

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

May 3, 2004

TO: Internal File

THRU: Joe Helfrich, Team Lead

FROM: James D. Smith, Environmental Scientist

RE: Reformat and Digitization, CO-OP Mining Company, Bear Canyon Mine, Permit C/015/0025, Task # 1863

SUMMARY:

The Permittee initially submitted a reformatted MRP on January 27, 2003. Along with a hard copy of the plan, the entire plan was submitted in electronic format on a CD in Adobe® .pdf format.

Permittee's Action		DOGM's Action	
Original submittal - Task # 120	01/27/2003		
		Tech Memo – Geology and Hydrology	06/30/2003
		TA	07/30/2003
Response to TA - Task # 1863	03/01/2004		
		Tech Memo – Geology and Hydrology	05/03/2004
		TA	05/07/2004

Except for a few sections of the current MRP that make reference to other parts of the MRP and have become outmoded with this latest submittal, basically all information from Chapters 6 and 7 of the current MRP, including the appendices, has been incorporated into the electronic MRP. However, there are some deficiencies that need to be addressed, as outlined in the following analyses and findings.

TECHNICAL MEMO

TECHNICAL ANALYSIS:

GENERAL CONTENTS

PERMIT APPLICATION FORMAT AND CONTENTS

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

Analysis:

Outside materials are cited throughout Chapter 6. Section 624.130 refers to Section R534-301-620 for information on geologic literature and references. There is no bibliography in Chapter 6. There is two reference sections in Chapter 7: one on pages 7-85 and 7-86, the other on pages 7-142 and 7-143. These include some - but not all - of the referenced materials. There is no bibliography or reference section that provides information for the following referenced materials:

AeroVironment, 1977
Cordova, 1964
Environmental Protection Agency, 1976
Doelling, 1972
Doelling, 1977

EarthFax Engineering, 1992
Jeppson et al., 1968
Paul Wier Company, 1977
Stokes, 1964

Findings:

Permit Application Format and Contents are not sufficient to meet the requirements of the Coal Mining Rules. Before the proposed amendment can be approved, the Permittee needs to provide the following information:

R645-301-122, The Permittee needs to provide a bibliography or reference section with complete information for all referenced materials.

ENVIRONMENTAL RESOURCE INFORMATION

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

GEOLOGIC RESOURCE INFORMATION

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

Analysis:

Basically all information from the text of Chapter 6 of the current MRP, including the appendices, has been incorporated into the electronic MRP. A few short statements that refer to other parts of the MRP have been omitted.

Findings:

Geologic Resource Information is not sufficient to meet the requirements of the Coal Mining Rules. Before the proposed amendment can be approved, the Permittee needs to provide the information to address the deficiencies identified in the sections that follow.

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-L

- Appendix 7-L, the Gentry Mountain Cumulative Hydrologic Impact Assessment (CHIA) is listed in the Table of Contents and referred to several times in the MRP. However, this appendix was not included as part of the electronic MRP. (The CHIA is a document prepared by the Division and is available to the public in Adobe® .pdf format.)

Appendix 7-N-F

- Page 3 (238 of 326) of “DH-4 Slug Test #2” is out of sequence;
- All three pages (169 through 171 of 326) for “DH-1A Panther Slug Withdrawal Test #1” are out of sequence;

TECHNICAL MEMO

- The charts for “DH-4 Slug Test #2” (263 of 326) and “DH-4 Bail Test #2” (261 of 326) are switched.

Baseline Information

The printouts from the Division of Water Rights that show the water rights for the permit and adjacent areas have not been included in Appendix 7-C of the digitized and reformatted MRP. No comment or explanation is given for removing this information from the MRP.

Baseline Cumulative Impact Area Information

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 Determination

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

Findings:

Hydrologic Resource Information is not sufficient to meet the requirements of the Coal Mining Rules. Before the proposed amendment can be approved, the Permittee needs to provide the following information:

R645-301-121.200, The Permittee needs to (1) Either revise the statement in Section 729 or add the CHIA as Appendix 7-L; and (2) Include all water-rights information in Appendix C.

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:

Coal Resource and Geologic Information Maps

New Plates 6-6 has not been included in the electronic MRP submittal: the file identified as “plate 6-6.pdf” contains Plate 6-5. Plates 6-1 through 6-5 and 6-7 through 6-16 cover the permit and adjacent areas.

Findings:

Maps, plans, and cross sections of Resource Information are not sufficient to meet the requirements of the Coal Mining Rules. Before the proposed amendment can be approved, the Permittee needs to provide the following information:

R645-301-121.200, The Permittee needs to include the electronic version of Plate 6-6.

OPERATION PLAN

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:

General

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-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:

- Pages 7G-132 (D-10D, max Slope), 7G-151 (D-6U), and 7G-178 (D-19U) are out of sequence.
- Page 7G-153 is blank, with no explanation or obvious reason.

TECHNICAL MEMO

- On page 7G-100, Culvert 7C-U is identified as abandoned; however, according to the current MRP, it is 7C-D that is abandoned (calculations for culvert 7C-U are on page 7G-59.)
- Calculations for AD-20 (current page 7G-18A) are missing from the electronic version.

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. Values for Time of Concentration (T_c) and Watershed Area are not shown for WS-27 in the electronic MRP, but other factors may be producing these different Peak Flow and T results;
- There are two pages labeled 7-47 and two pages labeled 7-48 in Appendix 7-H of the electronic MRP;
- RC-RD21 on page 7H-114 in the electronic MRP, calculated results are different than those in the in the current MRP. The differences are because the calculations were done using a Manning coefficient of 0.3 rather than 0.03 (see page 7H-112E in the current MRP). If this is simply a data entry error, it should be corrected and the sheet redone; if the Manning coefficient has been changed for a reason, a discussion of this change needs to be included in the MRP.

Groundwater Monitoring

Cation-anion balance has been added to Table 7-13, the Ground Water Quality Parameter List.

Findings:

Operation Plan Hydrologic Information is not sufficient to meet the requirements of the Coal Mining Rules. Before the proposed amendment can be approved, the Permittee needs to provide the following information:

- R645-301-121.200**, The Permittee needs to (1) Put pages 7G-132 (D-10D, max Slope), 7G-151 (D-6U), and 7G-178 (D-19U) in proper sequence in the electronic MRP (2) Explain why page 7G-153 is blank (3) Clarify: on page 7G-100 of the electronic MRP, Culvert 7C-U is identified as abandoned; however, according to the current (paper) MRP, it is 7C-D that is abandoned and calculations for culvert 7C-U are on page 7G-59 (4) Show calculations for drainage AD-20 (current page

7G-18A), which are missing from the electronic version (5) Correct or justify the Peak Flow and T results for WS-27 on page 7H-15 in the electronic MRP. These are different from those on page 7H-13 of the current MRP. Input values for Time of Concentration (T_c) and Watershed Area are not shown for WS-27 in the electronic MRP, but other factors may be producing the different Peak Flow and T results shown in the electronic MRP (6) Correctly number the pages that follow page 7H- 47 in Appendix 7-H of the electronic MRP (7) Correct, redo, or justify the calculations for C-RD21 on page 7H-114 in the electronic MRP: calculated results are different than those in the in the current MRP. The differences are because the calculations were done using a Manning coefficient of 0.3 rather than 0.03 (see page 7H-112E in the current MRP). If this is simply a data entry error, it should be corrected and the sheet redone; if the Manning coefficient has been changed for a reason, a discussion of this change needs to be included in the MRP.

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:

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.

Findings:

Maps, plans, and cross sections of Mining Operations are not sufficient to meet the requirements of the Coal Mining Rules. Before the proposed amendment can be approved, the Permittee needs to provide the following information:

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

TECHNICAL MEMO

RECOMMENDATIONS:

The Reformat and Digitization of the MRP cannot be approved until the deficiencies described above are addressed satisfactorily.

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