL REQUIREMENTS.....	51
POSTMINING LAND USES.....	51
BACKFILLING AND GRADING.....	52
MINE OPENINGS.....	53
TOPSOIL AND SUBSOIL.....	54
Redistribution.....	54
REVEGETATION.....	55
STABILIZATION OF SURFACE AREAS.....	58
CESSATION OF OPERATIONS.....	59
MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS	60

TECHNICAL ANALYSIS

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.

INTRODUCTION

INTRODUCTION

On December 1, 2002 Co-op Mining Company submitted an amendment that included a reformatted MRP for the Bear Canyon Mine. The proposal is intended to parallel the format for the current coal rules. Five CD's and one hard copy of the amendment were provided for review. Both the electronic and hard copies have been filed with the Public Information Center. The reformatted MRP can also be accessed at the following location:

M:\FILES\COAL\PERMITS\015\C0150025\2002\INCOMING\PLAN\12032002

The Bear Canyon Mine should be given a significant amount of credit for submitting the first electronic copy of their MRP to the Division. This innovative step forward should set a positive example for the rest of the mining community to follow. Providing the Division with an electronic format should help expedite the reviewing process. A few helpful functions include:

- Easily viewed maps
- Search (find) functions
- Hyperlinks to tables, figure, and maps.

The Permittee consolidated information from Chapters 9 and 10 in the hardcopy MRP into Chapter 3 in the electronic copy MRP (eMRP). All related vegetation and wildlife tables, figures, plates, and appendices in chapter 3 have a number "3" prefix.

One suggestion for the eMRP is to modify the internal paths leading to the main bookmark menu. Currently, the reviewer must click "go to previous page" sometimes several times to return to the main bookmark menu.

The reformatted mining and reclamation plan pertains to five different areas of operation and reclamation. These are 1) the Bear Canyon Mine area (#1 Mine), 2) the Tank Seam area (#2 Mine), 3) the Wild Horse Ridge Blind Canyon seam (#3 Mine) area, 4) the Wild Horse Ridge Tank seam (#4 Mine) area, and 5) the Mohrland area. The new submittal addresses Engineering in Chapter 5, and is written with references to the relevant sections of the R645 coal rules. Every regulation which is pertinent to the Bear Canyon operation appears to have been addressed.

SUMMARY OF DEFICIENCIES

SUMMARY OF DEFICIENCIES 

The Technical analysis of the proposed permit changes cannot be completed at this time. Additional information is requested of the permittee to address deficiencies in the proposal. A summary of deficiencies is provided below. Additional comments and concerns may also be found within the analysis and findings made in this Draft Technical Analysis. Upon finalization of this review, any 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 and 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:

Regulations

R645-301-121.200, (1) Remove Plate 2-2F Ballpark Topsoil Pile Area **(2)** Provide electronic access to appendices 2-F & 2-G **(3)** In Section R645-301-240, page 2-34, the heading for Table 8.9.1 should be changed to Table 2-7 as referenced in the reformatted MRP..... 19

R645-301-121.200, The Permittee needs to (1) Either revise the statement in Section 729 or add the CHIA as Appendix 7-L **(2)** Include all water-rights information in Appendix C **(3)** Correct FIG 7A-2 of Appendix 7-A: the bottom section is labeled "...some carbon and shale" instead of "...some carbon and coal" **(4)** Show the "(Trace coal)" at 40 feet on FIG 7A-7 of Appendix 7-A **(5)** In Appendix 7-M, provide legible version of the June 24, 1993 sample at FBC-4, sample ID number and analysis report number (59-13225) on the first page of the lab sheet are not legible in the electronic MRP **(6)** In Appendix 7-M, collate the following lab reports into correct sequence; 59-13637 (pages 39 and 41) and 59-13474 (pages 38 and 40); UO08996 (pages 295 and 297) and UO09000 (pages 294 and 296); UO17431 (pages 304 and 306) and UO17430 (pages 305 and 307); In Appendix 7-M, include the second page of report 59-17762 (page 71); In Appendix 7-M, include the first page of report 59-13625 (page 211) **(7)** In Appendix 7-N, put the graph of the slug test at DH-3 in a logical sequence with the rest of the information **(8)** In Appendix 7-N-D, correctly label Table D-4 in Appendix 7-N-D as Birch Spring **(9)** In Appendix 7-N-F, provide the chart for "DH-4 Slug Test #2"-F **(10)** In Appendix 7-N, provide Plates 7N-3, 7N-4, and 7N-5. 28

SUMMARY OF DEFICIENCIES

R645-301-121.200, The Permittee needs to **(1)** Provide page 7F-72 in Appendix 7-F **(2)** Provide information in Appendix 7-G on the following watersheds, culverts, and diversions: AU-23A (current MRP page 7G-33A); AU-28A (current MRP page 7G-36A); C36-U through C-40U (current MRP page 7G-46); D-17D (current MRP page 7G-98); D-6U, additional minimum depth and freeboard information (current MRP page 7G-142); Determine the correct riprap size for C-37U on page 7G-89 in Appendix 7-G; Determine the correct minimum freeboard value for D-35U in Appendix 7-G; Determine the correct velocity for D-43U in Appendix 7-G **(3)** Determine the correct Peak Flow and T results for WS-27 on page 7H-15 in Appendix 7-H **(4)** Provide the channel cross-sections, shown on pages 7H-47 through 7H-50 of the current MRP, in Appendix 7-H **(5)** Provide information for RC-RD17 through RC-RD21 in the table on page 7H-76 Appendix 7-H **(6)** Provide information for RCC112 through RCC-15 in the table on page 7H-77 in Appendix 7-H **(7)** Determine the correct values for minimum depth, freeboard, and D_{50} (for steep slope?) for RC-RD21, on page 7H-114 in Appendix 7-H **(8)** Determine minimum riprap conditions for RCC-12, on page 7H-126 in Appendix 7-H **(9)** Determine minimum riprap conditions for RCC-13, on page 7H-127 in Appendix 7-H **(10)** Determine minimum riprap conditions for RCC-14, on page 7H-128 in Appendix 7-H **(11)** Determine minimum riprap conditions for RCC-15, on page 7H-129 in Appendix 7-H **(12)** In Appendix 7-O, provide page 7O-45..... 48

R645-301-121.200, The Permittee must **(1)** Clarify the inconsistency between species listed on page 3-23 and Table 3-3 **(2)** Clarify the inconsistency between statements written on page 3-23 and Table 3-6 **(3)** Clarify the inconsistency between statements written on page 3-32 and Table 3-7 **(4)** Clarify the inconsistency between statements written on page 3-36 and 3-41 **(5)** Remove one of the repeat pages and number sequential pages appropriately **(6)** Clarify mulch type and certification..... 58

R645-301-121.200, The Permittee must **(1)** Correct misspelled and misused words (appendix and table) **(2)** Remove duplicated submittals (appendix and table) **(3)** Adjust unopenable hyperlink functions **(4)** Address concerns with appendix 9-C..... 19

R645-301-121.200, The Permittee needs to **(1)** On page 6-13, refer to Plates 5-1A, 5-1B, and 5-1C as maps showing the mine workings, instead of Plates 5-4A, 5-4B, and 5-4C **(2)** On page 6-18, change the reference from Plate 3-4A to Plate 7-4 or any other plate in the electronic MRP that shows the locations of the boreholes. (Plates 3-4A, -4B, and -4C are not in the electronic MRP) **(3)** Establish the links from the text on page 6-20 to Appendix 7-N **(4)** Table 6-2 on page 6-11 in the electronic MRP did not scan correctly, does not make sense, and needs to be redone **(5)** The description of the Hiawatha Seam on page 6-12 in the electronic MRP has been truncated: the rest of the paragraph and the short paragraph that follows it – on page 6-19 of the current MRP - need to be incorporated into the electronic MRP **(6)** The reference to Table 3K-1 on page 6-16 (for parameters to be tested for roof, floor and mid-seam analyses) is invalid, and the correct table needs to be referenced. 22

SUMMARY OF DEFICIENCIES

R645-301-121.200, The Permittee needs to include electronic versions of Plates 6-1 through 6-16..... 30

R645-301-121.200, The Permittee needs to provide the latest versions of Plates 7-1B and 7-1E. 50

R645-301-121.200, The Permittee needs to review the entire submittal for scanning errors such as misspellings and make necessary corrections. 19

R645-301-131, The Permittee must include in the eMRP the survey methods and equations as provided in the hardcopy MRP. 24

R645-301-131, The Permittee must include, in the eMRP, the methodology for aquatic resources, and all of the results for terrestrial resources, wildlife resources , and threatened and endangered species..... 24

R645-301-140-142, The application must include information that demonstrates and or verifies that the requirements of this section of the regulations have been met. 20

R645-301-150-142, The application must include information that demonstrates and or verifies that the requirements of R645-3-1-130 and 140 of the regulations have been met. 21

R645-301-222.400, The Permittee should reference Appendix 2-E and 3-B as the location of the soils productivity information..... 25

R645-301-231.100, Amend Table 2-5 to show an increase in the Wild Horse Ridge Topsoil by 1,400 cu yds and remove the reference to the shower house pad topsoil stockpile from Table 2-5 and from the narrative in Section R645-301-231.400. 38

R645-301-231.400, Include the latest information for the WHR Tank Seam topsoil stockpile as received by the Division on July 3, 2001 (see section 8.9.5, page 8-34 of the approved plan as compared with page 2-27 of the reformatted plan)..... 38

R645-301-232.400, The Permittee is reminded that the Division will determine whether topsoil will not be removed at the site of small structures. Thus, the statement in the MRP pre-empts the Division’s decision-making ability and should be removed. 38

R645-301-232.500, The Permittee is reminded that the Division will determine whether subsoil will be segregated. Thus, the statement in the MRP pre-empts the Division’s decision-making ability and should be removed. 38

R645-301-240, (1) Appendix 4D of Chapter 4 is incorrectly named In-Place Plant Growth Material, but it contains Air Quality information. (2) Page 2-41 of Section R645-301-242

SUMMARY OF DEFICIENCIES

page 2-41 incorrectly refers the reader to Plate 2-2F Ballpark Topsoil Pile Area Map for the location of the topsoil salvaged from TS-13..... 54

R645-301-243, Section R645-301-341, page 3-41 indicates that fertilizers will be applied with the wood fiber mulch slurry. The Division does not recommend this practice. Fertilizer should be incorporated into the surface with gouging of the topsoil..... 54

R645-301-244, The Permittee should investigate the use of deep gouging (18 - 24 inches) over the reclaim site, rather than the 8 – 12 inch gouges described in Section 542.200. 59

R645-301-333, The Permittee must include the following to bring both MRP formats up to current standards: The use of deep gouging with incorporation of noxious weed-free hay/straw; The use of adequate mulch. 58

R645-301-333, The Permittee must resubmit the interim seed mix with an alternative for alfalfa –a nitrogen-fixing forb..... 39

R645-301-341.210, The Permittee should provide a planned application rate in pure live seed per square foot..... 39

R645-301-411.100, The Permittee must provide supporting narrative, analysis, and maps..... 25

R645-301-411; The Permittee did not add new information to this section. The eMRP, however, is missing related information from the following pages. 23

R645-301-510-516; the permittee needs to address sections 510-516 of the engineering regulations..... 39

R645-301-514, The reformatted submittal briefly addresses the engineering inspections required by the R645 coal rules and the 30 CFR Parts 75 and 77. However, the required inspections listed under R645-301-514 (excess spoil for earth and rock fills, foundation preparation, final surface drainage systems, final graded and revegetated fill, drainage systems and protective filter inspections, refuse pile and impoundment inspections during construction and quarterly as required) have not been specifically addressed. 44

R645-301-515.310; which requires a commitment from the permittee to meet all of the requirements in their approved mining and reclamation plan. 36

R645-301-515.311; The permittee needs to describe the actions he will take to secure surface facilities in areas where there are no current operations, but in which operations are to be resumed under an approved permit..... 36

SUMMARY OF DEFICIENCIES

- R645-301-528.320**, Section 528.320, page 5-25 indicates that “Tests have shown that the roof rock is not acid or toxic forming.” According to the recent samples reviewed in 2002 by the Division, this statement is no longer accurate and should be removed from the plan..... 44
- R645-301-528.321**, Coal mine waste from a “dry” process has been returned to the underground workings of the Bear Canyon #1 and #2 Mines. The statement made in section **528.321, Return of Coal Mine Processing Waste to “Abandoned” Underground Mines** is false for two reasons; a)crushed mine waste was placed on underground roadways as road base material, and b)the requirement of R645-301-536.520 as it relates to Disposal of Coal Mine Waste in Special Areas does not specifically refer to disposal in “**Abandoned**” mines. The #1 and #2 Mines were active when the reject was utilized as road base. The permittee must revise the text under 528.321 to correctly state that coal mine waste was disposed of underground as road base material. Also, clarification needs to be provided as to whether or not the permittee would use coal mine waste generated from #3 and #4 Mine product as road base within those Mines..... 45
- R645-301-529**, needs to be amended in two areas to properly address the requirements of the R645 coal rules. These areas are; 1) boreholes must be cemented for their entire depth to meet the requirements of R645-301-551, and two inch vent pipes must be extended above shaft caps for a height of fifteen feet above the cap to meet the requirements of R645-301-551. 301-551 is tied to the 30CFR75.1711-1 via R645-301-513.500..... 45
- R645-301-536.510**, The permittee needs to clarify in the reformatted version of the Bear Canyon mining and reclamation plan where the coal mine waste which **does not exhibit acid or toxic forming potentials** will be disposed of within the Hiawatha permit area (C/007/011). The Hiawatha permit area mining and reclamation plan should be checked to determine if that clarification exists within that plan, in order to comply with the requirements of the coal rules. 45
- R645-301-536.900**, **The statement that C.W. Mining currently has no refuse piles is ambiguous, and needs clarification.** The permittee has a Division approval to dispose of Bear Canyon coal mine waste/processing waste within the Hiawatha permit area (C/007/011). It is not known if there is an ownership and control tie between C.W. Mining Company and Hiawatha Coal Company. 46
- R645-301-542.200**, In Section 542.200 page 5-47 a reference is made to Appendix 7-K for information on deep gouging during Wild Horse Ridge reclamation. This reference may be inaccurate, as Appendix 7-K refers to the use of gouging only as part of the alternate sediment control during reclamation of BTCA “Z,” the ASCA for WHR topsoil stockpile area and conveyor access road slopes (pg 7K-31). Please check this reference. Also the narrative in Appendix 7K is repeated again in the Figures section and the Vegetation Monitoring information is presented twice in this Appendix as well. 59

SUMMARY OF DEFICIENCIES

R645-301-542.200, The statement on page 5-40 that coal fines will be removed from the surface of the reclaimed site with water hoses or by vacuuming until only 50% of the surface is coal fines should be reworded to indicate that coal fines and fragments will cover 10% or less of the surface on a pre-law site and will be completely covered on a post-law site (disturbed after August 1977)..... 44

R645-301-624.320 and -624.330, Roof, floor and coal analyses are found in Appendix 6-C for samples taken through 1995. This Appendix should be updated with recent sampling through 2002..... 44

R645-301-731.210, Cation-anion balance needs to be added to Table 7-13..... 48

R645-301-731.311, Appendices 6C and 5D should be updated to include all the sampling conducted of sediment pond sludge and in-mine roof, floor and coal analyses through 2002. 48

GENERAL CONTENTS

GENERAL CONTENTS

IDENTIFICATION OF INTERESTS

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

Analysis:

The Division conducted an examination of the Applicant Violator System for the Co-Op Mining Company by examining the organizational family tree on April 17, 2003.

The permittee submitted an Annual Report of Officers as submitted to the Utah Department of Commerce as part of the 2002 Annual Report, **APPENDIX C** to the Division on April 17, 2003.

A review of the currently approved mining and reclamation plan **Volume 1, Chapter 2, Ownership and Control, page 2-4, section 2.2.6, Business Designation**, designates C.W. Mining a corporation in the State of Utah, and the payer of the abandoned mine reclamation fee. A Federal identification number of the corporation is listed as 87-0399230. The applicant has reformatted this information to Chapter one.

The Officers and Directors listed within this same section of the application are identical to the information found in both the AVS check and the 2002 Annual Report of Officers to the Utah Department of Commerce.

Findings:

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

VIOLATION INFORMATION

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

Analysis:

There is one notice of violation pending # N03-40-01-01 related to the monitoring of wells SDH-2, SDH-3, MW114, and MW117. There are no abatement plans required by the notice other than to monitor in accordance with the approved MRP by no later than May 12,

GENERAL CONTENTS

2003. The notice of violation does not require any information to be incorporated into the approved MRP. Since the application was prepared on August 01, 2002 this violation was not included. Prior to final approval a copy of the violation and any pertinent information should be included in appendix 1-A. There have been no coal mining and reclamation operations in the name of Co-op Mining Company neither revoked or suspended nor has there been a performance bond forfeited in the five years preceding this review.

Findings:

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

RIGHT OF ENTRY

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

Analysis:

The right of entry is based on the following documents; Title or Title Insurance Policy, Deed or Trust Deed, Utah Business License, County Business License, Tax Commission License, and Coal Leases. This information was formerly included in chapter two.

A statement regarding the lease between C. O. P. and Co-Op to mine coal is provided for in Appendix 1-B, formerly included in chapter two. The letter is dated December 21, 1990 and notes that C. O. P. Coal Development Company is record of owner of the fee ground and Federal Coal leases 024316 and 024318. The property is leased to Co-op Mining Company for mining and related activities.

Findings:

The information provided in the application 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.

GENERAL CONTENTS

Analysis:

The legal description for the Bear Canyon and Wildhorse Ridge facilities is provided for in the reformatted application. The description is accurate and matches the legal description provided for in the former MRP.

Chapter 5, page 5-5, section 521.133.1 indicates that it has no operations within 100 feet of public land or a public road.

Findings:

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

PERMIT RM

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

Analysis:

The permit term is for five years with the consecutive right of renewal. The permit renewal was issued in November 1, 2000 and expires November 1, 2005. The surface acreage disturbed by the mine encompasses approximately 24.92 acres and is provided for in table 1-4. Mining is expected to last for 33 years approximately 2012 with a mineable reserve of 18 million tons of coal in the Blackhawk formation. Plates 1-1 and 5-2 identify the reserves.

Findings:

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

PUBLIC NOTICE AND MMENT

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

Analysis:

Proof of publication is provided for in Appendix 1-D. The public notice was filed as an advertisement with the Emery county Progress and Salt Lake Tribune in accordance with the R645 rules and contains the required information. The current general liability insurance provides effective coverage for the permittee through January 1, 2004. An aggregate amount of

GENERAL CONTENTS

\$2,000,000 is provided for bodily injury and property damage; \$1,000,000 is the amount of provided coverage for each occurrence.

Findings:

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

FILING FEE

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

Analysis:

A filing fee is not required for this type of application.

Findings:

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

PERMIT APPLICATION FORMAT AND CONTENTS

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

Analysis:

After viewing quick links to appendices and other connections within the document, the viewer must use the document button on the tool bar to return to the main document.

Soils information previously located in Chapter 8 and Appendices is now found in Chapter 2 and Appendices, consequently all the maps and table numbers begin with 2. An .xls file accompanying the submittal provides a quick check to the changes made in Plate and Appendix titles. The Division has created the cross-references for the narrative sections and table for use when reading the previous technical reviews.

The .xls file included with the Public information Center copy of the submittal provides a cross reference for new and old plate numbers and new plate titles. It is reprinted below with map titles added by the Division. New listings are in bold. This .xls file is not found on the other electronic copies of the submittal or in the hard copy.

GENERAL CONTENTS

Plate 2-1A	Formerly 8-1	Soils Map (Main Area)
Plate 2-1B	Formerly 8-1A	Soils Map (WHR Area)
Plate 2-2A	Formerly 8-2	Main Topsoil Stockpile Area
Plate 2-2B	Formerly 8.7	WHR Topsoil Stockpile Area
Plate 2-2C	Created for WHR Tank Seam	WHR Tank Seam Topsoil
Plate 2-2D	Created for Mohrland	Mohrland Topsoil Stockpile Area
Plate 2-2E	Formerly 8-6	Tank Seam Road Topsoil Stockpile
Plate 2-2F	Formerly 8.4	Ballpark Topsoil Pile Area
Plate 2-3A	Formerly 8-5A	Reclamation Area (TS 1 & 2 Ballpark Area)
Plate 2-3B	Formerly 8-5B	Reclamation Area (TS 2, 3, 4, & 9, Shower House Area)
Plate 2-3C	Formerly 8-5C	Reclamation Area (TS 5-8, Load-out Area)
Plate 2-3D	Formerly 8-5D	Reclamation Area (TS 6, Mine Access Road Area)
Plate 2-3E	Formerly 8-5E	Reclamation Area (TS 10 & 11, Tank Seam Portal Area)
Plate 2-3F	Formerly 8-5F	Reclamation Area (TS 12 & 13, WHR Access Road Area)
Plate 2-3G	Formerly 8-5G	Reclamation Area (TS 12, 14, 15, 16, & 17, WHR Portal Area)
Plates 5-2 series	Formerly 2-4 series	Surface Facilities Blind Canyon

Plates in Chapter 2 (Soils) of the document are exactly the same as the existing MRP with one exception, Plates 2-2C (WHR Tank Seam Topsoil Stockpile Area) and 2-2D (Mohrland Topsoil Stockpile Area) are new listings and neither could be accessed. Apparently they have not been created yet.

Plate 2-2F Ballpark Topsoil Pile Area has been retained in the new format, however the Division approved the removal of the Ballpark from the disturbed area in 2001. In fact, Table 2-5, Topsoil Summary, does not include the Ball Park soils for use as substitute topsoil during final reclamation. Therefore inclusion of this Plate is confusing to the reader.

The .xls file included with the submittal provides new appendix numbers. For information pertinent to soils of the site, a cross-reference is reprinted the table below. There are no new listings of appendices for soils information.

Appendix 2-A	Formerly 8A	Soil Test Reports
Appendix 2-B	Formerly 8C	Prime Farm Lands
Appendix 2-C	Formerly 8D	Substitute Topsoil Material (Downcast)
Appendix 2-D	Formerly 8E	In-Place Plant Growth Material
Appendix 2-E	Formerly 8B	SCS Soil Survey
Appendix 2-F	Formerly 8F	WHR Soil Resource Inventory and Assessment

GENERAL CONTENTS

Appendix 2-G	Formerly 8G	WHR Tank Seam Soil Resource Inventory and Assessment
Appendix 5-I	Formerly 3-L	Cut & Fill calculations (for areas TS3-9)
Appendix 5-K	Formerly 3-P	WHR Tank Seam Pad and Access Road
Appendix 5O	Formerly 3-K	Sediment Pond Material
Appendix 7K	Formerly 7K	Alternate Sediment Control Areas (includes topsoil piles)
Appendix 5D	Formerly 3-E	Toxic Materials & Handling

Appendices 2-F & 2-G could not be accessed in the electronic format.

The .xls file included with the submittal did not itemize changes to the tables. Tables in Chapter 2 (Soils) of the document are exactly the same as the existing MRP with one exception, the Analytical Parameters For Baseline Soil Data Table 8.8-1 has been replaced with two tables (Table 2-4a and 2-4b) that were taken from the January 2003 DRAFT Division Soils Guidelines for Management of Topsoil and Overburden. Table 8.9.1 did not get its heading changed to Table 2-7 as referenced in the reformatted MRP. Below is a cross-reference of the current and previous table numbers and new table titles in Chapter 2 of the document:

Table 2-1	Formerly 8.3-1	Soil Map Units
Table 2-2	Formerly 8.3-2	Soil Unit Acreage Within the Disturbed Area
Table 2-3	Formerly 8.9-2	Available Substitute Topsoil Material
Table 2-4a	Replaced 8.8-1	Analytical Methods for Baseline Soils Data
Table 2-4b	Replaced 8.8-1	Additional Analyses Required for Substitute Topsoil, Overburden, Spoil and Coal Mine Waste
Table 2-5	Formerly 8.9-5	Topsoil Summary Table
Table 2-6	Formerly 8.9-4	Ball Park Seed List
Table 2-7	Formerly 8.9-1	Reclamation Area Summary
Table 2-8	Formerly 8.9-3	Substitute Topsoil Summary
Table 2-9	Formerly 8.11-1	Final Grading Test Sample Density
Table 5K-1	Formerly Table 3P-1	WHR Tank Seam Topsoil Recovery
Table 5O-1	Formerly Table 3K-1	Analytical Parameters for Overburden (in Appendix 5O)

Figures 2-1 and 2-2 in Chapter 2 are the same as Figures 8.9-1 (Photographs of the Ball Park Area) and 8.9-2 (Ball Park Topsoil Storage Pile) in the approved MRP.

The .xls file included with the submittal did not cross reference changes to the narrative. Below is a cross-reference of the current and previous narrative sections pertaining to the soils resource information, topsoil and subsoil operations plan, soils redistribution plan, and stabilization plans.

Section R645-301-221	Formerly 8-6	Prime Farm Lands
Section R645-301-222	Formerly 8-1 & 8-2	Soil Survey
Section R645-301-222.100	Formerly 8-1	Soil Maps

GENERAL CONTENTS

Section R645-301-222.200	Formerly 8-3	Soil Identification
Section R645-301-222.300	Formerly 8-3	Soil description
Section R645-301-222.400	No previous reference	Soil Productivity
Section R645-301-223	Formerly 8-7 and 8.7-1	Soil Characterization
Section R645-301-224	Formerly 8.9-1	Substitute Topsoil
Section R645-301-230	Formerly 8.8.1.1	Operation Plan
Section R645-301-231	Formerly 8.8.1.1	General Requirements
Section R645-301-231.100	Formerly 8.8.1.1 and 8.8.1.2 & 8.9.7	Topsoil Removing and Storing
Section R645-301-231.300	Formerly 8.11	Soil Testing Plan
Section R645-301-231.400	Formerly 8.9, 8.9.2 through 8.9.6	Construction, Modification and Maintenance
Section R645-301-232	No previous reference	Topsoil and Subsoil Removal
Section R645-301-232.100	Formerly 3.5.4.2	Topsoil Removal Prior to Disturbance
Section R645-301-232.200	No previous reference	Insufficient Topsoil
Section R645-301-232.300	No previous reference	Topsoil Material Less Than 6" Thick
Section R645-301-232.400	No previous reference	Area where topsoil will not be recovered
Section R645-301-232.500	No previous reference	Subsoil Segregation
Section R645-301-232.600	No previous reference	Timings
Section R645-301-233	Formerly 8.9	Topsoil Substitutes and Supplements
Section R645-301-234	Formerly 8.8.1.3	Topsoil Storage
Section R645-301-240	Formerly 8.9.1	Reclamation Plan
Section R645-301-241	No previous reference	General Requirements
Section R645-301-242	Formerly 8.10	Soil Redistribution
Section R645-301-243	Formerly 8.11	Soil Nutrients and Amendments
Section R645-301-244	Formerly 8.5	Soil Stabilization
Section R645-301-250	Formerly 8.4	Performance Standards

Cross-reference charts are key to the understanding of previous technical memos on the Bear Canyon Mining and Reclamation Plan. **The Division should attach these cross-reference charts to previous Technical Analysis for the Bear Canyon Mine on file in the Public Information Center.**

Scanning has introduced some "typographic" errors, such as on page 7-30:

"...exceeded the drinking water tandards (sic) of the U.S. Environmental Protection Agency (1976). ...Tar (sic) from the Star Point commonly contains slightly higher concentrations of both dissolved solids and sulfate than water from younger rocks in the area."

The Division did not closely check the entire MRP for such slips, but the Permittee needs to review the entire submittal for these scanning errors and make necessary corrections.

GENERAL CONTENTS

The following table shows the new and old appendix numbers as well as the appendix title:

NEW	OLD	TITLE
Appendix 3-A	Appendix 9-A	Vegetation analysis of reference areas
Appendix 3-B	Appendix 9-B	Miscellaneous data
<i>Not included</i>	<i>Appendix 9-C</i>	<i>Vegetation monitoring</i>
Appendix 3-C	Appendix 9-D	Shower house pad veg. reference area
Appendix 3-D	Appendix 9-E	Tank seam access road vegetation
Appendix 3-E	Appendix 9-F	Vegetation studies for the fed. lease area
Appendix 3-F	Appendix 9-G	Vegetation sampling in the wild horse “ride” area
Appendix 3-G	Appendix 9-H	Vegetation sampling in the wild horse tank seam area
<i>Appendix 3-H</i>	<i>New submittal</i>	<i>Morland vegetation study</i>
Appendix 3-I	Appendix 10-A	Fish and wildlife resource information
Appendix 3-J	Appendix 10-B	Mitigation and impact avoidance procedure, general to all
Appendix 3-K	Appendix 10-C	Vertebrate species of southeastern Utah
<i>Appendix 3-L</i>	<i>New submittal</i>	<i>Wildlife survey information</i>

Appendix 3-A contains several sections:

- Vegetation analysis of reference areas.
- Vegetation “sapling” of tank seam access road.
- Letter from USDA Soil conservation service – production evaluation.

The Permittee must correct the misused word in the title “Vegetation sapling of tank seam access road” and remove the duplicated letter in Appendix 3-B (R645-301-121.200). Appendices 3-E, G, H, and L are currently unopenable (R645-301-121.200). The hardcopy MRP states that Appendix 9-C would be incorporated after 1991 (pg. 9-10A), however, this appendix/information is not included in either the hardcopy MRP or eMRP. The Permittee must clarify the reason for the omission of *Vegetation monitoring survey* in either format (R645-301-121.200).

The following table shows the new and old table numbers as well as the table title:

NEW	OLD	TITLE
Table 3-1	Table 9.3-1	Vegetation types
Table 3-2	Table 9.2-1	Vegetation reference areas
<i>Table 3-3</i>	<i>New submittal</i>	<i>Recommended seed mix for interim reclamation</i>
Table 3-4	Table 9.5-2	Suggested ratios of tack to fiber for hydroseeding
Table 3-5	Table 9.5-1	Revegetation schedule
Table 3-6	Table 9.5-2	Recommended seed mix for riparian-creek bottom
<i>Table 3-7</i>	<i>Table 3-7</i>	<i>Recommended seed mix for pinyon juniper grass</i>
<i>Table 3-8</i>	<i>Table 3-8</i>	<i>Suggested ratios of tack to fiber</i>

The Permittee must correct the misspelled word in the table menu (R645-301-121.200). Note, that there are two – Table 9.5-2 in the hardcopy MRP. Tables 3-3, -7, and -8 are new

GENERAL CONTENTS

submittals. Table 3-4 and 3-8 are similar. The Permittee must clarify the reason for this repeated insert (R645-301-121.200).

The following table shows the new and old figure numbers as well as the figure title:

NEW	OLD	TITLE
Figure 3-1	Figure 10-1	Endangered mammalian species in relation to permit area
Figure 3-2	Figure 9-19	Correct planting procedures
Figure 3-3	Figure 9-20	Seedling storage

The following table shows the new and old plate numbers as well as the plate title:

NEW	OLD	TITLE
Plate 3-1	Plate 9-1	Vegetation map
Plate 3-2	Plate 10-1	Wildlife use area
Plate 3E-1	Plate 9F-1	Vegetation resources map for federal lease area

Findings:

The information provided does not meet the minimum general contents requirements of the Regulations. Prior to approval, the Permittee must provide the following, in accordance with:

R645-301-121.200, (1) Remove Plate 2-2F Ballpark Topsoil Pile Area **(2)** Provide electronic access to appendices 2-F & 2-G **(3)** In Section R645-301-240, page 2-34, the heading for Table 8.9.1 should be changed to Table 2-7 as referenced in the reformatted MRP.

R645-301-121.200, The Permittee needs to review the entire submittal for scanning errors such as misspellings and make necessary corrections.

R645-301-121.200, The Permittee must **(1)** Correct misspelled and misused words (appendix and table) **(2)** Remove duplicated submittals (appendix and table) **(3)** Adjust unopenable hyperlink functions **(4)** Address concerns with appendix 9-C.

REPORTING OF TECHNICAL DATA

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

Analysis:

The application is formatted in accordance with the R645 coal rules.

Findings:

The information provided in the application 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:

The applicant has indicated that is not necessary to address this section of the regulations. The application should provide information that verifies that maps and plans are included or updated as required.

Findings:

The information provided in the application is not adequate to meet the requirements of this section of the regulations. Prior to final approval the applicant must provide the following in accordance with:

R645-301-140-142, The application must include information that demonstrates and or verifies that the requirements of this section of the regulations have been met.

COMPLETENESS

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

Analysis:

There are several sections contained in R645-301 that have not been addressed.

GENERAL CONTENTS

Findings:

The information provided in the application is not adequate to meet the requirements of this section of the regulations. Prior to final approval the applicant must provide the following in accordance with:

R645-301-150-142, The application must include information that demonstrates and or verifies that the requirements of R645-3-1-130 and 140 of the regulations have been met.

ENVIRONMENTAL RESOURCE INFORMATION

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

GENERAL

Regulatory Reference: 30 CFR 783.12; R645-301-411, -301-521, -301-721.

Analysis:

Except for a few short paragraphs that refer to other parts of the MRP and have become outmoded with the electronic format for the MRP, basically all information from the text of Chapter 6 of the current MRP, including the appendices, has been incorporated into the electronic MRP. However, there are some corrections needed.

On page 6-13 of the electronic MRP, Plates 5-4A, 5-4B, and 5-4C are listed as maps showing the mine workings: this should list Plates 5-1A, 5-1B, and 5-1C.

On page 6-18 of the electronic MRP, Plate 3-4A is identified as showing locations for the bore holes: Plates 3-4A, -4B, and -4C are not in the electronic MRP and reference should be to Plate 7-4 or another plate in the electronic MRP that shows the locations of these boreholes.

The links from the text on page 6-20 to Appendix 7-N do not function.

Table 6-2 on page 6-11 in the electronic MRP did not scan correctly and does not make sense.

The description of the Hiawatha Seam on page 6-12 in the electronic MRP has been truncated: the rest of the paragraph and the short paragraph that follows it – on page 6-19 of the current MRP - need to be incorporated into the electronic MRP.

GENERAL CONTENTS

The reference to Table 3K-1 on page 6-16 for parameters to be tested for roof, floor and mid-seam analyses is invalid: Appendix 3K now contains information on vertebrates of Utah.

Findings:

R645-301-121.200, The Permittee needs to **(1)** On page 6-13, refer to Plates 5-1A, 5-1B, and 5-1C as maps showing the mine workings, instead of Plates 5-4A, 5-4B, and 5-4C **(2)** On page 6-18, change the reference from Plate 3-4A to Plate 7-4 or any other plate in the electronic MRP that shows the locations of the boreholes. (Plates 3-4A, -4B, and -4C are not in the electronic MRP) **(3)** Establish the links from the text on page 6-20 to Appendix 7-N **(4)** Table 6-2 on page 6-11 in the electronic MRP did not scan correctly, does not make sense, and needs to be redone **(5)** The description of the Hiawatha Seam on page 6-12 in the electronic MRP has been truncated: the rest of the paragraph and the short paragraph that follows it – on page 6-19 of the current MRP - need to be incorporated into the electronic MRP **(6)** The reference to Table 3K-1 on page 6-16 (for parameters to be tested for roof, floor and mid-seam analyses) is invalid, and the correct table needs to be referenced.

HISTORIC AND ARCHEOLOGICAL RESOURCE FORMATION

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

Analysis:

The Permittee did not add new information to this section. The eMRP, however, is missing related information from the following pages:

Hardcopy Pages	Related Information
5-1 through 5-3	Location of the mine site and a brief on its historic land use dating back to the Holocene epoch

The Permittee renumbered Appendix 5-A to Appendix 4A. Senco Phenix Company conducted this survey in 1984. The title of the survey is: “Archeological sampling survey of the bear canyon mine lease extension performed for the bear canyon/co-op mine through environmental industrial supply”.

Findings:

Information provided in the application is not considered adequate to meet the minimum Historic and Archeological Resource Information section of the Environmental Resource

GENERAL CONTENTS

Information regulations. Prior to approval the permittee must provide the following in accordance with:

R645-301-411; The Permittee did not add new information to this section. The eMRP, however, is missing related information from the following pages.

Hardcopy Pages	Related Information
5-1 through 5-3	Location of the mine site and a brief on its historic land use dating back to the Holocene epoch

VEGETATION RESOURCE  INFORMATION

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

Analysis:

The Permittee provides a vegetation community-type survey conducted under the guidance of Mel Coonrod in 1983. The hardcopy MRP also provides surveys conducted by Patrick Collins for the shower house pad reference area, tank seam access road reference area, and the wildhorse ridge references area. The presentation of these surveys in the hardcopy MRP is disconnected, but somewhat provides scope, methods, equations, and results. The eMRP does not include Coonrod's methods or equations (pgs. 9-1 through 9-6). The eMRP, however, includes that the Collins' study was conducted in 1996. The Permittee must include in the eMRP the missing methods and equations used by Coonrod and Collins' (R645-301-131).

The hardcopy MRP states that aerial photographs will be taken every five years to evaluate the effects of subsidence on vegetation – as required by a lease stipulation (pg. 9-10A). The Permittee committed to incorporating the results of the evaluation in Appendix 9-C after 1991. Neither the hardcopy MRP nor eMRP include this appendix/information. The Permittee must clarify the reason for the omission of *Vegetation monitoring* from either format. (refer to R645-301-121.200 under Permit Application Format and Contents).

Currently, the eMRP section “Mohrland Vegetation” was left intentionally blank (pg. 3-8).

Findings:

The information provided is not adequate to meet the requirements of this section of the regulations. Prior to approval the applicant must provide the following in accordance with;

R645-301-131, The Permittee must include in the eMRP the survey methods and equations as provided in the hardcopy MRP.

FISH AND WILDLIFE RESOURCE FORMATION

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

Analysis:

The hardcopy MRP refers to a wildlife surveys that included input from DWR. The consultants that managed the surveys and the dates of the surveys, however, were not included (pg. 10-1). The surveys included methodology for aquatic resources, and results for terrestrial resources, wildlife resources, threatened and endangered species, raptors, as well as expected impacts of mining operations on fish and wildlife.

The eMRP did not address matters relating to the deficiencies found in the hardcopy MRP. The eMRP did not incorporate many related sections from the hardcopy MRP including the methodology for aquatic resources, or most of the results for terrestrial resources, wildlife resources, and threatened and endangered species (pgs. 10-2 through 10-13). The Permittee must include, in the eMRP, all the omitted sections (R645-301-131).

Findings:

The information provided is not adequate to meet the requirements of this section of the regulations. Prior to approval the applicant must provide the following in accordance with;

R645-301-131, The Permittee must include, in the eMRP, the methodology for aquatic resources, and all of the results for terrestrial resources, wildlife resources, and threatened and endangered species.

SOILS RESOURCE FORMATION

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:

For the most part, soils information has not changed since the last submittal two major soil amendments were received AM01A in 2001 and AM03B in 2003. This new submittal indicates that soil productivity information is found in Appendices 2-C through 2-F. The Division found productivity information in Appendix 2-E, SCS Soil Survey and Appendix 3-B Miscellaneous Vegetation Information.

GENERAL CONTENTS

Findings:

The information provided does not meet the minimum soils resource information requirements of the Regulations. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-222.400, The Permittee should reference Appendix 2-E and 3-B as the location of the soils productivity information.

LAND-USE RESOURCE  INFORMATION

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

Analysis:

The Permittee did not add new information to this section. The eMRP, however, is missing related information from the following pages:

Hardcopy Pages	Related Information
4-2 through 4-4; 4-6	Ownership properties, surface managing authorities, utility corridors, special permits, mineral ownerships, coal ownership, mining leases, and existing use. All sections referenced in Chapter 8 of eMRP.

The Permittee briefly mentions the present capability and productivity of the land (pg. 4-2). The eMRP, however, does not provide supporting analysis and maps of the condition and capability of the land that may be affected by operations and reclamation. The Permittee must provide supporting narrative, analysis, and maps addressing all subsections of R645-301-411.100.

Both the electronic and hard copies of the reformatted Mining and Reclamation Plan have been filed with the Public Information Center. (However, the PIC copy of the CD was not readable by my computer.) The reformatted MRP can also be accessed at the following location: M:\FILES\COAL\PERMITS\015\C0150025\2002\INCOMING\PLAN\12032002

Findings:

Information provided in the application is not considered adequate to meet the minimum Land-use Resource Information section of the Environmental Resource Information regulations. Prior to approval, the Permittee must act in accordance with the following:

R645-301-411.100, The Permittee must provide supporting narrative, analysis, and maps.

PRIME RMLAND

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

Analysis:

There has been no change to the information provided previously.

Findings:

The Division concurs with the Natural Resources Conservation Service that there are no prime farmlands within the disturbed area.

HYDROLOGIC RESOURCE INFORMATION

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

Analysis:

Basically all information from the text of Chapter 7 of the current MRP, including the appendices, has been incorporated into the electronic MRP. However, there are some corrections needed.

Appendix 7-A

- FIG 7A-2: the bottom section is labeled "...some carbon and shale" instead of "...some carbon and coal";
- FIG 7A-7: "(Trace coal)" at 40 feet is not shown.

Appendix 7-M:

- For the June 24, 1993 sample at FBC-4, sample ID number and analysis report number (59-13225) on the first page of the lab sheet are not legible in the electronic MRP;
- Some lab reports are intermixed or out of sequence in the electronic MRP:
 - 59-13637 (pages 39 and 41) and 59-13474 (pages 38 and 40);
 - UO08996 (pages 295 and 297) and UO09000 (pages 294 and 296);

GENERAL CONTENTS

- UO17431 (pages 304 and 306) and UO17430 (pages 305 and 307);
- The second page of report 59-17762 (page 71) is missing in both the current MRP and electronic MRP;
- The first page of report 59-13625 (page 211) is missing in the electronic MRP.

Appendix 7-N

- The graph of the slug test at DH-3 is out of place;
- Table D-4 in Appendix 7-N-D in the electronic MRP is incorrectly labeled Big Bear Spring (instead of Birch Spring);
- The chart for “DH-4 Slug Test #2” is missing from Appendix 7-N-F in the electronic MRP;
- Plates 7N-3, 7N-4, and 7N-5 are missing from the electronic MRP.

Baseline ormation

Only a fraction of the water rights information has been included in Appendix 7-C.

Baseline Cumulative Impact Area ormation

Section 729 of the electronic MRP refers to Appendix 7-L as the location of the CHIA. Appendix 7-L, the Gentry Mountain Cumulative Hydrologic Impact Assessment (CHIA), has been omitted from the electronic MRP. This findings document is prepared by the Division and inclusion of the CHIA in the MRP is not necessary; however, either the statement in Section 729 needs to be revised or the current CHIA needs to be added to the electronic MRP.

Probable Hydrologic Consequences ermination

Section 728 of the electronic MRP refers to Appendix 7-J, which contains the PHC determination.

Findings:

R645-301-121.200, The Permittee needs to **(1)** Either revise the statement in Section 729 or add the CHIA as Appendix 7-L **(2)** Include all water-rights information in Appendix C **(3)** Correct FIG 7A-2 of Appendix 7-A: the bottom section is labeled “...some carbon and shale” instead of “...some carbon and coal” **(4)** Show the “(Trace coal)” at 40 feet on FIG 7A-7 of Appendix 7-A **(5)** In Appendix 7-M,

GENERAL CONTENTS

provide legible version of the June 24, 1993 sample at FBC-4, sample ID number and analysis report number (59-13225) on the first page of the lab sheet are not legible in the electronic MRP (6) In Appendix 7-M, collate the following lab reports into correct sequence; 59-13637 (pages 39 and 41) and 59-13474 (pages 38 and 40); UO08996 (pages 295 and 297) and UO09000 (pages 294 and 296); UO17431 (pages 304 and 306) and UO17430 (pages 305 and 307); In Appendix 7-M, include the second page of report 59-17762 (page 71); In Appendix 7-M, include the first page of report 59-13625 (page 211) (7) In Appendix 7-N, put the graph of the slug test at DH-3 in a logical sequence with the rest of the information (8) In Appendix 7-N-D, correctly label Table D-4 in Appendix 7-N-D as Birch Spring (9) In Appendix 7-N-F, provide the chart for "DH-4 Slug Test #2"-F (10) In Appendix 7-N, provide Plates 7N-3, 7N-4, and 7N-5.

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:

Affected Area Boundary ps

The reformatted version of the mine plan includes maps which accurately reflect the existing surface configuration of the Mines disturbed area.

The boundary of all disturbed and proposed disturbed areas are shown on Plates 5-2A through 5-2H. The areas that are to be mined and the sequence and timing of mining are on Plates 5-1A, 1B, and 1-C. The currently approved mining and reclamation plan includes a Plate 5-1A, which shows the current mining projection the #3 Mine (Wild Horse Ridge addition) in the Blind canyon seam. It is not known if Plates 5-1B and 1C (Tank seam) actually exist at this point as it is not known if a projection exists for the #4 Mine (Tank seam, Wild Horse Ridge addition). It seems likely that Plate 5-1B would project coal extraction in the Hiawatha seam of the Wild Horse Ridge area. Based on information contained on page 5-9, the Hiawatha seam exists in the WHR addition, however the thickness of the seam in the WHR area is thin and not economically recoverable. The boundary showing all areas that may be affected by mining is shown on Plate 2-1, (Permit Boundary). Plate 5-1A is P.E. certified by Mr. Charles Reynolds. Chapter 5, page 5-5, section 521.131 indicates that all boundaries of land, and names of present owners of record of those lands, both surface and subsurface are shown on Plates 1-2 and 1-3. Boundaries of Land C.W. Mining has Right of Entry to are also shown on Plates 1-2 and 1-3. Same are P. E. certified by Mr. Charles Reynolds.

GENERAL CONTENTS

Coal Resource and Geologic Information ps

New Plates 6-6, 6-7, 6-8, and 6-9 have not been included in the electronic MRP submittal. Information sent with the submittal indicates that the other maps – Plates 6-1 through 6-5 and 6-10 through 6-16 – are to cover an extended area; only Plate 6-1 was submitted with the electronic MRP, and it is password protected and cannot be viewed.

Existing Structures and Facilities ps

Chapter 5, page 5-4, indicates that the location of all buildings, surface and sub-surface man made features, public roads, waste piles, sediment ponds, and water impoundments are shown on Plate 5-2. Plates 5-2A through 5-2H are the surface facilities maps for the Bear Canyon Mines. All are P.E. certified by Mr. Charles Reynolds.

Plates 5-2A through 2H (Surface Facilities maps) classify and designate the roads within the Bear Canyon permit area. Road details are shown on Plates 5-4 and on the cross sections in Appendices 5-H, 5-I, 5-J, 5-K, and 5-L. Road construction details can be found in Appendices 5-F and 5-G.

Mine Workings ps

Chapter 5, page 5-4 addresses this requirement by indicating that the extent and the location of known workings of active, inactive, and abandoned underground mines are shown on Plate 5-1. R645-301-521.112 has been addressed under 521.110. Underground workings and areas where planned subsidence will occur are depicted on Plate 5-1A

Monitoring and Sampling Location ps

Subsidence is discussed in greater detail in section R645-301-525. The permittee has monitored twenty-one points for deflection over the #1 and #2 Mines for several years. The largest amount of heave or sag reported during 2002 was -0.97 feet at SMS-2 and +0.59 feet of heave reported at SMS-15. Nineteen new monitoring points have been installed adjacent to the #1 and #2 Mines to monitor mining impacts (points 500-519). The permittee has also installed points 520 through 545 to monitor subsidence in the Wild Horse Ridge area. To date, only development mining is occurring in the #3 Mine. The #4 Mine is having the surface access developed. Plate 3-3 shows the location of each of the subsidence monitoring points which will be reporting information in the future.

Permit Area Boundary  ps

Plates 5-2A through 2H are the surface facilities maps depicting the operational phase of the Bear Canyon operation, Mines 1,2,3, and 4. Cross section details are shown on Plate 5-8 and in Appendices 5-H, 5-I, 5-J, 5-K, and 5-L. The location maps for the cross sections are designated as Plates 2-3, 5-6, and 5-7.

Findings:

R645-301-121.200, The Permittee needs to include electronic versions of Plates 6-1 through 6-16.

OPERATION PLAN

OPERATION PLAN

MINING OPERATIONS AND CILITIES

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

Analysis:

The permittee utilizes roll-off metal dumpsters as well as smaller (flip over the truck cab type) dumpsters for the temporary storage of noncoal mine waste within the Bear Canyon permit area. The dumpsters are strategically located about the disturbed area based upon need and management decision, and as such are not depicted on the Surface Facilities PLATES 5-2A through 5-2H. The permittee utilizes the services of a local trash contractor to haul the noncoal waste off site to the Emery County landfill. Appendix 5-D addresses the approved plan to handle toxic or contaminated material.

Page 5-28 of Chapter 5, section **528.340, Underground Development Waste** addresses that area of mining which produces coal waste that is generally not brought out of the Bear Canyon Mines. Activities which would produce underground development waste would include the construction of ventilation overcasts, conveyor transfer points, etc. The material would generally be disposed of underground, where approved by MSHA, or would be used to fill in low areas, or to reduce resistance in the ventilation circuits by streamlining air flow over ventilation devices such as overcasts. Most mine development waste is never brought to the surface. The reformatted text indicates that this same process will be followed for all future development waste.

Chapter 5, page 5-28 section 528.400 discusses the four sediment ponds which provide the sediment control for the Bear Canyon disturbed area. Ponds A, B, and D utilize dams or embankments (pond "D", WHR addition, actually uses the constructed pad out by the portals as the embankment) to provide the impounding structure for containment. Pond "C" is an incised structure located down gradient of the bath house building and its associated parking area. All embankments have a safety factor which equals or exceeds the required standard of 1.3.

Findings:

The reformatted submittal (AM03-A) meets the minimum regulatory requirements of R645-301-528.330.

PROTECTION OF PUBLIC PARKS AND HISTORIC ACES

Regulatory Reference: 30 CFR784.17; R645-301-411.

Analysis:

There are no public parks within the permit area.

The Permittee did not add new information to this section. The eMRP, however, is missing related information from the following pages:

Hardcopy Pages	Related Information
4-10	Effect of operation on adjacent and onsite land use.
4-10	Mitigation of effects of operation. Section referenced in other chapters of eMRP.

The MRP states that the Bear Creek rock shelter (site 42EM1572) is the only site within the permit area that meets the National Register Criteria of Eligibility.

Findings:

Information provided in the application is not considered adequate to meet the minimum Protection of Public Parks and Historic Places section of the Operation Plan regulations. Prior to approval the permitte must provide the following in accordance with **R645-301-411**; The Permittee did not add new information to this section. The eMRP, however, is missing related information from the following pages:

Hardcopy Pages	Related Information
4-10	Effect of operation on adjacent and onsite land use.
4-10	Mitigation of effects of operation. Section referenced in other chapters of eMRP.

COAL COVERY

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

Analysis:

All coal extraction at CO-OP Mining Company is achieved using continuous miners, with shuttle cars or battery coal haulers transporting the coal from the face area to the underground conveyor dump point. Roof support is accomplished with roof bolters on

OPERATION PLAN

development or initial extraction. Timbers and mobile roof supports, as well as the roof bolting machine are used during the secondary extraction or retreat mining process. Other mining machines used at the Bear Canyon operation include scoops, rock dusting machines, and assorted service equipment.

The retreat mining process recovers between 70 and 80 percent of the reserve. Where development mining is practiced under escarpments, no secondary extraction is practiced.

As economically recoverable seams over lie one another in the Bear Canyon area, pillars are stacked on top of one another to the extent possible. This allows for maximum recovery of the reserve by utilizing accepted ground control methods for multiple seam mining.

Figures 5-1 and 5-2 depict the typical secondary extraction process practiced at the Bear Canyon operation. All development and retreat mining is practiced utilizing a roof and rib control plan approved by the U.S. Department of Labor, Mine Safety and Health Administration.

Page 5-13 of Chapter 5 discusses the ventilation of the Mines. This aspect of the mining process is also regulated by MSHA.

Ground water collected in the Mines is either used for dust suppression at the faces or at underground conveyor transfers. This is also approved and regulated by MSHA under the aforementioned ventilation and dust control plan.

Excess intercepted ground water is discharged to Bear Creek through the approved UPDES permit issued by the Utah Division of Water Quality. (See Appendix 7-B.)

There are no surface coal mining or reclamation activities proposed within 500 feet of the current underground workings.

Page 5-9 of Chapter 5 addresses **Coal Recovery** in the reformatted version of the mining and reclamation plan. The permittee has committed to maximizing coal recovery in the three minable seams relative to the Wild Horse Ridge addition. However, certain geologic factors including thin coal seams, thin interburden, and coal quality make coal recovery in those areas impossible or uneconomical. Mining plan, sequence and projected development for the four seams associated with the Bear Canyon project can be reviewed on Plates 5-1A, 5-1B, and 5-1C. Geologic information is included in Chapter 6 of the reformatted mining and reclamation plan.

Findings:

The reformatted mining and reclamation plan meets the minimum regulatory requirements of R645-301-522 and 523.

SUBSIDENCE CONTROL PLAN

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

Analysis:

Page 5-16 of Chapter 5 of the reformatted submittal discusses the approved subsidence control plan very briefly, by indicating that same is included as Appendix 5-F. Plate 5-3 shows the locations of all subsidence monitoring points in the Bear Canyon permit area. The permittee has monitored twenty-one points for deflection over the #1 and #2 Mines for several years. During 2002, nineteen new monitoring points were installed in areas adjacent to the #1 and #2 Mines (500-519). Also, monitoring points 520 –545 were installed during 2002 to monitor subsidence in the Wild Horse Ridge addition. To date, only development mining has occurred in the #3 Mine (Blind Canyon seam) of the Wild Horse ridge addition. The #4 Mine (Tank seam, WHR addition) is still being accessed.

Pillars of coal are generally left underground to protect surface or underground features (seals) for the protection of persons and/or wildlife or for the protection of oil and gas wells. All are designed according to CFR requirements where relevant; other designs which are required to provide protection are made by using currently accepted engineering practice. Any submains which are developed under the escarpment area in Bear Canyon will be left as developed to minimize failure of the surface structures.

Page 5-17 of Chapter 5 indicates that boundaries defining fee surface from other surface ownership are depicted on Plate 1-3. The protection of property adjacent to the Bear Canyon permit area is provided by leaving continuous barrier pillars which are a minimum of one hundred feet in width. The reformatted version of the mining and reclamation plan indicates that this width is sufficient to prevent subsidence impacts outside of the Bear Canyon permit area from the effects of angle of draw.

The coal outcrops in the Bear Canyon area are afforded protection by limiting coal extraction to within 200 feet of same. Coal has generally either been burned or has become oxidized and is generally of low quality.

All of the coal seams in the Bear Canyon area are above any residential dwellings and subsidence caused from the impacts of mining will not affect them.

There are no public buildings, churches, schools or hospitals in the Bear Canyon permit area. A hunting lodge exists within 1,000 feet of the permit area (Wild Horse Ridge area). Page 5-19 of Chapter 5 commits to providing adequate barrier protection to prevent damage from subsidence to this structure.

OPERATION PLAN

Bear Canyon Creek could be affected by the extraction of coal from Federal lease U-024316. Appendix 5-C contains an explanation of the protection zone delineation.

There are no urban areas, cities, towns, communities, industrial or commercial buildings, or major impoundments adjacent to or overlying the mineable coal seams in the Bear Canyon permit area. The Emery Water Conservancy District is aware that the Bear Canyon operation has the potential to affect Bear Creek by coal extraction from Federal lease U-024316. Thus the requirements of R645-301-525.700 have more than likely already been addressed.

The R645 requirements to repair surface or material damage to structures or water supply resources can be addressed within the performance standards of the coal rules. It is not necessary to address every such rule under 525.500.

Findings:

The permittees submittal adequately addresses the minimum regulatory requirements. Performance Standard R645-301-525.600 mandates that the permittee will comply with all provisions of the approved subsidence control plan.

SLIDES AND OTHER IMAGE

Regulatory Reference: 30 CFR Sec. 817.99; R645-301-515.

Analysis:

The permittee's reformatted submittal addresses the reporting requirements necessary should a slide occur within the permit area in Chapter 5, page 5-2, Section **515.100**. The currently approved version of the mining and reclamation plan addresses the requirements relative to the reporting of slides in Chapter 3, page 3-37, Section 3.5.1, **Preservation of Land Use**, and page 3-40, Section **3.5.2.2, Control Measures to Mitigate Impacts**. Both versions of the mining and reclamation plan meet the minimum regulatory requirements.

The currently approved version of the mining and reclamation plan briefly discusses the three sediment ponds which are used to control the runoff from the disturbance associated with Bear Canyon #1 and #2 Mines, (See 3-5, section **3.3.8, Sedimentation Control and Water Treatment Facilities**). There is no discussion of the emergency procedures to be followed in the event that an unstable or hazardous condition would develop with any of the ponds.

The reformatted version of the mining and reclamation plan, as received on January 27, 2003 discusses the emergency procedures to be followed relative to sediment ponds on page 5-2, section **515.200, Impoundment Hazards**. The verbiage meets the minimum regulatory requirements of this section.

OPERATION PLAN

The permittee's reformatted mining and reclamation plan discusses the procedures to be followed in the event that it is necessary to place the Bear Canyon operation under temporary cessation. The verbiage in the text is submitted under R645-301-515.300, and same discusses the requirement of notification to the Division if the period will extend beyond thirty days or more. The same paragraph also discusses the requirement to notify the Division of the exact number of surface acres, the horizontal and vertical extent of sub-surface strata which have been in the permit area prior to cessation or abandonment, the extent and the kind of surface reclamation of the surface area which will have been accomplished and the identification of the backfilling, regrading, revegetation, environmental monitoring, underground opening closures and water treatment activities that will continue during temporary cessation.

Thus, the permittee's reformatted application has essentially addressed the requirements of R645-301-515.320, 515.311, and 515.321 all under the section enumerated **515.300**.

The permittee has not addressed the requirements of R645-301-515.310 which requires a commitment from the permittee to meet all of the requirements in their approved mining and reclamation plan, regardless of the fact that the site has gone through the necessary requirements to have been placed under temporary cessation status. This is a performance standard that can be regulated in that manner.

There is no mention made of the actions which the permittee will take to secure surface facilities in areas where there are no current operations, but in which operations are to be resumed under an approved permit, (R645-301-515.311). The permittee has addressed the requirements of several rules with two brief paragraphs. This reviewer feels that each coal rule enumerated within the R645 rules should be individually addressed in order to determine that the reformatted version is acceptable.

Findings:

The information is not adequate to meet the requirements of this section of the regulations. Prior to approval the permittee must provide the following in accordance with:

R645-301-515.310; which requires a commitment from the permittee to meet all of the requirements in their approved mining and reclamation plan.

R645-301-515.311; The permittee needs to describe the actions he will take to secure surface facilities in areas where there are no current operations, but in which operations are to be resumed under an approved permit.

OPERATION PLAN

TOPSOIL AND SUBSOIL

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

Analysis:

Topsoil Removal and rage

Information in the reformatted submittal is the same as the approved plan except where noted below.

Table 2-5 Topsoil Summary is the equivalent of Table 8.9.7 in the currently approved MRP. Table 2-5 itemizes the shower house pad topsoil pile as holding 1,200 cu yds of soil. However the narrative indicates that this soil was transferred to the Wild Horse Ridge topsoil pile. There is no map of the shower house topsoil pile. The Division recommends that Table 2-5 is amended to show an increase in the Wild Horse Ridge Topsoil by 1,400 cu yds and the reference to the shower house pad topsoil stockpile be deleted from Table 2-5.

Section R645-301-231.400 Construction, Modification and Maintenance does not contain the most recent information for the WHR Tank seam topsoil stockpile as received by the Division on July 3, 2001 under Section 8.9-5, page 8-34. Please amend the electronic and reformatted copy accordingly.

Section R645-301-232.400 is new to the MRP and contains the statement "Topsoil may not be recovered in the case of small structures such as power poles, signs, or fence lines or where the disturbance will destroy the existing vegetation or cause erosion." The Permittee should be reminded R645-301-232.400 clearly indicates that the Division will determine whether topsoil will not be removed at the site of small structures. Thus, the statement in the MRP pre-empts the Division's decision making ability and should be removed. A similar problem is found with the statement listed under R645-301-232.500 Subsoil Segregation.

Table 2-7 (Formerly Table 8.9-1) indicates that there area 28.03 "New acres" of disturbance. That figure is changed from the approved plan which indicates 27.90 acres of disturbance. The change is in the TS-16, WHR TS Lower Portal Access Road which was formerly listed as 0.76 acres. The narrative in Section R645-301-242 under RS-16 has also been modified from the approved MRP to indicate that the lower portal access road would be widened in two locations as shown on Plate 2-3G and in Appendix 5-K. The narrative indicates that 124 cu yds of topsoil was stockpiled from this location.

Findings:

The information provided does not meet the minimum Operations Topsoil/Subsoil

OPERATION PLAN

requirements of the Regulations. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-231.100, Amend Table 2-5 to show an increase in the Wild Horse Ridge Topsoil by 1,400 cu yds and remove the reference to the shower house pad topsoil stockpile from Table 2-5 and from the narrative in Section R645-301-231.400.

R645-301-231.400, Include the latest information for the WHR Tank Seam topsoil stockpile as received by the Division on July 3, 2001 (see section 8.9.5, page 8-34 of the approved plan as compared with page 2-27 of the reformatted plan).

R645-301-232.400, The Permittee is reminded that the Division will determine whether topsoil will not be removed at the site of small structures. Thus, the statement in the MRP pre-empts the Division's decision-making ability and should be removed.

R645-301-232.500, The Permittee is reminded that the Division will determine whether subsoil will be segregated. Thus, the statement in the MRP pre-empts the Division's decision-making ability and should be removed.

GETATION

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

Analysis:

Table 3-3 provides a list of the interim seed mix species with planned application rates. The rates are in units of pure live seed - pounds per acre. The Permittee must provide a planned application rate in pure live seed per square foot (R645-301-341.210). Seed weight differs among species, therefore, the unit pounds per acre does not provide an accurate number of plants that may actually develop. Providing PLS per square foot is much more descriptive, which helps the Division determine if planned seeding rate is adequate for coverage.

The interim seed mix includes grasses, a forb, and a cover crop. The Division considers the grasses acceptable, but the forb – alfalfa is not acceptable. This species typically spreads and out competes other plants. The Permittee must resubmit an alternative for alfalfa –a nitrogen-fixing forb (R645-301-333)

The Permittee stated that vegetated areas adjacent to the disturbed areas are protected from coal fines by a variety of mitigation methods (pg. 22). However, one area within an undisturbed area below the Upper Storage Pad is apparently accumulating coal fines. The

OPERATION PLAN

Permittee has not evaluated the impact of these coal fines on vegetation. The Division plans to visit the mine to determine the need to evaluate the impact of the coal fines on this area.

Findings:

The information provided does not meet the requirements of this section of the Regulations. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-341.210, The Permittee should provide a planned application rate in pure live seed per square foot.

R645-301-333, The Permittee must resubmit the interim seed mix with an alternative for alfalfa –a nitrogen-fixing forb.

ENGINEERING

Regulatory Reference: R645-301-510 through 516

Analysis:

Sections 510 through 516 present the general requirements for engineering information required by the R645 coal rules. The reformatted submittal received on January 27, 2003 addresses section 514 but does not address the remaining information required in sections 510 through 516. The first area of text describes section **521.100 Cross Sections and Maps**, page 5-4.

Findings:

The information provided is not adequate to meet the requirements of the regulations. Prior to approval the permittee must provide the following in accordance with,

R645-301-510-516; the permittee needs to address sections 510-516 of the engineering 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.

Analysis:

The eleven primary roads and one ancillary road in the Bear Canyon permit area are depicted on Surface Facilities Plates 5-2A through 5-2H. The close confinement of Bear Canyon

OPERATION PLAN

requires constant use of all mine roads. Thus, all are classed as primary, with the exception of a jeep trail (ancillary). The reformatted version of the plan has been updated to address new roads which have or are being constructed relative to the Bear Canyon #3 and #4 Mines (Blind Canyon and Tank seams, respectively, Wild Horse Ridge addition). A description and maintenance program for each road is included as Appendix 5-F.

Slope stability analyses have been performed for the following areas at the Bear Canyon Mine; the Tank seam (#2 mine), the Blind Canyon seam Wild Horse ridge addition (#3 Mine), and the WHR Tank seam (#4 Mine) access. There are sections of mine access road which will not be reclaimed, as those roads are necessary to enhance the post mining land use which is approved. The #3 Mine access also provides access to the hunting lodge located in the Wild Horse Ridge area. The retention of roads to enhance the post mining land use is discussed in R645-301-242.

The hunting lodge (which is located in the Wild Horse Ridge area) is accessed two to three times a week from May through November by members of Sportsmen's, (the lease holder of the hunting right's to the property) via the #3 and #4 Mine access roads. This is a non-mining recreational use of the Mines access roads.

Page 5-22 contains a commitment to repair any road which is damaged as the result of a catastrophic event.

Findings:

The reformatted version of the mining and reclamation plan meets the minimum regulatory requirements as they relate to roads.

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:

Coal Mine Waste

As noted above, the reformatted version of the Bear Canyon mining and reclamation plan, as received at the Division on January 27, 2003 does not address all of the coal rules with the State R645 rules. As example, in Chapter 5, page 5-2, the permittee references R645-301-

OPERATION PLAN

514 Inspections. In referencing the coal rules, R645-301-514 also has requirements from 514.100 through 514.320 which reference inspections relative to sediment pond construction, final graded and vegetated fill, excess spoil, refuse piles etc. The permittee should evaluate **each** regulation as it is listed within the R645 rules.

The reformatted version of the mining and reclamation plan addresses this section of the R645 coal rules beginning on Page 5-24. The general plan is to convey coal produced underground to the surface via belt conveyors. The conveyor system which has been installed to carry product from the #3 Mine to the tipple is much more extensive than any system previously constructed at the Bear Canyon site. Numerous support structures have been built to suspend the conveying apparatus well above ground level. Environmental concerns were addressed by installing a catch pan beneath the bottom belt. There is no exposure of moving conveyor parts to wild life in the area.

Once initial development has been completed in the #4 Mine, a coal transfer raise will be constructed to transfer the Tank seam product down to the Blind Canyon seam(#3 Mine). From there, the coal will be conveyed out of the #3 Mine down the canyon to the tipple on the conveyor system described previously.

All overburden which was removed during the construction of the portal faceups was used in the adjacent pad construction. The same will be recovered during the reclamation of the site and used to return the face up areas to approximate original contour.

As previously noted, mining in the #1 and #2 Mines has ceased, and the portal area of the #2 Mine has been reclaimed.

A temporary coal mine waste storage pile is depicted on PLATE 5-2C in a small canyon west of the clean coal stockpile pad area. This material is generated from the dry process separating good product from reject at the tipple. Page 5-25 of Chapter 5 indicates that the size of this pile will be limited to 150 cubic yards and the storage time will be limited to a maximum of fifteen days. The permittee maintains a log including a sketch of the temporary pile along with dates when such material was placed. This same material was crushed and returned to the underground workings in the #1 and #2 Mines for use as road base material.

Coal mine waste generated by the tipple process preparing Wild Horse Ridge addition coals will have that material hauled to the Hiawatha (C/007/011) permit area and disposed of in slurry pond 5A (MSHA ID# 1211-UT-09-00098). This material will be tested for acid and toxic forming potential prior to shipment outside the Bear Canyon permit area.

Page 5-27 of Chapter 5 of the reformatted mining and reclamation plan section 528.321 states that "No coal processing waste has been, or is proposed to be disposed of in underground mine workings. No coal processing waste will be disposed of in underground mine workings without the express approval of the Division and MSHA".

OPERATION PLAN

This statement does not correlate with the text of section **528.320 Coal Mine Waste** which states (See page 5-25) “coal mine waste such as separated waste rock will be **temporarily stored** at the designated site on the main storage pad shown on Plate 5-2C.” Page 5-26, paragraph one states “the material will then be returned underground and either crushed prior to transportation to use as underground road base material, or placed underground in dry areas in accordance with MSHA regulations.”

As noted earlier in this document, when the #1 and #2 Mines were actively producing, waste rock was removed from the saleable product by passing the mixture past “bony pickers” on a slow moving conveyor at the processing tippie. The reject or “coal mine waste” was previously dropped through a chute where it accumulated until it was picked up by a front end loader and hauled to the “temporary coal waste storage area” depicted on Plate 5-2C. Some of this material was crushed and hauled back into the #1 or #2 Mines as road base. The material which would be acceptable for this type of use would usually be gray or white sandstone material. Shales would not be acceptable as they would not hold up under heavy mine vehicles, particularly if that material encountered ground water.

The permittee has therefore used or returned some coal processing waste to the underground works as road base material. Although the material was not separated by a “wet” coal processing regime, the material is still coal mine waste. Therefore, the permittee must correct the statement on Page 5-27, section 528.321 that “no coal processing waste has been, or is proposed to be, disposed of in underground workings.”

As the #3 Mine is currently the area where the majority of the coal production is occurring, the potential for coal mine waste to be generated from that product does exist. It is surmised that when the permittee constructed the new tippie, a similar reject separation process was implemented using a similar “dry” method. The permittee would still have the temporary storage facility in place adjacent to the tippie area, and could still use the small reclaim belt /crusher arrangement for processing road base material from the #3 Mine reject.

The permittee has an approval to transport coal mine waste from the Bear Canyon permit area to the Hiawatha permit area (C/007/011). As noted in paragraph four on Page 5-26, **“coal mine waste material will be tested for acid and toxic properties in accordance with Table 5O-1. Any materials found having acid and toxic properties will be disposed of in Hiawatha Slurry Pond 5A, in accordance with the Hiawatha MRP requirements for acid and /or toxic forming material.** The permittee has not mentioned where the coal mine waste material which does not have acid and/or toxic forming potential will be stored in the Hiawatha permit area, at least in the Bear Canyon mining and reclamation plan. This could be considered a deficiency in the Hiawatha plan, as the Division may want to know where the Bear Canyon material is located within the Hiawatha permit area.

OPERATION PLAN

Thus, there are several concerns here relative to coal mine waste, and the current verbiage in the reformatted mining and reclamation plan. These are;

- 1) coal mine waste from a “dry” process has been returned to the underground workings of the Bear Canyon #1 and #2 Mines. The statement made in section **528.321, Return of Coal Mine Processing Waste to “Abandoned” Underground Mines** is false for two reasons;
 - a) crushed mine waste was placed on underground roadways as road base material, and
 - b) the requirement of R645-301-536.520 as it relates to Disposal of Coal Mine Waste in Special Areas does not specifically refer to disposal in “**Abandoned**” mines. The #1 and #2 Mines were active when the reject was utilized as road base. The permittee must revise the text under 528.321 to correctly state that coal mine waste was disposed of underground as road base material. Also, clarification needs to be provided as to whether or not the permittee would use coal mine waste generated from #3 and #4 Mine product as road base within those Mines.

- 2) The permittee needs to clarify in the reformatted version of the Bear Canyon mining and reclamation plan where the coal mine waste which **does not exhibit acid or toxic forming potentials** will be disposed of within the Hiawatha permit area (C/007/011). The Hiawatha permit area mining and reclamation plan should be checked to determine if that clarification exists within that plan, in order to comply with the requirements of R645-301-536.510.

The permittee is currently permitted to haul all coal mine waste to the former U.S. Fuel Company site at Hiawatha, Utah for permanent disposal. Chapter 5, page 5-6 of the reformatted version of the mining and reclamation plan indicates that temporary and permanent waste disposal sites will be shown on Plate 5-2.

The tippel area at the Bear Canyon operation uses a dry process (hand picking) to separate coal mine waste from product. This waste is temporarily stored in the immediate tippel area, and at one time, it was crushed and returned to the underground for use at road base. Also, in the #3 Mine (Blind Canyon seam, Wild Horse Ridge addition) portal area, small amounts of coal mine waste have been temporarily stored prior to final disposal within the Hiawatha permit area. Coal fines will be removed from the surface of the reclaimed site with water hoses or by vacuuming until only 50% of the surface is coal fines (Section 542.200, page 5-40). This statement varies from the currently approved plan in Section 3.6.4.5 (page 3-77) where the Permittee indicates that coal fines will be removed from the surface by the use of vacuums and/or water, but an acceptable percentage of coal fines remaining is not discussed. The Division’s DRAFT guidelines allow up to 10% coal fines in a pre-law area.

Sediment pond clean out is described in Appendix 5O. A maximum of 150 cu yd of coal mine waste will be temporarily stored on the main storage pad shown on Plate 5-2C. Waste rock

OPERATION PLAN

from the Wild Horse Ridge will be hauled to Hiawatha slurry pond 5A. Prior to being hauled it will be tested according to Table 5O-1 of Appendix 5O.

In Mine roof samples are in Appendix 6-C for samples taken through 1995. There are more recent samples that should be added to this Appendix.

Section 528.320, page 5-25 indicates that “Tests have shown that the roof rock is not acid or toxic forming.” This statement is not accurate according to the recent samples reviewed in 2002 by the Division. The samples taken from RM1 in September 2002 were very low in pH and very high in Boron.

Findings:

The information provided does not meet the minimum Operation Spoil and Waste Materials requirements of the Regulations. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-514, The reformatted submittal briefly addresses the engineering inspections required by the R645 coal rules and the 30 CFR Parts 75 and 77. However, the required inspections listed under R645-301-514 (excess spoil for earth and rock fills, foundation preparation, final surface drainage systems, final graded and revegetated fill, drainage systems and protective filter inspections, refuse pile and impoundment inspections during construction and quarterly as required) have not been specifically addressed.

R645-301-542.200, The statement on page 5-40 that coal fines will be removed from the surface of the reclaimed site with water hoses or by vacuuming until only 50% of the surface is coal fines should be reworded to indicate that coal fines and fragments will cover 10% or less of the surface on a pre-law site and will be completely covered on a post-law site (disturbed after August 1977).

R645-301-624.320 and -624.330, Roof, floor and coal analyses are found in Appendix 6-C for samples taken through 1995. This Appendix should be updated with recent sampling through 2002.

R645-301-528.320, Section 528.320, page 5-25 indicates that “Tests have shown that the roof rock is not acid or toxic forming.” According to the recent samples reviewed in 2002 by the Division, this statement is no longer accurate and should be removed from the plan.

OPERATION PLAN

R645-301-528.321, Coal mine waste from a “dry” process has been returned to the underground workings of the Bear Canyon #1 and #2 Mines. The statement made in section **528.321, Return of Coal Mine Processing Waste to “Abandoned” Underground Mines** is false for two reasons; a)crushed mine waste was placed on underground roadways as road base material, and b)the requirement of R645-301-536.520 as it relates to Disposal of Coal Mine Waste in Special Areas does not specifically refer to disposal in “**Abandoned**” mines. The #1 and #2 Mines were active when the reject was utilized as road base. The permittee must revise the text under 528.321 to correctly state that coal mine waste was disposed of underground as road base material. Also, clarification needs to be provided as to whether or not the permittee would use coal mine waste generated from #3 and #4 Mine product as road base within those Mines.

R645-301-529, needs to be amended in two areas to properly address the requirements of the R645 coal rules. These areas are; 1) boreholes must be cemented for their entire depth to meet the requirements of R645-301-551, and two inch vent pipes must be extended above shaft caps for a height of fifteen feet above the cap to meet the requirements of R645-301-551. 301-551 is tied to the 30CFR75.1711-1 via R645-301-513.500.

R645-301-536.510, The permittee needs to clarify in the reformatted version of the Bear Canyon mining and reclamation plan where the coal mine waste which **does not exhibit acid or toxic forming potentials** will be disposed of within the Hiawatha permit area (C/007/011). The Hiawatha permit area mining and reclamation plan should be checked to determine if that clarification exists within that plan, in order to comply with the requirements of the coal rules.

Refuse s

Page 5-27 of Chapter 5 of the reformatted version (AM03-A) indicates that “C.W. Mining currently has no refuse piles.” This verbiage should be re-written to indicate that “C.W. Mining currently has no permanent refuse disposal areas within the surface disturbance of the Bear Canyon permit area”.

Findings:

The information provided does not meet the minimum Operation Spoil and Waste Materials requirements of the Regulations. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-536.900, The statement that C.W. Mining currently has no refuse piles is ambiguous, and needs clarification. The permittee has a Division approval to dispose of Bear Canyon coal mine waste/processing waste within the Hiawatha permit area (C/007/011). It is not known if there is an ownership and control tie between C.W. Mining Company and Hiawatha Coal Company.

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:



Basically all information from the text of Chapter 7 of the current MRP, including the appendices, has been incorporated into the electronic MRP. However, there are some corrections needed.

Appendix 7-F

- Page 7F-72, “Protection From Rapid Drawdown” is missing from in the electronic MRP.

Appendix 7-G.

Information on the following watersheds, culverts, and diversions has not been included in the electronic MRP or differs from that in the current MRP:

- AU-23A (current page 7G-33A) is missing;
- AU-28A (current page 7G-36A) is missing;
- C36-U through C-40U (current page 7G-46) is missing;
- D-17D (current page 7G-98) is missing;
- D-6U, additional minimum depth and freeboard information in the current MRP (page 7G-142) is missing from the electronic MRP;
- C-37U on page 7G-89 in the electronic MRP, required riprap size is given as 6 feet instead of 6 inches;
- D-35U, minimum freeboard value in the electronic MRP is different from that in the current MRP;

OPERATION PLAN

- D-43U, velocity is shown as 6.69 fps at the bottom in the electronic MRP, rather than 6.96 fps as in the current MRP.

Appendix 7-H:

- WS-27, Peak Flow and T results on page 7H-15 in the electronic MRP are different from those on page 7H-13 of the current MRP;
- The channel cross-sections, shown on pages 7H-47 through 7H-50 of the current MRP, are not in the electronic MRP;
- RC-RD17 through RC-RD21 are missing from the table on page 7H-76 in the electronic MRP;
- RCC112 through RCC-15 are missing from the table on page 7H-77 in the electronic MRP,
- RC-RD21 on page 7H-114 in the electronic MRP: minimum depth, freeboard, and D_{50} (for steep slope?) values have changed from values given in the current MRP;
- RCC-12 on page 7H-126 in the electronic MRP does not give the minimum riprap conditions;
- RCC-13 on page 7H-127 in the electronic MRP does not give the minimum riprap conditions;
- RCC-14 on page 7H-128 in the electronic MRP does not give the minimum riprap conditions;
- RCC-15 on page 7H-129 in the electronic MRP does not give the minimum riprap conditions.

Appendix 7-O

- Page 7O-45 is missing from the electronic MRP

Groundwater nitoring

Table 7-13 lists the parameters for ground-water monitoring. Cation-anion balance is not included: this parameter needs to be added.

Findings:

R645-301-121.200, The Permittee needs to (1) Provide page 7F-72 in Appendix 7-F (2) Provide information in Appendix 7-G on the following watersheds, culverts, and diversions: AU-23A (current MRP page 7G-33A); AU-28A (current MRP page 7G-36A); C36-U through C-40U (current MRP page 7G-46); D-17D (current MRP page 7G-98); D-6U, additional minimum depth and freeboard information (current MRP page 7G-142); Determine the correct riprap size for C-37U on page 7G-89 in Appendix 7-G; Determine the correct minimum freeboard value for D-35U in Appendix 7-G; Determine the correct velocity for D-43U in

OPERATION PLAN

Appendix 7-G (3) Determine the correct Peak Flow and T results for WS-27 on page 7H-15 in Appendix 7-H (4) Provide the channel cross-sections, shown on pages 7H-47 through 7H-50 of the current MRP, in Appendix 7-H (5) Provide information for RC-RD17 through RC-RD21 in the table on page 7H-76 Appendix 7-H (6) Provide information for RCC112 through RCC-15 in the table on page 7H-77 in Appendix 7-H (7) Determine the correct values for minimum depth, freeboard, and D_{50} (for steep slope?) for RC-RD21, on page 7H-114 in Appendix 7-H (8) Determine minimum riprap conditions for RCC-12, on page 7H-126 in Appendix 7-H (9) Determine minimum riprap conditions for RCC-13, on page 7H-127 in Appendix 7-H (10) Determine minimum riprap conditions for RCC-14, on page 7H-128 in Appendix 7-H (11) Determine minimum riprap conditions for RCC-15, on page 7H-129 in Appendix 7-H (12) In Appendix 7-O, provide page 7O-45.

R645-301-731.210, Cation-anion balance needs to be added to Table 7-13.

Acid- and Toxic-Forming Materials and Underground Development ste

Section 542.200, page 5-39, refers the reader to Appendix 5D and Appendix 6C for acid toxic information. Appendix 5D Toxic Materials & Handling provides limited information on the characteristics of soil, coal and sediment pond sludge through 1989. Appendix 6C Coal & Rock Characteristics has samples of roof and floor through 1995. Both Appendices should be updated to include all the sampling conducted through 2002.

Findings:

The information provided does not meet the minimum Operation Hydrologic Information requirements of the Regulations. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-731.311, Appendices 6C and 5D should be updated to include all the sampling conducted of sediment pond sludge and in-mine roof, floor and coal analyses through 2002.

SUPPORT FACILITIES AND UTILITY STALLATIONS

OPERATION PLAN

Analysis:

Chapter 5, page 5-20 addresses the requirements of the R645 coal rules relative to R645-301-526. Mine structures and facilities, utility installation and support facilities, and water and air pollution control facilities are all addressed.

Findings:

The minimum regulatory requirements have been addressed.

SIGNS AND ARKERS

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

Analysis:

The reformatted version of the Bear Canyon mining and reclamation plan commits the permittee to installing and maintaining all necessary signs as required by the R645 coal rules including permittee identification signs, disturbed area perimeter markers, stream buffer zone signs, topsoil storage signs, etc. All signs will be maintained until final bond release has been approved by the Division, (See Chapter 5, page 5-8).

Findings:

The aforementioned sections adequately address the minimum requirements of this section of the regulations.

USE OF EXPLOSIVES

Regulatory Reference: 30 CFR Sec. 817.61, 817.62, 817.64, 817.66, 817.67, 817.68; R645-301-524.

Analysis:

Page 5-16 of Chapter 5 of the reformatted version under R645-301-524 commits the permittee to follow all Utah and Federal regulations relative to the storage and use of explosives for the permittees mining purposes. This shall include 524.100 through 524.800.

Findings:

Although the permittee has not addressed each regulation listed under R645-301-524, the commitment made within the reformatted mining and reclamation plan is adequate, and appears to meet the minimum regulatory requirements

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 Areas

Maps have been digitized.

- Plate 7-1B in the current MRP is the 9th revision, dated approved on 02/10/2000: the electronic MRP contains the 8th version, dated approved on 09/04/1996;
- Plate 7-1E in the current MRP is the 5th revision, dated approved on 02/10/2000: the electronic MRP contains the 4th revision, dated approved on 4/15/1998.

Certification Requirements

The reformatted version commits the Permittee to preparing all maps showing relevant information by or under the direction of a registered certified professional engineer. This rule clarifies the need for certification of the following maps which are required to be included in a mining and reclamation plan; mine workings, surface facilities and operations, surface configurations including final contours, hydrology, geologic cross sections, plans and engineering designs, excess spoil, durable rock fills, coal mine waste impoundments, primary roads, and variance(s) from approximate original contour.

Findings:

R645-301-121.200, The Permittee needs to provide the latest versions of Plates 7-1B and 7-1E.

RECLAMATION PLAN

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.

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 Permittee did not add new information to this section. The eMRP, however, is missing related information from the following pages:

Hardcopy Pages	Related Information
4-15 through 4-20	Financial feasibility and attainment, final surface configuration (section referenced in Chapter 9 of eMRP), compatibility with surrounding land uses, compatibility with land use policy and plans.
4-20 through 4-24	Safety, environmental protection, pollution control compliance, socioeconomic considerations, service areas (also Table 4-2), growth capability, and labor forces (also Table 4-3).

Most of the information from pages 4-15 through 4-20 related to compatibility with land use policy and plans. Specifically, the Permittee left out text that discussed management objectives relating to: vegetation, range, soil, mineral activities, archeology/paleontology, timber, fire, roads, and recreation.

The Permittee states that the postmine land use is designated for grazing, wildlife habitat, and some recreation.

Findings:

Information provided in the application is considered adequate to meet the minimum Postmining Land Uses section of the Reclamation Plan regulations.

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:

The backfilling and grading of the site to reach approximate original contour will be performed by using standards types of machinery. According to page 5-39, general shaping of the disturbed area will not commence until all Mine drift entries and coal transfer boreholes are sealed, backfilled and compacted.

All toxic materials generated will be disposed of according to Appendix 5-D.

Surface areas which have been disturbed from the accumulation of coal fines will be evaluated prior to the initiation of coal fines activities. The permittee's currently approved plan indicates that "if coal fines are evident in quantities that exceed 50 pct (percent) of the exposed ground, then such material will be removed." The currently approved plan also states that "it should be noted that the existence of small to moderate amounts of coal fines has not been established as detrimental to either soils or vegetation; therefore, amounts less than the 50 pct (percent) figure cited above will not be removed." Although the permittee has conducted a previous study of the affect of coal fines on revegetation, this subject is one which has really not seen extensive evaluation. The Division may need to re-evaluate this topic in the future. Any determination as to the affect or adequacy of the backfilling and regrading of the Bear Canyon permit area and associated coal fines impacts will need to be reevaluated at that time.

Upon completion of the rough grading and topsoil application process, all operational areas will be scarified by gouging to a depth of approximately eight inches with a track hoe. This surface roughening technique will reduce compaction and minimize topsoil slippage, and enhance moisture retention, assisting in the re-establishment of vegetation.

Slope reclamation will be performed as depicted on Figure 5-4, Typical Slope Reclamation, by using the extensive reach of a track hoe boom to bring material up from the outslope. That material will then be used to fill the cut area.

Pages 5-43 and 44 of Chapter 5 describe the backfilling and grading plan for the Tank seam access road (#2 Mine) reclamation, which is occurring as this document is being compiled. After fill has been placed to reestablish the approximate original contour, topsoil will be placed using a backhoe. Boulders will be embedded into the surface to achieve a 32.75 percent rock cover. Again, using the backhoe, the surface will be ripped and scarified (pocked) to aid in water retention for revegetation purposes.

RECLAMATION PLAN

Seeding the reclaimed area by hand will follow. Erosion control matting will then be installed and the material will be held in place with wire staples.

Pages 5-46 through 5-48 describe the reclamation plan for the Wild Horse Ridge addition, from facilities removal through the backfilling and grading and seeding process. Final surface contours are depicted on maps found in Appendices 5-I, 5-J, and 5-K.

MINE ENINGS

Regulatory Reference: 30 CFR Sec. 817.13, 817.14, 817.15; R645-301-513, -301-529, -301-551, -301-631, -301-748, -301-765, -301-748.

Analysis:

Page 5-30, of Chapter 5 of the reformatted mining and reclamation plan, paragraph one commits the permittee to cementing all exploratory holes, boreholes and wells with an approved slurry. “C.W. Mining is committed to plugging all drill holes with 5 feet of cement as required by rule M3(5) UMLR Act of 1975”. **This commitment does not meet the requirements of R645-301-551 or 765.** The cementing of well bores for their entire depth is the accepted practice which the Division believes is the best method to prevent the cross contamination of aquifers within a permit area. Therefore the permittee must amend this portion of the plan to commit to cementing boreholes for their entire depth.

Paragraph two of page 5-30 commits to the backfilling of shafts from the bottom to the collar with incombustible material. A seal consisting of a six inch thick concrete cap will then be placed over the shaft. “A two inch diameter vent pipe will extend for a distance of 5 feet below the surface of the shaft collar.” **This does not meet the requirements of R645-301-551, or 513.500.** 30 CFR 75.1711.1 requires that a two inch vent pipe extend for fifteen feet above the shaft cap. The CFR requirement is tied to the R645 coal rules via R645-301-513.500.

The sealing of mine entries is discussed on pages 5-30, 5-31 and 5-32 of the reformatted Chapter 5. Although the text appears to adequately describe the method used to seal each of the mine entries involved, the ultimate approval for such action is required to be approved through the U.S. Department of Labor, Mine Safety and Health Administration, Denver, Colorado.

Findings:

Section **R645-301-529** needs to be amended in two areas to properly address the requirements of the R645 coal rules. These areas are;

- 1) boreholes must be cemented for their entire depth to meet the requirements of R645-301-551, and

- 2) two inch vent pipes must be extended above shaft caps for a height of fifteen feet above the cap to meet the requirements of R645-301-551. 301-551 is tied to the 30CFR75.1711-1 via R645-301-513.500.

TOPSOIL AND SUBSOIL

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

Analysis:

Distribution

Appendix 4D of Chapter 4 is incorrectly named In-Place Plant Growth Material. It contains Air Quality information.

Page 2-41 of Section R645-301-242 page 2-41 incorrectly refers the reader to Plate 2-2F Ballpark Topsoil Pile Area Map for the location of the topsoil salvaged from TS-13.

There are no changes to the previously approved reclamation plan, except that Section R645-301-341, page 3-41 indicates that fertilizers will be applied with the wood fiber mulch slurry. This practice was not described in the approved MRP and the Division does not recommend this approach as the fertilizer will come in contact with the seed rather than the plant roots. Fertilizer should be incorporated into the surface with gouging of the soil.

Findings:

The information provided is not adequate for the purposes of Topsoil/Subsoil Reclamation Plan requirements of the Regulations. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-240, (1) Appendix 4D of Chapter 4 is incorrectly named In-Place Plant Growth Material, but it contains Air Quality information. **(2)** Page 2-41 of Section R645-301-242 page 2-41 incorrectly refers the reader to Plate 2-2F Ballpark Topsoil Pile Area Map for the location of the topsoil salvaged from TS-13.

R645-301-243, Section R645-301-341, page 3-41 indicates that fertilizers will be applied with the wood fiber mulch slurry. The Division does not recommend this practice. Fertilizer should be incorporated into the surface with gouging of the topsoil.

RECLAMATION PLAN

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:

Overall, the sequence of methods and application rates of mulch, fiber, and tackifier are confusing. The Permittee must clearly present reclamation methods, steps, and application rates. The Division itemizes the deficiencies below and the deficiencies are listed under the regulations: R645-301-121.200 and R645-301-341.200.

The eMRP provides details of a three-phase interim reclamation plan that includes: earthwork, hydroseed and mulch, and vegetation monitoring. The hardcopy MRP and eMRP provides details of a four-phase final reclamation plan that includes: backfilling and grading, site preparation, seed and mulch application, and seedling plantings (pgs. 9-11, 9-13 through 9-23; pgs. 3-30 through 3-41).

The interim and final reclamation plan, in both MRP formats, are lacking the use of deep gouging and noxious weed-free hay/straw. The final reclamation plan mentions the application of hay following seeding (pg.3-41). The goal of this method, however, differs from the goal of incorporating hay/straw during gouging. Gouging and incorporation of hay/straw during gouging are currently considered standard treatments used for soil stability. The Permittee must include the use of deep gouging with incorporation of noxious weed-free hay/straw in both MRP formats to bring the interim and final reclamation plans to current standards (R645-301-333). The Permittee may refer to the Vegetation Guidelines for methods and application rate.

Note: that the goal of the hay/straw mulch application following seeding is to provide surface protection from rain and wind. The Permittee may decide to also use hay or some other type of surface protecting mulch.

The eMRP interim reclamation plan includes the following steps:

- Earth moving.
 - Recontouring of area.
 - Smooth contouring of existing soil.
 - Creating small indentations with a grouser.
- Seeding and mulching: Drill or broadcast seeding.
- Monitoring.

Table 3-3 shows the recommended seed mix for interim reclamation. The mix includes grasses, a forb, and a cover crop. The Division considers the grasses acceptable, but the forb – alfalfa – is not acceptable. This species typically spreads and out competes native plants. The

RECLAMATION PLAN

Permittee must resubmit an alternative for this nitrogen-fixing forb. (Refer to the finding written under Operations). The eMRP states that the interim seed mix for mitigating impacts on vegetation includes wheatgrass, salina wildrye, sagebrush, pinyon and juniper (pg. 3-23). Table 3-3, however, does not list wheatgrass, salina wildrye, sagebrush, pinyon, or juniper. The Permittee must clarify the inconsistency between species listed on page 3-23 and Table 3-3 (R645-301-121.200). Note: these species listed on page 3-23 are also not part of the final seed mix or the seedling list.

Table 3-4 shows the suggested ratios of tackifier for interim hydroseeding. The amount of tackifier varies with slope from 14 to 64 degrees and ranges from 60 to 160 pounds. There is a reference to the use of mulch at rate of 1,500 to 2000 pounds per acre (Table 3-4), but it is unclear of the application timing or method. (Refer to the finding R645-301-333 above in this section).

The hardcopy MRP and eMRP final reclamation plan includes the following steps:

- Backfilling and grading.
- Preparing the site.
- Seeding and mulching.
- Planting seedlings.

Page 3-32 states that riparian areas will not receive a separate seed mix. Rather, these sites will receive the pinyon-juniper-grass seed mix and woody plant seedlings. Table 3-6 provides the seed mix recommended for riparian areas. The mix consists solely of woody species. The Table heading is most likely incorrect and should read "Seedlings". The Permittee must clarify the inconsistency between statements written on page 3-32 and Table 3-6 (R645-301-121.200). Table 3-5 suggests that mulching follows seeding.

The final reclamation seed mix is called Mountain brush/conifer (Table 3-7). The eMRP, however, refers to the final mix as pinyon-juniper-grass seed mix (pg.3-32). The Permittee must provide a consistent name for the final reclamation seed mix (R645-301-121.200). The table provides a list of the native species and planned application rates. The rates are in units of pure live seed - pounds per acre. The Permittee must provide a planned application rate in pure live seed per square foot. The total should not exceed 100-150 pure live seed per square foot. (R645-301-341.210).

The Permittee plans to broadcast seed and plant seedlings using the following methods:

- Broadcast seeding either by hand or using the hydroseed method.
- Planting seedlings in the spring or fall within two years following seeding.

The Permittee provides a detailed description of planting methods for seedlings. One suggestion is to prepare hole size following current recommended practices:

RECLAMATION PLAN

- Width: approximately 2-3 times the width of the root ball.
- Depth: approximately equal to the length of the root ball.

The MRP states that application rate of fiber mulch will be a minimum of 120 pounds per acre (pg. 9-14; pg. 3-36). Page 3-41, however, states that wood fiber will be applied at a rate of 2,000 to 2,500 pounds per acre. It is unclear what procedure and rate the Permittee intends to follow (R645-301-121.200). Table 3-8 shows the suggested ratios of tackifier for final hydroseeding. The amount of tackifier varies with slope from 14 to 64 degrees and ranges from 60 to 160 pounds per ton fiber. The Permittee plans to use erosion control matting for slopes greater than 2:1 (pg. 9-14).

The Vegetation Guidelines recommends the following:

- Hay/straw: noxious weed free
 - Usually applied at time of gouging.
 - Applied at a rate of 0.5 to 1 ton per acre.
- Wood fiber mulch:
 - Applied during hydroseeding.
 - Applied at a rate of 0.5 to 1 ton per acre.
- Tackifier: Applied according to manufacturer instructions.
- Control matting: Follow manufacture recommendations.

The Permittee must include, in both MRP formats, the use of adequate hay/straw, wood fiber mulch, and tackifier to bring the four-phase plan up to current standards (R645-301-333).

The eMRP states that certified weed free mulch will be applied (pg. 3-41). It is unclear whether the referenced mulch is hay/straw or the wood fiber mulch. Furthermore, authorities can certify mulches as noxious weed free, but not weed free. The Permittee must clarify mulch type and certification (R645-301-121.200).

Pages 9-22 and 9-23 of the hardcopy MRP are the same. The Permittee must remove one of the repeat pages and number sequential pages appropriately (R645-301-121.200).

Findings:

Overall, the sequence of methods and application rates of mulch, fiber, and tackifier are confusing. The Permittee must clearly present reclamation methods, steps, and application rates. The Division itemizes the deficiencies below and the deficiencies are listed under the regulations: R645-301-121.200 and R645-301-341.200.

The information provided is not adequate to meet the requirements of this section of the Regulations. Prior to approval, the Permittee must provide the following in accordance with:

RECLAMATION PLAN

R645-301-121.200, The Permittee must **(1)** Clarify the inconsistency between species listed on page 3-23 and Table 3-3 **(2)** Clarify the inconsistency between statements written on page 3-23 and Table 3-6 **(3)** Clarify the inconsistency between statements written on page 3-32 and Table 3-7 **(4)** Clarify the inconsistency between statements written on page 3-36 and 3-41 **(5)** Remove one of the repeat pages and number sequential pages appropriately **(6)** Clarify mulch type and certification.

R645-301-333, The Permittee must include the following to bring both MRP formats up to current standards: The use of deep gouging with incorporation of noxious weed-free hay/straw; The use of adequate mulch.

R645-301-341.210, The Permittee must provide a planned application rate in pure live seed per square foot.

STABILIZATION OF SURFACE EAS

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

Analysis:

There has been no change to the information presented for stabilization of surface areas. Gouging to an 8 inch depth on the pad areas is referred to in Section 542.200 page 5-41. Tank seam gouging to a depth of 8 – 12 inches is described on page 5-44. Section 542.200 page 5-47 refers the reader to Appendix 7-K for information on deep gouging during Wild Horse Ridge reclamation. This reference may be inaccurate, as Appendix 7-K refers to the use of gouging only as part of the alternate sediment control during reclamation of BTCA “Z,” the ASCA for WHR topsoil stockpile area and conveyor access road slopes (pg 7K-31). Please check this reference. Also the narrative in Appendix 7K is repeated again in the Figures section and the Vegetation Monitoring information is presented twice in this Appendix as well.

The Permittee should investigate the use of deep gouging 18 - 24 inches on the reclaim site. Deep gouging has been used successfully on reclamation sites through out Utah and has been described in The Practical Guide to Reclamation in Utah, page 66. This publication is available on the web at <http://www.dogm.nr.utah.gov>

Mulching is described in Section R645-301-341 page 3-41 as well as on pages 5-44 and 5-48 of Section 542.200. The Permittee intends to use excelsior blanket on slopes of 2h:1v.

Section 542.200, page 5-44 indicates that rocks will be embedded into the upper surface as described on page 5H-27 (in a May 10, 1994 letter from Dames and Moore). As stated on page 5-44, the goal will be to obtain a minimum cover of 32% rock, similar to the reference area.

RECLAMATION PLAN

Wind protection through the use of boulders is also described in R645-301-412.110 Method for Achieving Post-Mining Land Use.

Findings:

The information provided does not meet the minimum requirements of the Regulations to provide stabilized surface areas.

R645-301-542.200, In Section 542.200 page 5-47 a reference is made to Appendix 7-K for information on deep gouging during Wild Horse Ridge reclamation. This reference may be inaccurate, as Appendix 7-K refers to the use of gouging only as part of the alternate sediment control during reclamation of BTCA "Z," the ASCA for WHR topsoil stockpile area and conveyor access road slopes (pg 7K-31). Please check this reference. Also the narrative in Appendix 7K is repeated again in the Figures section and the Vegetation Monitoring information is presented twice in this Appendix as well.

R645-301-244, The Permittee should investigate the use of deep gouging (18 - 24 inches) over the reclaim site, rather than the 8 – 12 inch gouges described in Section 542.200.

CESSATION OF OPERATIONS

Regulatory Reference: 30 CFR Sec. 817.131, 817.132; R645-301-515, -301-541.

Analysis:

Page 5-36 of Chapter 5 indicates that the approved post mining land use for the Bear Canyon permit area will be grazing, recreation, wildlife and timber (recovery).

The permittee commits to reclaim all disturbance associated with the development of the Bear Canyon Mines as rapidly as possible to a condition equal to or exceeding the pre-mining conditions of the permit area. The steps which will be taken to achieve this are briefly described on pages 5-35 through 5-37. All surface structures will be reclaimed in a manner which will minimize impacts to fish, wildlife and related environmental values.

The reformatted version of the mining and reclamation plan indicates that some utility features which have been installed as part of the mine development will be buried in place, rather than removing them.

Noncoal waste items generated by the reclamation of the storage facilities will be disposed of in manners which have been previously approved by the Division. Asphalt paving

RECLAMATION PLAN

material will be disposed of in the State permitted Nielson Construction Company landfill. Concrete will be broken during the reclamation process and placed against cut banks, then covered with at least three feet of backfill material. Reclaimed steel will be salvaged or taken to the Nielson landfill for disposal.

The permittee's reformatted plan indicates that the Nielson Construction Company landfill is the designated disposal site for all non-coal solid waste items.

Findings:

The information provided is adequate to meet the requirements of this 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:

The reclamation timetable submitted as part of the reformatted mining and reclamation plan anticipates that the reclamation of the Bear Canyon site will take approximately a year and a half, weather permitting. Revegetation will be completed in the fall of the final season of reclamation.

Findings:

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