

**STATE OF NEW MEXICO  
WATER QUALITY CONTROL COMMISSION**



**IN THE MATTER OF PROPOSED AMENDMENTS  
TO 20.6.2 NMAC, THE COPPER MINE RULE**

**WQCC 12-01 (R)**

**New Mexico Environment Department,  
Petitioner.**

**NEW MEXICO ENVIRONMENT DEPARTMENT'S  
PROPOSED STATEMENT OF REASONS**

THIS MATTER comes before the Water Quality Control Commission (hereinafter, “Commission”) pursuant to the Petition to Adopt 20.6.7 and 20.6.8 NMAC and Request for Hearing (hereinafter, “Petition”) filed by the New Mexico Environment Department (hereinafter, “NMED” or “Department”) on October 30, 2012. On February 18, 2013, NMED filed a Notice of Amended Petition (hereinafter, “Amended Petition”) which: (1) withdrew proposed 20.6.8 NMAC in its entirety, and (2) revised certain portions of proposed 20.6.7 NMAC. As a result of NMED’s withdrawal of proposed 20.6.8 NMAC, the Commission took no evidence on that portion of the Petition and does not adopt it.

NMED attached proposed rule provisions to both the Petition and Amended Petition. The Commission held a hearing on this matter over the course of ten days between April 9, 2013, and April 30, 2013. The Commission allowed all interested persons a reasonable opportunity to submit data, views, and arguments and to examine witnesses. Thus, the record containing pleadings, written testimony, exhibits, the hearing transcript, public comments, and hearing officer orders has been submitted to the Commission for review in compiling this Statement of Reasons.

Based upon the evidence and argument in the record, the following Statement of Reasons sets forth how the Commission considered and weighed the evidence presented and considered legal arguments in this matter with respect to adoption of the Copper Mine Rule.

### BACKGROUND

1. The Commission is required by the Water Quality Act (hereinafter, “WQA”) to “...adopt, promulgate and publish regulations to prevent or abate water pollution in the state or in any specific geographic area, aquifer or watershed of the state or in any part thereof, or for any class of waters....” *See* Section 74-6-4(E) NMSA 1978.

2. The Commission’s mandate to prevent or abate water pollution was given legal force in 1977 when the Commission adopted the Ground Water Discharge Regulations, now contained in sections 20.6.2.1 through 20.6.2.3114 NMAC. *See* Freeport-McMoRan’s Consolidated Response to the Joint Motion to Dismiss Petition for Rulemaking filed January 11, 2013 (“Freeport’s Consolidated Response”) at 11 (Pleading 19).

3. The Commission has adopted amendments to the Ground Water Discharge Permit Regulations from time to time since 1977, including changes intended to conform to amendments in the WQA. The Commission supplemented its regulatory framework in 1996 when it adopted the Abatement Regulations, now contained in sections 20.6.2.4101 through 20.6.2.4114 NMAC. *See id.*

4. Under the WQA as it existed before 2009, the Ground Water Discharge Permit Regulations did not contain specific requirements to control discharges; instead, these regulations required a permit applicant to propose measures to control its discharges in a permit application. *See id.* at 12. The Ground Water Discharge Regulations during this time did not contain specific requirements to control discharges because the Commission was statutorily

prohibited from promulgating regulations specifying the methods to prevent or abate water pollution. *See id.* Once the applicant submitted a permit application proposing how to control its discharges to ground water, NMED had the option of imposing permit conditions specifying pollution control measures. *See id.* at 14.

5. At the conclusion of the permitting process during this time frame, NMED could approve an applicant's proposal to control its discharges, with or without permit conditions specifying pollution control measures, if NMED determined that "neither a hazard to public health nor undue risk to property will result" and if the proposal met one of three separate conditions: (1) if the ground water that has total dissolved solids concentration of 10,000 mg/l or less will not be affected by the discharge; (2) if "the person proposing to discharge demonstrates that approval of the proposed discharge plan, modification or renewal will not result in either concentrations in excess of the standards of 20.6.2.3103 NMAC or the presence of any toxic pollutant at any place of withdrawal of water for present or reasonably foreseeable future use"; or (3) if certain specific performance standards are met, as applicable. *See id.* at 13; *see also* 20.6.2.3109.C NMAC.

**Senate Bill 206 from the 2009 Regular Session:**

6. In the 2009 Regular Session, the Legislature considered and passed Senate Bill 206, which amended the WQA in a manner that substantially changed the permit process described above. *See* Transcript Volume (hereinafter, "TRV") 1 at 44, Line (hereinafter, "L") 24-25.

7. In particular, the WQA was amended to require the Commission to adopt rules specifying the methods to prevent water pollution and to monitor water quality. *See* Section 74-6-4(K) NMSA 1978.

8. In addition, the Department was tasked with developing industry specific rules for the dairy and copper industries. *See* TRV 2 at 241, L 5-19. The WQA now requires that the Commission promulgate dairy and copper mine industry rules that specify the methods for preventing water pollution and monitoring ground water quality. *See* NMED, Notice of Intent to Present Technical Testimony (“NMED NOI”), Exhibit 4 at 5-6 (Pleading 49).

#### DEVELOPMENT OF THE RULE

9. The WQA requires that the Department develop proposed rules for the dairy and copper industries for consideration by the Commission and identifies certain requirements for rule development. The Commission is required to establish a schedule for rule development and consideration. Section 74-6-4(K) NMSA 1978.

10. The Commission issued and later revised a schedule for rule development and consideration. *See* Order Approving Schedule for Development of Copper Regulation dated January 12, 2012 (Pleading 1); Order Approving Revised Schedule for Development of Copper Regulation, filed September, 24, 2012 (Pleading 3).

#### **Formation of the CRAC and Technical Committee:**

11. The WQA requires NMED to establish an advisory committee to assist in the development of a proposed rule for the copper industry. *See* Section 74-6-5(K) NMSA 1978.

12. NMED formed a Copper Rule Advisory Committee (hereinafter, “CRAC”), as specified in the legislation, to develop ideas and draft language for a proposed rule. *See* NMED, Written Testimony of Tom Skibitski (hereinafter, “NMED Skibitski Direct”), at 9 (Pleading 49). NMED invited representatives with diverse interests, including other governmental agencies, academia, mine owners and operators, and environmental groups to participate on the CRAC. *See* NMED NOI, Exhibit 5 (Pleading 49).

13. The purpose of the CRAC was to advise NMED on appropriate regulations to be proposed for adoption by the Commission. *See id.* It was not the role or responsibility of the CRAC to set agency policy or, in this case to draft the proposed regulations. *See id.*

14. NMED also established a technical committee, which served as a subgroup of the CRAC, to consider technical issues and regulatory concepts of the Copper Mine Rule prior to presentation to and discussion by the CRAC. *See id.*

15. The CRAC and technical committee met regularly over the course of seven months and reviewed draft language and different approaches to the regulation of copper mining activity in New Mexico. *See NMED Skibitski Direct*, at 10.

16. NMED received a draft Copper Mine Rule on August 17, 2012 (hereinafter, “August 17 Discussion Draft”) from a contractor, William C. Olson, working for NMED, who was hired to assist with the CRAC. *See id.*; Attorney General Notice of Intent to Present Technical Testimony, (“AG NOI”), Exhibit 5 (Pleading 5).

**Opportunity for Public Input and Stakeholder Negotiations:**

17. NMED edited the August 17 Discussion Draft and submitted a proposed rule for public comment on September 13, 2012 (hereinafter, “September 13 Public Comment Draft”). *See id.* at 10.

18. NMED held two public meetings, one in Silver City and the other in Albuquerque, New Mexico, to take public comments on the September 13 Public Comment Draft. *See id.* at 10. NMED also offered to meet separately with interested stakeholders to discuss their comments on the September 13 Public Comment Draft and held at least two meetings with stakeholders. *See id.* at p. 10; *See also* Petition at 2.

**Findings of Fact and Conclusions of Law on Background and Development of the Rule:**

19. Based on the weight of the evidence, the Commission finds that the August 17 Discussion Draft was prepared and circulated by the Department's contractor, Mr. William Olson, and was not an official position of NMED.

20. Based on the weight of the evidence, the Commission finds that the September 13 Public Comment Draft represented language proposed by NMED.

21. The Commission finds that NMED satisfied the requirements of the WQA to form and utilize an advisory committee and to conduct stakeholder negotiations in developing the Copper Mine Rule and conducted its activities in accordance with a schedule approved by the Commission.

22. Based on the weight of the evidence, the Commission finds that the September 13 Public Comment Draft incorporates language proposed by the various parties participating in the CRAC but does not represent unanimity on the proposed rule language.

23. For the reasons set forth below and based on the weight of the evidence, the Commission considered information and rule language presented in the CRAC and technical subcommittee to the extent that it was introduced into evidence. The Commission finds that neither NMED nor the Commission was or is legally bound to accept rule language or information from the CRAC or technical subcommittee.

24. The Commission gives the various drafts of the Copper Mine Rule some weight, considering the circumstances described above. In the absence of specific testimony given during this hearing that explains and supports or contests specific rule language, the Commission

attaches no more weight to the August 17 Discussion Draft than it does to the September 13 Public Comment Draft.

## THE PETITION AND PLEADINGS

### **Filing of the Petition and Setting the Hearing:**

25. Pursuant to the approved schedule for development of copper regulations, NMED was required to file a petition for the Copper Mine Rule on September 27, 2012. *See* Motion to Approve Schedule for Development of Copper Regulations at 1-2 and Order filed January 1, 2012 (Pleading 1); Order Approving Schedule for Development of Copper Regulation at 1, filed September 24, 2012 (Pleading 3).

26. On September 11, 2012, the Commission considered a revised schedule for development of copper regulation, set a new date of October 30, 2012 for the petition to be filed, and set hearings to occur before the Commission on November 13, 2012 and January 8, 2013. *See* Order Approving Revised Schedule for Development of Copper Regulation at 1; and Order Motion to Approve Revised Schedule for Development of Copper Regulations at 1-2 with attachment (Pleading 3).

27. After considering comments on the September 13 Public Comment Draft, NMED prepared a proposed rule (hereinafter, “Petitioned Rule”) and filed it with a petition on October 30, 2012, before the Commission. *See* NMED Skibitski Direct at 10; *see also* Petition to Adopt 20.6.7 and 20.6.8 NMAC and Request for Hearing (hereinafter, “Petition”) filed October 30, 2012 (Pleading 4) at 1-3 with Attachments 1 and 2.

28. Freeport-McMoRan Tyrone Inc., Freeport-McMoRan Chino Mines Company, and Freeport-McMoRan Cobre Mining Company (collectively hereinafter, “Freeport”) submitted a written response to the Petition, supported NMED’s request to set a hearing on January 8, 2013

to hear the Petitioned Rule, and argued that it was inappropriate and premature to entertain dispositive motions on the Copper Mine Rule prior to the hearing. *See* Written Response to Petition for Rulemaking at 1-3, filed November 9, 2012 (Pleading 6).

29. The Gila Resources Information Project, Amigos Bravos, and Turner Ranch Properties, Inc. submitted a response to the Petition and argued that the Commission should reject the Petition because the Petitioned Rule violates the WQA. *See* Response to Petition for Rulemaking at 1-2, filed November 9, 2012 (Pleading 8).

30. The Commission voted to accept the Petition at its November 2013 monthly meeting. The Commission voted to assign a hearing officer and schedule the matter for hearing for multiple days in April of 2013. *See* Meeting Minutes, New Mexico Water Quality Control Commission Regular Meeting, November 13, 2012.

**Pre-Hearing Motions and Briefs:**

31. The Attorney General of New Mexico (hereinafter, “Attorney General” or “AG”) moved to admit into the record proper portions of the record from proceedings held before the Commission dealing with *In the Matter of Appeal of Supplemental Discharge Permit for Closure (DP 1341) for Phelps Dodge Tyrone, Inc.*, WQCC Nos. 03-12(A) and 03-13(A) (hereinafter, “Tyrone Permit Appeal”). *See* Attorney General’s Motion to Admit Record from the Tyrone Permit Appeal into the Record Proper (hereinafter, “AG’s Motion to Admit Record of Tyrone”) at 1, filed November 2, 2012 (Pleading 5).

32. After various parties fully briefed the Attorney General’s Motion to Admit the Record of Tyrone, the Hearing Officer denied the motion with the exception of one document, the Commission’s Decision and Order dated February 4, 2009. In particular, the Hearing Officer determined that inclusion of the entire record from the administrative adjudication into this



rulemaking, without any winnowing and without presentation by witnesses, would result in confusion and unnecessary expenditure of Commission time and resources. *See* Order on Attorney General's Motion to Admit Record from Tyrone Permit Appeal into Record Proper at 1-2, filed February 6, 2013 (Pleading 40).

33. The Attorney General submitted a motion to remand the Petitioned Rule to NMED on the ground that the rule as proposed would violate the WQA. *See* Attorney General's Motion to Remand the Proposed Copper Mine Rule to NMED at 1, filed December 14, 2012 (Pleading 16). Gila Resources Information Project, Turner Ranch Properties, Inc., and Amigos Bravos filed a joint motion to dismiss the Petition. *See* Joint Motion to Dismiss Petition for Rulemaking at 1, filed on December 13, 2012 (Pleading 13). Responses were filed by Freeport-McMoRan (Pleading 19), the New Mexico Mining Association (Pleading 22), and NMED (Pleading 23). Replies were filed by the Attorney General (Pleadings 30 and 31) and jointly by GRIP, Turner Ranches, and Amigos Bravos (Pleadings 33 and 34). After hearing oral argument on the motions, the Commission voted to deny the motions on the first day of the hearing. *See* TRV Volume 1 at 49-51.

34. Amigos Bravos filed a motion to postpone the hearing on the Copper Mine Rule because the Commission decided to hear dispositive motions on NMED's Copper Mine Rule at the beginning of the hearing scheduled for April 9, 2013. *See* Amigos Bravos' Motion to Postpone the Hearing at 1, filed January 11, 2013 (Pleading 26). The Hearing Officer denied this motion. *See* Order on Amigos Bravos' Motion to Postpone the Hearing at 1, filed February 12, 2013 (Pleadings 44).

35. Amigos Bravos filed a second motion to postpone the hearing because NMED filed its Amended Petition for Adoption of the Copper Rule four days prior to when the notices of

intent to present technical testimony were due. *See* Amigos Bravos' Second Motion to Postpone the Hearing at 1, filed February 19, 2013 (Pleading 46). After a telephonic hearing, the Hearing Officer denied the motion and made adjustments to the pre-hearing deadlines to address the issues raised by NMED's filing of the Amended Petition. *See* Order on Amigos Bravos' Second Motion to Postpone the Hearing at 1-2, filed February 21, 2013 (Pleading 47).

36. NMED submitted a legal brief at the Commission's request to clarify the parameters of the Commission's rulemaking authority and to address the assertion that the Commission lacks then necessary authority to consider the amendment proposed in the Petition. *See* New Mexico Environment Department's Brief on Commission's Authority to consider Petition at 1, filed December 14, 2012 (Pleading 15). Other parties responded to the pleading (Pleadings 21 and 25), and NMED replied. *See* NMED's Brief on Commission's Authority to Consider Petition filed January 25, 2013 (Pleading 32).

37. Freeport submitted a brief on the scope of the Commission's authority to conduct a rulemaking and to adopt rules under the WQA. *See* Freeport's Brief on the Commission's Authority to Conduct a Copper Industry-Specific Rulemaking at 1, filed December 14, 2012 (Pleading 17). Other parties responded to the pleading. *See* Attorney General's Response to Freeport's Brief on the Commission's Authority filed January 11, 2013 (Pleadings 20) and Citizen's Joint Response to Freeport's Brief on the Commission's Authority to Conduct Rulemaking and NMED's Brief on Commission's Authority to Consider Petition filed January 11, 2013 (Pleading 25). Freeport replied to responses. *See* Freeport's Consolidated Reply to the "Citizens" and the Attorney General's Responses to the Brief's on the Commission's Authority filed January 25, 2013 (Pleading 35).

**Notices of Intent to Present Technical Testimony:**

38. The Hearing Officer established a Procedural Order to guide the conduct of the hearing. A Notice of Intent to Present Technical Testimony (hereinafter, “NOI”) was due on February 22, 2013, for any party wishing to present technical testimony. *See* Procedural Order, filed November 21, 2012 (Pleading 10). (hereinafter, “Procedural Order”).

39. In response to further reviews by NMED staff and NMED’s expert witness, NMED edited the Petitioned Rule and filed a Notice of Amended Petition (hereinafter, “Amended Petition”) on February 18, 2013 with underline-strikethrough version of the Petitioned Rule (hereinafter, “Amended Rule”) showing all changes. *See* Amended Petition at 1-2 with Attachments 1 and 2 (Pleading 45); *see also* NMED Skibitski Direct at 11.

40. The Amended Rule did not include substantive changes, rather the edits were to further clarify and make consistent the rule proposals as understood by NMED staff and NMED’s expert witness. *See id.* at 11.

41. The Hearing Officer made adjustments to the pre-hearing deadlines to address the issues raised by NMED’s filing of the Amended Petition. In particular, in the March 15 filings dealing with rebuttal matters, the Hearing Officer provided that the parties could revise or supplement the technical testimony and exhibits submitted on February 22, 2013, in order to address changes to the Petitioned Rule as now set forth in the Amended Rule. *See* Order on Amigos Bravos’ Second Motion to Postpone the Hearing at 1-2, filed February 21, 2013 (Pleading 47).

42. On February 22, 2013, NMED filed an NOI with direct testimony and exhibits. *See* New Mexico Environment Department’s Notice of Intent to Present Technical Testimony,

filed February 22, 2013 (Pleading 49) (hereinafter, “NMED NOI”). The direct testimony and exhibits addressed the Amended Rule.

43. On February 22, 2013, Freeport filed an NOI with direct testimony and exhibits. *See* Notice of Intent to Present Technical Testimony on Behalf of Freeport (Pleading 50) (hereinafter, “Freeport NOI”). The direct testimony and exhibits addressed the Petitioned Rule.

44. On February 22, 2013, the Attorney General filed an NOI with direct testimony and exhibits. *See* Attorney General’s Notice of Intent to Present Technical Testimony (Pleading 51) (hereinafter, “AG NOI”). The direct testimony and exhibits addressed the Petitioned Rule.

45. On February 22, 2013, Gila Resources Information Project (hereinafter, “GRIP”) and Turner Ranch Properties, L.P. (hereinafter, “TRP”) filed a joint NOI. *See* Notice of Intent to Present Technical Testimony by GRIP and TRP (Pleading 53) (hereinafter, “GRIP/TRP NOI”). The direct testimony and exhibits addressed the Petitioned Rule.

46. On February 22, 2013, Amigos Bravos filed an NOI with direct testimony and exhibits. *See* Amigos Bravos’ Notice of Intent to Present Technical Testimony (Pleading 52) (hereinafter, “AB NOI”). The direct testimony and exhibits addressed the Petitioned Rule.

47. On February 22, 2013, William C. Olson filed an NOI with direct testimony and exhibits. *See* William C. Olson Notice of Intent to Present Technical Testimony (Pleading 54) (hereinafter, “WCO NOI”). The direct testimony and exhibits addressed the Petitioned Rule.

48. The New Mexico Mining Association (hereinafter, “NMMA”) filed pleadings as described above, but NMMA did not file a NOI or proposed rule language.

49. The parties that filed NOIs and NMMA will be collectively referred to as “Parties” at times.

**Rule Proposals for Petitioned Rule:**

50. Under 302.A of the Procedural Order, a party filing an NOI was required to “...include the text of any recommended modifications to the proposed regulatory change....”

51. Freeport included the text of its proposed rule changes to the Petitioned Rule in the Freeport NOI at 3-6 and in written testimony presented with the NOI.

52. The Attorney General included the text of its proposed rule changes to the Petitioned Rule in AG NOI, Exhibit 2.

53. GRIP and TRP jointly proposed their rule changes to the Petitioned Rule in Attachment 2 to James Kuipers’ direct testimony (hereinafter, “GRIP Kuipers Direct, Attachment 2”).

54. Amigos Bravos included the text of proposed rule changes to the Petitioned Rule in Amigos Bravos Exhibit 1 (hereinafter, “AB Exhibit 1”).

55. Mr. Olson included the text of proposed rule changes to the Petitioned Rule in WCO Exhibit 3.

**Rule Proposals for Amended Rule:**

56. According to the Procedural Order and Order on Amigos Bravos’ Second Motion to Postpone the Hearing, parties that intended to present technical testimony rebutting testimony of another party were required to file an NOI to present rebuttal technical testimony, which was required to include the text of any recommended changes to the Amended Rule.

57. Freeport set forth the text of recommended changes to the Amended Rule in its NOI to Present Technical Rebuttal Testimony (Freeport Rebuttal NOI”) at pages 3 through 5 (Pleading 61).

58. The Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not present any text of recommended changes to the new rule proposals included in the Amended Rule. *See* Attorney General’s Notice of Filing Rebuttal Testimony and Exhibits (AG Rebuttal NOI”) at 1 filed March 15, 2013 (Pleading 63); NOI to Present Technical Rebuttal Testimony [by GRIP and TRP] (“GRIP/TRP Rebuttal NOI”) at 1, filed March 15, 2013 (Pleading 67); Amigos Bravos’ NOI to Present Rebuttal Technical Testimony (“AB Rebuttal NOI”) at 2, filed March 15, 2013 (Pleadings 66); and William C. Olson NOI to Present Technical Rebuttal Testimony (“WCO Rebuttal NOI”) at 2, filed March 15, 2013 (Pleading 68).

59. Attached to NMED’s Proposed Statement of Reasons, NMED proposed additional changes to its Amended Rule, and this new rule proposal will be referred to as the “Proposed Final Rule.” Attachment 1 to the Department’s Proposed Statement of Reasons contains an underline-strikethrough version of the Proposed Final Rule, showing all changes from the Amended Rule. Attachment 1 also includes comment boxes with brief explanations for most of the changes. Often the comment boxes indicate which party or parties proposed the change. The comment boxes are for explanatory purposes only, and the Commission has relied upon the Department’s Proposed Statement of Reasons as the basis for the Proposed Final Rule. Attachment 2 contains a “clean” version of the text of the Proposed Final Rule.

#### THE HEARING AND POST-HEARING PLEADINGS

60. The Commission’s hearing notice requirements for rulemaking state that “[a]t least thirty days prior to the hearing date, notice of the hearing shall be published in the New Mexico Register and a newspaper of general circulation in the area affected and mailed to all persons who have made a written request to the commission for advance notice of hearings and

who have provided the commission with a mailing address”. *See* Section 74-6-6(C) NMSA 1978.

**The Hearing:**

61. Notice of this hearing was published in the New Mexico Register, Albuquerque Journal, and Silver City Daily Press sixty days prior to the hearing and sent to those persons on the Commission’s interested party list and NMED’s stakeholder list. *See* NMED Skibitski Direct at 10.

62. The hearing was held between April 9 and May 3 for a total period of ten days. *See* TRV 1-11.

63. During the course of the hearing, there were multiple parties providing technical testimony and public comment offered during the day to those who appeared and at three evening sessions. One of the public comment periods was held in Silver City, New Mexico on May 3, 2013. *See* TRV 11 at 2596, L. 13-17.

64. The following testified as technical witnesses during the hearing for NMED: Adrian Brown and Thomas Skibitski. *See* NMED NOI and NMED Rebuttal NOI.

65. The following testified as technical witnesses during the hearing for Freeport: John Brack, Timothy Eastep, Thomas Shelley, Lynn Lande, Michael Grass, James Scott, Jim Finley, Neil Blandford, and Lewis Munk. *See* Freeport NOI and Freeport Rebuttal NOI.

66. The following testified as technical witnesses during the hearing for the Attorney General: Ms. Connie Travers and Dr. Bruce Thompson. *See* AG NOI and AG Rebuttal NOI.

67. The following testified as technical witnesses during the hearing for GRIP and TRP: James Kuipers and Sally Smith. *See* GRIP/TRP NOI.

68. The following testified as technical witnesses during the hearing for Amigos Bravos: Brian Shields and Kathleen Garland. *See* AB NOI.

69. Mr. Olson testified as a technical witness during the hearing on behalf of himself. *See* WCO NOI.

**Post-Hearing Pleadings:**

70. At the conclusion of the hearing testimony, the Hearing Officer advised the Parties that each of them could submit proposed statements of reasons and written closing arguments to the Commission prior to their deliberations. Those documents were to be submitted within 45 days after the Hearing Officer notified the Parties of receipt of the hearing transcripts. TRV, Volume 11 at p. 5-15 (sidebar discussion) and TRV Volume 10 at p. 2589-2590.

71. Notice of receipt of the hearing transcripts was given on May 28, 2013 (Pleading 84).

72. On June 25, 2013, the Attorney General, GRIP/TRP, and William C. Olson, jointly moved for an extension of the time to submit proposed statements of reasons and written closing arguments until August 16, 2013 (Pleading 88). There were no objections and the Hearing Officer granted that motion on June 26, 2013 (Pleading 89).

73. On July 30, 2013, William C. Olson moved for an additional extension of the time to submit proposed statements of reasons and written closing arguments. The Hearing Officer granted the motion in part on August 1, 2013, allowing an extension until August 22, 2013.

**Copper Mining in New Mexico and Importance of the Copper Mine Rule:**

74. John Brack, on behalf of Freeport, discussed the global demand for copper, the many uses of copper, the long-term demand for copper, and the need for copper mining to



produce copper products. *See* Written Testimony of John Brack, filed February 22, 2013 (Pleading 50), as modified by the Notice of Errata (Pleading 83) (hereinafter “Freeport Freeport Brack Direct”) at 2-4 and 8-14.

75. Mr. Brack further discussed existing copper mines in New Mexico and presented evidence of their economic impact. Freeport Brack Direct at 6-8.

76. Ms. Lande, on behalf of Freeport, discussed the existence of copper deposits in New Mexico, the history of copper mining, and the potential for finding additional deposits. Written Testimony of Lynn Lande, filed February 22, 2013 (Pleading 50) at 2-5.

77. All Parties agree that copper mining is a necessary activity and that it is important to the State of New Mexico to allow copper mining. Throughout the hearing there was a collective agreement by the Parties that open pit copper mining should not be prohibited in New Mexico. *See* TRV 1 at 20, L. 2-5; TRV 1 at 22, L. 6-11; TRV 1 at 30, L. 16-20; TRV 1 at 44, L. 11-17; TRV 1 at 58, L. 10-14; TRV 1 at 67, L. 1-4; TRV 2 at 239, L. 15-20; TRV 3 at 508, L. 2-7; TRV 6 at 150, L.9.

78. Mr. Brack explained the nature of copper mining and the different types of mining practices and processes used to produce copper. *See* Freeport Brack Direct at 21-31.

79. Mr. Brack further explained the need for the Copper Mine Rule to establish regulatory stability and predictability in order to encourage investment in copper mining. *See* Freeport Brack Direct at 14-20.

80. There was general agreement among the Parties that copper mines pose a high potential risk of ground water contamination if leachate, process water, and impacted storm water are not stored and handled properly. *See* GRIP Smith Direct at 2 (Pleading 53), *See also* NMAC; AG Travers Direct at 5 (Pleading 51); and TRV 3 at 236, L. 20-23; TRV 2 at 257, L.

10-18; TRV 3 at 507, L. 17-20; TRV 3 at 576-577, L. 23-1; TRV 3 at 577, L. 5-7; TRV 3 at 588, L. 16-22; TRV 3 at 590, L. 9-17; TRV 5 at 1036, L. 19-24.

81. Ms. Lande, on behalf of Freeport, described the geologic nature of copper deposits, why copper mines impact ground water, and why some impacts to water quality are unavoidable. *See* Freeport Lande Direct at 6-10.

82. Mr. Blandford, on behalf of Freeport, discussed historical and present copper mining, including mines operated under existing discharge permits, and impacted ground water in the vicinity of copper mines. Existing copper mines have been required to abate ground water contamination under the Commission's abatement rules. *See* Blandford Rebuttal at p. 6, AG Travers Direct at p. 7-8.

**Overview of NMED's Approach to Protection of Ground Water under the Copper Mine Rule:**

83. The purpose of the Copper Mine Rule is to control and contain discharges of water contaminants specific to copper mine facilities and their operations to prevent water pollution so as to protect all ground water of the state of New Mexico for present and potential future use as domestic and agricultural water supply and surface water recharge. *See* Written Expert Testimony of Adrian Brown, P.E. in Support of the New Mexico Environment Department Proposed Copper Mine Rule, filed February 22, 2013 (Pleading 49) at 3 (hereinafter "NMED Brown Direct"); (TR. Vol. 3, P. 551, L. 7-14).

84. The purpose of the Copper Mine Rule as it relates to water quality standards is to control and contain discharges of water contaminants specific to copper mine facilities and their operations to prevent water pollution so that ground water meets the quality standards of

20.6.2.3103 NMAC at locations of present and potential future use. *See* NMED Brown Direct at 3.

85. The Department's proposed rule was technically reviewed to determine if the Rule was protective of New Mexico's ground water during and after copper mining activities and found to be protective. *See* NMED Brown Direct at 3; TRV 3 at 555, L. 10-16).

86. Discharge control at New Mexico copper mine facilities under the Rule is regulated separately for each mining unit within the facility, such as each mine, each waste rock pile, each tailings pile, and each leach pad. *See* NMED Brown Direct at 4. The framework of the Copper Mine Rule is a unit by unit approach that evaluates the parameters of the effectiveness of ground water protection as it relates to its operation. *See* TRV 3 at 661, L. 17-19; TRV 3 at 682, L. 8-17; TRV 4 at 803-804, L. 17-4; TRV 4 at 816, L. 9-14; TRV 4 at 824, L. 5-11).

87. During mine operation, discharge control at each unit is achieved through containment: (1) by locating the materials in the unit in impermeable tanks, pipes, and ponds; (2) by locating a liner system beneath some units to substantially prevent discharge of the liquids in the unit to the underlying soil or bedrock; or (3) by collecting any discharge to ground water as close as practicable to the unit such that it does not impact present and potential future ground water use external to the mine unit. *See* NMED Brown Direct at 4; TRV 1 at 15, L. 22-25; TRV 3 at 552-553, L. 6-25. The primary method for protecting ground water during mine operation is through discharge control at each unit by the containment of ground water in excess of applicable standards. *See* TRV 3 at 557, L. 3-7).

88. During mine operation under the Copper Mine Rule, the method required for protection varies, depends on the materials contained within the unit of the mine and the threat

which those contents present of exceeding standards in ground water. Those units containing highly concentrated process waters and intended for long-term storage of impacted stormwater are double-lined; the units intended for short-term storage of impacted stormwater are single-lined; and the units containing waste rock and tailings may be unlined but would have active ground water capture systems. *See* NMED Brown Direct at 4.

89. In all cases, the mine water management system controls discharges of water contaminants from the copper mine units, prevents water pollution, and protects the ground water of the State of New Mexico for present use (during the mining period) as domestic and agricultural water supply and surface water recharge. *See* NMED Brown Direct at 4.

90. The effectiveness of the discharge control at each unit is determined by monitoring wells located on the perimeter of the unit: upgradient, side gradient, and downgradient. In the event that a monitor well identifies concentrations rising toward exceedance of the standards or an actual exceedance of the standards occurs, a contingency process is triggered. The contingency process generally comprises emergency repair of any breach or failure, corrective action, and, if appropriate, abatement of impact. *See* NMED Brown Direct at 4.

91. After operation, the mine closes. Under the Copper Mine Rule, the operational features are dismantled, piping systems are removed or abandoned in place, and impoundments are emptied and, where the foundation materials are contaminated, reclaimed with a store-and-release soil cover. The large scale materials storage units—leach stockpiles, waste rock stockpiles, and tailings impoundments—are all reclaimed the same way: any water on the piles is removed and water within the units allowed to drain, the sides are re-graded to environmentally sustainable slopes, and the top and sides of each pile are enclosed in a three-foot

thick store-and-release soil cover. The entire site is then re-vegetated. *See* NMED Brown Direct at 4.

92. The store-and-release soil cover system largely prevents infiltration of precipitation through the ground surface, by intercepting and storing precipitation that infiltrates, and slowly releasing it to the atmosphere via evaporation and plant transpiration. In this way, after mine closure, there is very little seepage through the soil cover to the underlying ore, waste rock, and tailings materials, and there is correspondingly little seepage through the rock and tailings materials into the underlying ground water system. This limits the transport of any contaminants that may be contained within, ore released from, or materials in the units. The amounts of contaminants being released from beneath the units are sufficiently small that the impact on the underlying ground water is also small, and is expected to prevent water pollution. As a result, the store-and-release soil cover protects the ground water of the State of New Mexico for potential future use as domestic and agricultural water supply and surface water recharge. *See* NMED Brown Direct at 4-5.

93. The basic regulatory tool for protecting and monitoring ground water quality at copper mine facilities is a valid and enforceable discharge permit. *See* TRV 3 at 557, L. 3-7.

94. The Department's proposal creates a straightforward permitting process with improved regulatory certainty that results in discharge permits that are consistent between facilities and more readily enforceable. *See* TRV 3 at 558, L. 6-12.

95. The Petitioned Rule proposed efficient measures and clear provisions to prevent and contain ground water contamination. *See* TRV 3 at 560-561, L. 19-5.

96. The Department also proposed comprehensive monitoring and detection methods in its proposed Copper Mine Rule. *See* TRV 3 at 557, L. 12-20.

97. Adoption of the Copper Mine Rule will benefit the Department by preventing the Department and applicant from having to go through a reiterative process whereby versions of a permit are submitted and rejected until the applicant submits a permit that meets the expectations of the Department. *See* TRV 3 at 560-561, L. 19-5.

98. The Department will benefit from the Copper Mine Rule from not having to seek concurrence on a case by case basis from the courts or the Commission to require what it needs to prove ground water will be protected. *See* TRV 3 at 560-561, L. 19-5).

99. Permittees will benefit from the Copper Mine Rule by having more certainty that a permit application that meets the requirements of the rule will be approved. *See* NMED Skibitski Direct at 11.

100. The specific provisions in the Copper Mine Rule are generally consistent with the conditions and requirements of discharge permits issued to copper mines by the Department up to the present, supplemented by new requirements for copper mine units to be built in the future, such as double-lined process water impoundments, which in the past have used various liner designs, and liner requirements for new leach stockpiles, which largely have been constructed without liners under existing discharge permits. There also are additional more specific requirements in the Copper Mine Rule compared to requirements imposed in existing discharge permits. *See* NMED Skibitski Direct at 8-12.

ANALYSIS OF TESTIMONY AND REASONS  
FOR ADOPTION OF SPECIFIC RULE PROPOSALS

101. The New Mexico Water Quality Control Commission Regulations for Ground and Surface Water Protection are located at 20.6.2 NMAC. *See* NMED Skibitski Direct at 3.

102. The proposed Copper Mine Rule will be located at 20.6.7 NMAC.

103. The Parties identified certain typographical, grammar, and formatting errors in the Petitioned Rule and Amended Rule. These non-substantive changes and have been addressed in the Proposed Final Rule submitted by NMED.

104. The Commission finds that these changes proposed by the Parties to typographical, grammar, and formatting errors in the Petitioned Rule and Amended Rule are reflected in NMED's Proposed Final Rule.

105. The Commission finds that these changes to typographical, grammar, and formatting errors are undisputed and hereby adopts such changes as reflected in NMED's Proposed Final Rule.

**Sections 20.6.7.1 through 20.6.7.6 - Compliance with 1.24.10.8:**

106. Section 1.24.10.8(F) NMAC requires the first six sections of a part of a rule to set forth the issuing agency, scope, statutory authority, duration, effective date, and objective.

107. The Petitioned Rule, Amended Rule, and Proposed Final Rule set forth the issuing agency, scope, statutory authority, duration, effective date, and objective at 20.6.7.1 through 20.6.7.6 NMAC.

108. NMED presents testimony from Mr. Brown to support 20.6.7.1 through 20.6.7.6 NMAC. *See* NMED Brown Direct at 2-3.

109. The Commission finds that none of the parties object to 20.6.7.1 through 20.6.7.6 NMAC as set forth in the Petitioned Rule, Amended Rule, and Proposed Final Rule. *See* Freeport NOI; AG Exhibit 2 at 1; AB Exhibit 1 at 1; GRIP Kuipers Direct Attachment 2 at 1; WCO Exhibit 3 at 1.

110. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.1 through 20.6.7.6 NMAC as set forth in the Proposed Final Rule.

**Section 20.6.7.7 – Definitions:**

***Section Overview***

111. NMED proposed a set of definitions to be used only for purposes of the Copper Mine Rule. *See* Petition Attachment 1 at 1-4.

***Undisputed Subsection A***

112. NMED proposed 20.6.7.7.A in the Petitioned Rule. *See* Petition, Attachment 1 at 1.

113. Subsection A provides that terms defined in the WQA and in 20.6.7 NMAC, when used in the Copper Mine Rule, shall have the meanings as given in the WAQ and 20.6.7 NMAC.

114. No party proposed any alternative language for subsection A, and all parties retain it in their alternative rule proposals. *See* Freeport NOI; AG Exhibit 2 at 1; AB Exhibit 1 at 1; GRIP Kuipers Direct Attachment 2 at 1; WCO Exhibit 3 at 1.

115. NMED made no changes to 20.6.7.7.A in the Amended Rule. *See* Amended Petition, Attachment 1 at 1.

116. NMED made no changes to 20.6.7.7.A in the Proposed Final Rule. *See* Proposed Final Rule at 1.

117. Based on the weight of the evidence, the Commission adopts 20.6.7.7.A as set forth in the Proposed Final Rule.

***Subsection B—Undisputed Definitions***

118. The Commission finds that the following definitions in 20.6.7.7 set forth by NMED in the Petitioned Rule, Amended Rule, and Proposed Final Rule are undisputed because they remained unchanged through the different versions of the Copper Mine Rule and Freeport,



the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not present alternative rule language: acid mine drainage; applicant; below-grade tank; construction quality assurance or CQA; construction quality control or CQC; CQA/CQC report; copper mine rule; critical structure; date of postal notice; discharge permit amendment; existing copper mine facility; existing impoundment; expiration; factor of safety; final CQA report; flow meter; freeboard; highway; impoundment; interbench slope; large copper mine facility; leach stockpile; liner system; maximum daily discharge volume; medium copper mine facility; mining and minerals division; new copper mine facility; non-impacted stormwater; open pit; outslope; owner; permittee; PLS; slope angle; spillway; stormwater; surface water(s) of the state; SX/EW; tailings; tailings impoundment; and underground mine.

119. The Commission finds that the following definitions in 20.6.7.7 set forth by NMED in the Petitioned Rule and Amended Rule were undisputed by others, were changed by NMED in the Proposed Final Rule, and the changes in the Proposed Final Rule were non-substantive amendments for consistency and clarity: Mining Act; operator; and small copper mine facility.

120. The Commission finds that the following definition in 20.6.7.7 set forth by NMED in the Petitioned Rule were undisputed by others, were changed in the Amended Rule and remained undisputed by others, and remained unchanged in the Proposed Final Rule: discharge volume; pipeline corridor; and pipeline system.

121. The Commission finds that the following definitions in 20.6.7.7 set forth by NMED in the Petitioned Rule were undisputed by others, were changed in the Amended Rule and remained undisputed by others, and were changed again in the Proposed Final Rule in order

to deal with non-substantive matters to reflect clarity and consistency for the definitions: closure and impacted stormwater.

122. The Commission finds that the following definitions are undisputed by the Parties because the definitions were added by NMED as new definition in the Amended Rule for the first time, were unopposed in rebuttal testimony, and carried through in the same form to the Proposed Final Rule: slag and unit.

123. The Commission finds that the following definitions were supported by testimony from Freeport witnesses: acid mine drainage; construction quality assurance or CQA; construction quality control or CQC; critical structure; discharge permit amendment; freeboard; impoundment; leach stockpile; liner system; open pit; small copper mine facility; surface water(s) of the state; and tailings. *See* Freeport Finley Direct at 9, 15; Freeport Grass Direct at 5, 6, 7, 11, 13, 21; Freeport Shelley Direct at 15; Freeport Eastep Direct at 36; and Freeport Scott Direct at 3; Freeport Blandford Rebuttal at 23-24.

124. The Commission finds that all of the definitions set forth above are necessary for the operation of the Copper Mine Rule.

125. Based on the weight of the evidence and the fact that several definitions were unopposed and/or changed for non-substantive reasons, the Commission hereby adopts the following definitions as set forth in the Proposed Final Rule: acid mine drainage; applicant; below-grade tank; closure; construction quality assurance or CQA; construction quality control or CQC; CQA/CQC report; copper mine rule; critical structure; date of postal notice; discharge permit amendment; discharge volume; existing copper mine facility; existing impoundment; expiration; factor of safety; final CQA report; flow meter; freeboard; highway; impacted stormwater; impoundment; interbench slope; large copper mine facility; leach stockpile; liner

system; maximum daily discharge volume; medium copper mine facility; mining and minerals division; Mining Act; new copper mine facility; non-impacted stormwater; open pit; operator; outslope; owner; permittee; PLS; pipeline corridor; pipeline system; slag; slope angle; small copper mine facility; spillway; stormwater; surface water(s) of the state; SX/EW; tailings; tailings impoundment; underground mine, and unit.

**20.6.7.7 – Disputed Definitions:**

***Additional Conditions***

126. NMED proposed 20.6.7.7.B(2) in the Petitioned Rule which provides a definition of “additional conditions.” *See* Petition, Attachment 1 at 1.

127. GRIP and TRP objected to this definition and added new language to require that “[c]onditions carried over from a prior discharge permit shall not be considered additional conditions.” In support, GRIP and TRP argued that conditions already contained in existing permits should not be considered as “additional conditions.” *See* GRIP Kuipers, Attachment 2 at 1.

128. NMED made no changes to this definition in its Amended Rule or Proposed Final Rule. *See* Amended Petition, Attachment 2 at 1.

129. The Commission finds that the issues raised by GRIP and TRP has been addressed by adding similar language to specific rule sections and does not need to be addressed in the definitions.

130. NMED made no changes to this definition in the Proposed Final Rule. *See* Proposed Final Rule at 1.

131. Based on the weight of the evidence, the Commission hereby adopts the definition of “additional conditions” as set forth by NMED in the Proposed Final Rule.

### *Applicable Standards*

132. NMED proposed 20.6.7.7.B(3) in the Petitioned Rule which provides a definition of “applicable standards.” *See* Petition, Attachment 1 at 1.

133. Freeport supported this definition through testimony from Mr. Blandford, wherein he indicated that the definition of “applicable standards” is a concept that is necessary to determine if ground water impacts are mine related, and if so, if abatement or corrective action necessary. *See* Freeport Blandford Direct at 4.

134. The Attorney General objected to this definition and proposed to delete the phrase “including, when applicable, the existing standards.” However, the Attorney General provided no specific technical evidence as to why such a change was needed. *See* AG Exhibit 2 at 2.

135. GRIP and TRP objected to this definition and proposed deleting most of the language to essentially define “applicable standards” as the standards set forth in 20.6.2.3103 NMAC. GRIP and TRP maintained that such a change to the definition is appropriate because “existing concentration” is already a part of 20.6.2.3103 NMAC, and the reference to “background” and “alternative abatement standards” are terms used in the abatement regulations and have no place in a rule designed to prevent pollution. *See* GRIP Kuipers Direct, Attachment 2 at 1.

136. Amigos Bravos objected to this definition, proposed the same changes as the Attorney General to the definition, and argued that the changes are appropriate because they were in the August 17 Discussion Draft. *See* AB Exhibit 1 at 2.

137. NMED made changes to the definition in the Amended Rule by removing the phrase “existing copper mine facility” and references to certain NMAC regulations *See* Amended Petition, Attachment 2 at 1.

138. During the hearing, Mr. Brown testified that it is appropriate to retain “abatement standards” within the definition of “applicable standards.” TRV 2 at 620, L. 15-19.

139. NMED changed the definition of “applicable standards” in the Proposed Final Rule, whereby NMED removed the phrase “including, when applicable, the existing standards.” This addresses the Attorney General’s comment and partially addresses GRIP’s and TRP’s proposed changes. *See* Proposed Final Rule at 1.

140. The Commission finds that the removal of the phrase “including, when applicable, the existing standards” as proposed by NMED in the Proposed Final Rule is appropriate because the language is included in 20.6.2.3103 NMAC and is therefore unnecessary.

141. Relying primarily on the testimonies of Mr. Brown and Mr. Blandford, and based on the weight of the evidence, the Commission hereby adopts the definition of “applicable standards” as proposed by NMED in the Proposed Final Rule.

#### ***Area of [Open Pit] Hydrologic Containment***

142. NMED proposed 20.6.7.7.B(5) in the Petitioned Rule which provides a definition of “area of hydrologic containment.” *See* Petition, Attachment 1 at 2.

143. Freeport provided evidence in support of this definition through testimony from technical witness Neil Blandford. In summary, Mr. Blandford supported the definition of “area of hydrologic containment” because it is essential for dealing with the requirements for open pits. *See* Freeport Blandford Direct at 20-21.

144. The Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson objected to the definition of “area of hydrologic containment” and proposed to delete it. *See* AG Exhibit 2 at 2; GRIP Kuipers Direct, Attachment 2 at 2; AB Exhibit 1 at 2; and WCO Exhibit 3 at 2. The

Attorney General, GRIP, TRP, and Mr. Olson provided evidence to support this objection. *See* AG Travers Direct at 23; GRIP Kuipers Direct, Attachment 2 at 2; and WCO Exhibit 3 at 2.

145. NMED changed the definition of “area of hydrologic containment” to “area of open pit hydrologic containment” in the Amended Rule and amended the language of the definition. *See* Amended Petition, Attachment 2 at 1.

146. NMED supported the change to 20.6.7.7.B(5) in the Amended Rule through testimony of technical witness Adrian Brown. *See* NMED Brown Direct at 11-12. In addition, Mr. Brown refuted the removal of the definition and noted that the variability of the area of open pit hydrologic containment is one of its strengths, not weaknesses, because the permittee can adjust the size of the area by installation of pumping to ensure containment. *See* NMED Brown Rebuttal at 3.

147. NMED then further amended 20.6.7.7.B(5) in the Proposed Final Rule to include the language “and also limited to the area of disturbance authorized by a discharge permit.” This addition further limits the definition so that it does not include areas outside of the mine. As indicated in Mr. Blandford’s testimony, existing and future copper mine facilities may have units that straddle the area of open pit hydrologic containment, and the additional language limits the area where standard do not apply to the area of disturbance.

148. Relying primarily upon the testimonies of Mr. Brown and Mr. Blandford, and based on the weight of the evidence, the Commission hereby adopts the definition of “area of open pit hydrologic containment” as proposed by NMED in the Proposed Final Rule.

#### ***As-Built Drawings***

149. NMED proposed 20.6.7.7.B(6) in the Petitioned Rule which provides a definition of “as-built drawings.” *See* Petition, Attachment 1 at 2.

150. GRIP and TRP objected to 20.6.7.7.B(6) in the Petitioned Rule and argued that language needs to be added to require as-built drawing to be “signed and sealed by a qualified professional engineer registered in New Mexico.” *See* GRIP Kuipers Direct, Attachment 2 at 2.

151. NMED made no changes to this definition in the Amended Rule. *See* Amended Petition, Attachment 2 at 2.

152. Mr. Kuipers’ testimony was rebutted by testimony by Mr. Shelley. *See* Shelley Rebuttal at 8-9.

153. Relying primarily on the rebuttal testimony of Mr. Shelley, and based on the weight of the evidence, the Commission hereby adopts the definition of “as-built drawings” as proposed by NMED in the Proposed Final Rule.

### ***Background***

154. NMED proposed 20.6.7.7.B(7) in the Petitioned Rule which provides a definition of “background.” *See* Petition, Attachment 1 at 2.

155. Freeport presented evidence in support of 20.6.7.7.B(7) in the Petitioned Rule through testimony of Mr. Blandford. *See* Freeport Blandford Direct at 4-5.

156. The Attorney General objected to the definition of “background” and argued that language should be deleted so that it reads: “...concentration of water contaminants naturally occurring from undisturbed geologic sources ~~of water contaminants~~.” The Attorney General did not explain within the document containing its proposed rule changes why the language change was necessary. *See* AG Exhibit 2 at 2.

157. GRIP and TRP argued that the entire definition of “background” should be deleted. GRIP and TRP did not explain within the document containing its proposed rule

changes why the deletion of the term was necessary. *See* GRIP Kuipers Direct, Attachment 2 at 2.

158. Similar to the Attorney General, Mr. Olson objected to the definition of “background” and argued that language should be deleted so that it reads: “...concentration of water contaminants naturally occurring from undisturbed geologic sources ~~of water~~ ~~contaminants~~.” Mr. Olson argued that the deleted language is redundant, confusing, and technically awkward. *See* WCO Exhibit 3 at 2.

159. NMED makes no changes to this definition in its Amended Rule. *See* Amended Petition, Attachment 2 at 2.

160. NMED presented evidence in rebuttal to support the definition of background through Mr. Brown. *See* NMED Brown Rebuttal at 10.

161. Relying primarily on the testimony of Mr. Brown and Mr. Blandford, and based on the weight of the evidence, the Commission hereby adopts the definition of “background” as proposed by NMED in the Proposed Final Rule.

### ***Copper Mine Facility***

162. NMED proposed 20.6.7.7.B(13) in the Petitioned Rule which provides a definition of “copper mine facility.” *See* Petition, Attachment 1 at 2.

163. Amigos Bravos objected to this definition and proposed to add language based on the August 17 Discussion Draft. *See* AB Exhibit 1 at 2-3.

164. Mr. Olson objected to this definition and proposed to add the same language as proposed by Amigos Bravos. Mr. Olson argued that the additional language is necessary because it is necessary to cover potential sources of any other water contaminants that may not



be foreseen in the promulgation of the Copper Mine Rule, including mine processes that may be developed in the future. *See* WCO Exhibit 3 at 3.

165. NMED makes no changes to this definition in its Amended Rule. *See* Amended Petition, Attachment 2 at 2.

166. NMED made additional changes to this definition in the Proposed Final Rule adding the word “copper” to clarify coverage of copper mines as opposed to other mines. *See* Proposed Final Rule at p.2. In addition, throughout the Proposed Final Rule NMED uses this defined term to replace the word “facility” or “facilities” alone for clarification.

167. The Commission does not adopt the proposed language by Amigos Bravos and Mr. Olson because other particular discharging facilities at copper mines are not identified in their testimony or elsewhere in the record, so this change is not necessary.

168. The Commission finds that the amended language in the Proposed Final Rule is non-substantive and clarifies the intent of the rule to apply to copper mines and no other types of mines where copper may incidentally be recovered. .

169. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.7.B(13) as proposed by NMED in the Proposed Final Rule.

### ***Cover System***

170. NMED proposed 20.6.7.7.B(15) in the Petitioned Rule which provides a definition of “cover system.” *See* Petition, Attachment 1 at 2.

171. Mr. Brown testified regarding the function of cover systems. *See* NMED Brown Direct at 32-39.

172. Freeport presented technical evidence concerning why cover systems are important. *See* Freeport Munk Direct at 9.

173. Amigos Bravos objected to the definition of “cover system” and proposed additional language based on the August 17 Discussion Draft. *See* AB Exhibit 1 at 3.

174. NMED made no changes to this definition in its Amended Rule. *See* Amended Petition, Attachment 2 at 2.

175. NMED made no changes to this definition in the Proposed Final Rule. *See* Proposed Final Rule at 2.

176. Relying primarily on the testimony of Mr. Munk, and based on the weight of the evidence, the Commission hereby adopts 20.6.7.7.B(15) as proposed by NMED in the Proposed Final Rule.

### ***Discharge***

177. NMED proposed 20.6.7.7.B(18) in the Petitioned Rule which provides a definition of “discharge.” *See* Petition, Attachment 1 at 2.

178. NMED presented evidence through Adrian Brown on how discharge fits into the structure of the rule. *See* NMED Brown at 4-5.

179. The Attorney General objected to this definition and proposed to add “surface or” before “ground water,” thereby making the term applicable to both surface and ground water. *See* AG Exhibit 2 at 2.

180. GRIP and TRP proposed to completely eliminate the term “discharge” and argued that the definition is already defined at 20.6.2.1203(C)(1) NMAC, so there is no reason to have a separate definition. *See* GRIP Kuipers Direct, Attachment 2 at 2.

181. Mr. Olson objected to this definition and proposed a revision somewhat similar to the Attorney General, whereby he replaced “ground water” at the end of the definition with “surface or subsurface water.” *See* WCO Exhibit 3 at 3.

182. NMED made no changes to this definition in its Amended Rule. *See* Amended Petition, Attachment 2 at 2.

183. NMED made no changes to this definition in the Proposed Final Rule. *See* Proposed Final Rule at 2.

184. Relying primarily upon the testimony of Mr. Brown, and based on the weight of the evidence, the Commission hereby adopts 20.6.7.7.B(18) as proposed by NMED in the Proposed Final Rule.

### ***Open Pit Surface Drainage Area***

185. NMED proposed 20.6.7.7.B(42) in the Petitioned Rule which provides a definition of “open pit surface drainage area.” *See* Petition, Attachment 1 at 3.

186. NMED presented evidence to support this definition through Mr. Brown, wherein he indicated that the definition is necessary because it relates to the requirements for open pits. *See* NMED Brown at 11.

187. Freeport supported this definition through technical evidence. *See* Freeport Finley Direct at 15-16; Freeport Blandford Direct at 23.

188. The Attorney General objected to this definition and proposed to add language dealing with “continual and perpetual” pumping. *See* AG Exhibit 2 at 4.

189. GRIP and TRP objected to this definition and proposed to completely eliminate it because it proposed a dual system of regulation, whereby one set of requirements apply inside this area and a different set apply outside this area. *See* GRIP Kuipers, Attachment 2 at 4.

190. Amigos Bravos objected to this definition and proposed to completely eliminate the term like GRIP and TRP; this proposal by Amigos Bravos was based solely on the August 17 Discussion Draft. *See* AB Exhibit 1 at 5.

191. NMED made changes to this definition in its Amended Rule by replacing “pit bottom” with “open pit.” *See* Amended Petition, Attachment 2 at 3.

192. NMED made no changes to this definition in the Proposed Final Rule. *See* Proposed Final Rule at 3.

193. Relying primarily on the testimonies of Mr. Brown, Mr. Finley, and Mr. Blandford, and based on the weight of the evidence, the Commission hereby adopts 20.6.7.7.B(42) as proposed by NMED in the Proposed Final Rule.

### ***Process Water***

194. NMED proposed 20.6.7.7.B(50) in the Petitioned Rule which provides a definition of “process water.” *See* Petition, Attachment 1 at 4.

195. GRIP and TRP objected to the definition of “process water” and propose a completely new definition. They argued that the new definition is necessary due to the dual system of regulation, whereby one set of requirements are imposed in the “open pit surface drainage area” and another set of requirements are imposed outside this area. GRIP and TRP maintain that their new definition would eliminate this dual system of regulation and prohibit pollution of ground water above standards without a variance. *See* GRIP Kuipers Direct, Attachment 2 at 4.

196. Amigos Bravos objected to the definition of “process water” and propose new language based solely on the August 17 Discussion Draft. *See* AB Exhibit 1 at 5.

197. Freeport witnesses Mr. Shelley and Mr. Grass discussed the need for a proper definition for process water because of the vast array of solutions utilized on site. *See* Freeport Shelley Direct at 31; Freeport Grass Direct at p. 8

198. NMED made no changes to this definition in its Amended Rule. *See* Amended Petition, Attachment 2 at 4.

199. NMED made no changes to this definition in the Proposed Final Rule. *See* Proposed Final Rule at 3.

200. Relying primarily on the testimonies of Mr. Shelley and Mr. Grass, and based on the weight of the evidence, the Commission hereby adopts the definition of “process water” as proposed by NMED in the Proposed Final Rule.

### *Seepage*

201. NMED did not propose a definition for “seepage” in the Petitioned Rule. *See* Petition, Attachment 1 at 1-4.

202. NMED proposed a new definition for “seepage” in the Amended Rule at 20.6.7.7.B(51). *See* Amended Petition, Attachment 2 at 4.

203. NMED made changes in the Amended Rule for consistency and clarity. *See* Amended Petition at 1.

204. Freeport objected to the definition of “seepage” in the Amended Rule, proposed to delete “a seep” from the definition and replace it with “water flow,” and supported this change through testimony of Mr. Grass. *See* Freeport Rebuttal NOI at 3; Freeport Grass Rebuttal at 1-2.

205. In the Proposed Final Rule, NMED accepted Freeport’s proposal to remove “a seep” but did not insert “water flow.” *See* Proposed Final Rule at 4..

206. The Commission finds that the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson do not object to the definition of “seepage” as proposed by either NMED or Freeport because they did not propose alternative rule language. *See* Rebuttal NOI’s and testimony.

207. The Commission finds that changes made to the definition in the Proposed Final Rule address Freeport's objection to the definition.

208. Based on the weight of the evidence, the Commission hereby adopts the definition of "seepage" as proposed by NMED in the Proposed Final Rule.

### ***Unauthorized Discharge***

209. NMED proposed 20.6.7.7.B(59) in the Petitioned Rule which provides a definition of "unauthorized discharge." *See* Petition, Attachment 1 at 4.

210. GRIP and TRP proposed alternative rule language for this definition and maintained that the definition needed to reference 20.6.2.1203 NMAC. *See* GRIP Kuipers, Attachment 2 at 5.

211. Mr. Olson, the Attorney General, Amigos Bravos and Freeport do not suggest changes to this section. *See* Freeport NOI; AG Exhibit 2 at 4; AB Exhibit 1 at 6; WCO Exhibit 3 at 6.

212. NMED made no substantive changes to this definition in its Amended Rule, but it is re-numbered to (61). *See* Amended Petition, Attachment 2 at 4. NMED made no changes to this definition in the Proposed Final Rule. *See* Proposed Final Rule at 4.

213. Because the change in Mr. Kuipers' testimony is not well-explained and would appear to narrow the scope of the definition, and based on the weight of the evidence, the Commission hereby adopts the definition of "unauthorized discharge" as proposed by NMED in the Proposed Final Rule.

### ***Variance***

214. NMED proposed 20.6.7.7.B(61) in the Petitioned Rule which provides a definition of "variance." *See* Petition, Attachment 1 at 4.

215. GRIP and TRP object to the definition and propose alternative rule language; however, they do not provide an explanation as to why such language is necessary. *See* GRIP Kuipers Direct, Attachment 2 at 5.

216. Amigos Bravos objected to the definition of “variance” and proposed new language referencing Section 79-6-4(H) NMSA. *See* AB Exhibit 1 at 6.

217. NMED made no substantive changes to this definition in its Amended Rule, but it is re-numbered to (64). *See* Amended Petition, Attachment 2 at 4.

218. NMED made no change to this definition in the Proposed Final Rule. *See* Proposed Final Rule at 4.

219. Based on the weight of the evidence, the Commission hereby adopts the definition of “variance” as proposed by NMED in the Proposed Final Rule.

#### ***Waste Rock***

220. NMED proposed 20.6.7.7.B(62) in the Petitioned Rule which provides a definition of “waste rock.” *See* Petition, Attachment 1 at 4.

221. Freeport presented evidence to support the definition of “waste rock” through Jim Finley. Mr. Finley’s testimony asserts that the definition is consistent with the academic and professional definition of waste rock. *See* Freeport Finley Direct at 3-4.

222. Amigos Bravos objected to this definition and proposed to add “marketable” before ore; however, Amigos Bravos provided no technical evidence to support such a change. *See* AB Exhibit 1 at 6.

223. NMED made no substantive changes to this definition in its Amended Rule, but it is re-numbered to (65). *See* Amended Petition, Attachment 2 at 4.

224. NMED made no change to this definition in the Proposed Final Rule. *See* Proposed Final Rule at 4.

225. Based on the weight of the evidence, the Commission hereby adopts the definition of “waste rock” as proposed by NMED in the Proposed Final Rule.

***Additional Definitions Proposed by Amigos Bravos***

226. Amigos Bravos proposed new definitions for the following terms: (1) green infrastructure, and (2) low impact development. *See* AB Exhibit 1 at 4.

227. The Commission finds that the new definitions proposed by Amigos Bravos are only necessary if the substantive rule provisions dealing with these definitions are adopted.

228. For the reasons set forth below, the Commission finds that the substantive rule provisions dealing with the terms “green infrastructure” and “low impact development” are not adopted.

229. Based on the weight of the evidence set forth below dealing with the substantive rule provisions incorporating the new definitions proposed by Amigos Bravos, the Commission hereby declines to adopt the new definitions proposed by Amigos Bravos.

***Additional Definitions Proposed by Mr. Olson***

230. Mr. Olson proposed new definitions for the following terms: (1) affected discharge site; (2) hearing clerk; (3) hearing officer; (4) hearing record; (5) party; (6) petition or variance petition; (7) record proper; and (8) variance period.

231. The Commission finds that the new definitions proposed by Mr. Olson are only necessary if the substantive rule provisions dealing with variances as proposed by Mr. Olson are adopted.



232. For the reasons set forth below, the Commission finds that the substantive rule provisions dealing with variances as proposed by Mr. Olson are not adopted; therefore, the new definitions proposed by Mr. Olson are not necessary.

233. Based on the weight of the evidence set forth below dealing with the substantive rule provisions for variances incorporating the new definitions proposed by Mr. Olson, the Commission hereby declines to adopt the new definitions proposed by Mr. Olson.

**20.6.7.8 – Requirements for Discharging from Copper Mine Facilities:**

***Subsection A***

234. NMED proposed 20.6.7.8.A which sets forth the general circumstances as to when a discharge permit is needed. *See* Petition, Attachment 1 at 4.

235. NMED's witness testified that this rule provision codifies and implements processes that have evolved through regulation of copper mine facilities. *See* NMED Skibitski Direct at 12-13.

236. NMED made no changes to 20.6.7.8.A in the Amended Rule. *See* Amended Petition, Attachment 2 at 4.

237. Freeport supported 20.6.7.8.A and offers evidence that Subsection A is necessary because it sets forth the circumstances as to when a copper mine facility needs to acquire a discharge permit. *See* Freeport Eastep Direct at 16-17.

238. GRIP and TRP opposed 20.6.7.8.A and offered alternative rule language. *See* GRIP Kuipers Direct, Attachment 2 at 5. GRIP and TRP maintained that their proposed changes to 20.6.7.8.A make it consistent with 20.6.2.3104 NMAC. *See* GRIP Kuipers Direct, Attachment 2 at 5.

239. The Attorney General, Amigos Bravos, and Mr. Olson did not offer alternative rule language for 20.6.7.8.A. *See* AG Exhibit 2 at 4; AB Exhibit 1 at 6; and WCO Exhibit 3 at 6.

240. The Commission finds that the changes proposed by GRIP/TRP would have little or no effect and might be confusing. The terms “effluent” and “leachate” are used in 20.6.2.3104 NMAC as indicated by Mr. Kuipers, but are not used or defined in the proposed rule. The proposed rule defines and references different terms, particularly “process water” and “impacted stormwater,” without indicating whether they would be “effluent” or “leachate”. The Copper Mine Rule specifically identifies discharging facilities at copper mines that require discharge permits, so there may be little reliance on 20.6.7.8.A to determine what facilities need a permit.

241. NMED made no changes to 20.6.7.8.A in the Proposed Final Rule. *See* Proposed Final Rule at 4.

242. Based on the weight of the evidence, the Commission declines to adopt the rule changes by GRIP and TRP and hereby adopts 20.6.7.8.A as proposed by NMED in the Proposed Final Rule.

#### ***Subsections B through D***

243. Under 20.6.7.8 in the Petitioned Rule, NMED proposed requirements for discharging from copper mine facilities at Subsections B, C, and D. *See* Petition, Attachment 1 at 4.

244. NMED makes no changes to 20.6.7.8.B, C, and D in the Amended Rule. *See* Amended Petition, Attachment 2 at 4.

245. Freeport witness Mr. Eastep presented testimony in support of 20.6.7.8.B, C, and D. These sections set forth the circumstances in which a discharge permit is necessary, who is responsible for compliance, how existing ground water regulations interact with the proposed

rule (supplements or replaces 20.6.2.3103 through 20.6.2.3114) and clarifies the relationship between the proposed rule and existing regulations and specifically acknowledges that the proposed rule does not relieve a copper mine facility from complying with other applicable laws.

*See* Freeport Eastep Direct at 17-18

246. The Commission finds that 20.6.7.8.B, C, and D are undisputed by the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson.

247. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.8.B, C, and D as set forth in the Petitioned Rule, Amended Rule, and Proposed Final Rule.

**20.6.7.9 – Fees:**

248. The WQA requires that the Commission, by regulation, shall “provide by regulation a schedule of fees for permits, not exceeding the estimated cost of investigation and issuance, modification and renewal of permits.” *See* Section 74-6-5(K) NMSA 1978.

249. NMED proposed a schedule of fees for permits at 20.6.7.9 in the Petitioned Rule. *See* Petition, Attachment 1 at 4-5. This schedule of fees would replace the fee schedule set forth in 20.6.2.3114 NMAC only for copper mine facilities as of the effective date of the Copper Mine Rule.

250. NMED amended 20.6.7.9 in the Amended Rule by inserting language to clarify that the fees are paid to the Department’s water quality management fund. *See* Amended Petition, Attachment 2 at 4.

251. Freeport presented testimony through Mr. Eastep to support 20.6.7.9 as proposed by NMED. In summary, Mr. Eastep maintains that the 20.6.7.9 NMAC is predictable and consistent as opposed to the current fee structure that is irregular. Consequently, Mr. Eastep asserts that 20.6.7.9 allows for proper budgeting. *See* Freeport Eastep Direct at 18-19.

252. The Commission finds that the provisions of 20.6.7.9 are undisputed by the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson.

253. NMED made no changes to 20.6.7.9 in the Proposed Final Rule. *See* Proposed Final Rule at 4-5.

254. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.9 and 20.6.7.9.A, B, C, and D as set forth in the Proposed Final Rule.

**20.6.7.10 – General Application Requirements for All Copper Mine Facilities:**

255. 20.6.7.10 accomplishes the statutory mandate of Section 74-6-5(D) NMSA 1978 which is to adopt regulations regarding applications. The proposed rule creates three categories: (1) pre-application submission activities, (2) technical completeness activities, and (3) permit approval or denial activities. The proposed rule retains the procedural requirements while supplementing the requirements to address new technical requirements. These requirements would apply specifically to permit applications for copper mine facilities in lieu of the existing regulations regarding permit applications, 20.6.2.3106 NMAC. *See* Freeport Eastep Direct at 19-20.

***Subsection A***

256. NMED proposed 20.6.7.10.A in the Petitioned Rule which sets for requirements for a pre-application meeting. *See* Petition, Attachment 1 at 5.

257. NMED made changes to 20.6.7.10.A in the Amended Rule. *See* Amended Petition, Attachment 2 at 5.

258. Freeport presented evidence to support 20.6.7.10.A through Mr. Eastep. *See* Freeport Eastep Direct at 20-25. No party presented evidence disputing this subsection in their direct or rebuttal testimony or in the hearing transcript.

259. The Commission finds that the Parties do not dispute 20.6.7.10.A as set forth in the Petitioned Rule, as changed in the Amended Rule.

260. NMED made no changes to 20.6.7.10.A in the Proposed Final Rule, except non-substantive changes to the terminology regarding copper mine facilities and units. *See* Proposed Final Rule at 5.

261. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.10.A as set forth in the Proposed Final Rule.

### ***Subsection B***

262. NMED proposed 20.6.7.10.B in the Petitioned Rule, which sets forth how to reconcile 20.6.2.3106.C NMAC with this provision. *See* Petition, Attachment 1 at 5.

263. NMED made no changes to 20.6.7.10.B in the Amended Rule. *See* Amended Petition, Attachment 2 at 5.

264. Freeport presented evidence to support 20.6.7.10.B through technical witness Eastep. *See* Freeport Eastep Direct at 20-25. No party presented evidence disputing this subsection in their direct or rebuttal testimony or in the hearing transcript.

265. The Commission finds that the Parties do not dispute 20.6.7.10.B.

266. NMED made no changes to 20.6.7.10.B in the Proposed Final Rule. *See* Proposed Final Rule at 5.

267. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.10.B as set forth in the Proposed Final Rule.

### ***Subsection C***

268. NMED proposed 20.6.7.10.C in the Petitioned Rule which sets forth the number of days for a permittee to submit an application for renewal of a discharge permit for a copper mine facility or a portion of the facility. *See* Petition, Attachment 1 at 5.

269. NMED did not change 20.6.7.10.C in its Amended Rule. *See* Amended Petition, Attachment 2 at 5.

270. Freeport supported 20.6.7.10.C as set forth in the Petitioned Rule and Amended Rule and offered evidence for this position. *See* Freeport Eastep Direct at 20-22. In particular, Mr. Eastep maintained that the even though 20.6.7.10.C sets forth a longer time frame (270 days) than what is currently required (120 days), the Petitioned Rule implements a very different regulatory regime such that a longer time frame may be necessary while the Department and permittees get accustomed to the new discharge permitting program for copper mines. *See id.* However, Mr. Eastep maintained that the time frame set forth in 20.6.7.10.C may be an issue that needs to be re-visited at a later time, as long lead times may lead to staleness of information. *See id.*

271. The Attorney General contested 20.6.7.10.C as contained in the Petitioned Rule and Amended Rule and offers proposed rule language. *See* AG Exhibit 2 at 5. While the Attorney General did not comment on the time frame issue raised by Freeport, the Attorney General maintained that the reference to “portion” should be changed to “unit.” *See id.*

272. Amigos Bravos contested 20.6.7.10.C as contained in the Petitioned Rule and Amended Rule and offered proposed rule language that changes the time frame from 270 days to one year. *See* AB Exhibit 1 at 6. Amigos Bravos offered no evidence to support this time frame

other than maintaining the proposed language was included in the August 17 Draft Discussion Draft. *See* AB Shields Direct at 2.

273. GRIP, TRP, and Mr. Olson offered no alternative rule language for 20.6.7.10.C as set forth in the Petitioned Rule and Amended Rule. *See* GRIP Kuipers Direct, Attachment 2 at 6; WCO Exhibit 3 at 7.

274. In its Proposed Final Rule, the Department accepted the Attorney General's proposed change from "portion" to "unit" as well as adding the words "copper mine" before "facility" to refer to the defined term. This is consistent with the Department's changes throughout the Proposed Final Rule regarding "facilities" and "units." *See* Proposed Final Rule at 5.

275. The Commission finds that the proposed rule change offer by Amigos Bravos may lead to staleness of information, as discussed in Mr. Eastep's testimony, and that the time period proposed by NMED is reasonable based on the evidence.

276. Based on the weight of the evidence, the Commission hereby adopts subsection C as shown in NMED's Proposed Final Rule, which incorporates the change recommended by the Attorney General.

#### ***Subsection D***

277. NMED proposed 20.6.7.10.D in the Petitioned Rule which sets forth the number of days (270 days) for a permittee to submit an application for renewal of a discharge permit for a copper mine facility that has been issued a discharge permit but has not been constructed or operated. *See* Petition, Attachment 1 at 5.

278. NMED did not change 20.6.7.10.C in its Amended Rule. *See* Amended Petition, Attachment 2 at 5.

279. Freeport supported 20.6.7.10.D as set forth in the Petitioned Rule and Amended Rule and offered evidence for this position. *See* Freeport Eastep Direct at 20-22. In particular, Mr. Eastep again maintained that the even though 20.6.7.10.D sets forth a longer time frame (270 days) than what is currently required (120 days), the Petitioned Rule implements a very different regulatory regime such that longer a time frame may be necessary while everyone is getting accustomed to the new discharge permitting program for copper mines. *See id.* However, Mr. Eastep again maintained that the time frame set forth in 20.6.7.10.D may be an issue that needs to be re-visited at a later time, as long lead times may lead to staleness of information. *See id.*

280. Amigos Bravos contested 20.6.7.10.D as contained in the Petitioned Rule and Amended Rule and offered proposed rule language that changes the time frame from 270 days to one year. *See* AB Exhibit 1 at 6.

281. Amigos Bravos offered no evidence to support this time frame other than maintaining the proposed language was included in the August 17 Discussion Draft. *See* AB Shields Direct at 2.

282. The Attorney General, GRIP, TRP, and Mr. Olson offered no alternative rule language for 20.6.7.10.D as set forth in the Petitioned Rule and Amended Rule. *See* AG Exhibit 2 at 5; GRIP Kuipers Direct, Attachment 2 at 6; and WCO Exhibit 3 at 7.

283. The Commission finds that the proposed rule change offered by Amigos Bravos may lead to staleness of information, as discussed in Mr. Eastep's testimony, and that the time period proposed by NMED is reasonable based on the evidence.

284. NMED made no changes to 20.6.7.10.D in the Proposed Final Rule. *See* Proposed Final Rule at 5.



285. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.10.D as set forth in NMED's Proposed Final Rule.

***Subsection E***

286. NMED proposed 20.6.7.10.E in the Petitioned Rule which sets certain submission requirements for an application. *See* Petition, Attachment 1 at 5.

287. NMED made no changes to 20.6.7.10.E in the Amended Rule. *See* Amended Petition, Attachment 2 at 5.

288. Freeport presented evidence to support 20.6.7.10.E through Mr. Eastep. *See* Eastep Direct at 20-25. No party presented evidence disputing this subsection in their direct or rebuttal testimony or in the hearing transcript.

289. The Commission finds that the Parties do not dispute 20.6.7.10.E.

290. NMED made no changes to 20.6.7.10.E in the Proposed Final Rule.

291. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.10.E as set forth in the Proposed Final Rule.

***Subsection F***

292. NMED proposed 20.6.7.10.F in the Petitioned Rule which requires that within 60 days of NMED notifying the applicant in writing that the application is deemed administratively complete, NMED shall review the application for technical completeness. *See* Petition, Attachment 1 at 5.

293. In the Amended Rule, NMED changed the "60 days" to "90 days." *See* Amended Petition, Attachment 2 at 5.

294. Freeport opposed the "90 days" as set forth in the Amended Rule and offered evidence to support "60 days" as set forth in the Petitioned Rule. In summary, Mr. Eastep

testified that the extension of time to “90 days” of the permit review time is inconsistent with the goal of streamlining the permit process. *See* Freeport Eastep Rebuttal at 3-4.

295. The Commission finds that the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson do not offer alternative rule language for 20.6.7.10.F. *See* AG Exhibit 2 at 5; AB Exhibit 1 at 7; GRIP Kuipers Direct Attachment 2 at 6; WCO Exhibit 3 at 7.

296. NMED made no changes to 20.6.7.10.F in the Proposed Final Rule.

297. Based on the weight of the evidence, the Commission adopts 20.6.7.10.F as set forth in the Proposed Final Rule.

### ***Subsection G***

298. NMED proposed 20.6.7.10.G in the Petitioned Rule which sets forth requirements for dealing with a technically deficient application. *See* Petition, Attachment 1 at 5-6.

299. NMED made no changes to 20.6.7.10.G, G(1), and G(2) in the Amended Rule; however, NMED does make changes to 20.6.7.10.G(3) in the Amended Rule. *See* Amended Petition, Attachment 2 at 5-6.

300. Freeport presented evidence to support 20.6.7.10.G through Mr. Eastep. *See* Eastep Direct at 20-25. No party presented evidence in rebuttal testimony or in the hearing objecting to NMED’s change to 20.6.7.10.G(3).

301. The Commission finds that the Parties do not dispute 20.6.7.10.G(1)(2) and G(3) in the Petitioned Rule and Amended Rule.

302. NMED made no changes to 20.6.7.10.G in the Proposed Final Rule. *See* Proposed Final Rule at 5-6.

303. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.10.G, G(1), (2) and G(3) as set forth in the Proposed Final Rule..

### ***Subsection H***

304. NMED proposed 20.6.7.10.H in the Petitioned Rule which contains a requirement that within “60 days” after an application is deemed technically complete or all information has been submitted to NMED pursuant to a technical deficiency notification, NMED is required to make available a proposed approval of a discharge permit and a draft discharge permit or a notice of denial. *See* Petition, Attachment 1 at 6.

305. In the Amended Rule, NMED changed the “60 days” to “90 days.” *See* Amended Petition, Attachment 2 at 6.

306. Freeport opposed the “90 days” as set forth in the Amended Rule and offered evidence to support “60 days” as set forth in the Petitioned Rule. *See* Freeport Eastep Rebuttal at 3-4.

307. In summary, Mr. Eastep again testified that the extension of time to “90 days” of the permit review time is inconsistent with the goal of streamlining the permit process. *See id.*

308. The Commission finds that the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson do not offer alternative rule language for 20.6.7.10.H as set forth in either the Petitioned Rule or Amended Rule. *See* AG Exhibit 2 at 6; AB Exhibit 1 at 8; GRIP Kuipers Direct, Attachment 2 at 7; WCO Exhibit 3 at 7-8.

309. NMED made no changes to 20.6.7.10.H in the Proposed Final Rule.

310. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.10.H as set forth in the Proposed Final Rule.

### ***Subsection I***

311. NMED proposed 20.6.7.10.I in the Petitioned Rule which contains certain requirements for imposing additional conditions on a discharge permit. *See* Petition, Attachment 1 at 6.

312. NMED made no changes to 20.6.7.10.I in the Amended Rule. *See* Amended Petition, Attachment 2 at 6.

313. Freeport supported 20.6.7.10.I as set forth in the Petitioned Rule and Amended Rule and offered evidence for this position. *See* Freeport Eastep Direct at 24-25.

314. Mr. Olson contests 20.6.7.10.I in the Petitioned Rule and proposed to add the following sentence to the end of the provision: “Permit conditions contained in an existing discharge permit may be included in a discharge permit issued under the copper mine rule, and such conditions shall not be considered to be ‘additional conditions’.” *See* WCO Exhibit 3 at 7-8.

315. Mr. Olson maintained that the new language he proposed to add to 20.6.7.10.I is contained 20.6.7.20.B(2) and 20.6.7.22.B(2); therefore, he maintained that such language should be removed from 20.6.7.20.B(2) and 20.6.7.22.B(2) and placed in 20.6.7.10.I to make this requirement applicable to all types of copper mine units rather than be limit to only certain units. *See id.*

316. The Commission finds that the Attorney General, GRIP, TRP, and Amigos Bravos do not offer alternative rule language for 20.6.7.10.I as set forth in the either the Petitioned Rule or Amended Rule.

317. In the Proposed Final Rule, NMED addressed Mr. Olson’s comment by including the language regarding “additional conditions” in other specific sections of the Copper Mine

Rule. This addresses Mr. Olson's comment, but remains consistent with the approach taken in the Petitioned Rule and Amended Rule by including this language where appropriate. The Commission finds that these changes address Mr. Olson's comment without the need to change 20.6.7.10.I.

318. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.10.I as set forth by NMED in the Petitioned Rule, the Amended Rule and the Proposed Final Rule.

#### ***Subsection J***

319. NMED proposed 20.6.7.10.J in the Petitioned Rule which contains the necessary requirements for the Secretary of NMED to approve a discharge permit. *See* Petition, Attachment 1 at 6.

320. NMED made no changes to 20.6.7.10.J in the Amended Rule. *See* Amended Petition, Attachment 2 at 6.

321. Freeport supported 20.6.7.10.J as set forth in the Petitioned Rule and Amended Rule and offers evidence for this position. *See* Freeport Eastep Direct at 24-25.

322. GRIP/TRP and William Olson objected to 20.6.7.10.J(2) and made a legal argument as to why this provision should be amended. *See* GRIP Kuipers Direct, Attachment 2 at 6 and WCO Exhibit 3 at 7.

323. Amigos Bravos supported 20.6.7.10.J(2) as set forth in the Petitioned Rule and Amended Rule because it was included in the August 17 Discussion Draft. *See* AB Exhibit 1 at 8.

324. The Commission finds that Attorney General and Mr. Olson do not dispute 20.6.7.10.J because they fail to propose alternative rule language. In the Proposed Final Rule,

NMED added the word “the” at the beginning of paragraph (3) as an editorial change to conform to the other paragraphs.

325. GRIP and TRP argued that the language “with the exception of Subsection C of 20.6.2.3109 NMAC” should be struck because it is necessary to carry out the statutory mandate of Section 74-6-5.E(3). The Commission takes notice that it used this same language as proposed by NMED in this matter when it adopted the Dairy Rule, 20.6.6.10.I NMAC, and believes that the specification of measures to prevent water pollution in the Copper Mine Rule take the place of the demonstration required by section 20.6.2.3109.C NMAC of the existing regulations. Furthermore, the requirements in NMSA 1978, section 74-6-5.E(3) are addressed by paragraph (3) of subsection J (20.6.7.10.J(3)), which requires a finding by NMED that “denial of an application for a discharge permit is not required pursuant to Section 74-6-5(E) NMSA 1978.” Consequently, Section 74-6-5(E)(3) must be addressed and complied with when a permit is issued under the Copper Mine Rule.

326. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.10.J, J(1) and J(2) as set forth by NMED in the Petitioned Rule, Amended Rule, and Proposed Final Rule and 20.6.7.10.J(3) as set forth in the Proposed Final Rule.

**20.6.7.11 – Application Requirements for Discharge Permits for Copper Mine Facilities:**

327. 20.6.7.11 includes a list of information necessary to include in an application for a discharge permit or a renewal. Much of this information would typically be provided as part of the permit application or would be in NMED’s files from past applications, but this section is much more specific. *See* Freeport Eastep Direct at 25-26.

***Undisputed Subsections A, B, E, G, I, K, L, M, N, P, Q, R, S, T, U, V, and W***

328. NMED proposed various application requirements for discharge permits for a copper mine facility at 20.6.7.11.A, B, E, G, I, K, L, M, N, P, Q, R, S, T, U, V, and W in the Petitioned Rule. *See* Petition, Attachment 1 at 6-9.

329. Out of these subsections, NMED only made changes to 20.6.7.11.U and V in the Amended Rule. *See* Amended Petition, Attachment 2 at 9.

330. Freeport presented evidence to support 20.6.7.11.A, B, E, G, I, K, L, M, N, P, Q, R, S, T, U, V, and W. *See* Freeport Eastep Direct at 25-34.

331. The Commission finds that the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose alternative rule language for 20.6.7.11.A, B, E, G, I, K, L, M, N, P, Q, R, S, T, and W as set forth by NMED in the Petitioned Rule and Amended Rule.

332. The Commission finds that the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson do not propose alternative rule language for 20.6.7.11. U and V as set forth by NMED in the Amended Rule.

333. NMED made no changes to 20.6.7.11.A, B, E, G, I, K, L, M, N, P, Q, R, S, T, U, V, and W in the Proposed Final Rule, except for a non-substantive change to N. *See* Proposed Final Rule at 6-9.

334. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.11.A, B, E, G, I, K, L, M, N, P, Q, R, S, T, U, V, and W as set forth by NMED in the Proposed Final Rule.

### ***Subsection C***

335. NMED proposed 20.6.7.11.C in the Petitioned Rule which requires certain information dealing with ownership and real property agreements to be included in the application. *See* Petition, Attachment 1 at 6-7.

336. NMED made no changes to 20.6.7.11.C in the Amended Rule. *See* Amended Petition, Attachment 2 at 6-7.

337. Freeport objected to 20.6.7.11.C(2) in the Petitioned Rule and offers alternative rule language. *See* Freeport NOI at 3-4.

338. Freeport supported its alternative rule language with testimony from Mr. Eastep. *See* Freeport Eastep Direct at 28.

339. The Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not offer alternative rule language for 20.6.7.11.C. *See* AG Exhibit 2 at 6-7; GRIP Kuipers Direct, Attachment 2 at 8; AB Exhibit 1 at 9; and WCO Exhibit 3 at 8-9.

340. In its Proposed Final Rule, NMED modified this subsection to address the comment in Mr. Eastep's testimony using slightly different language. *See* Proposed Final Rule at 6-7.

341. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.11.C, .C(1) and .C(2) as set forth in the Final Proposed Rule.

### ***Subsection D***

342. NMED proposed 20.6.7.11.D in the Petitioned Rule which requires information on setbacks to be included in an application for a new copper mine facility. *See* Petition, Attachment 1 at 7.



343. NMED made no changes to 20.6.7.11.D in the Amended Rule. *See* Amended Petition, Attachment 2 at 7.

344. Freeport supported and offered evidence for NMED's version of 20.6.7.11.D. *See* Freeport Eastep Direct at 28.

345. GRIP and TRP objected to 20.6.7.11.D and offered rule language that inserted a certification requirement. GRIP argued that a certification requirement is necessary because similar language is included in the Dairy Rule. *See* GRIP Kuipers Direct, Attachment 2 at 8.

346. The Attorney General, Amigos Bravos, and Mr. Olson did not offer alternative rule language for 20.6.7.11.D. *See* AG Exhibit 2 at 7; AB Exhibit 1 at 9; WCO Exhibit 3 at 9.

347. Mr. Kuipers' testimony did not explain why a certification requirement is needed for permit applications for copper mines. The Commission finds that the permit application requirements include the information needed for NMED to determine whether the setback requirements will be met and that a certification requirement is unnecessary.

348. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.11.D as set forth by NMED in the Petitioned Rule, Amended Rule, and Proposed Final Rule.

#### ***Subsection F***

349. NMED proposed 20.6.7.11.F in the Petitioned Rule which requires information on public notice to be included in certain applications. *See* Petition, Attachment 1 at 7.

350. NMED made no changes to 20.6.7.11.F in the Amended Rule. *See* Amended Petition, Attachment 2 at 7.

351. Freeport supported and offered evidence for NMED's version of 20.6.7.11.F. *See* Freeport Eastep Direct at 28-29.

352. Amigos Bravos objected to 20.6.7.11.F and offers alternative rule language that proposed a requirement that an applicant for a permit describe how it proposed to comply with new public notice requirements developed by Amigos Bravos and set forth in a new 20.6.7.15. *See* AB Exhibit 1 at 10.

353. Amigos Bravos offered evidence in support of its alternative rule language through the testimony of Mr. Brian Shields. *See* AB Shields Direct at 3-5.

354. Freeport presented rebuttal testimony opposing the alternative rule language for 20.6.7.11.F proposed by Amigos Bravos. *See* Eastep Rebuttal at 17-18.

355. The Attorney General, GRIP, TRP, and Mr. Olson did not offer alternative rule language for 20.6.7.11.F. *See* AG Exhibit 2 at 7; GRIP Kuipers Direct, Attachment 2 at 8; and WCO Exhibit 3 at 9.

356. The Commission finds that the existing public notice requirements in section 20.6.3108 NMAC are well understood, provide broad public notice of proposed permitting activities, and conform to the statutory public notice requirements. The public notice provisions in the Copper Mine Rule are designed to follow the public notice requirements in section 20.6.3108 NMAC while reflecting the additional details specified for submission and review of permit applications submitted under the Copper Mine Rule. NMED has established procedures for public notice of permit applications and it would be burdensome to NMED and potentially confusing for permit applicants and the public to specify different public notice requirements for copper mine facilities. The Commission is not convinced that copper mine facilities are sufficiently different from other regulated facilities to warrant different public notice requirements.

357. NMED made no changes to 20.6.7.11.F in the Proposed Final Rule. *See* Proposed Final Rule at 7.

358. Relying primarily upon the testimony of Mr. Eastep, and based on the weight of the evidence, the Commission hereby adopts 20.6.7.11.F as set forth by NMED in the Petitioned Rule, Amended Rule, and Proposed Final Rule.

#### ***Subsection H***

359. NMED proposed 20.6.7.11.H in the Petitioned Rule which requires certain information dealing with determination of daily discharge volume to be included in an application. *See* Petition, Attachment 1 at 7.

360. NMED made no changes to 20.6.7.11.H in the Amended Rule. *See* Amended Petition, Attachment 2 at 7.

361. Freeport supported and offered evidence for NMED's version of 20.6.7.11.H. *See* Freeport Eastep Direct at p. 29

362. The Attorney General objected to 20.6.7.11.H(1) and proposed rule language inserting "for each discharge location." *See* AG Exhibit 2 at 7.

363. GRIP and TRP objected to 20.6.7.11.H(1) and proposed the same rule language as the Attorney General. *See* GRIP Kuipers Direct, Attachment 2 at 8.

364. GRIP and TRP argued that their proposed rule language for 20.6.7.11.H(1) takes into consideration that a single discharge permit may cover multiple discharging facilities. *See* GRIP Kuipers Direct, Attachment 2 at 8.

365. Amigos Bravos and Mr. Olson did not offer alternative rule language for 20.6.7.11.H. *See* AB Exhibit 1 at 10 and WCO Exhibit 3 at 9.

366. In its Proposed Final Rule, NMED accepted a portion of the alternative language by adding the words “for each discharge location” to 20.6.7.11.H(1). This change appears to address the comments and testimony of the Parties. *See* Proposed Final Rule at 7.

367. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.11.H as set forth by NMED in the Proposed Final Rule.

### ***Subsection J***

368. NMED proposed 20.6.7.11.J in the Petitioned Rule which requires certain information dealing with the identification and physical description of the copper mine facility to be included in an application. *See* Petition, Attachment 1 at 7-8.

369. Freeport supported and offered evidence for NMED’s version 20.6.7.11.J set forth in the Petitioned Rule. *See* Freeport Eastep Direct at 30-31.

370. GRIP and TRP objected to NMED’s version of 20.6.7.11.J(2) and (6) as set forth in the Petitioned Rule and offered rule language and evidence for these changes. *See* GRIP Kuipers Direct, Attachment 2 at 9. The alternative rule language for 20.6.7.11.J(2) would add “ore-stockpile” to the list of facilities to be described and would replace “ground water” with “water.” In turn, the alternative rule language for 20.6.7.11.J(6) would change language relating to management of stormwater runoff and runoff. No technical testimony was given as an explanation, other than that “ore-stockpile” is included in the August 17 Discussion Draft and that “manage stormwater” is ambiguous.

371. The Attorney General, Amigos Bravos, and Mr. Olson did not offer alternative rule language for 20.6.7.11.J. *See* AG Exhibit 2 at 7-8; AB Exhibit 1 at 10-11; and WCO Exhibit 3 at 9-10.

372. NMED made a change to 20.6.7.11.J(2) in its Amended Rule, but the change does not relate to the rule language proposed by GRIP and TRP for 20.6.7.11.J(2). *See* Amended Petition, Attachment 2 at 7-8.

373. NMED made no further changes in the Proposed Final Rule except for non-substantive changes regarding facility and unit terminology. *See* Proposed Final Rule at 7-8.

374. The Commission finds that the rule language proposed by GRIP and TRP for 20.6.7.11.J(2) is not well-explained and confusing. The term “ore-stockpile” is not defined or used elsewhere in the proposed rules. Based upon the evidence in the record, a leach stockpile is a type of ore stockpile, and that is listed separately. The language “protect each area that may generate water contaminants from stormwater runoff and runon” is not explained and is confusing. To the extent that the phrase “manage stormwater” is vague, its meaning is addressed more specifically in 20.6.7.17.C, particularly paragraph (4) of that subsection, and 20.6.7.18.D, which provide sufficient detail to define the objectives and requirements for stormwater management under the Copper Mine Rule.

375. The Commission finds that the rule language proposed by GRIP and TRP for 20.6.7.11.J(6) is not necessary and not sufficiently explained by the testimony, and that reading 20.6.7.11.J(6) in conjunction with other parts of the rule address the concerns raised in Mr. Kuipers’ exhibit.

376. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.11 J and J(1) through (11) as set forth by NMED in the Proposed Final Rule.

### ***Subsection O***

377. NMED proposed 20.6.7.11.O in the Petitioned Rule which imposes requirements for an application to include information on a material characterization plan and, if applicable, a material handling plan. *See* Petition, Attachment 1 at 8.

378. NMED made no changes to 20.6.7.11.O in the Amended Rule. *See* Amended Petition, Attachment 2 at 8.

379. Freeport supported and offered evidence for NMED's version of 20.6.7.11.O set forth in the Petitioned Rule and Amended Rule. *See* Freeport Eastep Direct at 32-33.

380. The Attorney General objected to 20.6.7.11.O and proposed rule language referencing 20.6.7.19.A; however, the Attorney General offers no specific evidence in support of the change, and 20.6.7.19.A does not address the topic identified in 20.6.7.11.O. *See* AG Exhibit 2 at 9.

381. GRIP, TRP, Amigos Bravos, and Mr. Olson did not offer alternative rule language for 20.6.7.11.O. *See* GRIP Kuipers Direct, Attachment 2 at 10; AB Exhibit 1 at 12; WCO Exhibit 3 at 10.

382. The Commission finds that the Attorney General's proposed rule language is not adopted because it appears to reference the wrong rule section and is not explained by testimony.

383. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.11.O as presented by NMED in the Petitioned Rule, Amended Rule, and Proposed Final Rule.

### ***Environmental Compliance History***

384. Amigos Bravos proposed a new Subsection X dealing with environmental compliance history. *See* AB Exhibit 1 at 13.

385. Amigos Bravos offered evidence in support of Subsection X to 20.6.7.11 through testimony from Mr. Shields. *See* AB Shields Direct at 5-6.

386. NMED and Freeport opposed the Subsection X dealing with environmental compliance history as proposed by Amigos Bravos and offered evidence in support of their opposition. *See* Skibitski Rebuttal at 4 and Eastep Rebuttal at 18.

387. The Commission finds that the WQA specifically addresses the requirements for environmental compliance history, the Copper Mine Rule requires compliance with the statute, and no evidence was offered that explains why a different rule is needed for the copper industry compared with other permit applicants. The Commission accepts the testimony on behalf of NMED that it does not need a permit applicant to provide additional information in order for NMED to satisfy the requirements of the Act.

388. Based on the weight of the evidence, the Commission declines to adopt 20.6.7.11(X) as proposed by Amigos Bravos.

**20.6.7.12 – Reserved:**

389. NMED proposed to reserve 20.6.7.12 for future rule amendments in the Petitioned Rule. *See* Petition, Attachment 1 at 9.

390. NMED did not make changes to 20.6.7.12 in the Amended Rule. *See* Amended Petition, Attachment 2 at 9.

391. The Commission finds that there are no objections from the other Parties to reserving 20.6.7.12 for future rule amendments.

392. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.12 as proposed by NMED in the Petitioned Rule, Amended Rule, and Proposed Final Rule.

**20.6.7.13 – Reserved:**

393. NMED proposed to reserve 20.6.7.13 for future rule amendments in the Petitioned Rule. *See* Petition, Attachment 1 at 9.

394. NMED did not make changes to 20.6.7.13 in the Amended Rule. *See* Amended Petition, Attachment 2 at 9.

395. The Commission finds that there are no objections from the other Parties to reserving 20.6.7.13 for future rule amendments.

396. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.13 as proposed by NMED in the Petitioned Rule, Amended Rule, and Proposed Final Rule.

**20.6.7.14 – Requirements for a Discharge Permit Amendment:**

***Undisputed Subsections A, B, C and D***

397. NMED proposed requirements for a discharge permit amendment at 20.6.7.14.A, B, C, and D in the Petitioned Rule. *See* Petition, Attachment 1 at 9.

398. NMED made no changes to 20.6.7.14.A, B, C, and D in the Amended Rule. *See* Amended Petition, Attachment 2 at 9.

399. Freeport presented evidence to support 20.6.7.14.A, B, C, and D. *See* Freeport Eastep Direct at 36-38.

400. The Commission finds that 20.6.7.14.A, B, C, and D are undisputed because they are supported by Freeport and the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not provide alternative rule language. *See* Freeport NOI, AG Exhibit 2 at 9-10; AB Exhibit 1 at 13-15; GRIP Kuipers Direct, Attachment 2 at 11; WCO Exhibit 3 at 11.

401. NMED made no changes to 20.6.7.14.A, B, C and D in the Proposed Final Rule. *See* Proposed Final Rule at 9.



402. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.14.A, B, C, and D as set forth by NMED in the Proposed Final Rule.

***Subsection E***

403. NMED proposed 20.6.7.14.E in the Petitioned Rule which provides that NMED shall provide notice of all discharge permit amendment approvals or denials to those persons requesting notice. *See* Petition, Attachment 1 at 9.

404. NMED made no changes to 20.6.7.11.E in the Amended Rule. *See* Amended Petition, Attachment 2 at 9.

405. Freeport supported 20.6.7.14.E and offered evidence for this provision. *See* Freeport Eastep Direct at 37-38.

406. Amigos Bravos objected to 20.6.7.14.E and requested new language; however, Amigos Bravos failed to present any evidence to support this new language. *See* AB Exhibit 1 at 14; Freeport Eastep Rebuttal at 18.

407. The Attorney General, GRIP, TRP, and Mr. Olson did not offer alternative rule language for 20.6.7.14.E. *See* AG Exhibit 2 at 9; GRIP Kuipers Direct, Attachment 2 at 11; and WCO Exhibit 3 at 11.

408. The Commission finds that copper mining companies need the ability to make minor changes in a quick and efficient manner while keeping the public informed, and 20.6.7.14.E, as proposed by NMED, accomplishes this objective.

409. NMED made a non-substantive change to 20.6.7.14.E in the Proposed Final Rule regarding terminology. *See* Proposed Final Rule at 9.

410. Relying primarily on the testimony of Mr. Eastep, and based on the weight of the evidence, the Commission adopts 20.6.7.14.E as set forth by NMED in Proposed Final Rule.

**20.6.7.15 – Reserved [Additional Public Notice Requirements]:**

411. In both the Petitioned Rule and Amended Rule, NMED proposed to reserve 20.6.7.15 for future amendments. *See* Petition, Attachment 1 at 9 and Amended Petition, Attachment 2 at 9.

412. The Attorney General and Mr. Olson proposed to change 20.6.7.15 from a reserved section to a section implementing additional public notice requirements, and the proposed rule language is identical. *See* AG Exhibit 2 at 10 and WCO Exhibit 3 at 11-13.

413. Amigos Bravos also proposed public notice requirements that are basically similar to those public notice requirements proposed by the Attorney General and Mr. Olson. *See* AB Exhibit 1 at 14.

414. The Attorney General offered no technical evidence to support its proposed change to 20.6.7.15. *See* AG Travers Direct at 1-24.

415. Mr. Olson offered evidence to support his changes to 20.6.7.15. *See* WCO Exhibit 3 at 11-13.

416. Amigos Bravos offered evidence to support its changes to 20.6.7.15. *See* AB Shields Direct at 3-5.

417. Freeport offered evidence to oppose the changes to 20.6.7.15 proposed by the Attorney General, Mr. Olson, and Amigos Bravos. *See* Freeport Eastep Rebuttal at 11-12 and 16-18.

418. GRIP and TRP offered no alternative rule language for 20.6.7.15. *See* GRIP Kuipers Direct, Attachment 2 at 11.

419. The Commission finds that there are at least two rounds of public notice provided, and an opportunity to submit comments and request a public hearing under 20.6.2.3108 NMAC.

As a result, the public participation requirements are already met through the continued applicability of 20.6.2.3108 to copper mine facilities, and additional public notice requirement would impose additional burdens on permit applicants and NMED without any clear benefit. Also, the Commission finds that it is appropriate and efficient for NMED to have a single procedure for public notice for discharge permits for all types of facilities.

420. NMED made no changes to 20.6.7.15 in the Proposed Final Rule. *See* Proposed Final Rule at 9.

421. Relying primarily on the testimony of Mr. Eastep, and based on the weight of the evidence, the Commission declines to adopt 20.6.7.15 as proposed by the Attorney General, Amigos Bravos, and Mr. Olson and adopts the 20.6.7.15 as reserved for future rule provisions as proposed by NMED in the Proposed Final Rule.

**20.6.7.16 - Reserved:**

422. In both the Petitioned Rule and Amended Rule, NMED proposed to reserve 20.6.7.16 for future amendments. *See* Petition, Attachment 1 at 10; Amended Petition, Attachment 2 at 19.

423. The Attorney General and Amigos Bravos opposed reserving 20.6.7.16 and, instead, proposed procedures for requesting public hearings on permitting actions for copper mine facilities. *See* AG Exhibit 2 at 10 and AB Exhibit 1 at 14.

424. The Commission is unable to identify any evidence presented by the Attorney General to support its amendment to 20.6.7.16.

425. Amigos Bravos did not present any technical testimony in support of its proposed changes to 20.6.7.6 other than pointing out that such language was included in the August 17 Discussion Draft.

426. Amigos Bravos' proposed change was rebutted by Mr. Eastep on behalf of Freeport. *See* Freeport Eastep Rebuttal at 18.

427. The Commission finds a lack of substantial evidence to support the proposed changes to 20.6.7.16 set forth by the Attorney General and Amigos Bravos. They also appear unnecessary because subsection A as they propose simply references 20.6.2.3108.K NMAC, which applies as described in Mr. Eastep's testimony and by virtue of 20.6.7.8.C, and the language in subsection B appears to be addressed by a combination of sections 20.6.7.8, 20.6.7.10.I, and 20.6.2.3108.J and K NMAC.

428. NMED made no changes to 20.6.7.16 in the Proposed Final Rule. *See* Proposed Final Rule at 9.

429. Relying primarily on Mr. Eastep's testimony, and based on the weight of the evidence, the Commission declines to adopt changes to 20.6.7.16 as proposed by the Attorney General and Amigos Bravos and adopts the Section as reserved for future rule changes as proposed by NMED in its Proposed Final Rule.

**20.6.7.17 – General Engineering and Surveying Requirements:**

***Subsection A – Practice of Engineering***

430. NMED proposed 20.6.7.17.A in the Petitioned Rule which requires that plans, drawing, reports, and specifications requiring the practice of engineering shall bear the seal and signature of a licensed New Mexico professional engineer pursuant to the New Mexico Engineering and Surveying Act and its rules. *See* Petition, Attachment 1 at 10.

431. Freeport testified regarding 20.6.7.17.A in the testimony of Michael Grass. *See* Freeport Michael Grass Direct Written Testimony at 4.

432. NMED made no changes to 20.6.7.17.A in the Amended Rule. *See* Amended Petition, Attachment 2 at 10.

433. GRIP and TRP proposed to add “qualified” before “licensed new Mexico professional engineer” in 20.6.7.17.A. *See* GRIP Kuipers Direct, Attachment 2 at 11.

434. Freeport provided rebuttal testimony to Mr. Kuipers’ proposal through Mr. Freeport Shelley’s testimony. *See* Shelley Rebuttal at 8-10.

435. The Commission finds that no testimony is offered regarding the proposed change to explain what “qualified” would mean or who would determine when a licensed professional is “qualified.” Mr. Shelley’s testimony explained that an engineer’s qualifications are determined by the requirements of the Engineering and Surveying Practices Act.

436. NMED made no changes to 20.6.7.17.A in the Proposed Final Rule other than changes to citation form. *See* Proposed Final Rule at 9.

437. Relying primarily on the testimony of Mr. Shelley and Mr. Grass, and based on the weight of the evidence, the Commission adopts 20.6.7.17.A as set forth in the Proposed Final Rule.

### ***Subsection B – Practice of Surveying***

438. NMED proposed 20.6.7.17.B in the Petitioned Rule which requires that plans, drawing, reports, and specifications requiring the practice of surveying shall bear the seal and signature of a licensed New Mexico professional surveyor pursuant to the New Mexico Engineering and Surveying Act and its rules. *See* Petition, Attachment 1 at 10.

439. Freeport presented evidence to support 20.6.7.17.B in the testimony of Michael Grass. *See* Freeport Grass Direct at 4.

440. NMED made no changes to 20.6.7.17.B in the Amended Rule. *See* Amended Petition, Attachment 2 at 10.

441. NMED made no changes to 20.6.7.17.B in the Proposed Final Rule other than changes to citation form. *See* Proposed Final Rule at 10.

442. Based on the weight of the evidence, the Commission adopts 20.6.7.17.B as set forth by NMED in the Proposed Final Rule.

***Subsection C – Engineering Plans and Specification Requirements***

443. NMED proposed 20.6.7.17.C which sets forth requirements for engineering plans and specifications. *See* Petition, Attachment 1 at 10.

444. Freeport presented testimony in support of 20.6.7.17.C, except as discussed below regarding 20.6.7.17.C(3). *See* Freeport Grass Direct at 4-10.

445. GRIP and TRP objected to 20.6.7.17.C(1)(b) and argued that “qualified” should be inserted before “licensed New Mexico professional engineer.” *See* GRIP Kuipers Direct, Attachment 2 at 11.

446. For the reasons set forth above dealings with 20.6.7.17.A, the Commission does not adopt the proposal to amend 20.6.7.17.C(1)(b) by GRIP and TRP.

447. Freeport objected to and proposed rule language for 20.6.7.17.C(3) which deals with process water or impacted stormwater treatment system plans and specifications. *See* Freeport NOI at 4.

448. Freeport offered evidence to support its proposed rule language through testimony by Mr. Thomas Shelley. *See* Freeport Shelley Direct at 50-51

449. NMED made no changes to 20.6.7.17.C(3) in its Amended Rule. *See* Amended Petition, Attachment 2 at 11.

450. The Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson offered no alternative rule language for 20.6.7.17.C(3). *See* AG Exhibit 2 at 11-12; GRIP Kuipers Direct, Attachment 2 at 12; AB Exhibit 1 at 16; WCO Exhibit 3 at 14.

451. NMED made changes to the language of 20.6.7.17.C(3) in its Proposed Final Rule in response to the changes requested by Freeport through Mr. Shelley's testimony.

452. Based on the weight of the evidence, the Commission adopts 20.6.7.17.C(3) as proposed in the Proposed Final Rule.

453. Amigos Bravos objected to 20.6.7.17.C(4)(a)(iii) in the Petitioned Rule, proposed amendments to this provisions, requested the addition of a new subparagraph (b), and argued that these changes are appropriate because they were in the August 17 Discussion Draft. *See* AB Exhibit 1 at 17.

454. NMED made no changes to 20.6.7.17.C(4)(a)(iii) and did not add the requested subparagraph (b) in the Amended Rule. *See* Amended Petition, Attachment 2 at 11.

455. Freeport objected to the changes to 20.6.7.17.C(4)(a)(iii) and the new subparagraph (b) proposed by Amigos Bravos and argued that Amigos Bravos did not present any technical testimony in support of its proposed changes other than pointing out that such language was included in the August 17 Discussion Draft. *See* Freeport Eastep Rebuttal at 18.

456. Relying on the testimony of Mr. Eastep, and based on the weight of the evidence, the Commission adopts 20.6.7.17.C(4)(a)(iii) and (b) as proposed by NMED in the Proposed Final Rule.

457. GRIP, TRP, and Amigos Bravos objected to 20.6.7.17.C(4)(e) in the Petitioned Rule and proposed to strike the phrase "where practicable." GRIP and TRP argued that the phrase needs to be stricken because it is ambiguous, while Amigos Bravos argued that the

change is appropriate because it was contained in the August 17 Discussion Draft. *See* GRIP Kuipers Direct, Attachment 2 at 13 and AB Exhibit 1 at 17.

458. NMED made no changes to 20.6.7.17.C(4)(e) in the Amended Rule. *See* Amended Petition, Attachment 2 at 11.

459. Freeport objected to the changes to 20.6.7.17.C(4)(e) proposed by Amigos Bravos and argued that Amigos Bravos did not present any technical testimony in support of its proposed changes other than pointing out that such language was included in the August 17 Discussion Draft. *See* Freeport Eastep Rebuttal at 18.

460. The Commission finds that NMED proposed revised language for 20.6.7.17.C(4)(e) in its Proposed Final Rule for clarity, although it does not address the proposed changes discussed above.

461. The Commission finds that 20.6.7.17.C(4)(e) is not ambiguous and that mere reliance on the August 17 Discussion Draft is unpersuasive without additional evidence supporting the proposed change. Accordingly, the Commission declines to adopt the change to 20.6.7.17.C(4)(e) as proposed by GRIP, TRP, and Amigos Bravos.

462. Based on the weight of the evidence, the Commission adopts 20.6.7.17.C(4)(e) as proposed by NMED in the Proposed Final Rule.

463. Amigos Bravos objected to 20.6.7.17.C(5) in the Petitioned Rule, proposed rule language, and argued that its rule language is appropriate because such language was included in the August 17 Discussion Draft. *See* AB Exhibit 1 at 17.

464. NMED made no changes to 20.6.7.17.C(5) in the Amended Rule. *See* Amended Petition, Attachment 2 at 11-12.



465. Freeport objected to the changes to 20.6.7.17.C(5) proposed by Amigos Bravos and argued that Amigos Bravos does not present any technical testimony in support of its proposed changes other than pointing out that such language was included in the August 17 Discussion Draft. *See* Freeport Eastep Rebuttal at 18.

466. The Commission finds that mere reliance on the August 17 Discussion Draft is unpersuasive without additional evidence supporting the proposed change. Accordingly, the Commission declines to adopt the change to 20.6.7.17.C(5) as proposed by Amigos Bravos.

467. Based on the weight of the evidence, the Commission adopts 20.6.7.17.C(5) as proposed by NMED in the Proposed Final Rule.

468. Except as discussed above with regard to specific language that was disputed by one or more parties, the Commission finds that the remainder of 20.6.7.17.C as presented in the Petitioned Rule and the Amended Rule was not disputed.

469. For these reasons, the Commission adopts 20.6.7.17.C as set forth in NMED's Proposed Final Rule.

#### ***Subsection D – New Impoundment Engineering Design Requirements***

470. NMED proposed 20.6.7.17.D which sets forth requirements for new impoundment engineering design. *See* Petition, Attachment 1 at 10.

471. Freeport supported 20.6.7.17.D through the testimony of Michael Grass. *See* Freeport Grass Direct at 11-21.

472. Amigos Bravos objected to 20.6.7.17.D and D(1)(a) in the Petitioned Rule, proposed rule language, and argued that such rule language is appropriate because it was included in the August 17 Discussion Draft. *See* AB Exhibit 1 at 17-18.

473. NMED made no changes to 20.6.7.17.D and D(1) in the Amended Rule. *See* Amended Petition, Attachment 2 at 11-12.

474. NMED presented testimony through Mr. Adrian Brown to support 20.6.7.17.D(1)(a). *See* NMED Brown Direct at 15.

475. Freeport objected to the changes to 20.6.7.17.D and D(1)(a) proposed by Amigos Bravos. *See* Freeport Eastep Rebuttal at 18.

476. The Attorney General, GRIP, TRP, and Mr. Olson did not offer alternative rule language for 20.6.7.17.D and D(1)(a). *See* AG Exhibit 2 at 11-12; GRIP Kuipers Direct, Attachment 2 at 13; WCO Exhibit 3 at 15.

477. The Commission finds NMED's evidence on 20.6.7.17.D(1)(a) to be persuasive. Accordingly, the Commission declines to adopt the change to 20.6.7.17.D and D(1)(a) as proposed by Amigos Bravos.

478. NMED made no changes to 20.6.7.17.D and D(1)(a) in the Proposed Final Rule. *See* Proposed Final Rule at 12-15.

479. Based on the weight of the evidence, the Commission adopts 20.6.7.17.D and D(1)(a) as proposed by NMED in the Proposed Final Rule.

480. Amigos Bravos objected to 20.6.7.17.D(2)(a), (b) and (f) in the Petitioned Rule, proposed rule language or to strike language, and argued that such rule language is appropriate because it was included or not included in the August 17 Discussion Draft. *See* AB Exhibit 1 at 17-18.

481. GRIP and TRP objected to 20.6.7.17.D(2)(a) through (e), proposed alternative rule language for (a) through (e) to clarify sections and allow use of an open pit for secondary

containment subject to Department approval. *See* GRIP Kuipers Direct, Attachment 2 at 14-15.

The reasons for these proposed changes are not explained in Mr. Kuipers' testimony.

482. The Attorney General objected to 20.6.7.17.D(2)(a) and struck some language without any supporting technical testimony. *See* Attorney General Exhibit 2 at 13.

483. NMED made changes to 20.6.7.17.D(2)(a), (b), (c), (d), and (e) in the Amended Rule. *See* Amended Petition, Attachment 2 at 11-12.

484. NMED presented testimony through Mr. Adrian Brown to support 20.6.7.17.D(2). *See* NMED Brown Direct at 14.

485. Freeport objected to the changes to 20.6.7.17.D(2) proposed by Amigos Bravos . *See* Freeport Eastep Rebuttal at 18. Freeport further explained the basis for NMED's version of 20.6.7.17.D(2) in the testimony of Mr. Grass as discussed above.

486. Mr. Olson does not offer alternative rule language for 20.6.7.17.D(2). *See* WCO Exhibit 3 at 15.

487. Relying primarily on the evidence presented by NMED and Freeport, the Commission declines to adopt the rule proposals suggested by the Attorney General, GRIP, TRP, and Amigos Bravos for the rule provisions of 20.6.7.17.D(2).

488. The Commission finds that the changes to 20.6.7.17.D(2)(a), (b), (c), (d), and (e) as proposed by NMED in the Amended Rule are changes for consistency and clarity. *See* Amended Petition at 1.

489. The Commission finds that the changes to the provisions 20.6.7.17.D(2) as proposed by NMED in the Proposed Final Rule are non-substantive.

490. Based on the weight of the evidence, the Commission adopts 20.6.7.17.D(2) as set forth in the Proposed Final Rule.

491. GRIP and TRP propose a change to 20.6.7.17.D(3) to delete an exception from the requirements for impoundments constructed within an open pit surface drainage area. *See* GRIP Kuipers Direct, Attachment 2 at 15.

492. Amigos Bravos proposed changes to 20.6.7.17.D(3)(a) based solely on the August 17 Discussion Draft. *See* AB Exhibit 1 at 20.

493. The Attorney General and Mr. Olson proposed no changes to 20.6.7.17.D(3), except for an Attorney General change to a cross-reference that does not appear to be correct. *See* AG Exhibit 2 at 14-15; WCO Exhibit 3 at 16-17.

494. NMED made no changes to 20.6.7.17.D(3) in the Amended Rule. *See* Amended Rule at 13-14.

495. NMED presented testimony through Mr. Brown to support 20.6.7.17.D(3). *See* Brown Direct at 14.

496. Freeport objected to the changes to 20.6.7.17.D(3) proposed by Amigos Bravos . *See* Freeport Eastep Rebuttal at 18. Freeport further explained the basis for NMED's version of 20.6.7.17.D(3) in the testimony of Mr. Grass as discussed above.

497. The Commission finds that the changes to 20.6.7.17.D(3) as proposed by GRIP and TRP are unwarranted because the open pit surface drainage area is a key element of the Copper Mine Rule.

498. The Commission finds that Amigos Bravos changes to 20.6.7.17.D(3)(a) are unsupported by technical testimony.

499. The Commission finds that 20.6.7.17.D(3) remained unchanged in the Proposed Final Rule.

500. Based on the weight of the evidence, the Commission adopts 20.6.7.17.D(3) in its entirety as set forth in the Proposed Final Rule.

501. GRIP and TRP proposed a change to 20.6.7.17.D(4) to delete an exception from the requirements for impoundments constructed within an open pit surface drainage area. *See* GRIP Kuipers Direct, Attachment 2 at 16.

502. Amigos Bravos proposed to strike 20.6.7.17.D(4)(e) on the grounds that it was not in the August 17 Discussion Draft. AB Exhibit 1 at 21.

503. The Attorney General and Mr. Olson proposed no changes to 20.6.7.17.D(4), except for an Attorney General change to a cross-reference that does not appear to be correct. *See* AG Exhibit 2 at 14-15; WCO Exhibit 3 at 16-17.

504. NMED made changes to 20.6.7.17.D(4) in the Amended Rule for purposes of clarity and consistency. *See* Amended Petition at 1 and Amended Petition, Attachment 2 at 14.

505. Freeport objected to the changes to 20.6.7.17.D(4) proposed by Amigos Bravos and argued that Amigos Bravos did not present any technical testimony in support of its proposed changes other than pointing out that such language was included in the August 17 Discussion Draft. *See* Freeport Eastep Rebuttal at 18. Freeport further explained the basis for NMED's version of 20.6.7.17.D(4) in the testimony of Mr. Grass as discussed above.

506. The Commission finds that the evidence presented by Freeport on 20.6.7.17.D(4) is persuasive and does not adopt amendments to this rule provision as proposed by GRIP, TRP, and Amigos Bravos.

507. NMED made no substantive changes to 20.6.7.17.D(4) in the Proposed Final Rule.

508. Based on the weight of the evidence, the Commission adopts 20.6.7.17.D(4) in its entirety as set forth in the Proposed Final Rule.

509. Freeport presented testimony in support of 20.6.17.D(5), (6) and (7). *See* Freeport Grass Direct at 20-21.

510. NMED made changes to 20.6.7.17.D(5) in the Amended Rule for clarity and consistency, and NMED made no changes to 20.6.7.17.D(6) and (7) in the Amended Rule. *See* Amended Petition, Attachment 2 at 13-14.

511. The Commission finds that 20.6.7.17(D)(5), (6), and (7) are undisputed because the Attorney General, GRIP/TRP, Amigos Bravos, William Olson proposed no changes to 20.6.7.17.D(5), (6) and (7). *See* AG Exhibit 2 at 15; AB Exhibit 1 at 21-22; GRIP Kuipers Direct, Attachment 2 at 16; WCO Exhibit 3 at 18.

512. NMED made no changes to 20.6.7.17.D(5), (6) and (7) in the Proposed Final Rule.

513. Based on the weight of the evidence, the Commission finds that 20.6.7.17.D(5), (6) and (7) are undisputed and adopts these provisions as set forth in the Proposed Final Rule.

514. To the extent not specifically addressed above, the Commission adopts all of 20.6.7.17.D as set forth in the Proposed Final Rule.

#### **20.6.7.18 – General Operational Requirements:**

##### ***Subsection A***

515. NMED proposed 20.6.7.18.A in the Petitioned Rule which contains requirements to plan for closure. *See* Petition, Attachment 1 at 15.

516. NMED did not make changes to 20.6.7.18.A in the Amended Rule. *See* Amended Petition, Attachment 2 at 15.

517. 20.6.7.18.A requires units to be designed and operated in a manner that considers implementation of the closure plan submitted pursuant to 20.6.7.33, and NMED presented evidence on closure issues through Adrian Brown. *See* NMED Brown Direct, at 32-44.

518. Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not dispute 20.6.7.18.A because none proposed alternative rule language. *See* Freeport NOI, at 3-6; AG Exhibit 2 at 15; AB Exhibit 1 at 22; GRIP Kuipers Direct, Attachment 2 at 16-17; WCO Exhibit 3 at 18.

519. NMED made a change in subsection A in the Proposed Final Rule to add the words “copper mine” before “facility,” consistent with changes to other provisions as discussed above.

520. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.18.A in its entirety as set forth by NMED in the Proposed Final Rule.

### ***Subsection B***

521. NMED proposed 20.6.7.18.B in the Petitioned Rule which sets forth the requirements for construction of a liner system for the containment of water contaminants, including repair or relining of a liner system. *See* Petition, Attachment 1 at 15.

522. NMED did not make changes to the Amended Rule to include Amigos Bravos proposal set forth at 20.6.7.18.B. *See* Amended Petition, Attachment 2 at 15.

523. GRIP and TRP objected to 20.6.7.18.B(2) in the Petitioned Rule and proposed alternative language to insert “qualified” before “licensed New Mexico professional engineer.” *See* GRIP Kuipers Direct, Attachment 2 at 17.

524. GRIP and TRP provided no testimony as to why such a change is necessary. *See* GRIP Kuipers Direct, Attachment 2 at 17.

525. Freeport presented rebuttal testimony regarding the additional of the term “qualified” as it relates to licensed professionals. *See* Freeport Shelley Rebuttal at 8-10.

526. Based on the weight of the evidence, the Commission declines to adopt this rule changed 20.6.7.18.B(2) as proposed by GRIP and TRP.

527. Amigos Bravos requested insertion of a new provision as 20.6.7.18.B(4) which deals with low impact development and green infrastructure development approaches. *See* AB Exhibit 1 at 22.

528. In support of the new language for 20.6.7.18.B(4), Amigos Bravos offered testimony from Brian Shield. *See* AB Shields Direct at 2-3.

529. In response to this new proposal by Amigos Bravos, Freeport presented rebuttal testimony from Tim Eastep. *See* Freeport Eastep Rebuttal at 16-17.

530. The Commission finds that Freeport’s evidence against a requirement on low impact development and green infrastructure development approaches to be persuasive and that the change proposed by Amigos Bravos would be advisory only and is not needed for the Copper Mine Rule.

531. Based on the weight of the evidence, the Commission hereby declines to adopt 20.6.7.18.B(4) as proposed by Amigos Bravos.

532. NMED made no changes to 20.6.7.17.B in the Proposed Final Rule. *See* Proposed Final Rule at 15.

533. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.18.B in its entirety as set forth by NMED in the Proposed Final Rule.



### ***Subsection C***

534. NMED proposed 20.6.7.18.C in the Petitioned Rule which contains requirements regarding notices for mining operations and discharge. *See* Petition, Attachment 1 at 15.

535. NMED did not make changes to 20.6.7.18.C in the Amended Rule. *See* Amended Petition, Attachment 2 at 15.

536. The Commission finds that Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not dispute 20.6.7.18.C because none proposed alternative rule language. *See* Freeport NOI at 3-6; AG Exhibit 2 at 16; AB Exhibit 1 at 22-23; GRIP Kuipers Direct, Attachment 2 at 17; WCO Exhibit 3 at 18-19.

537. NMED made non-substantive changes to 20.6.7.18.C in the Proposed Final Rule replacing the word “facilities” with “unit” in 20.6.7.18.C(1)(a) and (2)(b), and replacing the word “facility” with “impoundment” in 20.6.7.18.C(1)(b) and (2)(a). *See* Proposed Final Rule at 15.

538. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.18.C as set forth by NMED in the Proposed Final Rule.

### ***Subsection D***

539. NMED proposed 20.6.7.18.D in the Petitioned Rule which contains requirements for stormwater management. *See* Petition, Attachment 1 at 15-16.

540. Mr. Brown summarized the stormwater requirements set forth in 20.6.7.18.D in his direct testimony. *See* NMED Brown Direct at 6.

541. Mr. Brown testified that based on his review of mining regulations and guidance from other states, the stormwater requirements in the Copper Mine Rule are functionally the same as Arizona’s requirements. In addition, Mr. Brown summarized such requirements for Nevada to allow for a comparison. *See* NMED Brown Direct at 6.

542. Mr. Brown testified that the stormwater requirements of the Copper Mine Rule, set forth at 20.6.7.18.D, protect ground water by minimizing the mobilization of contaminants by precipitation and by maximizing the availability of unimpacted stormwater for infiltration to ground water in uncontaminated locations. *See* NMED Brown Direct at 6.

543. NMED made no changes to 20.6.7.18.D in the Amended Rule. *See* Amended Petition, Attachment 2 at 15.

544. Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not dispute 20.6.7.18.D because none proposed alternative rule language. *See* Freeport NOI at 3-6; AG Exhibit 2 at 16; AB Exhibit 1 at 23; GRIP Kuipers Direct, Attachment 2 at 17; and 17; WCO Exhibit 3 at 19.

545. NMED made no changes to 20.6.7.18.D in the Proposed Final Rule.

546. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.18.D as set forth by NMED in the Proposed Final Rule.

#### ***Subsection E***

547. NMED proposed 20.6.7.18.E regarding flow meter requirements in the Petitioned Rule. *See* Petitioned Rule at 16.

548. NMED made no changes to 20.6.7.18.E in the Amended Rule.

549. Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not dispute 20.6.7.18.E because none proposed alternative rule language. *See* Freeport NOI at 3-6; AG Exhibit 2 at 16-17; AB Exhibit 1 at 23-24; GRIP Kuipers Direct, Attachment 2 at 17-18; WCO Exhibit 3 at 19.

550. NMED made no changes to 20.6.7.18.E in the Proposed Final Rule.

551. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.18.E as set forth by NMED in the Proposed Final Rule.

***Subsection F***

552. NMED proposed 20.6.7.18.F in the Petitioned Rule. *See* Petition, Attachment 1 at 16-17.

553. NMED changed 20.6.7.18.F(2)(a) in its Amended Rule. *See* Amended Petition, Attachment 2 at 16.

554. Freeport proposed no changes to 20.6.7.18.F. *See* Freeport NOI at 3-6.

555. The Attorney General, GRIP, TRP, and Amigo Bravos proposed alternative rule language for 20.6.7.18.F(2) which addresses continued operation of existing impoundments; they proposed to strike the phrase “or the impoundment is located within the open pit surface drainage area.” *See* AG Exhibit 2 at 17; AB Exhibit 1 at 24; GRIP Kuipers Direct, Attachment 2 at 18.

556. The Attorney General did not offer specific evidence to support its proposed change to 20.6.7.18.F(2). *See* AG Exhibit 2 at 17.

557. GRIP and TRP argued that their change to 20.6.7.18.F(2) is appropriate because the reference to open pit surface drainage area provides relaxed requirements as opposed to areas outside this boundary. *See* GRIP Kuipers Direct, Attachment 2 at 18.

558. Amigos Bravos argued that the change to 20.6.7.18.F(2) is appropriate because it was included in the August 17 Draft Discussions. *See* AB Exhibit 1 at 24.

559. On behalf of NMED, Mr. Brown testified regarding the function of the Open Pit Surface Drainage Area to capture and contain various materials. *See* NMED Brown Direct at 11-12.

560. Ms. Lande and Mr. Blandford testified for Freeport regarding the function of open pits and the lack of evidence that plumes of contaminated ground water migrate from open pits. *See* Freeport Lande Rebuttal at 5; Freeport Blandford Direct at 20-21; Freeport Blandford Rebuttal at 6.

561. The Commission finds that it is appropriate to have different requirements for existing impoundments within the open pit surface drainage area relative to the requirement of 20.6.7.18.F(2) for continued operation of existing impoundments.

562. NMED made no changes to 20.6.7.18.F(2) in the Proposed Final Rule.

563. Based on the weight of the evidence, the Commission adopts 20.6.7.18.F(2) as set forth by NMED in the Proposed Final Rule.

564. GRIP, TRP, and Amigos Bravos objected to 20.6.7.18.F(2)(a) and proposed alternative rule language. *See* GRIP Kuipers Direct, Attachment 2 at 18 and AB Exhibit 1 at 24.

565. GRIP and TRP argued that its amendment to 20.6.7.18.F(2)(a) is necessary because the existing language is ambiguous and the appropriate language is from the August 17 Discussion Draft, while Amigo Bravos indicates that the proposed changes to the rule provision should be taken from the August 17 Discussion Draft. *See* GRIP Kuipers Direct, Attachment 2 at 18 and AB Exhibit 1 at 24.

566. NMED made changes in the Proposed Final Rule to address the comments of GRIP, TRP, and Amigos Bravos. To eliminate the double negative, NMED proposed that 20.6.7.18.F(2)(a) read: “Ground water monitoring data from monitoring wells downgradient of the impoundment indicates that the impoundment is functioning as designed.” *See* Proposed Final Rule at 16.

567. The Commission finds that 20.6.7.18.F(2)(a) as set forth in the Proposed Final Rule adequately addresses the comments of GRIP, TRP, and Amigos Bravos.

568. Based on the weight of the evidence, the Commission adopts 20.6.7.18.F(2)(a) as set forth in the Proposed Final Rule.

569. Mr. Olson objected to 20.6.7.18.F(2)(c) in the Petitioned Rule and Amended Rule and proposed alternative rule language that deals with variance issues. *See* WCO Exhibit 3 at 19-20.

570. For the reasons set forth herein dealing with variance issues, the Commission declines to adopt Mr. Olson's proposed rule change to 20.6.7.18(F)(2)(c). *See* Amended Petition, Attachment 2 at 11-12 and Subsections 31 and 32 set forth herein

571. NMED proposed 20.6.7.18.F(3) in the Petitioned Rule which deals with impoundment inspection and maintenance. *See* Petition, Attachment 1 at 16.

572. GRIP and TRP objected to 20.6.7.18.F(3) in the Petitioned Rule and proposed to delete the phrase "during active operations" because it is ambiguous. *See* GRIP Kuipers Direct, Attachment 2 at 18.

573. Based on the weight of the evidence, the Commission finds that the objection by GRIP to TRP to 20.6.7.18.F(3) is without merit and declines to adopt the proposed change.

574. Amigos Bravos objected to 20.6.7.18.F(3) in the Petitioned Rule and proposed rule changes based solely on the August 17 Discussion Draft.

575. For the reasons set forth herein dealing with the August 17 Discussion Draft, the Commission declines to adopt the change to 20.6.7.18.F(3) proposed by Amigos Bravos.

576. GRIP, TRP, and Amigos Bravos proposed various changes to 20.6.7.18.F(5)(a), including a proposal to insert a requirement where an automatically activated pump must be used

within the context of 20.6.7.18.F(5)(a) in the Petitioned Rule. GRIP and TRP did not provide evidence as to why such a requirement is necessary, and Amigos Bravos proposed such a requirement because it was in the August 17 Discussion Draft. *See* GRIP Kuipers Direct, Attachment 2 at 18 and AB Exhibit 1 at 25.

577. In the Proposed Final Rule, NMED modified 20.6.7.18.F(5)(a) to address the comments of GRIP, TRIP, and Amigos Bravos.

578. Based on the weight of the evidence, the Commission adopts 20.6.7.18.F(5)(a) as proposed by NMED in the Proposed Final Rule.

579. GRIP, TRP, and Amigos Bravos objected to 20.6.7.18.F(5)(b) in the Petitioned Rule and proposed to strike language. GRIP and TRP argued that deletion of the language is necessary to give meaning to the 30-day requirement, while Amigos Bravos relied on the August 17 Discussion Draft for the proposed deletion. *See* GRIP Kuipers Direct, Attachment 2 at 18-19 and AB Exhibit 1 at 25.

580. The Commission finds that the 30-day requirement has meaning contrary to the assertion of GRIP and TRP.

581. Based on the weight of the evidence, the Commission declines to adopt the proposed changes to 20.6.7.18.F(5)(b) as proposed by GRIP, TRP, and Amigos Bravos.

582. Based on the weight of the evidence, and for the reasons discussed above, the Commission adopts 20.6.7.18.F as set forth in the Proposed Final Rule.

**20.6.7.19 – Setback Requirements for a Copper Mine Facility Applying for a Discharge Permit:**

***Subsection A***

583. NMED proposed 20.6.7.19.A in the Petitioned Rule which makes the setback requirements applicable to a new copper mine facility for which an application for a discharge permit is received by the NMED after the effective date of the copper mine rule. *See* Petition, Attachment 1 at 17.

584. NMED did not make changes to 20.6.7.19.A in the Amended Rule. *See* Amended Petition, Attachment 2 at 17.

585. NMED presented evidence in support of 20.6.7.19.A in the testimony of Adrian Brown. For example, Mr. Brown indicated that the setback requirements are an important feature of new tailings impoundments at 20.6.7.22(A)(4) and new dry stack tailing piles at 20.6.7.22(A)(5). *See* NMED Brown Direct at 25.

586. Freeport supported 20.6.7.19 generally through the testimony of Timothy Eastep. *See* Freeport Eastep Direct at 38-39.

587. Amigos Bravos objected to 20.6.7.19.A, proposed alternative rule language, and supported such language by relying on the fact it was included in the August 17 Discussion Draft. *See* AB Exhibit 1 at 25-26.

588. Freeport presented rebuttal to the changes to 20.6.7.19.A proposed by Amigos Bravos. *See* Freeport Eastep Rebuttal at 18.

589. The Attorney General, GRIP, TRP, and Mr. Olson did not offer alternative rule language to 20.6.7.19.A. *See* AG Exhibit 2 at 17-18; GRIP Kuipers Direct, Attachment 2 at 19; WCO Exhibit 3 at 20.

590. NMED proposed no changes to 20.6.7.19.A in the Proposed Final Rule. *See* Proposed Final Rule at 17.

591. Based on the weight of the evidence, the Commission declines to adopt the changes to 20.6.7.19.A as proposed by Amigos Bravos and adopts 20.6.7.19.A as set forth in the Proposed Final Rule.

***Undisputed Subsections B, C, and D***

592. NMED proposed various setback requirements for a copper mine facility applying for a discharge permit at 20.6.7.19.B, C, and D in the Petitioned Rule. *See* Petition, Attachment 1 at 17.

593. NMED made no changes to 20.6.7.19.B, C, and D in the Amended Rule. *See* Amended Petition, Attachment 2 at 17.

594. Freeport, the Attorney General, Amigos Bravos, GRIP, TRP, and William Olson proposed no changes to 20.6.7.19.B, C and D. *See* AG Exhibit 2 at 17-18; GRIP Kuipers Direct, Attachment 2 at 19; AB Exhibit 1 at 25; WCO Exhibit 3 at 20.

595. NMED made no changes to 20.6.7.19.B, C and D in the Proposed Final Rule.

596. Based on the weight of the evidence, the Commission finds that 20.6.7.19.B, C and D are undisputed and adopts those provisions as set forth by NMED in the Proposed Final Rule.

***Subsection E***

597. NMED proposed 20.6.7.19.E in the Petitioned Rule which proposed leach stockpile, waste rock stockpile, tailings impoundment, process water impoundment, and impacted stormwater impoundment setback requirements. *See* Petition, Attachment 1 at 17.



598. NMED did not make changes to 20.6.7.19.E in the Amended Rule. *See* Amended Petition, Attachment 2 at 17.

599. Brown testified regarding 20.6.7.19.E. *See* NMED Brown Direct at 15, 17, 21, and 25.

600. GRIP and TRP proposed to delete 20.6.7.19.E(2) because there is no basis for excluding all onsite water supply wells from protection. GRIP and TRP further argued that any such exclusion should be done on a site-by-site basis through a variance process. *See* GRIP Kuipers Direct, Attachment 2 at 19.

601. Freeport opposed the changes to the Proposed Rule sought by GRIP. *See* Freeport, Eastep Rebuttal at 16.

602. The Attorney General, Amigos Bravos, and Mr. Olson did not offer alternative rule language to 20.6.7.19.E. *See* NMAG Exhibit 2 at 17-18; AB Exhibit 1 at 25-26; WCO Exhibit 3 at 20.

603. NMED made no changes to 20.6.7.19.E in the Proposed Final Rule.

604. Based on the weight of the evidence and for the reasons stated herein dealing with variances, the Commission declines to adopt the changes to 20.6.7.19.E(2) as proposed by GRIP and TRP and adopts 20.6.7.19.E as set forth in the Proposed Final Rule.

**20.6.7.20 – Requirements for Leach Stockpiles:**

***Subsection A – Engineering Design Requirements***

605. NMED proposed 20.6.7.20.A in the Petitioned Rule which sets forth the engineering design requirements for leach stockpiles at copper mine facilities. *See* Petition, Attachment 1 at 17.

606. NMED did not change 20.6.7.20.A in the Amended Rule. *See* Amended Petition, Attachment 2 at 17.

607. Freeport supported 20.6.7.20.A in the Petitioned Rule and offered evidence to support this rule provision. *See* Freeport Grass Direct at 21-23.

608. The Attorney General, GRIP, and TRP objected to 20.6.7.20.A, and while their proposed rule language somewhat varies in wording, the intent of the proposed language is to have an express statement that leach stockpiles shall comply with applicable standards. *See* AG Exhibit 2 at 18; GRIP Kuipers Direct, Attachment 2 at 19.

609. Amigos Bravos proposed to amend 20.6.7.20.A by inserting a new sentence allowing NMED to impose additional requirements for a leach stockpile in certain circumstances. *See* AB Exhibit 1 at 26.

610. The Attorney General, GRIP, TRP, and Amigos Bravos presented no technical evidence to support changing 20.6.7.20.A. The Attorney General relied on a September 7, 2012 internal draft of the copper mine rule for proposing the change and provides no additional explanation. *See* AG Travers Direct at 21. GRIP and TRP asserted a legal argument that their proposed language should be adopted because it is repeated in several places and tracks the requirements comply with the WQA. *See* GRIP Kuipers Direct, Attachment 2 at 19. Finally, Amigos Bravos proposed rule language was based on the August 17 Discussion Draft without any technical testimony to support the changes. *See* Freeport Eastep Rebuttal at 18.

611. NMED did not change 20.6.7.20.A in the Proposed Final Rule.

612. Relying primarily on the testimony of Mr. Grass, and based on the weight of the evidence, the Commission declines to adopt the changes to 20.6.7.20.A as proposed by the Attorney General, GRIP, TRP, and Amigos Bravos and adopts 20.6.7.20.A as set forth by

NMED in the Proposed Final Rule. The Attorney General and Amigos Bravos presented no technical evidence to support their request. In turn, the proposed changes by GRIP and TRP to 20.6.7.20.A are unnecessary because the relationship between the measures specified in the Copper Mine Rule and meeting and monitoring compliance with standards are addressed more specifically elsewhere.

613. NMED supported and presented evidence in support of 20.6.7.20.A(1) as set forth in the Petitioned Rule. Mr. Brown stated that the general design and operation requirements for all new leach stockpiles facilities under 20.6.7.20.A(1)(b), (c), and (d), combined with the setback requirements of 20.6.7.19.E(1), prevent or limit escape of pregnant leach solution. *See* NMED Brown Direct at 17.

614. With respect to 20.6.7.20.A(1) as set forth in the Petitioned Rule, Mr. Brown provided a detailed technical evaluation of the requirements for leach stockpiles. Mr. Brown noted that ground water protection is provided for new leach stockpiles by a 60 mil HDPE liner laid directly over a 12 inch compacted clay liner with minimum hydraulic conductivity of  $1 \times 10^{-6}$  centimeters per second. In Table 2, Mr. Brown provided representative seepage from leach stockpiles in operations through such a system for a range of conditions. Based on his calculations, Mr. Brown concluded that the liner system required by the Rule provides excellent ground water protection if there are no defects in the liner, transmitting the equivalent of 0.03 inches per year of high concentration leachate solution through the liner system to the underlying material. For one square mile of leachate stockpile, this scenario is equivalent to a leakage rate of approximately 1 gallon per minute. This leakage will blend with natural ground water under the pile, and the resulting ground water concentrations will likely not be in excess of the

standards set forth in 20.6.2.3103 NMAC when monitored at the downgradient toe of the leach stockpile. *See* NMED Brown Direct at 17-18.

615. With respect to 20.6.7.20.A(1) as set forth in the Petitioned Rule, Adrian Brown testified that liners have defects, even with the construction quality assurance requirements of 20.6.7.17(C)(1)(b). Assuming that such defects increase the hydraulic conductivity of the liner to the upper end of the literature range, the leakage rate will blend with water present and flowing beneath the leach stockpile under certain assumptions and still meet the standards of 20.6.2.3103 NMAC when monitored at the downgradient toe of the leach stockpile. *See* NMED Brown Direct at 18.

616. With respect to 20.6.7.20.A(1) as set forth in the Petitioned Rule, Adrian Brown testified that if the HDPE liner fails, the flow through liner system (now reduced to just the clay liner) increases towards a limit of about 12 inches per year for total failure, releasing approximately 400 gallons per minute of leach solution to the substrate underlying each square mile of leach stockpile. Under this scenario, it would be rapidly evident to the operator of the leach system due to the loss of product solution. It would also be rapidly evident as exceedances at the downgradient monitor wells, thereby triggering contingency actions likely including repair, containment, abatement, and possibly removal of the leach stockpile from service. *See* NMED Brown Direct at 19.

617. With respect to 20.6.7.20.A(1) as set forth in the Petitioned Rule, Adrian Brown testified on how the containment approach for new leach stockpiles under the Rule compares to other jurisdictions. The Arizona regulations closely parallel the requirements and approach of the Rule. Likewise, the Nevada regulations closely parallel the requirements and approach of the Rule. Finally, the requirements of the Rule are more restrictive and provide a greater degree of

containment that the current permitting of leach stockpiles in New Mexico. *See* NMED Brown Direct at 19-20.

618. Freeport supported and presented evidence with respect to 20.6.7.20.A(1) as set forth in the Petitioned Rule, whereby Michael Grass testified that the design requirements are consistent with new copper leach facility requirements in Arizona and Nevada. Mr. Grass further testified that double liner systems are rarely feasible for copper leach facilities. *See* Freeport Grass Direct at 23.

619. Amigos Bravos objected to 20.6.7.20.A(1)(b) in the Petitioned Rule and proposed alternative rule language for this rule provision based solely on the fact that such language was included in the August 17 Discussion Draft. *See* AB Exhibit 1 at 26.

620. Freeport refuted the alternative rule language proposed by Amigos Bravos by noting that Amigos Bravos did not present any technical testimony in support of the changes other than that they were included in the August 17 Discussion Draft. *See* Freeport Eastep Rebuttal at 18.

621. Relying primarily on the testimonies of Mr. Brown and Mr. Grass, and based on the weight of the evidence, the Commission declines to adopt the alternative rule language for 20.6.7.20.A(1)(b) in the Petitioned Rule as proposed by Amigos Bravos.

622. Amigos Bravos objected to 20.6.7.20.A(1)(c) in the Petitioned Rule and proposed to replace “subgrade” with “foundation.” Amigos Bravos presented no technical evidence to support such a change. *See* AB Exhibit 1 at 26.

623. Relying primarily on the testimonies of Mr. Brown and Mr. Grass, and based on the weight of the evidence, the Commission declines to adopt the alternative rule language for 20.6.7.20.A(1)(c) in the Petitioned Rule as proposed by Amigos Bravos.

624. NMED changed 20.6.7.20.A(1)(c)(v) in the Amended Rule. *See* Amended Petition, Attachment 2 at 18.

625. Freeport objected to 20.6.7.20.A(1)(c)(v) in the Amended Rule and proposed that the stricken language be returned to “operational life” as set forth in the Petitioned Rule. *See* Freeport NOI at 3. As support, Freeport offered testimony from Michael Grass. *See* Freeport Grass Rebuttal at 2.

626. The Attorney General, Amigos Bravos, and Mr. Olson objected to 20.6.7.20.A(1)(f) in the Petitioned Rule and proposed certain amendments. *See* NMAG Exhibit 2 at 19; AB Exhibit 1 at 27; WCO Exhibit 3 at 21. NMED made no changes to 20.6.7.20.A(1)(f) in the Amended Rule. *See* Amended Petition, Attachment 2 at 18.

627. Both the Attorney General and Amigos Bravos proposed to delete 20.6.7.20.A(1)(f) as set forth in the Petitioned Rule and Amended Rule. The Attorney General offered no technical evidence to support the proposed change, while Amigos Bravos relied on the fact that the change was included in the August 17 Discussion Draft. *See* NMAG Exhibit 2 at 19 and AB Exhibit 1 at 27.

628. Freeport rebuts the alternative rule language at 20.6.7.20.A(1)(f) proposed by Amigos Bravos *See* Freeport Eastep Rebuttal at 18.

629. Mr. Olson objected to 20.6.7.20.A(1)(f) in the Petitioned Rule and Amended Rule and proposed new language for this provision. Mr. Olson set forth reasons for his proposed rule changes, but did not present technical testimony in support. *See* WCO Exhibit 3 at 21-22.

630. Freeport refuted Mr. Olson’s proposed changes to 20.6.7.20.A(1)(f) . *See* Freeport Eastep Rebuttal at 18.

631. NMED did not make changes to 20.6.7.20.A(1)(f) in the Proposed Final Rule. *See* Proposed Final Rule at 18.

632. Relying primarily on the testimony of Mr. Brown, and based on the weight of the evidence, the Commission declines to adopt changes to 20.6.7.20.A(1)(f) proposed by the Attorney General, Amigos Bravos, and Mr. Olson and adopts the language of 20.6.7.20.A(1)(f) as set forth in the Proposed Final Rule.

633. NMED presented evidence in support of 20.6.7.20.A(2), and Mr. Brown testified that 20.6.7.20.A(2) sets forth the engineering design requirements for SX/EW units. *See* NMED Brown Direct at 12-13.

634. With respect to 20.6.7.20.A(2), Mr. Brown testified that the ground water protection scheme for SX/EW units is to locate the component equipment, pipes, and tanks on impermeable or low permeability surfaces. The protectiveness of this approach can be checked by consideration of the fluid losses that are possible through the low permeability surfaces that form the base of typically sized units. *See* NMED Brown Direct at 13.

635. With respect to 20.6.7.20.A(2), Mr. Brown provided representative seepage from a SX/EW unit in Table 1. Mr. Brown concluded that the representative seepage is not likely to create an exceedance of standards at any present or potential future use as domestic and agricultural water supply and surface water recharge. *See* NMED Brown Direct at 14.

636. With respect to 20.6.7.20.A(2), Mr. Grass testified that the requirements are consistent with good engineering practice for design and construction of SX/EW facilities. *See* Freeport Grass Direct at 23.

637. The Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose alternative rule language to 20.6.7.20.A(2) as set forth in the Petitioned Rule and

unchanged in the Amended Rule. *See* AG Exhibit 2 at 19; AB Exhibit 1 at 18; GRIP Kuipers Direct, Attachment 2 at 20; WCO Exhibit 3 at 22.

638. NMED did not change 20.6.7.20.A(2) in the Amended Rule. *See* Amended Petition, Attachment 2 at 18.

639. NMED made non-substantive changes to 20.6.7.20.A(2) in the Proposed Final Rule. *See* Proposed Final Rule at 18.

640. Based on the weight of the evidence, the Commission finds that 20.6.7.20.A(2) is undisputed and supported by evidence and hereby adopts 20.6.7.20.A(2) as set forth in the Proposed Final Rule.

#### ***Subsection B - Construction***

641. NMED proposed 20.6.7.20.B in the Petitioned Rule which sets forth construction requirements for leach stockpile facilities. *See* Petition, Attachment 1 at 18.

642. Freeport presented evidence to support 20.6.7.20.B(1) in the Amended Rule. *See* Freeport Grass Direct at 23-24.

643. Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose changes to 20.6.7.20.B(1) in the Petitioned Rule. *See* Freeport NOI at 3-6; GRIP Kuipers Direct, Attachment 2 at 20; NMAG Exhibit 2 at 19; AB Exhibit 1 at 27; WCO Exhibit 3 at 23.

644. NMED did not change 20.6.7.20.B(1) in the Amended Rule. *See* Amended Petition, Attachment 2 at 18.

645. NMED made non-substantive changes to 20.6.7.20.B(1) in the Proposed Final Rule for purposes of clarity and consistency. *See* Proposed Final Rule at 18.



646. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.20.B(1) as set forth by NMED in the Proposed Final Rule.

647. Freeport presented evidence to support 20.6.7.20.B(2) in the Petitioned Rule and maintained that this provision allows existing leach stockpiles to continue to operate as currently permitted because it is impracticable to require removal of millions of tons of leach material so existing systems can be replaced with lines systems. *See* Freeport Grass Direct at 23-24.

648. The Attorney General, GRIP, TRP, and Mr. Olson objected to and presented evidence on 20.6.7.20.B(2) in the Petitioned Rule, and the proposed language for all three essentially requires a mine to get a variance for existing leach stockpiles. *See* NMAG Exhibit 2 at 19; GRIP Kuipers Direct, Attachment 2 at 20; AB Exhibit 1 at 27; WCO Exhibit 3 at 23.

649. NMED did not change 20.6.7.20.B(2) in the Amended Rule. *See* Amended Petition, Attachment 2 at 18.

650. Mr. Olson presented alternative rule language 20.6.7.20.B(2) in sur-rebuttal testimony during the hearing. *See* WCO Sur-Rebuttal Exhibit 2.

651. NMED refuted this notion of the need to get a variance for such an existing facility. *See* NMED Brown Rebuttal at 6-7.

652. In the Proposed Final Rule for 20.6.7.20.B(1), NMED proposed a change in the terminology from “SX/EW facilities” to “SX/EW plants,” a non-substantive change. NMED also proposed to add a cross-reference to subsection I of 20.6.7.10 NMAC, which references “additional conditions.”

653. Relying primarily on the testimony of Mr. Brown and Mr. Grass, and based on the weight of the evidence, the Commission declines to adopt the changes to 20.6.7.20.B(2) as

proposed by the Attorney General, GRIP, TRP, and Mr. Olson and adopts the rule language for 20.6.7.20.B(2) as set forth in the Proposed Final Rule.

***Subsection C – Operational Requirements***

654. NMED proposed 20.6.7.20.C in the Petitioned Rule which sets forth operational requirements for SX/EW facilities. *See* Petition, Attachment 1 at 18-19.

655. Freeport presented evidence in support of all provisions of 20.6.7.20.C in the Petitioned Rule. *See* Freeport Grass Direct at 24-25.

656. Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose changes to 20.6.7.20.C(1) and C(1)(a) through (h) in the Petitioned Rule. *See* Freeport NOI at 3-6; NMAG Exhibit 2 at 19; Kuipers, Attachment 2 at 20-21; AB Exhibit 1 at 27-28; WCO Exhibit 3 at 24.

657. Out of all the provisions in 20.6.7.20.C(1)(a) through (c), NMED proposed changes only to 20.6.7.20.C(1)(c) in the Amended Rule, and it added a non-substantive cross-reference to 20.6.7.30.I. *See* Amended Petition, Attachment 2 at 18.

658. Freeport objected to NMED's changes to 20.6.7.20.C(1)(c) in the Amended Rule, while none of the other Parties objected. *See* Freeport NOI Rebuttal at 3. Freeport presented evidence to support its opposition indicating that the change resulted in an ambiguity. *See* Freeport Grass Rebuttal at 2.

659. Based on the weight of the evidence, the Commission adopts NMED's minor changes to 20.6.7.20.C(1)(c) in the Amended Rule.

660. Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose changes to 20.6.7.20.C(2) and C(2)(a) and (b) in the Petitioned Rule. *See* Freeport

NOI at 3-6; NMAG Exhibit 2 at 19; GRIP Kuipers Direct, Attachment 2 at 20-21; AB Exhibit 1 at 28; WCO Exhibit 3 at 24.

661. In the Amended Rule, NMED made non-substantive changes to the wording of 20.6.7.20.C(2) for purposes of clarity. *See* Amended Petition, Attachment 2 at 19.

662. In the Proposed Final Rule, NMED made non-substantive changes to the terminology in 20.6.7.20.C(2) and 20.6.7.20.C(2)(b).

663. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.20.C in its entirety as set forth in the Proposed Final Rule.

664. To the extent not specifically addressed above, the Commission adopts 20.6.7.20.C as set forth in the Proposed Final Rule.

#### **20.6.7.21 – Requirements for Copper Mine Waste Rock Stockpiles:**

##### ***Section Overview***

665. Mine waste rock stockpiles are created when material is extracted from the mine that does not contain sufficient material value to warrant processing through the mill or leaching. Under 20.6.7.21, this waste rock is placed in one or more waste rock stockpiles, which may be unlined provided the permittee can demonstrate that the ground water will be protected for present and potential future use as domestic and agricultural water supply and surface water recharge. *See* NMED Brown Direct at 20.

666. The design, construction, and operation of copper mine waste rock stockpiles are controlled by two factors: (1) rock type and (2) location. *See* NMED Brown Direct at 20.

667. An applicant's demonstration of the effectiveness of the rule-required capture methods using rule-specified hydrogeology and geochemical investigation data, and accepted engineering analyses must be met, and in the event that such a demonstration cannot be made,

then the applicant is required to consider alternate capture methods, including lining, and propose a capture method that can be shown to be effective. *See* TRV 3 at 598, L. 3-9.

#### ***Subsection A***

668. NMED proposed 20.6.7.21.A in the Petitioned Rule which sets forth material characterization requirements. *See* Petition, Attachment 1 at 19-20.

669. In support of its proposed section 20.6.7.21(A)(1) in the Petitioned Rule, NMED presented evidence that the determination as to whether waste rock may generate acid and/or release water contaminants at levels in excess of the standards of 20.6.2.3103 NMAC is conducted using the following types of sampling and testing of waste rock: (1) geologic, mineralogical, physical, and geochemical characterization; (2) representative sampling of the waste rock material; (3) static testing using acid/base accounting or equal to determine acid generating potential and meteoric water mobility procedure or equal to determine water contaminant leaching potential; and (4) kinetic testing to evaluate acidification, neutralization, and drainage quality. This characterization will identify whether waste rock may generate acid or release regulated ground water contaminants when placed in a stockpile. *See* NMED Brown Direct at 20.

670. Freeport presented additional evidence in support of section 20.6.7.21.A(1) in the Petitioned Rule through testimony of Jim Finley. Some of the important points by Mr. Finley include, but are not limited to: (1) the requirements proposed by NMED for material characterization are appropriate based upon his academic training and professional experience; (2) there is a need to characterize the geochemical properties of waste rock to determine the types and potential concentrations of constituents that could be released during chemical weathering of waste rock; and (3) development of a waste rock characterization plan is a

component of any copper mine plan and essential for evaluating and predicting the geochemical composition of leachate. *See* Freeport Finley Direct at 3-9.

671. NMED proposed no changes to section 20.6.7.21.A(1) in the Amended Rule. *See* Amended Petition, Attachment 2 at 18.

672. GRIP and TRP objected to 20.6.7.21.A(1) and propose alternative rule language; however, no specific technical evidence is presented to support the proposed changes with the rule change. *See* GRIP Kuipers Direct, Attachment 2 at 21; GRIP Kuipers Direct at 6.

673. Amigos Bravos objected to 20.6.7.21.A(1)(d), proposed alternative rule language, and asserted that the changes are appropriate because the language needs to reflect the August 17 Discussion Draft. *See* AB Exhibit 1 at 29. Freeport refuted this issue of the August 17 Discussion Draft through testimony of Mr. Eastep. *See* Eastep Rebuttal at 18.

674. Mr. Olson objected to 20.6.7.21.A(1)(d), proposed alternative rule language, and argued that the change is appropriate due to his changes to 20.6.7.21.B. *See* WCO Exhibit 3 at 25.

675. In the Proposed Final Rule, NMED changed 20.6.7.21.A(1) to correct grammatical errors and to reorganized the language for clarity by placing the last sentence of subparagraph (d) in a new subparagraph (f) and moved language contained in subparagraph (2)(e) to a new subparagraph (1)(e). NMED's change also eliminated the language "monitored, large scale field testing program."

676. Relying primarily on the testimony of Mr. Brown and Mr. Finley, and based on the weight of the evidence, the Commission adopts the rule language proposed by NMED, and the Commission declines to adopt changes to 20.6.7.21.A(1) as proposed by GRIP and TRP and

20.6.7.21.A(1)(d) as proposed by Amigos Bravos and Mr. Olson. Accordingly, the Commission adopts 20.6.7.21.A(1), including A(1)(a) through (d), as set forth in the Proposed Final Rule.

677. With respect to 20.6.7.21.A(2) in the Petitioned Rule, Freeport presented evidence in support through Mr. Finley. For example, Mr. Finley noted that a copper mining operation will generate waste rock and waste rock generated will have to be place in a stockpile and become part of the environment. Identification of waste rock properties provides basic information necessary to develop a plan to limit the potential for leachate draining from a waste rock stockpile to impact ground water quality. Mr. Finley concluded that 20.6.7.21.A(2) is appropriate and reasonable. *See* Freeport Finley Direct at 9.

678. The Attorney General objected to section 20.6.7.21.A(2)(f) in the Petitioned Rule and proposed alternative rule language; however, the Attorney General provided no specific technical evidence to support the rule changes for section 20.6.7.21.A(2)(f). *See* NMAG Exhibit 2 at 20.

679. GRIP and TRP objected to section 20.6.7.21.A(2)(f) in the Petitioned Rule and proposed alternative rule language. *See* Kuipers, Attachment 2 at 22. GRIP and TRP provided technical testimony from James Kuipers to support their proposed rule language. *See* GRIP Kuipers Direct at 6. Freeport refuted the testimony of Mr. Kuipers through rebuttal testimony of Lynn Lande. *See* Freeport Lande Rebuttal at 8.

680. Amigos Bravos objected to section 20.6.7.21.A(2)(f) in the Petitioned Rule, proposed alternative rule language, and argued that such changes to this provision are appropriate because they were in the August 17 Discussion Draft. *See* AB Exhibit 1 at 29.

681. Mr. Olson objected to section 20.6.7.21.A(2)(f) in the Petitioned Rule, proposed alternative rule language, and provided several reasons as to why he believes his changes are appropriate. *See* WCO Exhibit 3 at 25-26.

682. NMED made changes to section 20.6.7.21.A(2) in the Amended Rule. *See* Amended Petition, Attachment 2 at 18. Mr. Brown presented testimony in support of the changes. *See* NMED Brown Rebuttal at 11.

683. In the Proposed Final Rule, NMED added a new subparagraph (e) which requires a description of any proposed containment system in accordance with 20.6.7.21.B and which struck former subparagraph (e) and moved to subsection A for purposes of clarity.

684. Relying primarily on the testimony of Mr. Brown and Mr. Finley, and based on the weight of the evidence, the Commission adopts section 20.6.7.21.A(2) as set forth in the Final Proposed Rule and declines to adopt changes to 20.6.7.21.A(2) as proposed by the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson. .

### ***Subsection B***

685. NMED proposed section 20.6.7.21.B in the Petitioned Rule which sets forth the engineering design requirements for new waste rock stockpiles. *See* Petition, Attachment 1 at 20.

686. NMED supported 20.6.7.21.B through evidence presented by Mr. Brown. In support of section 20.6.7.21.B, Mr. Brown testified that the minimum ground water protection requirements for waste rock stockpile that may generate water contaminants causing an exceedance of applicable standards are: (1) stormwater diversion; (2) seepage capture; (3) ground water capture; and (4) setbacks. *See* NMED Brown Direct at 21-25.

687. Mr. Brown compared the containment approach to waste rock stockpiles under the Rule to other similar jurisdictions that regulate copper mines. The Arizona guidelines are less protective than the requirements and approach of the Rule dealing with waste rock stockpiles. Meanwhile, the Nevada regulations are less specific and, therefore, likely less protective than the requirements and approach of the Rule. *See* NMED Brown Direct at 25.

688. Freeport supported 20.6.7.21.B in the Petitioned Rule and offered evidence from Michael Grass. In summary, Mr. Grass made the following points: (1) the proposed requirements for waste rock stockpiles are consistent with and, overall, more specific than other copper producing states; (2) NMED has never required a lined waste rock stockpile in a discharge permit; (3) waste rock stockpiles associated with copper mines are rarely, if ever, constructed with liner systems; (4) ground water interceptor systems are rarely needed for waste rock stockpiles associated with copper mines; (5) engineering design requirements need to be read in conjunction with material characterization and material handling plan requirements; and (6) the engineering design requirements in the Petitioned Rule are consistent with good engineering practice and experience with the design of waste rock stockpiles to protect ground water quality. *See* Freeport Grass Direct at 25-26.

689. In addition, Freeport supported 20.6.7.21.B through the testimony of Mr. Finley. *See* Freeport Finley Direct at 10-14.

690. NMED made changes to 20.6.7.21.B in the Amended Rule and supported the changes with testimony from Adrian Brown. *See* Amended Petition, Attachment 2 at 20-21 and NMED Brown Rebuttal at 11. The changes addressed three components of managing impacts to ground water from waste rock stockpiles including: (1) stormwater management, (2) seepage collection, and (3) capture and containment of impacted ground water.



691. The Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson objected to 20.6.7.21.B as proposed by NMED and propose extensive alternative rule language which would require liner systems for new waste rock stockpiles that are acid-generating or may generate contaminants in leachate at levels that exceed the numerical standards of 20.6.3103 NMAC. *See* NMAG Exhibit 2 at 20-22; GRIP Kuipers Direct, Attachment 2 at 22-23; AB Exhibit 1 at 29-31; WCO Exhibit 3 at 26-29.

692. The Attorney General presented evidence through Connie Travers to support its alternative rule language for section 20.6.7.21.B. *See* Travers Direct at 21-22. Ms. Travers, however, did not identify an example of a lined waste rock stockpile and did not testify regarding whether the engineering design specified in the Attorney General's proposed rule language is practicable for copper mines or consistent with good engineering practices. *See id.*

693. GRIP and TRP presented evidence through James Kuipers to support their alternative rule language for section 20.6.7.21.B. *See* GRIP Kuipers Direct at 6-7. Mr. Kuipers' testimony did not identify an example of a lined waste rock stockpile and he did not testify regarding whether the engineering design specified in the proposed rule language is practicable for copper mines or consistent with good engineering practice.

694. Mr. Kuipers' testimony was rebutted by Freeport witness Michael Grass. *See* Freeport Grass Rebuttal at 3-4. Mr. Kuipers' testimony also was rebutted by Freeport witness Thomas Shelley. *See* Freeport Shelley Rebuttal at 10-13.

695. Mr. Kuipers identified only two specific examples of lined waste rock stockpiles in his rebuttal testimony and did not address the key technical points of Mr. Grass's and Mr. Finley's testimony. *See* GRIP Kuipers Rebuttal at 2-3. During cross-examination, Mr. Kuipers

conceded that his examples of lined waste rock stockpiles were not at copper mines and were at much smaller-scale mines. *See* TRV 10 at 2392, L. 24-24; 2393, L. 1-25; 2394, L. 1-11.

696. Amigos Bravos did not present technical evidence in support of its alternative rule language for 20.6.7.21.B and relied on the fact that it was in the August 17 Discussion Draft. *See* AB Exhibit 1 at 29-31.

697. Mr. Olson presented evidence to support his alternative rule language for section 20.6.7.21.B. *See* WCO Exhibit 3 at 26-29.

698. The Commission finds that the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson contend that 20.6.7.21.B should require a liner system for waste rock stockpiles in order to prevent ground water from exceeding the standards of section 20.6.2.3103 NMAC at a place of withdrawal of water for present or reasonably foreseeable future use. They contend that 20.6.7.21.B as proposed by the Department would allow leachate containing contaminants in excess of the standards to infiltrate into ground water and that, as a result, ground water could exceed standards. These parties contends that ground water could be allowed to exceed standards up to the point where ground water quality would be measured by a monitoring well as specified by 20.6.7.28.

699. The Commission finds that these parties further contend that a variance would be required under the WQA in order for NMED to issue a permit for a waste rock stockpile if the waste rock stockpile could cause the standards to be exceeded and that a site-specific determination would be required regarding the locations of any “place of withdrawal of water for present or reasonably foreseeable future use.” These parties further would not differentiate between waste rock stockpiles to be constructed within an “open pit surface drainage area” or outside such an area. *See, e.g.,* WCO Direct at 26-29.

700. Mr. Brown testified that, during mining operations, water use within the mine area would be controlled by the mine operator and that water produced would be used for mining purposes. Consequently, during the period of mine operation, ground water within the mine area, including the area of a waste rock stockpile, would not be available for domestic or agricultural use. Mr. Brown further testified that, following closure, the area around and under a waste rock stockpile could become a place of withdrawal of water for domestic or agricultural use. *See* NMED Brown Direct at 20-25.

701. Mr. Brown testified that any water contaminants generated by a waste rock stockpile located inside an open pit surface drainage area will be contained within that area. *See* NMED Brown Direct at 20-25.

702. Mr. Brown testified regarding the anticipated leakage rates from various liner designs and stated that all liners leak to some degree. The Commission finds that Mr. Brown's testimony in this regard was not rebutted by any party. Mr. Brown testified regarding the anticipated rate of discharge from a typical new waste rock stockpile at a copper mine designed in accordance with the requirements of section 20.6.7.21.A and B and testified that it would not typically result in ground water contamination. *See* NMED Brown Direct at 20-25. Mr. Brown further testified that lining is potentially problematic for waste rock stockpiles because liners can leak, a liner can be damaged during placement of waste rock, placement of liners on steep slopes where waste rock often is placed is difficult, and use of a liner can create a plane of weakness beneath a waste rock stockpile, resulting in reduced stability. *See* NMED Brown Rebuttal at 2-3.

703. The Commission finds that none of the witnesses for the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson presented technical testimony regarding the practicability of lining waste rock stockpiles at copper mines or whether the prescriptive liner design they

propose is consistent with good engineering practices. These witnesses also did not rebut the technical testimony on behalf of Freeport or explain why NMED has never required lined waste rock stockpiles in existing discharge permits for copper mines issued under the existing regulations and the WQA.

704. The Commission finds that none of the parties who proposed the alternative version of 20.6.7.21.B presented technical evidence, including engineering evidence, in support of the specific liner requirements they advocated. With the exception of Mr. Kuipers, none of their witnesses were engineers or appeared to be experienced in designing liners. Mr. Kuipers did not present technical evidence on the practicability of the proposed liner design, whether such a design has been used for waste rock stockpiles at copper mines, and whether such a design is consistent with good engineering practices for waste rock stockpiles.

705. Testimony by an NMED witness in a prior proceeding, Ms. Mary Ann Menetrey, included with Mr. Olson's rebuttal testimony, described these discharge permits. *See* WCO Rebuttal, Exhibit 2. That testimony described the permit conditions that NMED imposed to ensure that ground water quality is protected. *See id.* at 2. This exhibit indicated that in the identified discharge permits, NMED imposed conditions requiring collection of seepage in lined impoundments and waste rock handling plans, but the testimony did not identify any requirements for lined waste rock stockpiles. *See id.* at 9-11, particularly items numbered 7 and 8. The testimony also did not identify any permit conditions requiring lined leach stockpiles, as is required by section 20 of the Copper Mine Rule. *See id.* at 7-11.

706. The Commission finds that the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not present technical evidence that the engineering requirements in 20.6.7.21.B, in combination with the material characterization requirements and material

handling plan requirements, will not protect ground water quality during mining operations. The Commission further finds that the requirements of 20.6.7.21.B improves upon the requirements for waste rock stockpiles contained in discharge permit conditions previously included by NMED in discharge permits for waste rock stockpiles.

707. The Commission finds that allowing the construction of unlined stockpiles is consistent with past permitting practices of the Department for permits issued under the existing Commission regulations and the WQA. The Commission further finds that the material handling plan requirements in 20.6.7.21.A combined with the engineering requirements in 20.6.7.21.B are at least as stringent, if not more stringent, than the measures required by NMED through past permit conditions, and that NMED witnesses have testified in the past that these measures are protective of ground water under the WQA.

708. The Commission finds that the testimony presented by the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson does not show that lining waste rock stockpiles is typical, practical, or consistent with good engineering practices or industry practices.

709. The Commission finds that, based on the testimony of Mr. Brown, a site-specific determination regarding locations that are “places of withdrawal of water for present or reasonably foreseeable use,” as might be made during a variance proceeding, is not necessary or required for the Rule. Based on Mr. Brown’s testimony, unlined waste rock stockpiles are not expected to cause ground water to exceed standards at a “place of withdrawal of water for present or reasonably foreseeable use” during mining operations or after closure. If NMED concludes that a permit applicant has not demonstrated that is the case, then NMED can require additional measures, including a liner.

710. The Commission finds that the Copper Mine Rule requires the Department to comply with the WQA's mandate that a permit cannot be issued if it would result in an exceedance of applicable standards at a "place of withdrawal." *See* 20.6.7.10.J *infra*. Any persons who believe that the statutory mandate has been violated with regard to any permit issued under the Rule will have an opportunity to comment on permit applications and draft permits, to request a hearing before the NMED, to appeal a final permit to the Commission, and to appeal the Commission's decision to the NewMexico Court of Appeals.

711. In the Proposed Final Rule, NMED added language to Subsection B, as proposed by Mr. Olson, for consistency with other sections. The language is moved from 20.6.7.21.B(1) as presented in the Petitioned Rule. NMED also moved language from the first part of Subsection B to 20.6.7.21.B(1). This change appears to be non-substantive.

712. Relying primarily on the testimony of Mr. Brown and Mr. Grass, and based on the weight of the evidence, the Commission adopts 20.6.7.21.B, including paragraph (1), as set forth by NMED in the Proposed Final Rule.

### ***Subsection C***

713. NMED proposed 20.6.7.21.C in the Petitioned Rule. *See* Petition, Attachment 1 at 22.

714. The Attorney General objected to 20.6.7.21.C(2) in the Petitioned Rule and proposed alternative rule language. *See* AG Exhibit 22. The Attorney General provides testimony in support of the changes, alleging that NMED's approach would allow an exceedance of standards without a variance. *See* AG Travers Direct at 22.

715. Amigos Bravos objected to 20.6.7.21.C(2) in the Petitioned Rule and proposed alternative rule language. *See* AB Exhibit 1 at 31-32. The only grounds for the change indicated is inclusion in the August 17 Discussion Draft.

716. Mr. Olson objected to 20.6.7.21.C(2) in the Petitioned Rule and proposed alternative rule language. *See* WCO Exhibit 3 at 29-30. Mr. Olson also testified that variances should be required for continued operation of existing waste rock stockpiles that have caused ground water contamination and cites to the Tyrone Settlement. *See id.*

717. Freeport rebutted the Attorney General's and Mr. Olson's testimony in support of changes to the requirements for continued operation of existing waste rock stockpiles. *See* Freeport Shelley Rebuttal at 17.

718. GRIP and TRP did not propose alternative rule language for 20.6.7.21.C, C(1), and C(2) in the Petitioned Rule. *See* GRIP Kuipers Direct, Attachment 2 at 23.

719. In the Proposed Final Rule, NMED changed 20.6.7.21.C to change "permitted" to "authorized" for clarity and to add language regarding additional conditions in response to Mr. Olson's comment that this language should be included in additional sections (see comment regarding 20.6.7.10.J).

720. Based on the weight of the evidence, the Commission adopts 20.6.7.21.C as set forth in the Proposed Final Rule.

#### ***Subsection D – Operational Requirements***

721. NMED proposed 20.6.7.21.D which deals with operational requirements. *See* Petition, Attachment 1 at 22.

722. The Attorney General did not propose alternative rule language for 20.6.7.21.D in the Petitioned Rule. *See* NMAG Exhibit 2 at 22.

723. GRIP and TRP proposed alternative rule language for 20.6.7.21.D(3) in the Petitioned Rule. *See* GRIP Kuipers Direct, Attachment 2 at 23-24. The reason was that this language was included in the August 17 Discussion Draft.

724. Amigos Bravos proposed to add new paragraphs to 20.6.7.21.D in the Petitioned Rule. *See* AB Exhibit 1 at 32. The sole testimony was that these paragraphs were included in the August 17 Discussion Draft.

725. Mr. Olson proposed a new paragraph (6) to require a record and reporting of the volume of fluid generated in a solution collection system to provide information on how such a system is functioning. *See* WCO Exhibit 3 at 30.

726. NMED made several changes to 20.6.7.21.D in the Amended Rule, including a more specific cross-reference in paragraph (1), a reference to corrective action in paragraph (3), striking language in paragraph (5), and three new paragraphs (6), (7) and (8), which in part respond to Mr. Olson's comment.

727. NMED supported these changes in the Amended Rule through the testimony of Mr. Brown. *See* NMED Brown Direct at 11.

728. In the Proposed Final Rule, NMED changed 20.6.7.21.D(2) by striking "facilities" for purposes of clarity.

729. Based on the weight of the evidence, the Commission adopts 20.6.7.21.D as set forth in the Proposed Final Rule.



**20.6.7.22 – Requirements for Copper Crushing, Milling, Concentrator, Smelting, and Tailings Impoundment Facilities:**

***Section Overview***

730. The proposed rule specified engineering design, construction, and operational requirements for new crushing and milling facilities, new concentrator facilities, new smelting facilities, and new tailings impoundments.

731. The proposed engineering design requirements for tailings impoundments was a major issue in the hearing. The proposed rule requirements specified detailed engineering designed requirements and requirements for capture of seepage [drainage] and any impacted ground water using an interceptor system. The Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson counter that the Copper Mine Rule should require the use of a liner system.

732. Under the proposed rule, a permit applicant must demonstrate the effectiveness of the Rule-required capture methods using Rule-specified hydrogeology and geochemical investigation data, and accepted engineering analyses must be met. In the event that such a demonstration cannot be made, then the applicant is required to consider alternate capture methods, including lining, and propose a capture method that can be shown to be effective. *See* TRV 3 at 598, L. 3-9.

***Subsection A***

733. 20.6.7.22.A(1), (2), and (3) in the Petitioned Rule set forth the engineering design requirements for the following processing systems: new crushing and milling units, new concentrator units, and new smelter units. *See* NMED Brown Direct at 12-13.

734. NMED presented evidence through Adrian Brown to support 20.6.7.22.A and A(1) through (3) as set forth in the Petitioned Rule. *See* NMED Brown Direct at 13-14.

735. Freeport presented evidence in support of 20.6.7.22.A, particularly the requirements for new tailings impoundments, through James Scott. Mr. Scott is an engineer with many years of experience as an engineer of record designing and overseeing operation of tailings impoundments in New Mexico and elsewhere. *See* Written Testimony of James C. Scott filed February 22, 2013 (Pleading 50) (hereinafter “Freeport Scott Direct”).

736. Mr. Olson proposed no changes to 20.6.7.22.A and A(1). *See* WCO Exhibit 3 at 30.

737. The Attorney General, GRIP, TRP, and Amigos Bravos proposed changes to 20.6.7.22.A and A(1) as set forth in the Petitioned Rule. *See* NMAG Exhibit 2 at 22; GRIP Kuipers Direct, Attachment 2 at 24; and AB Exhibit 1 at 32-33.

738. With respect to 20.6.7.22.A, the Attorney General, GRIP, and TRP proposed language to expressly require copper crushing, milling, concentrator, smelting, and tailings impoundment facilities to meet applicable standards. *See* NMAG Exhibit 2 at 22; Kuipers, Attachment 2 at 24; and AB Exhibit 1 at 32-33.

739. Amigos Bravos proposed to strike the language allowing an applicant to show that an alternative design provides an equal or greater level of containment because this language was in the 8/17 draft. *See* AB Exhibit 1 at 32.

740. With respect to 20.6.7.22.A(1), they proposed language to remove the exception provision dealing with the open pit surface drainage area. *See* NMAG Exhibit 2 at 22; and GRIP Kuipers Direct, Attachment 2 at 24.

741. The Attorney General, GRIP, TRP, and Amigos Bravos did not present technical evidence specific as to why its proposed rule changes to 20.6.7.22.A and A(1) are necessary, although the Attorney General, GRIP, and TRP generally have issues with respect to applying

relaxed requirements for certain activities occurring in the open pit surface drainage area. *See* NMAG Exhibit 2 at 22; Kuipers, Attachment 2 at 24; and AB Exhibit 1 at 32-33.

742. The Commission does not adopt the language proposed by the Attorney General, GRIP, and TRP to 20.6.7.22.A relating to compliance with standards because the language would appear to require a separate demonstration relating to compliance with standards, and the Commission has not accepted that approach, and the proposed language is silent and therefore vague as to where standards must be met. *See* findings regarding 20.6.7.10.J *infra*.

743. The Commission does not adopt the change proposed by Amigos Bravos because inclusion of language in the August 17 Discussion Draft is not sufficient to overcome the technical testimony provided by NMED and Freeport in support of the proposed rule.

744. NMED made no substantive changes to 20.6.7.22.A(1), (2), and (3) in the Amended Rule and corrected one typographical error. *See* Amended Petition, Attachment 2 at 22.

745. In the Proposed Final Rule, NMED replaced the word “facilities” with “impoundments units,” consistent with its change in terminology elsewhere.

746. The Commission finds that 20.6.7.22.A(2) and A(3) are undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose alternative language. *See* Freeport NOI at 3-6; AG Exhibit 2 at 22; AB Exhibit 1 at 32-33; GRIP Kuipers Direct, Attachment 2 at 24; WCO Exhibit 3 at 30-31.

747. Relying primarily on the testimony of Mr. Brown and Mr. Scott, and based on the weight of the evidence, the Commission hereby adopts 20.6.7.22.A in its entirety as proposed by NMED in the Proposed Final Rule.

748. Turning to 20.6.7.24.A(4) in the Petitioned Rule, NMED proposed engineering design requirements for new tailings impoundments. *See* Petition, Attachment 1 at 21-22.

749. NMED presented evidence that this provision sets forth requirements for new tailing impoundments including: (1) stormwater run-on shall be diverted and/or contained to minimize contact between stormwater and tailings; (2) basal seepage shall be captured and contained through the construction of headwall, impoundments, and/or diversion structured; and (3) ground water impacted by tailings seepage in excess of applicable standards will be captured and contained by interceptor systems. These requirements must be considered in conjunction with the setback provisions, dam safety requirements set forth in 20.6.7.17.C(1)(d), and monitoring requirements set forth in 20.6.7.28.B(2) and (5) in order to technically evaluate the Rule requirements for new tailing impoundments. Mr. Brown provided a comprehensive technical evaluation of 20.6.7.24.A(4). *See* NMED Brown Direct at 25-31.

750. Mr. Brown testified that, during mining operations, water use within the mine area would be controlled by the mine operator and that water produced would be used for mining purposes. Consequently, during the period of mine operation, ground water within the mine area, including the area of a tailings impoundment, would not be available for domestic or agricultural use. Mr. Brown further testified that, following closure, the area around and under a tailings impoundment could become a place of withdrawal of water for domestic or agricultural use. *See* NMED Brown Direct at 25-31.

751. Mr. Brown testified regarding the anticipated leakage rates from various liner designs and stated that all liners leak to some degree. Mr. Brown's testimony in this regard was unrebutted by any party. Mr. Brown testified regarding the anticipated rate of discharge from a typical new tailings impoundment at a copper mine designed in accordance with the

requirements of section 20.6.7.22.A. *See* NMED Brown Direct at 25-31. This testimony was un rebutted by any party.

752. Mr. Brown testified that any water contaminants generated by a tailings impoundment located inside an open pit surface drainage area will be contained within that area. *See* NMED Brown Direct at 25-31.

753. Freeport presented evidence in support of 20.6.7.22.A(4) through Neil Blandford and James Scott. *See* Freeport Blandford Direct at 25-28; Freeport Scott Direct at 3-13.

754. Mr. Scott explained the requirements of the New Mexico Office of the State Engineer hereinafter (“NMOSE” or “OSE”) that apply to tailings impoundments for dam safety and stability. *See* Freeport Scott Direct at 3.

755. In addition to Mr. Scott, Freeport presented the testimony of a hydrologist, Mr. Neil Blandford, in support of 20.6.7.22.A(4). Mr. Blandford is responsible for the abatement plan for the Tyrone Mine. Mr. Blandford testified regarding the performance of the unlined tailings impoundments at the Tyrone Mine and provided evidence that the standards of 20.6.2.3103 NMAC generally were not exceeded during operation of the tailings impoundments and that ground water quality is improving and the standards of 20.6.2.3103 NMAC are met in nearly all of the monitoring wells around the tailings impoundments at present, a few years after completion of closure and reclamation. Mr. Blandford attributed exceedance of standards in one or two monitoring wells to stormwater management practices during operations. Mr. Blandford described how an interceptor well system can be successfully designed and operated to contain drainage from an unlined tailings impoundment, when necessary, during and after operation. *See* Freeport Blandford Direct at 25-28.

756. The Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson opposed 20.6.7.22.A(4) and proposed alternative rule language. At its most basic level, the alternative rule language proposed that new tailing impoundments must be lined. *See* NMAG Exhibit 2 at 22-24; GRIP Kuipers Direct, Attachment 2 at 24-25; AB Exhibit 1 at 33-34; WCO Exhibit 3 at 31-33.

757. The Attorney General presented technical evidence in support of its changes to 20.6.7.22.A(4) through Connie Travers, while GRIP and TRP presented evidence in support of their changes to 20.6.7.22.A(4) through James Kuipers. *See* Travers Direct at 22; Kuipers Direct at 7-8. Amigos Bravos presented no technical evidence in support of its changes. *See* AB Exhibit 1 at 33-34. Mr. Olson presented his technical evidence within his proposed rule changes. *See* WCO Exhibit 3 at 31-33.

758. Ms. Travers, Mr. Kuipers, and Mr. Olson testified, in general, that allowing unlined tailings impoundments would result in contamination of ground water underlying and in the vicinity of such a tailings impoundment. They contend that, as a result 20.6.7.21.A(4) as proposed by NMED would allow ground water quality standards to be exceeded in violation of the WQA. These witnesses further contended that a variance would be required under the WQA in order for NMED to issue a permit for an unlined tailings impoundment if it could cause the standards to be exceeded and that a site-specific determination would be required regarding the locations of any “place of withdrawal of water for present or reasonably foreseeable future use.” These parties further would not differentiate between tailings impoundments to be constructed within an “open pit surface drainage area” or outside such an area. *See* Travers Direct at 22; Kuipers Direct at 7-8; WCO Exhibit 3 at 32-33.

759. Mr. Olson testified that this approach is not consistent with the Tyrone Settlement. He also testified that it is feasible to construct a lined tailings impoundment because such an impoundment is being proposed by New Mexico Copper Company. WCO Exhibit 3 at 32-33.

760. None of Ms. Travers, Mr. Kuipers, or Mr. Olson gave specific examples of lined tailings impoundments that have been successfully constructed and operated and whether the design in their proposed rule language addresses the stability and drainage issues identified by Mr. Scott and Mr. Brown. None of them rebutted the technical testimony of Mr. Brown or Mr. Scott regarding tailings impoundment engineering design principles or experience. Nor did they present any technical evidence regarding the specific engineering design. *See* AG Travers Direct at 22; GRIP Kuipers Direct at 7-8.

761. NMED rebutted the testimony of Mr. Kuipers and Ms. Travers through the testimony of Mr. Brown. *See* NMED Brown Rebuttal at 1-2. This rebuttal also addresses testimony of Mr. Olson. Mr. Brown testified that liners leak and there would be significant leakage volumes from a large tailings impoundment, that a liner would reduce or eliminate drainage of interstitial water resulting in reduced stability with the potential to create widespread impact to New Mexico waters, and use of a liner would require longer-term collection and treatment of impacted water compared to an unlined tailings impoundment. *See* NMED Brown Rebuttal at 2.

762. Freeport rebutted the testimony of Mr. Kuipers, Ms. Travers, and Mr. Olson through the testimony of Mr. Eastep. *See* Freeport Eastep Rebuttal at 5-7, 10, and 18-22. Mr. Eastep gives a specific example of a discharge permit signed by Mr. Olson, DP-484, for an unlined tailings impoundment. *See* Freeport Eastep Rebuttal at 19-20.

763. Freeport also rebutted the testimony of Mr. Kuipers, Ms. Travers, and Mr. Olson through the testimony of Mr. Shelley. *See* Freeport Shelley Rebuttal at 10-13.

764. Freeport also rebutted the testimony of Mr. Kuipers, Ms. Travers, and Mr. Olson through the testimony of Mr. Blandford. *See* Freeport Blandford Rebuttal at 2-7, 20-25, and 30-36.

765. Freeport also rebutted the testimony of Mr. Kuipers, Ms. Travers, and Mr. Olson through the testimony of Mr. Scott. *See* Freeport Scott Rebuttal at 2-8.

766. The Commission finds that none of the parties who proposed the alternative version of 20.6.7.22.A presented technical evidence, including engineering evidence, in support of the specific liner requirements they advocated. With the exception of Mr. Kuipers, none of their witnesses were engineers or appeared to be experienced in designing liners. Mr. Kuipers did not present technical evidence in support of the liner design for large tailings impoundments.

767. The Commission finds that allowing the construction of unlined tailing impoundments is consistent with past permitting practices of NMED. The evidence presented at the hearing indicated that none of the tailings impoundments at the Tyrone and Chino Mines were lined. The Commission further finds that the engineering requirements in 20.6.7.22.A are at least as stringent, if not more stringent, than the measures required by the Department through past permit conditions. As an example, during the testimony of Mr. Olson, Freeport presented as an exhibit a copy of the discharge permit issued for Tailings Pond 7, Discharge Permit DP-484. This discharge permit was issued in 1987 for the tailings impoundment when it was new. The permit was issued under the existing discharge permit regulations and the WQA. It authorized operation of the new unlined tailings impoundment and relied upon interceptor wells to contain drainage and seepage from the tailings impoundment. Correspondence also introduced as



exhibits provided information on the expected rate of drainage or seepage to ground water that would have to be collected and contained by the interceptor well system. *See* TRV 9 at 2276-2303.

768. The Commission finds that the testimony presented by the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson does not show that lining tailings impoundments used for copper mines is typical, practical, or consistent with good engineering practices or industry practices.

769. The Commission finds that, based on the testimony of Mr. Brown, a site-specific determination regarding locations that are “places of withdrawal of water for present or reasonably foreseeable use,” as might be made during a variance proceeding, is not necessary or required for the Rule. The Commission finds that it is reasonable to expect that a new unlined tailings impoundment can be designed and operated with an effective interceptor system.

770. NMED made changes to 20.6.7.22.A(4) in the Amended Rule. *See* Amended Petition, Attachment 2 at 22-23.

771. The Commission finds that the Parties presented rebuttal testimony on 20.6.7.22.A(4) and extensively discussed this topic during the hearing.

772. The Commission finds that the state-of-the-practice for large conventional copper mine tailings impounds is they are unlined to enhance stability and safety. *See* Freeport Scott Rebuttal at 6.

773. In the Proposed Final Rule, NMED made several changes to 20.6.7.22.A(4) to clarify subparagraph (c) regarding the requirements for interceptor system design, to subparagraph (d)(vii) and (viii) to emphasize the importance and requirements for the aquifer evaluation, to clarify the timing of a final construction report in subparagraph (d)(ix), and to

clarify that if the applicant's technical demonstration is insufficient, NMED shall require additional controls. The latter change is in response to some of the comments made by the various Parties.

774. Relying primarily on the testimony of Mr. Brown, Mr. Scott and Mr. Blandford, and based on the weight of the evidence, the Commission hereby adopts 20.6.7.22.A(4) as set forth by NMED in the Proposed Final Rule. *See* Petition, Attachment 1 at 22.

775. With respect to 20.6.7.22.A(5) in the Petitioned Rule, NMED set forth the engineering design requirements for new dry stack tailings piles. *See* Petition, Attachment 1 at 22.

776. NMED made no changes to 20.6.7.22.A(5) in the Amended Rule. *See* Amended Petition, Attachment 2 at 23.

777. NMED provided evidence that tailings may also be handled "dry", whereby the excess water is removed at the mill and the resulting moist tailings (at either paste or solid constituency) are transported by truck to the tailings facility and deposited. *See* NMED Brown Direct at 25.

778. The Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson objected to 20.6.7.22.A(5) and proposed alternative rule language. The Attorney General eliminated the provision, while GRIP, TRP, Amigos Bravos, and Mr. Olson requested that the language dealing with open pit surface drainage area be removed. *See* NMAG Exhibit 2 at 24; GRIP Kuipers Direct, Attachment 2 at 25; AB Exhibit 1 at 34; WCO Exhibit 3 at 33. GRIP and TRP provided evidence for their rule changes through testimony from James Kuipers. *See* GRIP Kuipers Direct at 8.

779. The Commission finds that the Copper Mine Rule needs to set forth engineering design requirements for new dry stack tailings piles and declines to adopt the proposal by the Attorney General.

780. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.22.A(5) as set forth by NMED in the Proposed Final Rule.

### ***Subsection B***

781. NMED proposed 20.6.7.22.B in the Petitioned Rule which proposed construction requirements for new and existing crushing, milling, concentrating, smelting, and tailings impoundment facilities. *See* Petition, Attachment 1 at 22.

782. Freeport supported 20.6.7.22.B in the Petitioned Rule and presented evidence in support of the rule provisions through the testimony of James Scott. *See* Freeport Scott Direct at 13-16.

783. NMED did not make changes to 20.6.7.22.B(1) in the Amended Rule. *See* Amended Petition, Attachment 2 at 23.

784. The Commission finds that 20.6.7.22.B(1) is undisputed because the Parties did not proposed alternative rule language.

785. The Attorney General objected to 20.6.7.22.B(2) and proposed alternative rule language that basically requires existing crushing, milling, concentrating, smelting, and tailings impoundment facilities to obtain a variance. *See* NMAG Exhibit 2 at 24. The Attorney General provided no specific evidence why this alternative rule language should be adopted.

786. GRIP and TRP objected to 20.6.7.22.B(2) as set forth in the Petitioned Rule and proposed alternative rule language that basically requires existing crushing, milling, concentrating, smelting, and tailings impoundment facilities to get a variance. *See* GRIP Kuipers

Direct, Attachment 2 at 25-26. They presented technical testimony from James Kuipers to support the rule changes. *See* GRIP Kuipers Direct at 8-9.

787. Amigos Bravos objected to 20.6.7.22.B(2) as set forth the Petitioned Rule and proposed alternative rule language that basically requires existing crushing, milling, concentrating, smelting, and tailings impoundment facilities to obtain a variance; however, Amigos Bravos provided no technical evidence to support the changes other than to rely on the August 17 Discussion Draft. *See* AB Exhibit 1 at 34-35.

788. Mr. Olson objected to 20.6.7.22.B(2) as set forth in the Petitioned Rule and proposed alternative rule language with his technical testimony in support of the changes. Similar to the other parties objecting to this rule provision, Mr. Olson's proposal basically required existing crushing, milling, concentrating, smelting, and tailings impoundment facilities to obtain a variance. *See* WCO Exhibit 3 at 33.

789. NMED made changes to 20.6.7.22.B(2) in the Amended Rule, but the changes do not get to the underlying issue of whether such facilities need to obtain a variance. *See* Amended Petition, Attachment 2 at 23.

790. Mr. Olson presented alternative rule language again during the course of the hearing as sur-rebuttal. *See* WCO Sur-Rebuttal Exhibit 2.

791. NMED made changes to 20.6.7.22.B(2) in the Proposed Final Rule for purposes of clarity and consistency.

792. Based on the weight of the evidence and for the reasons set forth herein dealing with variances, the Commission hereby adopts 20.6.7.22.B in its entirety as set forth by NMED in the Proposed Final Rule.

### ***Subsection C***

793. NMED proposed 20.6.7.22.C in the Petitioned Rule which sets forth operational requirements for tailings impoundments and smelting, crushing, milling, and concentrating facilities. *See* Petition, Attachment 1 at 22-23.

794. Freeport presented evidence in support of 20.6.7.22.C in the Petitioned Rule through the testimony of James Scott. *See* Freeport Scott Direct at 16-18.

795. Amigos Bravos objected to 20.6.7.22.C(1) and (2) in the Petitioned Rule and proposed alternative rule language based solely on the August 17 Discussion Draft. *See* AB Exhibit 1 at 35-36.

796. GRIP and TRP objected to 20.6.7.22.C(2) in the Petitioned Rule and proposed alternative rule language. *See* GRIP Kuipers Direct at 26. They provided no specific technical evidence for the changes.

797. NMED made changes to 20.6.7.22.C(1) in the Amended Rule. *See* Amended Petition, Attachment 2 at 23. Adrian Brown provided technical evidence in support of the changes. *See* NMED Brown Rebuttal at 11.

798. The Commission finds that NMED made changes to 20.6.7.22.C in the Proposed Final Rule for purposed of clarity and consistency.

799. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.22.C in its entirety as set forth in the Proposed Final Rule.

#### **20.6.7.23 – Requirements for New Pipelines and Tanks:**

800. NMED proposed 20.6.7.23 in the Petitioned Rule which sets forth engineering design requirements, construction requirements, and operational requirements for new pipelines and tanks. *See* Petition, Attachment 1 at 23.

801. Freeport presented technical evidence in support of 20.6.7.23 as set forth in the Petitioned Rule through the testimony of Mr. Eastep. With the exception of 20.6.7.23.A(1)(c) in the Petitioned Rule, Mr. Eastep supported the provisions of 20.6.7.23. Pipe and tank breaks are disruptive so it is in the best interest of the operator to maintain functional integrity. The provisions allow for alternative designs if operator can demonstrate that the alternative design will provide equal or greater containment, which allows for site-specific flexibility. Pipelines outside the open pit have integrity monitoring and secondary containment systems. The proposed rule allows for reduced monitoring or no secondary containment systems if the pipelines are located inside the open pit surface drainage area and inside areas authorized for discharge of processed water, because the open pit acts as a secondary containment system for all solutions. *See* Freeport Eastep Direct at 39-43.

#### ***Subsection A***

802. 20.6.7.23.A in the Petitioned Rule provides for engineering design requirements for new pipelines and tanks. *See* Petition, Attachment 1 at 23.

803. The Attorney General and GRIP proposed similar amendments to 20.6.7.23.A as set forth in the Petition Rule, whereby the proposed new language makes reference to the standards of 20.6.2.3.3013 NMAC. *See* NMAG Exhibit 2 at 25; GRIP Kuipers Direct, Attachment 2 at 26-27.

804. Neither the Attorney General nor GRIP provided specific technical reasons as to why the changes to 20.6.7.23.A are needed. *See, e.g.,* GRIP Kuipers Rebuttal at 9.

805. The Commission finds that the reference to compliance with standards as suggested by the Attorney General is unnecessary for 20.6.7.23.A.

806. GRIP, Amigos Bravos, and Mr. Olson proposed the same amendments to 20.6.7.23.A(1)(b) as set forth in the Petitioned Rule, whereby the phrase “located outside of the open pit surface drainage area” is deleted. *See* GRIP Kuipers Direct, Attachment 2 at 27; AB Exhibit 1 at 36; WCO Exhibit 3 at 35-36. GRIP and Amigos Bravos did not provide specific technical reasons as to why the changes to 20.6.7.23.A are needed. *See, e.g.*, GRIP Kuipers Rebuttal at 9. Mr. Olson argued that the amendment to 20.6.7.23.A(1)(b) is necessary because routine inspection and maintenance of pipelines that contain water contaminants should be standard operating practice at any facility regardless of where it is located to minimize discharges. *See* WCO Exhibit 3 at 36.

807. GRIP and Amigos Bravos proposed the same amendment to 20.6.7.23.A(1)(c) as set forth in the Petitioned Rule, whereby the phrase “located outside of the open pit surface drainage area” is deleted. *See* GRIP Kuipers Direct, Attachment 2 at 27; AB Exhibit 1 at 36. GRIP and Amigos Bravos did not provide specific technical reasons as to why the changes to 20.6.7.23.A are needed. *See, e.g.*, GRIP Kuipers Rebuttal at 9.

808. The Commission finds that the pipelines and tanks outside the open pit are required to have integrity monitoring and secondary containment systems, while the open pit surface drainage area acts as a secondary containment system for pipelines and tanks within this areas. Therefore, the alternative rule language proposals to 20.6.7.23.A(1)(b) and (c) are without merit.

809. Freeport objected to 20.6.7.23.A(1)(c) as set forth in the Petitioned Rule and proposed alternative language. Mr. Eastep provided technical evidence as to why such language is necessary. *See* Freeport Eastep Direct at 43.

810. Freeport's technical witness, Tim Eastep, provided testimony to support 20.6.7.23.A(2) which mandates that requirements for new tanks must be compatible with tank contents. These requirements represent standard practices and are similar to SPCC requirements under the Clean Water Act. Existing regulations do not mandate specified engineering design requirements. *See* Freeport Eastep Direct at 40-41.

811. The Commission finds that 20.6.7.23.A(2) is undisputed because none of the Parties provide alternative rule language for NMED's proposal.

812. NMED made no changes 20.6.7.23.A in the Amended Rule. *See* Amended Petition, Attachment 2 at 24-25. *See* NMED Brown Rebuttal at 1-13.

813. NMED made no changes to 20.6.7.23.A in the Proposed Final Rule.

814. Based on the weight of the evidence, the Commission declines to adopt the changes to the provisions of 20.6.7.23.A and A(1) and, instead, adopts 20.6.7.23.A, A(1), A(1)(a), (b) and (c), A(2), and A(2)(a) through (e) as set forth in the Proposed Final Rule.

### ***Subsection B – Construction***

815. 20.6.7.23.B in the Petitioned Rule provides for construction requirements for new and existing pipeline and tank facilities. *See* Petition, Attachment 1 at 23-24.

816. Freeport's supported 20.6.7.23.B through the testimony of Tim Eastep, whereby Mr. Eastep asserted that existing pipelines are not subject to Section 23 if they are working. These existing pipelines and tanks are subject to inspection every ten years in accordance with the Steel Tank Institute standards and guidelines. Current practice does not specify inspection requirements and thus this represents increased protections. *See* Freeport Eastep Direct at 41-42.

817. The Attorney General, GRIP, TRP, and Amigos Bravos basically proposed similar amendments to 20.6.7.23.B(2), whereby the phrase "located outside of the open pit



surface drainage area” was deleted. *See* NMAG Exhibit 2 at 25; GRIP Kuipers Direct, Attachment 2 at 27; AB Exhibit 1 at 37. None of the parties provided specific evidence as to why this provision should be changed.

818. The Commission declines to adopt these changes based on its acceptance of the open pit surface drainage area as discussed elsewhere.

819. NMED made no changes 20.6.7.23.B in the Amended Rule. *See* Amended Petition, Attachment 2 at 25.

820. In the Proposed Final Rule, NMED changed the terminology regarding facilities and units and, in 20.6.7.23.B(2), added language allowing the conditions of existing discharge permits to be retained without being considered “additional conditions” based upon language proposed by Mr. Olson. *See* Proposed Final Rule at 25.

821. Based on the weight of the evidence, the Commission adopts 20.6.7.23.B in its entirety as set forth by NMED in the Proposed Final Rule.

### ***Subsection C – Operational Requirements***

822. 20.6.7.23.C in the Petitioned Rule provides for operational requirements for a pipeline or tank system. *See* Petition, Attachment 1 at 24.

823. Freeport supported 20.6.7.23.C with limited additions. The testimony addressed operational requirements for pipelines and tank systems and establishes the minimum performance criteria for inspection and reporting. Historically, pipelines and tanks are handled differently, and this section provides consistency and specificity. *See* Freeport Eastep Direct at pp. 42-43).

824. GRIP, TRP, and Amigos Bravos proposed the same amendments to 20.6.7.23.C(4) and (5), whereby they completely deleted the phrase “outside of permitted

secondary containment systems or outside an area permitted for discharge” in 20.6.7.23.C(4) and completely deleted 20.6.7.23.C(5) dealing with semiannual reports of certain leaks and spills from a pipeline or tank system. *See* GRIP Kuipers Direct, Attachment 2 at 27; AB Exhibit 1 at 37.

825. Freeport requested that 20.6.7.23.C(6) be amended by changing the word “tested” to “evaluated” in the first sentence and “testing” to “evaluating” in the second sentence. Freeport maintained that such changes are appropriate because integrity testing implies pressure testing and there are other methods used to evaluate pipeline integrity. Thus an operator would have flexibility to utilize all methodologies. *See* Freeport Eastep Direct at pp. 42-43.

826. NMED made one substantive change to 20.6.7.23 in its Amended Petition, whereby 20.6.7.23.C(4) is amended to require reporting and correction under Subsection H of 20.6.7.30 NMAC for certain leaks or spills from a pipeline or tank system in certain areas. *See* Amended Petition, Attachment 2 at 25.

827. NMED’s change to 20.6.7.23.C(4) set forth in its Amended Petition related to the proposed changes from GRIP and Amigos Bravos dealing with 20.6.7.23.C(4) set forth in the Petitioned Rule.

828. NMED made limited changes to 20.6.7.23.A.C(4) striking “and” , “to the department,” and the reference to 20.6.2.1203 NMAC. Additionally, they inserted “and corrected” and referenced a different section 20.6.7.30. The corrections were viewed as non-substantive and none of the participating parties objected to the changes. *See* Amended Petition, Attachment 2 at 25.

829. In the Proposed Final Rule, NMED accepted the change from “testing” to “evaluation” recommended by Mr. Eastep and made other non-substantive changes to 20.6.7.23.C

830. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.23.C in its entirety as set forth by NMED in its Proposed Final Rule.

**20.6.7.24 – Requirements for Open Pits:**

***Section Overview***

831. This section addresses the requirements for open pits. As discussed herein, the Parties do not dispute that open pit copper mining should be allowed under the Copper Mine Rule.

832. John Brack and Lynn Lande described open pit copper mining operations. *See* Brack Direct at 1-31; Lande Direct at 2-10. Ms. Lande and Mr. Brown described how water contaminants are produced in open pits, and how open pits hydraulically contain contaminants in their direct testimony. *See* Freeport Lande Direct at 6-10 and NMED Brown Direct at 11-12.

833. Neil Blandford described the hydrology of open pits in detail in his direct testimony. *See* Freeport Blandford Direct at 10-11 and 19-25.

***Subsection A***

834. Section 20.6.7.24.A in the Petitioned Rule set forth the operational requirements for open pits, as applicable. *See* Petition, Attachment 1 at 24.

835. NMED presented evidence in support of 20.6.7.24 through Mr. Brown, who testified that the walls of the open pit and materials located within the open pit surface drainage area typically have the potential to cause ground water pollution. In order to deal with the potential pollution, the Copper Mine Rule provides a system of controls that allows flows of

water to the open pit where there is generally no gravitational escape. In addition, the Copper Mine Rule requires collection and appropriate management of the water influent to the open pit, pursuant to a NMED-approved water management plan, which does not allow discharge of water in excess of standards at locations of present or potential future use. Accordingly, Mr. Brown testifies that the requirements of 20.6.7.24.A meet technical requirements for ground water protection. *See NMED Brown Direct at 11-12.*

836. Freeport supported 20.6.7.24.A(2) through the testimony of Ms. Lande, wherein she stated that when practicable, water shall be diverted away from the open pit to reduce impacts. *See Freeport Lande Direct at 8.*

837. Freeport supported 20.6.7.24.A(3) through the testimony of Ms. Lande, wherein she stated that impacted water must be managed in accordance with a water management plan to prevent migration. *See Freeport Lande Direct at 8-9.*

838. Freeport supported 20.6.7.24.A(4) through the testimony of Ms. Lande. *See Lande Direct at 10.* In addition, Freeport supported 20.6.7.24.A(4) through testimony from Neil Blandford, wherein he stated that during operation of an open pit, the standards of 3103 should not apply, which is logical since that water is hydrologically contained and managed, thus impacted water does not migrate. *See Freeport Blandford Direct at 19-25.*

839. GRIP and TRP suggested inserting the language “open pits shall be designed and managed to prevent pollution of ground water above applicable standards” into 20.6.7.24.A. *See GRIP Kuipers Direct, Attachment 2 at 28.*

840. The Commission finds that this proposed language by GRIP and TRP for 20.6.7.24.A is inappropriate because Mr. Kuipers does not identify any available technology,

and adoption of this language could prohibit open pit mining, considering the testimony of Mr. Brown and Ms. Lande.

841. GRIP and TRP suggested deleting the language “to the extent practicable” from 20.6.7.24.A(2) in the Petitioned Rule. *See* GRIP Kuipers Direct, Attachment 2 at 28. Amigos Bravos proposed the same change. *See* AB Exhibit 1 at 38. Neither provided any specific technical testimony as to why this change is necessary.

842. The Attorney General, GRIP, TRP, and Amigos Bravos proposed that 20.6.7.24.A(4) be deleted, which is the provision stating that during operation of an open pit, the standards of 20.6.2.3103 NMAC do not apply within the area of hydrologic containment. *See* NMAG Exhibit 2 at 26; GRIP Kuipers Direct, Attachment 2 at 28; AB Exhibit 1 at 38.

843. With respect to 20.6.7.24.A(4), Mr. Olson proposed that the reference to “areas of hydrologic containment” be changed to “open pit surface drainage area.” Mr. Olson maintained that the area of hydrologic containment creates new areas outside an open pit within which a copper mine facility would be allowed to intentionally cause water pollution. *See* WCO Exhibit 3 at 37.

844. Ms. Travers proposed to not include the “area of hydrologic containment,” found in the Department’s proposed rule because the proposed amendments would require that ground water standards apply at all locations at a mine site, unless a variance is approved by the Commission on a case-by-case basis. *See* AG Travers Direct at 22-23.

845. Mr. Blandford testified that the area of hydrologic containment approach should be retained. The area of hydrologic containment approach is based on sound science and is a reasonable and appropriate alternative to a ~~cumbersome, expensive and~~ time-consuming case-by-case variance approach which has no certainty of outcome for mining companies. The area of

hydrologic containment concept has already been incorporated into existing discharge permits, such as Discharge Permit 166 at Tyrone which requires that the Main Pit be pumped down to contain impacted ground water. *See* Freeport Blandford Rebuttal at 27.

846. NMED amended the Petitioned Rule at 20.6.7.24.A(4) in the Amended Rule to add “open pit” before “hydrologic containment.” *See* Amended Petition, Attachment 2 at 26.

847. NMED added a new provision at 20.6.7.24.A(5) to the Amended Rule to require that the design and location of leach stockpiles, waste rock piles, and other regulated mine facilities in and surrounding an open pit surface drainage area to be located to facilitate the drainage of water away from the open pit surface drainage areas to the extent practicable. *See* Amended Petition, Attachment 2 at 26.

848. Freeport objected to the addition of 20.6.7.24.A(5) in the Amended Rule and provided several reasons as to why this new provision is problematic including, but not limited to, the fact that the new language has unintended consequences. *See* Freeport Rebuttal NOI at 4.

849. In the Proposed Final Rule, NMED changed the language of 20.6.7.24.A(5) to respond to Freeport’s comments. *See* Proposed Final Rule at 26.

850. Relying primarily on the testimony of Mr. Brown, Ms. Lande and Mr. Blandford, and based on the weight of the evidence, the Commission hereby adopts 20.6.7.25.A and A(1) through A(5) as proposed by NMED in the Proposed Final Rule.

**20.6.7.25 – Requirements for Underground Copper Mine Facilities:**

851. NMED proposed requirements for underground copper mine facilities at 20.2.7.25 in the Petitioned Rule. *See* Petition, Attachment 1 at 24.

852. NMED made changes to 20.2.7.25.A in the Amended Rule. *See* Amended Petition, Attachment 2 at 26.

853. NMED presented testimony through Mr. Brown indicating that 20.2.7.25.A regulates the operation of underground mines to be protective of ground water. *See* NMED Brown Direct at 12.

854. NMED presented testimony through Mr. Brown indicating that 20.2.7.25.B restricts the deposition of material in an underground copper mine. *See* NMED Brown Direct at 12.

855. NMED presented testimony through Mr. Brown indicating that underground mines are likely to be below the water table, and when developed will act as a sink for local ground water. This water will come under the ambit of the Water Management Plan, which prohibits discharge of water in excess of the standards of Section 20.6.2.3103 NMAC at locations of present or potential future use. Accordingly, Mr. Brown believes that the Water Management Plan is protective with respect to water entering the underground mines. Further, ground water flowing into conventional mine workings is exempt from a discharge permit requirement under 20.6.2.3105(K) NMAC. *See* NMED Brown Direct at 12.

856. NMED presented testimony through Mr. Brown indicating that allowance of deposition of potentially acid-generating tailings or waste rock in an underground mine providing it does not generate leachate after placement is important for minimization of impact of such wastes on ground water. If oxidation of the sulfides in the deposited material can be prevented when placed, this method of disposal minimizes release of contaminants from the waste and is preferred over all other methods of disposal. *See* NMED Brown Direct at 12.

857. The Commission finds that 20.6.7.25 is undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson do not provide alternative rule proposals.

*See* Freeport NOI; AG Exhibit 2 at 26; AB Exhibit 1 at 38; GRIP Kuipers Direct, Attachment 2 at 28; WCO Exhibit 3 at 37.

858. The Commission finds that NMED makes a non-substantive change to 20.6.7.25 in the Proposed Final Rule for consistency and clarity.

859. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.25 in its entirety as set forth by NMED in the Proposed Final Rule.

**20.6.7.26 – Requirements for Truck and Equipment Washing Facilities:**

***Subsection A***

860. Section 20.6.7.26.A in the Petitioned Rule sets forth the minimum requirements for engineering designs for new truck and equipment washing facilities and allows the applicant or permittee to utilize alternative designs if they can demonstrate that an alternate design will provide an equal or greater level of containment. *See* Petition, Attachment 1 at 25.

861. NMED made no changes to 20.6.7.26.A in the Amended Rule. *See* Amended Petition, Attachment 2 at 26.

862. Freeport supported 20.6.7.26.A through the testimony of Timothy Eastep, wherein he states the requirements are reasonable and protective of ground water quality. *See* Freeport Eastep Direct at 44-46.

863. Mr. Olson proposed no changes to 20.6.7.26.A. *See* WCO Exhibit 3 at 38.

864. The Attorney General suggested amending 20.6.7.26.A in the Petitioned Rule to add additional language requiring engineering design changes to comply with the standards of 20.6.2.3103 NMAC. *See* AG Exhibit 2 at 27.

865. Similarly, GRIP and TRP suggested amending 20.6.7.26.A in the Petitioned Rule to add language which states: “Truck and equipment facilities shall be managed to prevent



pollution of ground water above applicable standards.” *See* GRIP Kuipers Direct, Attachment 2 at 28.

866. GRIP and TRP proposed to replace “containment” with “ground water protection” in 20.6.7.26.A, based on testimony that the WQA requires prevention and abatement, not containment. *See* GRIP Kuipers Direct, Attachment 2 at 28.

867. Amigo Bravos sought to strike the language allowing alternative designs in 20.6.7.26.A based solely on the fact that this language was included in the August 17 Discussion Draft. *See* AB Exhibit 1 at 38.

868. The Commission finds that the changes to 20.6.7.26.A proposed by the Attorney General, GRIP, and TRP dealing with applicable standards are vague

869. The Commission finds that the changes proposed by Amigos Bravos to 20.6.7.26.A based solely on the August 17 Discussion Draft do not provide sufficient justification for amendment of the rule provision, or to overcome the testimony in support.

870. The Commission finds that the proposal by GRIP and TRP to replace “containment” with “ground water protection” deviates from the structure of the rule which focuses on containment approaches, as discussed in Mr. Brown’s testimony.

871. In the Proposed Final Rule, NMED changed the terminology regarding facilities and units in the heading and in subsection A, consistent with its other similar changes. *See* Proposed Final Rule at 26.

872. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.26.A as set forth by NMED in the Proposed Final Rule.

### ***Subsection B***

873. 20.6.7.26.B in the Petitioned sets forth the construction performance requirements. *See* Petition, Attachment 1 at 25.

874. NMED made no changes to 20.6.7.26.B in the Amended Rule. *See* Amended Petition, Attachment 2 at 26-27.

875. Freeport supported 20.6.7.26.B through the testimony of Timothy Eastep. *See* Freeport Eastep Direct at 44-46.

876. Freeport suggested changing the language in 20.6.7.26.B(1) from “New truck or equipment wash facilities” to “New wash facilities for trucks and equipment.” *See* Freeport Eastep Direct at 44-46.

877. Freeport suggested changing the language in section 20.6.7.26.B(2) from “Existing truck or equipment wash facilities” to “Existing wash facilities for trucks and equipment.” *See* Freeport Eastep Direct at 44-46.

878. The Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose alternative rule language. *See* AG Exhibit 2 at 27; AB Exhibit 1 at 39; GRIP Kuipers Direct, Attachment 2 at 28; WCO Exhibit 3 at 38.

879. In the Proposed Final Rule, NMED made changes to the terminology regarding facilities and units, consistent with its other similar changes. *See* Proposed Final Rule at 26.

880. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.26.B as set forth in the Proposed Final Rule.

### ***Subsection C***

881. 20.6.7.26.C in the Petitioned sets forth the construction performance requirements. *See* Petition, Attachment 1 at 25.

882. Freeport supported 20.6.7.26.C through the testimony of Timothy Eastep. *See* Freeport Eastep Direct at 44-46.

883. NMED made changes to 20.6.7.26.C in the Amended Rule, adding language requiring water to be contained until treated to meet standards and a cross-reference to 20.6.7.30. *See* Amended Petition, Attachment 2 at 26-27.

884. The Commission finds that 20.6.7.26.C is undisputed because the Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose alternative rule language either to the Petitioned Rule or Amended Rule for 20.6.7.26.C. *See* Freeport NOI; AG Exhibit 2 at 27; AB Exhibit 1 at 39; GRIP Kuipers Direct, Attachment 2 at 28-29; WCO Exhibit 3 at 38.

885. In the Proposed Final Rule, NMED made changes to the terminology regarding facilities and units, consistent with its other similar changes. *See* Proposed Final Rule at 26-27.

886. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.26.C as set forth in the Proposed Final Rule.

**20.6.7.27 – Reserved:**

887. NMED proposed to reserve 20.6.7.27 for future rule amendments in the Petitioned Rule. *See* Petition, Attachment 1 at 9.

888. NMED did not make changes to 20.6.7.27 in the Amended Rule. *See* Amended Petition, Attachment 2 at 9.

889. The Commission finds that there are no objections from the other Parties to reserving 20.6.7.27 for future rule amendments.

Based on the weight of the evidence, the Commission hereby adopts 20.6.7.27 as proposed by NMED in the Petitioned Rule, Amended Rule, and Proposed Final Rule.

#### **20.6.7.28 – Water Quality Monitoring Requirements for All Copper Mine Facilities:**

##### ***Section Overview***

890. The Rule requires detailed unit-by-unit ground water monitoring of the performance of the containment systems using monitor wells around the perimeter of each unit, located as close as possible to the unit. *See* TRV 3, at 561, L. 1-23.

891. The purpose of monitoring wells is to ensure that the protections that are built into each unit of the copper mine facility are effective, and if they are not, then to signal the need for implementation of contingency and abatement actions as needed to restore the protections required. *See* TRV 3 at 557, L. 12-20.

892. NMED, through the testimony of Mr. Brown, explained and supported section 28. *See* Brown Direct at 8-9.

893. Freeport, through the testimony of Mr. Blandford, also supported section 28 generally. *See* Freeport Blandford Direct at 3-5; Freeport Blandford Rebuttal at 8-10.

##### ***Subsection A***

894. NMED proposed 20.6.7.28.A in the Petitioned Rule which sets forth requirements for location proposals for monitoring wells. *See* Petition, Attachment 1 at 25.

895. NMED made no changes to 20.6.7.28.A in the Amended Rule. *See* Amended Petition, Attachment 2 at 27.

896. Mr. Brown testified that the requirement that NMED must approve the monitoring well locations for each copper mine unit, and the fact that NMED may require additional wells to ensure that the monitoring system is comprehensive, provide a high level of assurance that all discharge pathways are monitored. These location requirements are the most intensive and localized monitoring system that is required by any state. *See* NMED Brown Direct at 9.

897. Freeport presented evidence in support of 20.6.7.28.A. *See* Freeport Blandford Direct at 5-6.

898. The Commission finds that 20.6.7.28.A is undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson do not propose alternative rule language. *See* AG Exhibit 2 at 27; AB Exhibit 1 at 40; GRIP Kuipers Direct Attachment 2 at 29; WCO Exhibit 3 at 38.

899. NMED made no changes to 20.6.7.28.A in the Proposed Final Rule. *See* Proposed Final Rule at 27.

900. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.28.A as proposed by NMED in the Proposed Final Rule.

#### ***Subsection B***

901. NMED proposed 20.6.7.28.B in the Petitioned Rule which sets forth requirements for location proposals for monitoring wells. *See* Petition, Attachment 1 at 25.

902. NMED presented evidence to support 20.6.7.28.B through the testimony of Mr. Brown. Mr. Brown stated that the purpose of the ground water monitoring requirements at 20.6.7.28.B is to detect an exceedance or a trend towards exceedance of ground water standards at the earliest possible occurrence, so that investigation of the extent of contamination and actions to address the source of contamination may be implemented as soon as possible. *See* NMED Brown Direct at 6.

903. Mr. Brown testified that the location of monitoring wells is comprehensive. The requirement (generally) of a minimum of two downgradient wells, supported by upgradient and perimeter wells where the flow direction is unclear, provides for complete protection of the

surrounding ground water environment immediately adjacent to each copper mine unit. *See* NMED Brown Direct at 9.

904. Freeport presented evidence to support 20.6.7.28.B through the testimony of Mr. Blandford. *See* Freeport Blandford Direct at 27.

905. The Attorney General and Amigos Bravos proposed amendments to 20.6.7.28.B as set forth in the Petition. *See* AG Exhibit 2 at 27; AB Exhibit 1 at 40.

906. The Attorney General proposed amendments to 20.6.7.28.B, which set forth several changes to the required locations for monitoring wells. *See* AG Exhibit 2 at 27. The Attorney General maintains that this language is necessary to ensure that monitoring wells are located “as close as practicable” to new and existing leach stockpiles, waste rock piles, tailings, and open pits to provide for the earliest possible detection of ground water contamination. *See* AG Travers Direct at 23.

907. Amigos Bravos proposed to add the phrase “[a]t a minimum” to the beginning of 20.6.7.28.B. *See* AB Exhibit 1 at 40.

908. NMED made changes to 20.6.7.28.B in its Amended Petition by deleting the phrase “and downgradient” and moving it behind the term “perimeter.” *See* Amended Petition at 26.

909. The Commission finds that the proposed language by Amigos Bravos to 20.6.7.28.B is unnecessary, as the rule provision as proposed explicitly contemplates the possibility of additional monitoring wells.

910. NMED made changes to 20.6.7.28.B in the Proposed Final Rule, adding language addressing the Attorney General’s request to add “as close as practicable” and changing “ground

water standards” to “applicable standards” consistent with terminology used elsewhere in the Proposed Final Rule. *See, e.g.*, Proposed Final Rule at 27.

911. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.28.B as proposed by NMED in the Proposed Final Rule.

912. NMED proposed 20.6.7.28.B(1) through (6) which sets forth requirements dealing with: (1) use of existing monitoring wells; (2) ground water monitoring for leach stockpiles, waste rock stockpiles, and tailings impoundments; (3) ground water monitoring for process water and impacted stormwater impoundments; (4) ground water monitoring for open pits; (5) ground water monitoring upgradient of each potential contaminant source; and (6) ground water monitoring upgradient of the copper mine facility. *See* Petition, Attachment 1 at 26-27.

913. NMED presented evidence to support 20.6.7.28.B(1) through (6) through the testimony of Mr. Brown. *See* NMED Brown Direct at 9.

914. Freeport presented evidence to support 20.6.7.28.B(1) through (6) through the testimony of Mr. Blandford. *See* Freeport Blandford Direct at 7-12.

915. The Attorney General proposed alternative rule language for 20.6.7.28.B(2), B(2)(b), and B(3) in the Petitioned Rule. In summary, this alternative rule language attempts to: (1) make the ground water monitoring requirements applicable to both new and existing (as opposed to just new) leach stockpiles, waste rock stockpiles, and tailings impounds; and (2) remove references to the open pit surface drainage areas so that certain facilities or units are not treated differently when located within such areas. *See* AG Exhibit 2 at 28-29.

916. GRIP and TRP proposed alternative rule language for 20.6.7.28.B(1)(d), B(2), and (B)(3) in the Petitioned Rule. In summary, this alternative rule language for

20.6.7.28.B(1)(d) added the phrase “request authorization from the department,” and GRIP maintained that this is necessary because NMED should approve any reduction in monitoring. The changes to 20.6.7.28.B(2) and B(3) basically removed the reference to open pit surface drainage area so that certain facilities are not treated differently when located within this areas. *See* GRIP GRIP Kuipers Direct, Attachment 2 at 29-30.

917. Amigos Bravos proposed alternative rule language for 20.6.7.28.B(2), B(3), B(3)(b), and B(6). These changes were based solely on the August 17 Discussion Draft with no presentation of technical evidence to support such changes. *See* AB Exhibit 1 at 40-42.

918. Somewhat similar to GRIP’s proposed alternative language for 20.6.7.28.B(2), Mr. Olson proposed deleting the phrase “including its leachate and solution capture and containment system” from certain portions of this provision. *See* GRIP Kuipers Direct, Attachment 2 at 29; WCO Exhibit 3 at 39. Mr. Olson argued that this language is inappropriate because it creates a point of compliance concept. *See* WCO Exhibit 3 at 39.

919. Freeport presented evidence that the August 17 Discussion Draft did not reflect or account for Freeport’s positions and technical recommendations, which support the language in 20.6.7.28.B. *See* Freeport Eastep Rebuttal at 14-15; Freeport Grass Rebuttal, at 3-4.

920. The Commission finds that the Attorney General’s proposed alternative rule language for 20.6.7.28.B(2), B(2)(b), and B(3) is not consistent with the Commission’s acceptance and adoption of the open pit surface drainage area approach as discussed elsewhere (*see, e.g.,* 20.6.7.21.B(2)), monitoring for existing mines is addressed elsewhere (*see, e.g.,* 20.6.7.22.C), and the rule language already is clear that NMED must review and approve a monitoring well plan as described in 20.6.7.28.A.



921. The Commission finds that the alternative rule language for 20.6.7.28.B(1)(d), B(2), and B(3) as proposed by GRIP and TRP is unnecessary for the same reasons discussed above regarding the Attorney General's proposed changes.

922. The Commission finds that the alternative rule language for 20.6.7.28.B(2), B(3), B(3)(b), and B(6) proposed by Amigos Bravos is not supported by evidence to justify changing the language and is not necessary for the reasons discussed in the preceding paragraphs.

923. The Commission finds that Mr. Olson's proposed alternative language for 20.6.7.28.B(2) is unwarranted because of the Commission's acceptance and recognition that capture systems are needed for some facilities, particularly tailings impoundments and possibly waste rock stockpiles, and that these systems must be carefully monitored for ground water quality and ground water levels downgradient of, but as close as practicable to, the systems. The Commission further finds that this approach is consistent with permit conditions issued by NMED for existing facilities under the existing regulations and the Act.

924. NMED proposed amendments to 20.6.7.28.B(1)(d), B(2), B(2)(a), B(3), B(3)(a), B(3)(b), B(4), B(4)(a), B(5), B(5)(a), B(5)(b), and B(6)(b) in the Amended Rule. *See* Amended Petition at 27-29.

925. NMED provided evidence for the changes to 20.6.7.28.B (1) through (6) in the Amended Rule through the testimony of Mr. Brown. *See* Brown Rebuttal at 12-13.

926. NMED made additional changes to 20.6.7.28.B(2), (3) and (6) in the Proposed Final Rule. The change in paragraph (2) reorganized the first sentence for clarity. The change to paragraph (3) required a minimum of one downgradient well rather than two, since additional wells can be required if needed. The change to paragraph (6) corrected a typographical error. *See* Proposed Final Rule at 27-28.

927. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.28.B(1) through (6) as set forth in the Amended Rule and Proposed Final Rule.

### ***Subsection C***

928. NMED proposed 20.6.7.28.C in the Petitioned Rule which deals with identification tags for monitoring wells. *See* Petition, Attachment 1 at 27.

929. Freeport provided evidence to support 20.6.7.28.C in the Petitioned Rule through the testimony of Mr. Blandford. *See* Freeport Blandford Direct at 12-13.

930. NMED made changes to 20.6.7.28.C in the Amended Rule. *See* Amended Petition at 27-29.

931. NMED provided evidence for the changes to 20.6.7.28.C in the Amended Rule through the testimony of Mr. Brown. *See* Brown Rebuttal at 12-13.

932. The Commission finds that 20.6.7.28.C in the Amended Rule is undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson do not propose alternative rule language. *See* Freeport NOI; AG Exhibit 2 at 29; AB Exhibit 1 at 42; GRIP Kuipers Direct, Attachment 2 at 30; WCO Exhibit 3 at 40.

933. NMED made no changes to 20.6.7.28.C in the Proposed Final Rule. *See* Proposed Final Rule at 28.

934. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.28.C as set forth by NMED in the Proposed Final Rule.

### ***Subsection D***

935. NMED proposed 20.6.7.28.D in the Petitioned Rule which outlines construction and completion requirements for monitoring wells. *See* Petition, Attachment 1 at 27.

936. NMED supported 20.6.7.28 through evidence from Mr. Brown. Mr. Brown testified that the Copper Mine Rule provides prescriptive direction for construction of monitoring wells, which is necessary because monitoring wells provide the primary information on the protection of ground water against releases from each copper mine facility. The performance of the quality and reliability of the water level measurements and the water quality data collected from wells is strongly dependent on the method of construction of the wells. Mr. Brown further testified that the well installation requirements meet or exceed all relevant standards. *See* NMED Brown Direct at 8.

937. Freeport provided evidence to support 20.6.7.28.D in the Petitioned Rule through the testimony of Mr. Blandford. *See* Freeport Blandford Direct at 12-13.

938. Amigos Bravos proposed alternative rule language for 20.6.7.28.D in the Petitioned Rule based on the August 17 Discussion Draft and provided no technical evidence as to why such a change is necessary. *See* AB Exhibit 1 at 42.

939. The Commission finds that Amigos Bravos' proposed alternative language to 20.6.7.28.D in the Petitioned Rule is not supported by any technical evidence and does not overcome the evidence presented in support of this provision.

940. NMED proposed changes to 20.6.7.28.D(4), D(7)(b), D(11), D(12), and D(13) in the Amended Rule. *See* Amended Petition at 29-30.

941. NMED provided evidence for the changes to 20.6.7.28 in the Amended Rule through the testimony of Mr. Brown. *See* Brown Rebuttal at 12-13.

942. The Commission finds NMED's changes to 20.6.7.28.D(4), D(7)(b), D(11), D(12), and D(13) in the Amended Rule are undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose alternative rule language in rebuttal

testimony. *See* Freeport NOI; AG Exhibit 2 at 29-30; GRIP Kuipers Direct, Attachment 2 at 30-31; WCO Exhibit 3 at 40-41.

943. NMED made no changes to 20.6.7.28.D in the Proposed Final Rule. *See* Proposed Final Rule at 28-30.

944. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.28.D and D(1) through (13) as proposed by NMED in the Proposed Final Rule.

#### ***Subsection E***

945. NMED proposed 20.6.7.28.E in the Petitioned Rule which requires a permittee to obtain applicable well permits from the Office of the State Engineer prior to well drilling. *See* Petition, Attachment 1 at 28.

946. Freeport provided evidence to support 20.6.7.28.D in the Petitioned Rule through the testimony of Mr. Blandford. *See* Freeport Blandford Direct at 12-13.

947. NMED made no changes to 20.6.7.28.E in the Amended Rule. *See* Amended Petition at 30.

948. The Commission finds that 20.6.7.28 is undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose alternative rule language. *See* Freeport NOI; AG Exhibit 2 at 30; AB Exhibit 1 at 44; GRIP Kuipers Direct, Attachment 2 at 32; WCO Exhibit 3 at 41.

949. NMED made no changes to 20.6.7.28.E in the Proposed Final Rule. *See* Proposed Final Rule at 30.

950. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.28.E as set forth in the Petitioned Rule, Amended Rule, and Proposed Final Rule.

### ***Subsection F***

951. NMED proposed 20.6.7.28.F in the Petitioned Rule which sets forth ground water sample collection procedures. *See* Petition, Attachment 1 at 28-29.

952. Amigos Bravos proposed to change 20.6.7.28.F(2)(b) in the Petitioned Rule with language from the August 17 Discussion Draft; however, Amigos Bravos provided no technical evidence to support such a change. *See* AB Exhibit 1 at 44.

953. NMED made changes to 20.6.7.28.F(1), (2)(a), and (2)(b) in the Amended Rule. *See* Amended Petition at 30.

954. NMED provided evidence for the changes to 20.6.7.28.F in the Amended Rule through the testimony of Mr. Brown. *See* Brown Rebuttal at 12-13.

955. The Commission finds that the Amigos Bravos' reliance on the August 17 Discussion Draft for changes to 20.6.7.28.F(2)(b) without providing technical evidence explaining the reason for its proposed change is insufficient to support the alternative rule language.

956. NMED made no changes to 20.6.7.28.F in the Proposed Final Rule. *See* Proposed Final Rule at 30.

957. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.28.F and F(1) through (5) as proposed by NMED in the Proposed Final Rule.

### ***Subsection G***

958. NMED proposed 20.6.7.28.G in the Petitioned Rule which requires routine ground water sampling and reporting. *See* Petition, Attachment 1 at 29.

959. Freeport generally supported 20.6.7.28.G, but proposed some alternative rule language for 20.6.7.28.G. *See* Freeport NOI at 5. This alternative rule language is supported by testimony from Mr. Blandford. *See* Freeport Blandford Direct at 13-16.

960. The Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose alternative rule language for 20.6.7.28.G *See* AG Exhibit 2 at 31; AB Exhibit 1 at 44-45; GRIP Kuipers Direct Attachment 2 at 32; WCO Exhibit 3 at 42.

961. NMED made changes to 20.6.7.28.G in the Amended Rule. *See* Amended Petition at 30-31. These changes addressed the changes recommended by Mr. Blandford. *See* Freeport Blandford Direct at 13-14.

962. NMED provided evidence for the changes to 20.6.7.28 in the Amended Rule through the testimony of Mr. Brown. *See* Brown Rebuttal at 12-13.

963. NMED made minor changes to 20.6.7.28.G in the Proposed Final Rule consistent with its terminology changes described above and to correct a typographical error.

964. Based on the weight of the evidence, the Commission adopts 20.6.7.28.G as set forth in the Proposed Final Rule.

### ***Subsection H***

965. NMED proposed 20.6.7.28.H in the Petitioned Rule which permits a routine reduction of sampling analytes for groundwater sampling and reporting. *See* Petition, Attachment 1 at 29.

966. Freeport provided evidence to support 20.6.7.28.H in the Petitioned Rule through the testimony of Mr. Blandford. *See* Freeport Blandford Direct at 16-17.

967. The Commission finds that the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not object to 20.6.7.28.H in the Petitioned Rule.

968. NMED made changes to 20.6.7.28.H in the Amended Rule. *See* Amended Petition at 31.

969. NMED provided evidence for the changes to 20.6.7.28 in the Amended Rule through the testimony of Mr. Brown. *See* Brown Rebuttal at 12-13.

970. Freeport objected to the changes in 20.6.7.28.H in the Amended Rule and presented evidence in support of this objection through Ms. Lande. *See* Freeport Rebuttal; NOI at 4; Lande Rebuttal at 3.

971. In the Proposed Final Rule, NMED added language to 20.6.7.28.H to address the testimony of Ms. Lande. *See* Proposed Final Rule at 30.

972. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.28.H as set forth in the Proposed Final Rule.

#### ***Subsection I***

973. NMED proposed 20.6.7.28.I in the Petitioned Rule which requires ground water sampling from new monitoring wells. *See* Petition, Attachment 1 at 29.

974. The Commission finds that Freeport, Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not object to 20.6.7.28.I in the Petitioned Rule because they proposed no alternative rule language. *See* AG Exhibit 2 at 31; AB Exhibit 1 at 45; GRIP Kuipers Direct Attachment 2 at 30; WCO Exhibit 3 at 42.

975. NMED made changes to 20.6.7.28.I in the Amended Rule. *See* Amended Petition at 29-30.

976. NMED provided evidence for the changes to 20.6.7.28 in the Amended Rule through the testimony of Mr. Brown. *See* Brown Rebuttal at 12-13.

977. Freeport objected to the changes in 20.6.7.28.I in the Amended Rule and presented evidence in support of this objection through Ms. Lande. *See* Freeport Rebuttal NOI at 5; Lande Rebuttal at 3-4.

978. NMED made changes to 20.6.7.28.I in the Proposed Final Rule to change “facility” to “unit.” *See* Proposed Final Rule at 30.

979. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.28.I as set forth in the Proposed Final Rule.

#### ***Subsection J***

980. NMED proposed 20.6.7.28.J. in the Petitioned Rule which addresses monitoring well survey and ground water flow determination. *See* Petition, Attachment 1 at 29.

981. NMED made changes to 20.6.7.28.J in the Amended Rule. *See* Amended Petition at 30.

982. The Commission finds that 20.6.7.28.J is undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose alternative rule language. *See* Freeport NOI; AG Exhibit 2 at 31; AB Exhibit 1 at 45; GRIP Kuipers Direct Attachment 2 at 33; WCO Exhibit 3 at 42.

983. NMED made no changes to 20.6.7.28.J in the Proposed Final Rule. *See* Proposed Final Rule at 31.

984. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.28.J as set forth in the Proposed Final Rule.

#### ***Subsection K***

985. NMED proposed 20.6.7.28.K. in the Petitioned Rule which requires a monitoring well completion report. *See* Petition, Attachment 1 at 29-30.



986. NMED made changes to 20.6.7.28.K in the Amended Rule. *See* Amended Petition at 30.

987. The Commission finds that 20.6.7.28.K is undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose alternative rule language. *See* Freeport NOI; AG Exhibit 2 at 31-32; AB Exhibit 1 at 45-46; GRIP Kuipers Direct Attachment 2 at 33; WCO Exhibit 3 at 42-43.

988. NMED made no changes to 20.6.7.28.K in the Proposed Final Rule. *See* Proposed Final Rule at 31.

989. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.28.K as set forth in the Proposed Final Rule.

#### ***Subsection L***

990. NMED proposed 20.6.7.28.L in the Petitioned Rule which requires ground water elevation contour maps. *See* Petition, Attachment 1 at 30.

991. NMED made changes to 20.6.7.28.L in the Amended Rule. *See* Amended Petition at 32.

992. The Commission finds that 20.6.7.28.L is undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose alternative rule language. *See* Freeport NOI; AG Exhibit 2 at 32; AB Exhibit 1 at 46; GRIP Kuipers Direct Attachment 2 at 33; WCO Exhibit 3 at 43.

993. NMED made no changes to 20.6.7.28.L in the Proposed Final Rule. *See* Proposed Final Rule at 31.

994. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.28.L as set forth in the Proposed Final Rule.

***Subsection M Proposed By GRIP and TRP***

995. GRIP and TRP proposed a new 20.6.7.28.M dealing with monitoring well replacement, and they proposed this change because the provision is moved from another section to keep requirements regarding monitoring wells in the same section. *See* GRIP Kuipers Direct, Attachment 2 at 33.

996. The Commission finds that the proposed change to 20.6.7.28.M is not substantive in nature and that it is unnecessary; therefore, the Commission declines to adopt it.

***Subsection M***

997. 20.6.7.28.M as proposed in the Petitioned Rule sets forth requirements for routine perennial stream sampling and monitoring. *See* Petition, Attachment 1 at 30.

998. Amigos Bravos objected to 20.6.7.29.M and proposed alternative rule language based on the August 17 Discussion Draft. *See* AB Exhibit 1 at 46.

999. The Commission finds that Amigos Bravos' reliance solely on the August 17 Discussion Draft, without more, is insufficient to justify the alternative rule language.

1000. Mr. Olson objected to 20.6.7.28.M and proposed to delete the phrase "as necessary to monitor ground water inflow to the perennial surface water." Mr. Olson argued that phrase should be deleted because it limits the applicability of stream monitoring and does not conform to the Commission's rules for approval of discharge permits, namely, 20.6.2.3109.H(2) NMAC, wherein the Secretary shall not approve a discharge permit that will cause any stream standard to be violated.

1001. The Commission finds that Mr. Olson's proposed deletion for 20.6.7.28.M is unwarranted because 20.6.2.3109(H) NMAC, which applies to permits issued under the Commission's regulations, must be read in the context of 20.6.2.3104 NMAC, which requires a

discharge permit for discharges to ground water and does not apply to direct discharges to surface water. Also, 20.6.2.3109.E specifies compliance with stream standards “due to the discharge.” As discussed elsewhere, direct discharges to surface water are permitted under the NPDES discharge permit program. *See* Freeport Eastep Direct at 9; 33 U.S.C. §§1251, *et seq.*

1002. NMED made changes to 20.6.7.28.M in the Amended Rule. *See* Amended Petition at 30.

1003. NMED provided evidence for the changes to 20.6.7.28 in the Amended Rule through the testimony of Mr. Brown. *See* Brown Rebuttal at 12-13.

1004. The Commission finds that 20.6.7.28.M in the Amended Rule is undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose alternative rule language in rebuttal testimony. *See* Freeport NOI; AG Exhibit 2 at 32; AB Exhibit 1 at 46; GRIP Kuipers Direct Attachment 2 at 33; WCO Exhibit 3 at 43.

1005. NMED made no changes to 20.6.7.28.M in the Proposed Final Rule. *See* Proposed Final Rule at 31.

1006. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.28.M as set forth by NMED in the Proposed Final Rule.

#### ***New Subsection N***

1007. NMED does not propose 20.6.7.28.N in the Petitioned Rule. *See* Petition, Attachment 1 at 30.

1008. NMED proposed a new 20.6.7.28.N in the Amended Rule which requires process water, tailings slurry, impacted stormwater, seep, and spring sampling and reporting. *See* Amended Petition at 32.

1009. NMED provided evidence for the changes to 20.6.7.28 in the Amended Rule through the testimony of Mr. Brown. *See* Brown Rebuttal at 12-13.

1010. The Commission finds that 20.6.7.28.N in the Amended Rule is undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not object to this subsection or propose alternative rule language during the hearing. *See* Freeport NOI; AG Exhibit 2 at 32; AB Exhibit 1 at 46; GRIP Kuipers Direct Attachment 2 at 34; WCO Exhibit 3 at 43.

1011. NMED made no changes to 20.6.7.28.N in the Proposed Final Rule. *See* Proposed Final Rule at 31.

1012. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.28.N as set forth by NMED in the Proposed Final Rule.

**20.6.7.29 – General Monitoring Requirements for All Copper Mine Facilities:**

***Undisputed Subsections A, B, C, D, E, F, and G***

1013. NMED proposed 20.6.7.29.A, B, C, D, E, and F in the Amended Rule which deals with: the schedule of submittal for monitoring reports; sampling and analysis methods; process water, leach solutions, tailings, and liner solution collection system volume measurement and reporting; impacted stormwater sampling and reporting; flow meter accuracy; and meteorological data. *See* Petition, Attachment 1 at 30-31.

1014. Amigos Bravos objected to 20.6.7.29.D in the Petitioned Rule and proposed alternative rule language based solely on the August 17 Discussion Draft. *See* AB Exhibit 1 at 47.

1015. NMED subsequently proposed the following changes to 20.6.7.29 in the Amended Rule: (1) add a new 20.6.7.29.B dealing with general requirements for monitoring

reports; (2) add a new 20.6.7.29.C dealing with analytical requirements for monitoring reports; (3) change 20.6.7.29.B in the Petitioned Rule to 20.6.7.29.D in the Amended Rule; (4) change 20.6.7.29.C in the Petitioned Rule to 20.6.7.29.E in the Amended Rule with additional changes to the language therein; (5) delete 20.6.7.29.D in the Petitioned Rule; (6) change 20.6.7.29.E in the Petitioned Rule to 20.6.7.29.F in the Amended Rule with additional changes to the language therein; and (6) change 20.6.7.29.F in the Petitioned Rule to 20.6.7.29.G in the Amended Rule. *See* Amended Rule, Attachment 2 at 32-34.

1016. NMED provided testimony on these changes through the rebuttal testimony of Mr. Brown, which is erroneously labeled as section 28. *See* Brown Rebuttal at 12-13.

1017. The Commission finds that Amigos Bravos objection to 20.6.7.29.D in the Petitioned Rule is resolved by elimination of the provision in the Amended Rule. Moreover, the Commission finds that to the extent the issues remain with respect to Amigos Bravos' objection to 20.6.7.29.D in the Petitioned Rule, sole reliance on the August 17 Discussion Draft is insufficient to justify the revision.

1018. The Commission finds that 20.6.7.29.A, B, C, D, E, F, and G in the Amended Rule are undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson do not propose alternative rule language to these subsections during the hearing.

1019. In the Proposed Final Rule, NMED made changes to 20.6.7.29.B(4) and (5) to change the terminology from "facilities" to "units" and "facility" to "copper mine facility," and made no other changes to these subsections. *See* Proposed Final Rule at 31-32.

1020. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.29.A, B, C, D, E, F, and G as set forth by NMED in the Proposed Final Rule.

### ***Subsection H***

1021. NMED proposed 20.6.7.29.G in the Petitioned Rule which requires an interceptor well system monitoring and evaluation report. *See* Petition, Attachment 1 at 31.

1022. GRIP and TRP proposed to delete 20.6.7.29.G in its . *See* GRIP Kuipers Direct, Attachment 2 at 35.

1023. NMED changed 20.6.7.29.G in the Petitioned Rule to 20.6.7.29.H in the Amended Rule and made changes to the title, the body of 20.6.7.29.H, and language of 20.6.7.29.H(1), (2), (3), and (7)(a).

1024. NMED supported the changes through the rebuttal testimony of Mr. Brown. *See* Brown Rebuttal at 12-13.

1025. The Commission finds that the proposal by GRIP and TRP is inappropriate because the Commission accepts the use of interceptor systems in other parts of the Copper Mine Rule and monitoring of these systems is important.

1026. NMED made no changes to 20.6.7.29.H in the Proposed Final Rule.

1027. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.29.H in its entirety as proposed by NMED in the Proposed Final Rule.

### **20.6.7.30 – Contingency Requirements for Copper Mine Facilities:**

#### ***Section Overview***

1028. NMED presented evidence to support 20.6.7.30 in the Petitioned Rule through Mr. Brown. Mr. Brown testified that 20.6.7.30 includes contingencies for each requirement in the event that it fails. Contingency requirements are triggered when performance of the unit is observed to fail or approaches failure of the requirements of the Petitioned Rule. Mr. Brown

noted that contingencies in each case comprise some or all of the following actions: notify, confirm, repair, correct, and abate. *See* NMED Brown Direct at 9.

1029. Mr. Brown testified that the contingencies in the Petitioned Rule cover the full range of failures and compliance exceedances of the mandated ground water protections. The range of options for contingency response and actions are comprehensive with response times commensurate with the severity of the potential impacts to ground water. Abatement is included in the contingency actions for those failures and exceedances where remedial damage results, and the selection of abatement opportunities are appropriate and comprehensive. *See* NMED Brown Direct at 10.

1030. Mr. Brown testified that, if a containment system for a unit is not working, the Copper Rule includes contingency requirements in the event that the containment system fails or is indicating incipient failure. Further, if water with the potential to cause an exceedance escapes the containment system of any unit, Mr. Brown testified that the Petitioned Rule allows the Department to mandate abatement procedures. TRV 3 at 565, L. 8-19.

1031. Mr. Brown testified that, in his personal experience, mining companies self-report spills and other upsets and rectify the problem before any impact is identified by the monitoring wells. TRV 4 at 736, L. 15-23.

#### ***Subsection A***

1032. NMED proposed 20.6.7.30.A in the Petitioned Rule which deals with contingency requirements of ground water standards for all monitoring wells except impoundment monitoring wells. *See* Petition, Attachment 1 at 31.

1033. NMED made no changes to 20.6.7.30.A in the Amended Rule. *See* Amended Petition, Attachment 2 at 34.

1034. NMED supported 20.6.7.30.A through evidence and testimony of Mr. Brown. *See* NMED Brown Direct at 9-10.

1035. The Attorney General objected to 20.6.7.30.A and A(2) and proposed alternative rule language. With respect to 20.6.7.30.A, the Attorney General struck the language excluding monitoring wells for impoundments from subsection A, which NMED addresses in subsection B. The effect of the Attorney General's proposal was to combine subsection A with subsection B. With respect to 20.6.7.30.A(2), the Attorney General proposed tying this provision to Section 20.6.2.4103 NMAC. *See* AG Exhibit 2 at 33.

1036. GRIP and TRP objected to 20.6.7.30.A and proposed that 20.6.7.20.H be moved to the front as 20.6.7.30.A. GRIP and TRP argued that this sequential change in the subsections is necessary to assure that the permittee is alerted to the reporting requirements regarding unauthorized discharges. *See* GRIP Kuipers Direct, Attachment 2 at 35.

1037. The Commission finds that a change in the order of 20.6.7.30.A is unnecessary, as the permittee will need to be aware of and comply with all provisions of the Copper Mine Rule.

1038. With respect to 20.6.7.30.A (labeled as 20.6.7.30.C by GRIP and TRP), GRIP and TRP also suggest combining subsection A with subsection B and adding several other language changes. *See* GRIP Kuipers Direct, Attachment 2 at 35.

1039. Amigos Bravos proposed new language for 20.6.7.30.A based solely on the August 17 Discussion Draft. *See* AB Exhibit 1 at 48.

1040. Freeport rebutted the testimony by the Attorney General and Mr. GRIP Kuipers Direct through the testimony of Mr. Blandford, *See* Freeport Blandford Rebuttal at 16-17.



1041. The Commission finds that the changes to 20.6.7.30.A proposed by Amigos Bravos based solely on the August 17 Discussion Draft are insufficient to justify changing the Copper Mine Rule because no technical evidence is presented to support such changes.

1042. The Commission finds that Freeport and Mr. Olson did not object to 20.6.7.30.A because they proposed no alternative rule language.

1043. In the Proposed Final Rule, NMED combined subsection A with subsection B in response to the Attorney General and GRIP/TRP recommendations, which simplify and clarify the Petitioned Rule.

1044. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.30.A as set forth by NMED in the Proposed Final Rule.

#### ***Subsection B***

1045. NMED proposed 20.6.7.30.B in the Petitioned Rule which addresses contingency requirements for exceedances of ground water standards for impoundment monitoring wells. *See* Petition, Attachment 1 at 32.

1046. NMED made no changes to 20.6.7.30.B in the Amended Rule. *See* Amended Petition, Attachment 2 at 35.

1047. NMED supported 20.6.7.30.B through evidence and testimony of Mr. Brown. *See* NMED Brown Direct at 9-10.

1048. The Attorney General objected to 20.6.7.30.B and proposed to delete the entire subsection, thereby making exceedances of ground water standards for impoundment monitoring wells subject to the contingency requirements set forth in 20.6.7.30.A. *See* AG Exhibit 2 at 34.

1049. GRIP and TRP objected to 20.6.7.30.B and argued that this subsection should only contain contingency requirements for abatement plans or other corrective actions that are located in other provisions of 20.6.7.30. *See* GRIP Kuipers Direct, Attachment 2 at 35.

1050. With respect to 20.6.7.30.B (as labeled by NMED), GRIP and TRP proposed to delete and changed several provisions and have it labeled as 20.6.7.30.C. *See* GRIP Kuipers Direct, Attachment 2 at 36.

1051. Amigos Bravos proposed new language for 20.6.7.30.B and B(1) based solely on the August 17 Discussion Draft. *See* AB Exhibit 1 at 49.

1052. The Commission finds that the changes to 20.6.7.30.B and B(1) proposed by Amigos Bravos based solely on the August 17 Discussion Draft are insufficient to justify changing the Petitioned Rule because no technical evidence supported such changes.

1053. The Commission finds that Freeport and Mr. Olson did not object to 20.6.7.30.B because they did not propose alternative rule language.

1054. Based on the weight of the evidence, the Commission does not adopt a separate 20.6.7.30.B. Instead, it adopts 20.6.7.30.A, the combined subsection, as discussed above.

### ***Subsection C***

1055. NMED proposed 20.6.7.30.C in the Petitioned Rule which outlines contingency requirements for monitoring well replacement. *See* Petition, Attachment 1 at 32.

1056. NMED made no changes to 20.6.7.30.C in the Amended Rule. *See* Amended Petition, Attachment 2 at 33.

1057. NMED supported 20.6.7.30.C through evidence and testimony of Mr. Brown. *See* NMED Brown Direct at 9-10.

1058. GRIP and TRP proposed to delete 20.6.7.30.C and move it to another section of the Copper Mine Rule. *See* GRIP Kuipers Direct, Attachment 2 at 36. They have no substantive objections to the subsection.

1059. The Commission finds GRIP's and TRP's proposal to move 20.6.7.30.C is unnecessary.

1060. Amigos Bravos proposed new language for 20.6.7.30.C based solely on the August 17 Discussion Draft. *See* AB Exhibit 1 at 50.

1061. The Commission finds that the changes to 20.6.7.30.C proposed by Amigos Bravos based solely on the August 17 Discussion Draft are insufficient to justify changing the Petitioned Rule, because no technical evidence is presented to support the proposed changes.

1062. The Commission finds that Freeport, the Attorney General, and Mr. Olson did not object to 20.6.7.30.C, because they did not propose alternative rule language.

1063. NMED made no changes to 20.6.7.30.C in the Proposed Final Rule except for renumbering it as Subsection B.

1064. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.30.C, renumbered as 20.6.7.30.B, as set forth by NMED in the Proposed Final Rule.

#### ***Subsection D***

1065. NMED proposed 20.6.7.30.D in the Petitioned Rule which addresses with contingency requirements for exceedances of permitted maximum daily discharge volumes. *See* Petition, Attachment 1 at 32.

1066. NMED made no changes to 20.6.7.30.D in the Amended Rule. *See* Amended Petition, Attachment 2 at 35.

1067. NMED supported 20.6.7.30.D through evidence and testimony of Mr. Brown. *See* NMED Brown Direct at 9-10.

1068. The Commission finds that 20.6.7.30.D is undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose alternative rule language. *See* AG Exhibit 2 at 34; AB Exhibit 1 at 50; GRIP Kuipers Direct Attachment 2 at 37; WCO Exhibit 3 at 46.

1069. NMED made no changes to 20.6.7.30.D in the Proposed Final Rule, except to renumber it as 20.6.7.30.C.

1070. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.30.D, renumbered as 20.6.7.30.C, as set forth by NMED in the Proposed Final Rule.

#### ***Subsection E***

1071. NMED proposed 20.6.7.30.E in the Petitioned Rule which details contingency requirements for insufficient impoundment capacity. *See* Petition, Attachment 1 at 32-33.

1072. NMED made no changes to 20.6.7.30.E in the Amended Rule. *See* Amended Petition, Attachment 2 at 35-36.

1073. NMED supported 20.6.7.30.E through evidence and testimony of Mr. Brown. *See* NMED Brown Direct at 9-10.

1074. The Commission finds that 20.6.7.30.E is undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson do not propose alternative rule language. *See* Freeport NOI; AG Exhibit 2 at 34-35; AB Exhibit 1 at 50; GRIP Kuipers Direct Attachment 2 at 37; WCO Exhibit 3 at 46.

1075. NMED made no changes to 20.6.7.30.E in the Proposed Final Rule except to renumber it as 20.6.7.30.D.

1076. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.30.E, renumbered as 20.6.7.30.D, as set forth by NMED in the Petitioned Rule, Amended Rule, and Proposed Final Rule.

#### ***Subsection F***

1077. NMED proposed 20.6.7.30.F in the Petitioned Rule which outlines contingency requirements for inability to preserve required freeboard. *See* Petition, Attachment 1 at 33.

1078. NMED made no changes to 20.6.7.30.F in the Amended Rule. *See* Amended Petition, Attachment 2 at 36.

1079. NMED supported 20.6.7.30.F through evidence and testimony of Mr. Brown. *See* NMED Brown Direct at 9-10.

1080. The Commission finds that 20.6.7.30.F is undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose alternative rule language. *See* Freeport NOI; AG Exhibit 2 at 35; AB Exhibit 1 at 50-51; GRIP Kuipers Direct Attachment 2 at 37; WCO Exhibit 3 at 46.

1081. NMED made no changes to 20.6.7.30.F in the Proposed Final Rule, except to renumber it as 20.6.7.30.E.

1082. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.30.F, renumbered as 20.6.7.30.E, as set forth by NMED in the Proposed Final Rule.

#### ***Subsection G***

1083. NMED proposed 20.6.7.30.G in the Petitioned Rule which addresses contingency requirements for impounds with structural integrity compromised. *See* Petition, Attachment 1 at 33.

1084. NMED made no changes to 20.6.7.30.G in the Amended Rule. *See* Amended Petition, Attachment 2 at 36.

1085. NMED supported 20.6.7.30.G through evidence and testimony of Mr. Brown. *See* NMED Brown Direct at 9-10.

1086. Amigos Bravos proposed new language for 20.6.7.30.G based solely on the August 17 Discussion Draft. *See* AB Exhibit 1 at 51.

1087. The Commission finds that the changes to 20.6.7.30.G proposed by Amigos Bravos based solely on the August 17 Discussion Draft are insufficient to justify changing the Petitioned Rule because no technical evidence is presented to support these changes.

1088. The Commission finds that Freeport, the Attorney General, GRIP, TRP, and Mr. Olson did not object to 20.6.7.30.G, because they do not propose alternative rule language. *See* Freeport NOI; AG Exhibit 2 at 35; GRIP Kuipers Direct Attachment 2 at 37; WCO Exhibit 3 at 46.

1089. NMED made no changes to 20.6.7.30.G in the Proposed Final Rule, except to renumber it as 20.6.7.30.F.

1090. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.30.G, renumbered as 20.6.7.30.F, as set forth by NMED in the Proposed Final Rule.

#### ***Subsection H***

1091. NMED proposed 20.6.7.30.H in the Petitioned Rule which sets forth contingency requirements for reporting and correction of unauthorized discharges. *See* Petition, Attachment 1 at 33.

1092. NMED made no changes to 20.6.7.30.H in the Amended Rule. *See* Amended Petition, Attachment 2 at 36.

1093. NMED supported 20.6.7.30.H through evidence and testimony of Mr. Brown. *See* NMED Brown Direct at 9-10.

1094. GRIP and TRP have no substantive objections to 20.6.7.30.H as labeled by NMED, but they did propose to move it to the front as 20.6.7.30.A.

1095. For the reasons set forth above, the Commission finds that the proposal to move 20.6.7.30.H as proposed by GRIP and TRP is unnecessary.

1096. The Commission finds that Freeport, the Attorney General, Amigos Bravos, and Mr. Olson did not object to 20.6.7.30.H, because they did not propose alternative rule language. *See* Freeport NOI; AG Exhibit 2 at 35; AB Exhibit 1 at 51; WCO Exhibit 3 at 46.

1097. NMED made no changes to 20.6.7.30.H in the Proposed Final Rule, except to renumber it as 20.6.7.30.G.

1098. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.30.H, renumbered as 20.6.7.30.G, as set forth by NMED in the Proposed Final Rule.

### ***Subsection I***

1099. NMED proposed 20.6.7.30.I in the Petitioned Rule which addresses contingency requirements for impounds with unstable slopes for leach stockpiles, tailings impoundments, or waste rock stockpiles. *See* Petition, Attachment 1 at 33.

1100. NMED made no changes to 20.6.7.30.I in the Amended Rule. *See* Amended Petition, Attachment 2 at 34.

1101. NMED supported 20.6.7.30.I through evidence and testimony I Mr. Brown. *See* NMED Brown Direct at 9-10.

1102. Amigos Bravos proposed new language for 20.6.7.30.I based solely on the August 17 Discussion Draft. *See* AB Exhibit 1 at 51.

1103. The Commission finds that the changes to 20.6.7.30.I proposed by Amigos Bravos based solely on the August 17 Discussion Draft are insufficient to justify changing the Petitioned Rule because no technical evidence is presented to support these changes.

1104. The Commission finds that Freeport, the Attorney General, GRIP, TRP, and Mr. Olson did not object to 20.6.7.30.I, because they did not propose alternative rule language. *See* Freeport NOI; AG Exhibit 2 at 35-36; GRIP Kuipers Direct Attachment 2 at 38; WCO Exhibit 3 at 46-47.

1105. NMED made no changes to 20.6.7.30.I in the Proposed Final Rule, except to renumber it as 20.6.7.30.H.

1106. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.30.I, renumbered as 20.6.7.30.H, as set forth by NMED in the Petitioned Rule, Amended Rule, and Proposed Final Rule.

#### ***Subsection J***

1107. NMED proposed 20.6.7.30.J in the Petitioned Rule which outlines contingency requirements for erosion of cover systems or compromised stormwater conveyance structures, ponding of stormwater, or other conditions. *See* Petition, Attachment 1 at 33-34.

1108. NMED supported 20.6.7.30.J through evidence and testimony of Mr. Brown. *See* NMED Brown Direct at 9-10.

1109. Freeport objected to 20.6.7.30.J in the Petitioned Rule and proposed alternative language. *See* Freeport NOI at 6.

1110. Freeport presented evidence through Thomas Shelley to support its alternative language. Mr. Shelley maintained that the last two sentence of 20.6.7.30.J in the Petitioned Rule should be deleted because, in summary, they are not appropriate or even possible for some



corrective actions and may conflict with the approved schedule that is required for every corrective action plan. *See* Freeport Shelley Direct at 48-49.

1111. NMED made changes to 20.6.7.30.J in the Amended Rule by proposing to delete the second to the last sentence: “The schedule shall propose completion within one year from the submittal date of the initial corrective action plan.” *See* Amended Petition, Attachment 2 at 36. This amendment partially addresses Freeport’s objection to the Petitioned Rule.

1112. The Commission finds that the Attorney General, GRIP, TRP, and Mr. Olson did not object to 20.6.7.30.J, because they did not propose alternative rule language. *See* AG Exhibit 2 at 35; AB Exhibit 1 at 51-52; GRIP Kuipers Direct Attachment 2 at 38; WCO Exhibit 3 at 49.

1113. NMED made no changes to 20.6.7.30.J in the Proposed Final Rule, except to renumber it as 20.6.7.30.I.

1114. Based on the weight of the evidence, the Commission hereby 20.6.7.30.J, renumbered as 20.6.7.30.I, as set forth in the Proposed Final Rule.

### ***Subsection K***

1115. NMED proposed 20.6.7.30.K in the Petitioned Rule which sets forth contingency requirements for water management and water treatment system failures. *See* Petition, Attachment 1 at 34.

1116. NMED supported 20.6.7.30.K through evidence and testimony of Mr. Brown. *See* NMED Brown Direct at 9-10.

1117. Freeport objected to 20.6.7.30.K in the Petitioned Rule and proposed alternative language. *See* Freeport NOI at 6.

1118. Freeport presented evidence through Thomas Shelley to support its alternative language. *See* Shelley Direct at 49.

1119. NMED made changes to 20.6.7.30.K in the Amended Rule by deleting the following sentence: “The schedule shall propose completion within one year from the submittal date of the initial corrective action plan.” *See* Amended Petition, Attachment 2 at 37. This amendment partially addresses Freeport’s objection to the Petitioned Rule.

1120. The Commission finds that the Attorney General, GRIP, TRP, and Mr. Olson did not object to 20.6.7.30.K, because they did not propose alternative rule language. *See* AG Exhibit 2 at 36; AB Exhibit 1 at 52; GRIP Kuipers Direct Attachment 2 at 38; WCO Exhibit 3 at 47.

1121. NMED made no changes to 20.6.7.30.K in the Proposed Final Rule, except to renumber it as 20.6.7.30.J.

1122. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.30.K, renumbered as 20.6.7.30.J, as set forth in the Proposed Final Rule.

### ***Subsection L***

1123. NMED proposed 20.6.7.30.L in the Petitioned Rule which addresses contingency requirements for interim emergency water management. *See* Petition, Attachment 1 at 33.

1124. NMED made no changes to 20.6.7.30.L in the Amended Rule. *See* Amended Petition, Attachment 2 at 37.

1125. NMED supported 20.6.7.30.L through evidence and testimony of Mr. Brown. *See* NMED Brown Direct at 9-10.

1126. The Commission finds that 20.6.7.30.L is undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose alternative rule language. *See* Freeport NOI; AG Exhibit 2 at 36; AB Exhibit 1 at 52; GRIP Kuipers Direct Attachment 2 at 38; WCO Exhibit 3 at 47.

1127. NMED made no changes to 20.6.7.30.L in the Proposed Final Rule, except to renumber it as 20.6.7.30.K.

1128. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.30.L, renumbered as 20.6.7.30.K, as set forth by NMED in the Proposed Final Rule.

**20.6.7.31 – Reserved [Alternatively Proposed as “Variance Petitions”]:**

1129. NMED proposed to reserve 20.6.7.31 for future rulemaking changes. *See* Petition, Attachment 1 at 34; Amended Petition, Attachment 2 at 37.

1130. Mr. Olson objects to reserving 20.6.7.31 and, instead, proposes an entire new subsection dealing with variance petitions. *See* WCO Exhibit 3 at 47-50. In summary, Mr. Olson maintains that a new subsection dealing with variance petitions is needed because the approach taken by the Petitioned Rule: (1) violates the WQA; (2) is inconsistent with the history of the Commission’s ground water protection rules; (3) is inconsistent with other existing Commission rules; (4) is inconsistent with the Commission’s Decision and Order on Remand in the Tyrone Mine Hearings; (5) is inconsistent with the Tyrone Agreement approved by the Commission; and (5) does not give consideration to site-specific engineering or technological controls that could prevent water pollution. *See* WCO Exhibit 3 at 49-50.

1131. The Attorney General proposed the same new subsection dealing with variance petitions. *See* AGAG Exhibit 2 at 36-38.

1132. GRIP, TRP, and Amigos Bravos, while not proposing section 31 as a variance section, contended that the Petitioned Rule is flawed because it would not require variances for certain types of facilities and allegedly would allow the standards of 20.6.2.3103 to be exceeded without requiring a variance on a site-specific basis.

1133. Mr. Olson argued that many regulations within the Department include variance provisions. One rule in 20.6.2.4103 allows a method for seeking alternative abatement standards that can exceed the Commission's numeric standards under 20.6.2.3103 under certain circumstances. In a second rule, there is a mechanism for considering site-specific variances to Commission rules in 20.6.2.1210 that contains provisions for individual variances in accordance with Section 74-6-4.H NMSA 1978 of the WQA. In these cases, the Commission may only grant variances after a public hearing and the variance terms are limited to five-year period. In addition, in a third rule, the recently approved Dairy Rule, in 20.6.6.18, the Commission adopted a new variance rule for dairy facilities that allows for alternate discharge designs consistent with the WQA. This variance rule offers some expanded criteria for consideration, allows variances to be granted for the useful life of the feature and provides for 5-year review of the effectiveness of the variance. Mr. Olson claimed that these provisions are consistent with the WQA. *See WCO Direct at 10-11.*

1134. Mr. Olson further testified that a variance process is necessary to ensure continued public input and encourage transparency. Mr. Olson further alleged that this process will increase ground water protection, but provided no concrete evidence in support of this contention. *See WCO Exhibit 3 at 47-50.*

1135. On behalf of the Attorney General, Ms. Travers asserted that the current regulatory framework for ground water protection in New Mexico requires a variance for degradation of ground water quality above standards during mine operations and that variances require a showing of an "unreasonable burden," are based upon site-specific information, and are routinely granted. Ms. Travers identified no particular variance proceeding in support of this

contention and testified that she did not review the record of any variance proceeding. *See* AG Travers Direct at 3.

1136. On behalf of GRIP and TRP, Mr. GRIP Kuipers Direct testified that pollution of ground water above standards at some sites may be unavoidable, but the decision to do it and conditions necessary to limit and control it should be made on a site-specific basis and not through the Copper Mine Rule. *See* GRIP Kuipers Direct at 3.

1137. Ms. Travers testifies that allowing ground water to become degraded beneath and downgradient of facilities without consideration of site-specific factors that may make it difficult to intercept and detect contamination migrating off site is not best practice, and allowing widespread contamination is not best practice. Ms. Travers further testifies that the Copper Mine Rule does not require that site-specific conditions be considered as would be required in determination of a variance under the existing rules, and site-specific review would provide for additional ground water protections. *See* AG Travers Direct at 15-16.

1138. NMED rebutted the testimony of Mr. GRIP Kuipers Direct, Ms. Travers, and Mr. Olson through the rebuttal testimony of Mr. Brown. Mr. Brown testified that requiring a variance versus approving proven technologies by rule is a distinction without a difference, and that the Petitioned Rule recognizes the limits of existing technology, particularly with respect to waste rock stockpiles and tailings impoundments. *See* Brown Rebuttal at 6-7.

1139. On behalf of Freeport, Timothy Eastep rebutted Ms. Travers and Messrs. Kuipers and Olson stating that although exceedances of ground water quality standards have been measured at monitoring well locations associated with most of Freeport's discharge permits, the Department has never required a variance to renew any of the discharge permits for existing facilities. Over the thirty plus years discharge permit have been issued for Freeport's copper

mines, Mr. Eastep was aware of only two very recent variance petitions, both of which were for unlined leach stockpiles located within open pit areas. *See* Freeport Eastep Rebuttal at 6.

1140. On behalf of Freeport, Mr. Blandford testified that the variance approach is based on a subjective standard of “unreasonable burden,” not necessarily any detailed site-specific evaluation. From the perspective of a technical professional involved in mine permitting, it is preferable to have a specific set of requirements for permitting, and Mr. Blandford believed that the approach in the Copper Mine Rule would result in improved technical evaluations and permit applications that will significantly improve pollution prevention at future copper mines. *See* Freeport Blandford Rebuttal at 33.

1141. On behalf of Freeport, Mr. Brack testified that rules that rely on the extensive use of variances are not an effective way to provide certainty and foster long-term investment by mining companies. *See* Brack Direct at 19-20; *see also* Freeport Eastep Rebuttal at 10.

1142. Mr. Eastep provides additional testimony regarding the variance approach in his rebuttal testimony in response to the testimony of Ms. Travers and Mr. Olson. *See* Freeport Eastep Rebuttal at 6-12 and 18-21.

1143. On behalf of Freeport, Mr. Scott testified that certain technical issues are better addressed through the Petitioned Rule than on an *ad hoc* basis through a variance procedure subject to personal preferences. The conditions necessary to limit and control seepage contamination are well understood and established based on modern industry practices. *See* Freeport Scott Rebuttal at 4.

1144. Mr. Scott disagreed with Ms. Travers’ assertion that the Petitioned Rule does not require consideration of site-specific conditions. The Copper Mine Rule requires consideration of site-specific conditions by an engineer designing the facility, evaluating and selecting monitoring

well locations, and designing seepage collection and interceptor well systems as required. *See* Freeport Scott Rebuttal at 4.

1145. Mr. Blandford also refuted Mr. Travers' testimony regarding site specific conditions and testified that the Copper Mine Rule requires consideration of site-specific conditions by an engineer designing the facility, determination of appropriate monitoring well locations, and design of seepage collection and interceptor well systems. *See* Freeport Blandford Rebuttal at 20.

1146. Mr. Eastep also refuted Ms. Travers's recommendation of using an alternative approach to the Proposed Rule, including requiring variances for any exceedance of ground water quality standards at a place of withdrawal of water for present or reasonably foreseeable future use. Ms. Travers asserted that her approach would not impose overly burdensome restrictions on industry. Mr. Eastep testified that the copper mining industry needs reasonable certainty regarding permitting requirements to justify the high level of investment in exploration and mine development costs. Requiring variances in virtually all circumstances would defeat the purpose of adopting rules with very detailed and specific requirements. Numerous variance proceedings also would drain the Department's resources. Furthermore, Ms. Travers' did not investigate industry practices or consider the feasibility of requiring liner systems for waste rock stockpiles and tailings impoundments or requiring compliance with ground water quality standards inside an open pit in recommending changes to the Petition Rule. *See* Freeport Eastep Rebuttal at 10-11.

1147. Mr. Grass also refuted Ms. Travers's testimony that the Proposed Rule does not require that site specific conditions be considered in determining a variance, and that site specific review provides additional ground water protections. The Petitioned Rule requires consideration

of site specific conditions in a number of locations, including by an engineer designing the facility, in determining monitoring well locations, and in designing seepage collection and interceptor well systems, if required. The Petitioned Rule specifically states that site specific conditions must be evaluated as part of any design. No design can be strictly prescriptive as site conditions change even within a single mining facility. *See* Freeport Grass Rebuttal at 6-7.

1148. Mr. Scott rebutted Ms. Travers's testimony regarding the Petitioned Rule's consideration of site-specific conditions to provide additional ground water protections. Mr. Scott testified that the Proposed Rules required consideration of site-specific conditions by an engineer designing the facility, evaluating and selecting monitoring well locations, and designing seepage collection and interceptor well systems as required. Mr. Scott testified Site-specific evaluations are best left to the design engineer, who must also comply with NMOSE regulations when designing tailing impoundments. *See* Freeport Scott Rebuttal at 4.

1149. The Commission finds that the WQA authorizes the Commission to grant a variance from the Commission's regulations following a public hearing. The Act does not allow the Commission to grant a variance from the WQA. Variances sought in the past have been from the Commission's existing regulations. Following the adoption of the Copper Mine Rule, to the extent that the Copper Mine Rule supersedes the existing regulations, most variances for copper mines are expected to seek relief from the requirements of these Rules, and to a lesser extent from the existing regulations. These Copper Mine Rules establish clearer guidance, compared to the existing regulations, regarding the application of and measurement of compliance with the standards of 20.6.2.3103. The Copper Mine Rules also contemplate the possibility of variances, but would utilize the existing regulations, 20.6.2.1210, for variance petitions.



1150. The Commission finds that the Copper Mine Rules allow for a public process regarding permits issued under the Rules. Under 20.6.7.10 and 20.6.7.3108, the public will receive at least two public notices regarding permit applications and draft permits. The public can comment on the applications and draft permits, can request a hearing, and can present evidence. The public can appeal a permit to the Commission. As discussed above with regard to 20.6.7.10.J, the Copper Mines Rules acknowledge the prohibition in section 74-6-5(E), and a contention that a permit has been issued in violation of this prohibition could be raised in comments, at a hearing, and in an appeal to this Commission. Consequently, the Commission finds that the opportunity for the public to be heard will not be sacrificed if the Commission does not adopt the proposed variance section.

1151. The Commission finds that the variance proceedings demand substantial resources from the Department and permit applicants, and the testimony as a whole does not identify the likelihood of a different outcome if a variance process is used versus application of the Copper Mine Rules.

1152. The Commission finds that the terms of the Tyrone Settlement do not preclude adoption of the Copper Mine Rules without the variance provision.

1153. The Commission finds that it has the authority to adopt the Copper Mine Rule as proposed by NMED with provisions clarifying how the standards of 20.6.2.3103 apply with respect to copper mine facilities, and that the Commission is not precluded from adopting these rules as argued by the Attorney General, GRIP/TRP, Amigos Bravos, and Mr. Olson.

1154. NMED made no changes to 20.6.7.31 NMAC in the Proposed Final Rule.

1155. Based on the weight of the evidence, the Commission hereby declines to adopt the variance provisions proposed by Mr. Olson and the Attorney General and, instead, adopts 20.6.7.31 as reserved that is proposed by NMED in the Proposed Final Rule.

**20.6.7.32 – Reserved [Variance Hearings]:**

1156. NMED proposed to reserve 20.6.7.32 for future rulemaking changes. *See* Petition, Attachment 1 at 34; Amended Petition, Attachment 2 at 37.

1157. Mr. Olson objected to reserving 20.6.7.32 and, instead, proposed an entire new subsection dealing with variance hearings. *See* WCO Exhibit 3 at 50.

1158. The Attorney General proposed the same new subsection dealing with variance hearings. *See* AG Exhibit 2 at 38.

1159. For the reasons set forth above regarding 20.6.7.31, the Commission finds that 20.6.7.32 is unnecessary.

1160. Based on the weight of the evidence, the Commission hereby declines to adopt the provisions on variance hearings proposed by Mr. Olson and the Attorney General and, instead, adopt 20.6.7.32 as reserved that is proposed by NMED in the Petitioned Rule, Amended Rule, and Proposed Final Rule.

**20.6.7.33 – Closure Requirements for All Copper Mine Facilities:**

*Section Overview*

1161. Under the Copper Mine Rule, all leached rock, waste rock, and tailings stockpiles will be closed consistent with requirements for slope stability, surface re-grading, cover systems, closure water management and treatment, and closure monitoring and maintenance. *See* NMED Brown Direct at 39-40.

1162. Seepage control is at the heart of the Copper Mine Rule's post-closure ground water protection system. It limits discharge from the closed mine facilities to rates that protect ground water of the state for potential future use as domestic and agriculture water supply and surface water recharge. *See* NMED Brown Direct at 32.

1163. Store-and-release cover systems achieve seepage control by storing infiltrating precipitation water and releasing the stored water over time to the atmosphere by evaporation and plant evapotranspiration. *See* NMED Brown Direct at 32.

1164. At closure, water management in open pits will minimize the potential to cause an exceedance of applicable water quality standards using the following methods: (1) under 20.6.7.33(D)(1), if the pit will form an evaporative sink after closure, the ground water quality standards of 26.6.2.3103 do not apply within the areas of open pit hydrologic containment; and (2) under 20.6.7.33(D)(2), if water within the pit is predicted to flow from the open pit into ground water and the discharge from an open pit may cause an exceedance of applicable standards at monitoring well locations, then the open pit shall be considered a flow-through pit and the open pit water quality must meet ground water standards or the open pit must be pumped in order to create an area of open pit hydrologic containment. *See* NMED Brown Direct at 43.

1165. Post-closure protection of ground water is achieved by making the closed open pit a ground water sink, either by evaporation or by pumping. This protection will be effective. *See* NMED Brown Direct at 43.

1166. The Copper Mine Rule requires the following design for all store-and-release covers: (1) the material for the cover must be earthen, sustain plant growth, and be erosion resistant pursuant to 20.6.7.33(F)(1); (2) the thickness of the cover must be a minimum of 36 inches pursuant to 20.6.7.33(F)(1); and (3) the cover must store water within the fine fraction

within certain percentages of precipitation during certain periods. *See* NMED Brown Direct at 33.

1167. Approximately 21 inches of material no coarser than silty sand and gravel is needed to provide the required water storage for typical New Mexico copper mine covers. The cover also requires some admixture of coarser material to ensure erosion protection. The combined material is consistent with the Rule's minimum requirement for 36 includes minimum of total cover thickness. *See* NMED Brown Direct at 33-34.

1168. Store-and-release covers applied to the top and sides of waste rock stockpiles provide good protection against infiltration in arid and semi-arid environments. When constructed in New Mexico in accordance with the Rule, store-and-release covers will limit flow through waste rock piles to less than 0.2 inches per year. *See* NMED Brown Direct at 34-38.

1169. Under 20.6.7.33(K), all other copper mine units except leach stockpiles, waste rock stockpiles, tailings piles, and open pits will be closed by site cleanup and cover, if applicable. Closure of the remaining copper mine units by removal or covering of materials containing materials with the potential to cause ground water exceedances of standards will be protective of ground water. *See* NMED Brown Direct at 43.

**20.6.7.33 – Closure Requirements for All Copper Mine Facilities:**

***Undisputed Subsections A, E, G, H, K, L, and M***

1170. NMED proposed 20.6.7.33.A, E, G, H, K, L, and M in the Petitioned Rule which sets forth closure requirements for copper mine facilities. *See* Petition, Attachment 1 at 34-37.

1171. NMED presented evidence to support 20.6.7.33 through the testimony of Mr. Brown, wherein he discuss the effectiveness of post-operational ground water protection. *See* NMED Brown Direct at 32-44.

1172. Freeport supported 20.6.7.33.A, E, G, H, K, L, and M in the Petitioned Rule through testimony of Thomas Shelley. *See* Shelley Direct at 11-37.

1173. NMED made no changes to 20.6.7.33.E, G, K, L, and M in the Amended Rule. *See* Amended Petition, Attachment 2 at 38-40.

1174. NMED made changes to 20.6.7.33.A and H in the Amended Rule. *See* Amended Petition, Attachment 2 at 37-39.

1175. The Commission finds that 20.6.7.33.A, E, G, H, K, L, and M in the Petitioned Rule and Amended Rule are undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose alternative rule language. *See* Freeport NOI; AG Exhibit 2 at 38-41; AB Exhibit 1 at 52-57; GRIP Kuipers Direct Attachment 2 at 38-42; WCO Exhibit 3 at 50-54.

1176. In the Proposed Final Rule, NMED made changes to 20.6.7.33.A, E, F, G and H to change the terminology regarding facilities and units and to correct typographical errors.

1177. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.33.A, E, G, H, K, L, and M as set forth in the Proposed Final Rule.

### ***Subsection B***

1178. NMED proposed 20.6.7.33.B in the Petitioned Rule which addresses closure requirements for slope stability. *See* Petition, Attachment 1 at 34.

1179. Freeport proposes changes to 20.6.7.33.B in the Petitioned Rule and presents two different approaches to remedy the problems with 20.6.7.33.B through testimony of Mr. Shelley and Mr. Scott. *See* Freeport NOI at 6; Freeport Shelley Direct at 15-17; and Freeport Scott Direct at 19 and 24.

1180. Mr. Shelley's testimony states that if the subsection is retained the Rule, slope requirements meet or exceed general engineering practice standards and, in some instances, are overly conservative and protective. *See* Freeport Shelley Direct at 15-17.

1181. According to Mr. Scott, this subsection requires tailing impoundments be constructed to ensure stability and safe performance, and the Petitioned Rule takes into consideration embankment strength, pore pressure/ phreatic considerations, slope materials etc. The Rule works in conjunction with NMOSE, which has jurisdiction over tailings dams. The NMOSE criteria includes liquefaction evaluations, however, due to granular composition in the western United States this is not really a factor. *See* Freeport Scott Direct at 19.

1182. NMED refuted the proposed changes by Freeport to 20.6.7.33.B through Mr. Brown's testimony. *See* NMED Brown Rebuttal at 7-10.

1183. NMED made no changes to 20.6.7.33.B in the Amended Rule other than to correct a typographical error. *See* Amended Petition, Attachment 2 at 37.

1184. In the Proposed Final Rule, NMED made no substantive changes, but it did change the terminology regarding "copper mine facility" and units.

1185. Based on the weight of the evidence, the Commission adopts 20.6.7.33.B as set forth in the Proposed Final Rule.

### ***Subsection C***

1186. NMED proposed 20.6.7.33.C in the Petitioned Rule which set forth closure requirements for surface re-grading. *See* Petition, Attachment 1 at 34-35.

1187. NMED made no changes to 20.6.7.33.C in the Amended Rule. *See* Amended Petition, Attachment 2 at 37-38.

1188. NMED presented evidence to support 20.6.7.33 through the testimony of Mr. Brown, wherein he discussed the effectiveness of post-operational ground water protection. *See* NMED Brown Direct at 32-44.

1189. Freeport supported 20.6.7.33.C in the Amended Rule through testimony from Mr. Shelley and Mr. Munk. *See* Freeport Shelley Direct at 17-22; Freeport Munk Direct at 4-9.

1190. The Attorney General proposed alternative language for 20.6.7.33.C(3)(b). *See* AG Exhibit 2 at 38-39, which replaced language stating that slopes within the open pit surface drainage area do not require re-grading with a provision allowing the Department to approve alternative slopes. There is no specific technical testimony supporting this change, and the Attorney General's proposal does not overcome the testimony presented in support of the Petitioned Rule as proposed by NMED.

1191. GRIP and TRP proposed to delete 20.6.7.33.C(3)(b), but they provided no explanation as to why such a change is necessary. *See* GRIP Kuipers Direct, Attachment 2 at 39.

1192. In the Proposed Final Rule, NMED made no changes other than to the terminology regarding facilities and units. *See* Proposed Final Rule at 36-37.

1193. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.33.C, C(1), C(2), C(3), C(3) and C(4) as proposed by NMED in the Proposed Final Rule.

#### ***Subsection D***

1194. NMED proposed 20.6.7.33.D in the Petitioned Rule which mandates closure requirements for open pits. *See* Petition, Attachment 1 at 35.

1195. NMED presented evidence to support 20.6.7.33 through testimony of Mr. Brown, wherein he discusses the effectiveness of post-operational ground water protection. *See* NMED Brown Direct at 32-44.

1196. Mr. Brown testified that at closure, water management in open pits will minimize the potential to cause an exceedance of applicable water quality standards using the following methods: (1) under 20.6.7.33(D)(1), if the pit will form an evaporative sink after closure, the ground water quality standards of 26.6.2.3103 NMAC do not apply within the areas of open pit hydrologic containment; and (2) under 20.6.7.33(D)(2), if water within the pit is predicted to flow from the open pit into ground water and the discharge from an open pit may cause an exceedance of applicable standards at monitoring well locations, then the open pit shall be considered a flow-through pit and the open pit water quality must meet ground water standards or the open pit must be pumped in order to create an area of open pit hydrologic containment. *See* NMED Brown Direct at 43.

1197. Freeport supported 20.6.7.33.D in the Amended Rule through testimony from Thomas Shelley and Mr. Blandford. *See* Freeport Shelley Direct at 22-26; Freeport Blandford Direct at 21-23.

1198. The Attorney General proposed changes to 20.6.7.33.D, D(1), and D(2). The changes would generally require water in open pits to meet both the standards of 20.6.2.3103 NMAC unless alternative abatement standards were approved and to meet surface water quality standards. *See* AG Exhibit 2 at 39.

1199. GRIP and TRP proposed changes to 20.6.7.33.D, and this change essentially deleted most of the subsection and require a closure plan for open pits that demonstrates that new pits will not contaminate ground water above applicable standards or obtain a variance. *See* GRIP Kuipers Direct, Attachment 2 at 39.

1200. Amigos Bravos proposed changes to 20.6.7.33.D(2) based on the August 17 Discussion Draft without any supporting technical evidence. *See* AB Exhibit 1 at 54.



1201. Mr. Olson proposed changes to 20.6.7.33.D(1) and (2) in the Petitioned Rule. Mr. Olson's changes to 20.6.7.33.D(1) deleted the term "areas of hydrologic containment" and replace it with "open pit surface drainage areas." With respect to 20.6.7.33.D(2), Mr. Olson proposed that the language "at a designated monitoring well location" and the language "or be managed to mitigate exceedances of applicable standards outside the area of hydrologic containment" should be deleted because such language creates a point of compliance concept. *See* WCO Exhibit 3 at 51-52.

1202. NMED made changes to 20.6.7.33.D(1) and D(2) in the Amended Rule. In 20.6.7.33.D(1), NMED changed "area of hydrologic containment" to "area of open pit hydrologic containment" to make the rule provision consistent with the definitional change. In 20.6.7.33.D(2), NMED clarified where standard apply and when the open pit must be pumped in order to maintain an area of open pit hydrologic containment. *See* Amended Petition, Attachment 2 at 38.

1203. The Commission finds that Amigos Bravos's proposed changes to 20.6.7.33.D(2) are without merit because no supporting technical evidence was presented.

1204. In the Proposed Final Rule, NMED made further changes to the language of 20.6.7.33.D(1) to address testimony presented during the hearing indicating that the exemption from standards could have unintended consequences. NMED also made clarifying edits to 20.6.7.33.D and D(2).

1205. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.33.D, D(1), and D(2) as proposed by NMED in the Proposed Final Rule.

### ***Subsection F***

1206. NMED proposed 20.6.7.33.F in the Petitioned Rule which deals with closure requirements for cover systems. *See* Petition, Attachment 1 at 35-36.

1207. NMED presented evidence to support 20.6.7.33 through testimony from Mr. Brown, wherein he discussed the effectiveness of post-operational ground water protection. *See* NMED Brown Direct at 32-44.

1208. Mr. Brown testified that the Copper Mine Rule requires the following design for all store-and-release covers: (1) the material for the cover must be earthen, sustain plant growth, and be erosion resistant pursuant to 20.6.7.33(F)(1); (2) the thickness of the cover must be a minimum of 36 inches pursuant to 20.6.7.33(F)(1); and (3) the cover must store water within the fine fraction within certain percentages of precipitation during certain periods. *See* NMED Brown Direct at 33.

1209. Freeport supported 20.6.7.33.F through testimony from Thomas Shelley and Lewis Munk. *See* Freeport Shelley Direct at 26-30 and Freeport Munk Direct at 8-11.

1210. GRIP and TRP proposed changes to 20.6.7.33.F. They claimed that the first change is necessary to be consistent with the Commission's decision in the Tyrone Appeal . The second change eliminated the provision for leach and waste rock stockpiles inside the open pit surface drainage area of an existing copper mine facility that a 36 inch cover is only required on top surfaces; however, they provided no technical evidence as to why this change is necessary. *See* GRIP Kuipers Direct, Attachment 2 at 40.

1211. Amigos Bravos proposed changes to 20.6.7.33.F, F(1), and F(2) based on the August 17 Discussion Draft without any supporting technical evidence. *See* AB Exhibit 1 at 54-55.

1212. Mr. Olson proposed to delete the phrase “at a designated monitoring well location” from 20.6.7.33.F because he maintained that it improperly creates a point of compliance concept. *See* WCO Exhibit 3 at 52.

1213. NMED made changes to 20.6.7.33.F in the Amended Rule. NMED removed the “designed monitoring well” language objected to by some parties and cross-references section 20.6.7.28 instead. NMED also struck “of an existing copper mine facility” in the last sentence of 20.6.7.28.F. *See* Amended Petition, Attachment 2 at 38-39.

1214. The Commission finds that Amigos Bravos’ proposed changes to 20.6.7.33.F, F(1), and F(2) are without merit because they presented no technical evidence to support such changes.

1215. In the Proposed Final Rule, NMED proposed a change to 20.6.7.33.F to reflect the terminology change regarding facilities to units.

1216. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.33.F, F(1), F(2), F(3), and F(4) as proposed by NMED in the Proposed Final Rule.

### ***Subsection I***

1217. NMED proposed 20.6.7.33.I in the Petitioned Rule which set forth closure requirements for impoundments. *See* Petition, Attachment 1 at 36-37.

1218. NMED presented evidence to support 20.6.7.33 through testimony from Mr. Brown, wherein he discussed the effectiveness of post-operational ground water protection. *See* NMED Brown Direct at 32-44.

1219. Freeport supported 20.6.7.33.I through testimony from Thomas Shelley. *See* Freeport Shelley Direct at 32-34.

1220. Mr. Shelley’s testimony supported 20.6.7.33(I), which addresses large water impoundments, that are inevitable in copper mining, but unnecessary post closure. These impoundments require management that is consistent with currently authorized practices and includes elimination or minimization of impacts, re-vegetation, abatement techniques, and disposal. NMED can approve alternative closure measures if the level of protection is maintained. *See* Freeport Shelley Direct at pp. 33-34.

1221. The Attorney General proposed changes to 20.6.7.33.I(4) and (6) which removed references to “the open pit surface drainage areas.” *See* AG Exhibit 2 at 40.

1222. GRIP and TRP proposed changes to 20.6.7.33.I(4) and (6). The intent of these changes was to eliminate differential treatment for impoundments located inside the open pit surface drainage areas. *See* GRIP Kuipers Direct, Attachment 2 at 41.

1223. Amigos Bravos proposed changes to 20.6.7.33.I(4), (6), and (7) (re-labeled as 20.6.7.33.J by Amigos Bravos) based on the August 17 Discussion Draft without any supporting technical evidence. *See* AB Exhibit 1 at 54.

1224. NMED made a change to 20.6.7.33.I(6) in the Amended Rule by deleting the sentence: “Large reservoirs located in the open pit surface drainage area of an existing copper mine facility are exempt from the requirement to establish positive drainage.” *See* Amended Petition, Attachment 2 at 39-40.

1225. The Commission finds that Amigos Bravos’ proposed changes to 20.6.7.33.I(4), (6), and (7) (re-labeled as 20.6.7.33.J by Amigos Bravos) are without merit because they presented no technical evidence to support such changes.

1226. NMED made no changes to 20.6.7.33.I in the Proposed Final Rule.

1227. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.33.I and I(1) through (7) as proposed by NMED in the Proposed Final Rule.

***Subsection J***

1228. NMED proposed 20.6.7.33.J in the Petitioned Rule which provides closure requirements for pipelines, tanks, and sumps. *See* Petition, Attachment 1 at 37.

1229. NMED made no changes to 20.6.7.33.J in the Amended Rule. *See* Amended Petition, Attachment 2 at 40.

1230. Freeport supported 20.6.7.33.J through testimony from Thomas Shelley. Mr. Shelley testified that these requirements reflect current practices approved by the State. *See* Freeport Shelley Direct at 35.

1231. Amigos Bravos proposed changes to 20.6.7.33.J (re-labeled as 20.6.7.33.K by Amigos Bravos) based on the August 17 Discussion Draft without any supporting technical evidence. *See* AB Exhibit 1 at 56-57.

1232. The Commission finds that Amigos Bravos' proposed changes to 20.6.7.33.J (re-labeled as 20.6.7.33.K by Amigos Bravos) are unwarranted because they did not present technical evidence to explain why such changes are necessary.

1233. NMED made no changes to 20.6.7.33.J in the Proposed Final Rule.

1234. Based on the weight of the evidence, the Commission adopts 20.6.33.J as set forth in the Proposed Final Rule.

***Additional Section on Interim Emergency Water Management***

1235. Amigos Bravos proposed a new 20.6.7.33.G dealing with interim emergency water management. This new subsection was taken from the August 17 Discussion Draft. *See* AB Exhibit 1 at 55.

1236. The Commission finds that Amigos Bravos failed to present technical evidence to explain why 20.6.7.33.G was needed in this section, as this issue is addressed in the contingency section by 20.6.7.30.L.

1237. Based on the weight of the evidence, the Commission hereby declines to adopt 20.6.7.33.G as proposed by Amigos Bravos.

**20.6.7.34 – Implementation of Closure:**

***Undisputed Subsections A, B, C, D, E, and G***

1238. NMED proposed 20.6.7.34.A, B, C, D, E, and G which addresses implementation of closure requirements for notification of intent to close, initiation of closure, notification of change in operational status, department notice regarding suspended operations and enforcement actions, deferral of closure, and CQA/CQC report. *See* Petition, Attachment 1 at 37-38.

1239. NMED did not make changes to 20.6.7.34.A, B, C, D, and G in the Amended Rule. *See* Amended Petition, Attachment 2 at 40-41.

1240. NMED made a change to 20.6.7.34.E in the Amended Rule. *See* Amended Petition, Attachment 2 at 41.

1241. Freeport supported 20.6.7.34.A, B, C, D, E, and G through the testimony of Thomas Shelley. *See* Freeport Shelley Direct at 37-42.

1242. The Commission finds that there are no objections to 20.6.7.34.A, B, C, D, E, and G in the Amended Rule, because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson do not provide alternative rule language.

1243. NMED made no changes to 20.6.7.34.A, B, C, D, E, and G in the Proposed Final Rule other than changes in terminology regarding facilities and units.

1244. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.34.A, B, C, D, E, and G as proposed by NMED in the Proposed Final Rule.

#### ***Subsection F***

1245. NMED proposed 20.6.7.34.F in the Petitioned Rule which sets forth the components of final design for closure. *See* Petition, Attachment 1 at 38.

1246. NMED made no changes to 20.6.7.34.F in the Amended Rule. *See* Amended Petition, Attachment 2 at 41.

1247. Freeport offered evidence to support 20.6.7.34.F through the testimony of Thomas Shelley, wherein he stated that these measures ensure closure measures are installed correctly and approved in accordance with regulatory requirements. *See* Freeport Shelley Direct at 40-41.

1248. Amigos Bravos proposed inserting language in 20.6.7.34.F titled “Final Design,” and providing “and shall, where possible, consider low impact development and green infrastructure development components” (hereinafter, “GI/LID”). *See* AB Exhibit 1 at 58.

1249. Amigos Bravos provided testimony in support of their amended language through the technical testimony of Brian Shields. Mr. Shields contended that GI/LID technologies have been embraced by many regulatory agencies and present economic and ecological benefits. Amigos Bravos also asserted that the EPA considers GI/LID technologies to be the best technology for controlling stormwater. *See* AB Shields Direct at 2-3.

1250. Amigos Bravos further provided support for GI/LID technologies through a report proffered through Brian Shields titled “The Economics of Low-Impact Development,” which sets forth the benefits of implementation of these technologies. *See* AB Shields Direct, Exhibit 3.

1251. Freeport offered evidence to support retaining NMED’s proposed language in the Amended Petition and refutes Amigos Bravos suggests to insert new language referencing low impact development and green infrastructure development components through Tim Eastep’s testimony. Mr. Eastep testified that stormwater pollution prevention is governed primarily through the Clean Water Act and administered by the EPA, thus, NMED should be guided by the governing federal agency and its regulations. *See* Freeport Eastep Rebuttal at 16-17.

1252. The Commission finds that the Amigos Bravos proposed language for 20.6.7.34.F is unwarranted because of the federal laws governing such issues. It determines that there is no need to include such provisions in the Petitioned Rule.

1253. NMED made no changes to 20.6.7.34.F in the Proposed Final Rule.

1254. Based on the weight of the evidence, the Commission adopts 20.6.7.34.F as set forth in the Proposed Final Rule.

**20.6.7.35 – Post-Closure Requirements:**

1255. NMED proposed 20.6.7.35 in the Petitioned Rule which sets forth post-closure requirements. *See* Petition, Attachment 1 at 38-40.

1256. NMED provided evidence in support of 20.6.7.35 indicating that the post-closure period at a copper mine unit shall commence upon completion and approval of re-grading, covering, seeding, and construction of unit closure elements. Pursuant to 20.6.7.35(A), (B), (C), and (E), these requirements include: seepage interceptor system inspections; water quality



monitoring and reporting; reclamation monitoring, maintenance, and inspections; cover maintenance; other inspection and maintenance; implementation of water management and treatment plan; and post-closure contingencies. *See* NMED Brown Direct at 39-40.

1257. NMED provided evidence indicating that minimization of post-closure seepage from closed copper mine waste stockpiles achieved by use of the store-and-release covers is equal to or better than that achievable by any other demonstrated and available technology. In addition, the store-and-release cover system is in general equal to or better than underliner systems in controlling seepage from closed copper mine waste material stockpiles. *See* NMED Brown Direct at 41.

1258. NMED provided evidence indicating that post-closure ground water protection requires upgradient underflow from an infiltration area on half of the area of the stockpile. This is almost always available, which demonstrates that the store-and-release closure technique is generally protective of ground water, even in the most sensitive location at the downgradient toe of the stockpile. *See* NMED Brown Direct at 43.

#### ***Undisputed Subsections A, D, and E***

1259. NMED proposed 20.6.7.35.A, D, and E in the Petitioned Rule which establish post-closure requirements for seepage interceptor system inspections, reporting, and contingency. *See* Petition, Attachment 1 at 38-40.

1260. Freeport supported 20.6.7.35.A, D, and E through evidence and testimony from Thomas Shelley. *See* Freeport Shelley Direct at 42-46.

1261. NMED made changes to 20.6.7.35.A in the Amended Rule by changing “seepage interceptor system” references to just “interceptor system.” *See* Amended Petition, Attachment 2 at 42.

1262. The Commission finds that the changes to 20.6.7.35.A in the Amended Rule are undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose alternative rule language for the provision.

1263. NMED made no changes to 20.6.7.35.D and E in the Amended Rule. *See* Petition, Attachment 1 at 40.

1264. The Commission finds that 20.6.7.35.D and E are undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not propose alternative rule language for the provision.

1265. NMED made no changes to 20.6.7.35.A, D and E in the Proposed Final Rule other than non-substantive changes to terminology.

1266. Based on the weight of the evidence, the Commission adopts 20.6.7.35.A, D, and E as proposed by NMED in the Proposed Final Rule.

### ***Subsection B***

1267. 20.6.7.35.B in the Petitioned Rule deals with water quality monitoring. It allows an operator the ability to request cessation or less frequent monitoring of wells if those monitoring wells show compliance with standards for eight consecutive quarters. *See* Petition, Attachment 1 at 39.

1268. Freeport supported 20.6.7.35.B through the testimony of Thomas Shelley, who asserted that it is protective of human health and the environment. *See* Shelley Direct at 43.

1269. GRIP, TRP, and Amigos Bravos proposed inserting language to 20.6.7.35.B stating “For facilities with discharges to process solution ponds or seepage interceptor systems following completion of reclamation activities, ground water monitoring associated with such facilities shall continue for a minimum of five years following cessation of active management of

process solutions or seepage water.” *See* GRIP Kuipers Direct, Attachment 2 at 43; AB Exhibit 1 at 59.

1270. GRIP and TRP argued through the testimony of James GRIP Kuipers Direct that the insertion of this language is appropriate because many of these process solution ponds and seepage interceptor systems can achieve standards in the short-term, but can pose a potential discharge threat for the next hundred years. They believed that longer monitoring periods are appropriate and would be consistent with 20.6.2.4103.D. *See* GRIP Kuipers Direct at 10.

1271. Freeport refuted the change to 20.6.7.35.B through testimony from Thomas Shelley, wherein he indicated that a requirement would arbitrarily make the current regulations inconsistent with the abatement regulation 20.6.2.4103.D, which provide that abatement can be determined complete after a minimum of eight consecutive quarterly samples showing standards have been met. *See* Freeport Shelley Rebuttal at 15.

1272. The Commission finds that the testimony on 20.6.7.35.B by Thomas Shelley to be more persuasive due to the consistency with the abatement regulations.

1273. NMED proposed changes to 20.6.7.35.B in the Amended Rule. The changes retain the eight consecutive quarters as advocated by Freeport, but the changes add a requirement that an adequate monitoring well network remain. *See* Amended Petition, Attachment 2 at 42.

1274. The Commission finds that NMED’s changes to 20.6.7.35.B appear to be a compromise between the positions of Freeport versus GRIP and TRP. With an adequate monitoring well network in place, the concerns raised by GRIP and TRP will be addressed.

1275. NMED made no changes to 20.6.7.35.B in the Proposed Final Rule.

1276. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.35.B as proposed by NMED in the Amended Rule and Proposed Final Rule.

### ***Subsection C***

1277. 20.6.7.35.C in the Petitioned Rule set forth post-closure requirements for reclamation, monitoring, maintenance, and inspections. *See* Petition, Attachment 1 at 40-41.

1278. NMED made no changes to 20.6.7.35.C in the Amended Rule. *See* Amended Petition, Attachment 2 at 42-43.

1279. NMED provided evidence for 20.6.7.35.C as set forth above.

1280. Freeport supported 20.6.7.35.C through the testimony of Thomas Shelley. *See* Freeport Shelley Direct at 43-45.

1281. GRIP and TRP objected to 20.6.7.35.C(2) and proposed that the phrase “excessive erosion” should be changed to just “erosion.” *See* GRIP Kuipers Direct, Attachment 2 at 43.

1282. The Commission finds that GRIP and TRP provided no specific evidence for their proposed change to 20.6.7.35.C(2).

1283. Amigos Bravos objected to 20.6.7.35.C(4) and propose to strike certain language based on the August 17 Discussion Draft.

1284. The Commission finds that the amendment to 20.6.7.35.C(4) is unnecessary and not supported by any specific technical evidence.

1285. NMED made no changes to 20.6.7.35.C in the Proposed Final Rule other than non-substantive changes to terminology.

1286. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.35.B as proposed by NMED in the Amended Rule and Proposed Final Rule.

**20.6.7.36 – Reserved:**

1287. NMED proposed to reserve 20.6.7.36 for future rule amendments in the Petitioned Rule. *See* Petition, Attachment 1 at 40.

1288. NMED did not make changes to 20.6.7.36 in the Amended Rule. *See* Amended Petition, Attachment 2 at 43.

1289. The Commission finds that 20.6.7.36 is undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not provide alternative rule language.

1290. NMED made no changes to 20.6.7.36 in the Proposed Final Rule.

1291. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.36 as reserved as proposed by NMED in the Proposed Final Rule.

**20.6.7.37 – Record Retention Requirements for All Copper Mine Facilities:**

1292. NMED proposed 20.6.7.37 in the Petitioned Rule which sets forth requirements for record retention. *See* Petition, Attachment 1 at 40.

1293. NMED did not make changes to 20.6.7.37 in the Amended Rule. *See* Amended Petition, Attachment 2 at 43.

1294. The Commission finds that 20.6.7.37 is undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson do not provide alternative rule language.

1295. NMED made no changes to 20.6.7.37 in the Proposed Final Rule.

1296. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.37 as proposed by NMED in the Proposed Final Rule.

**20.6.7.38 – Transfer of Copper Mine Discharge Permits:**

1297. NMED proposed 20.6.7.38 in the Petitioned Rule which sets forth requirements for transfer of copper mine discharge permits. *See* Petition, Attachment 1 at 40.

1298. NMED did not make changes to 20.6.7.38 in the Amended Rule. *See* Amended Petition, Attachment 2 at 43-44.

1299. The Commission finds that 20.6.7.38 is undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not provide alternative rule language.

1300. NMED made no changes to 20.6.7.38 in the Proposed Final Rule.

1301. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.38 as proposed by NMED in the Proposed Final Rule.

**20.6.7.39 – Continuing Effect of Prior Actions During Transition:**

1302. NMED proposed 20.6.7.39 in the Petitioned Rule which sets forth the continuing effect of prior actions during transition. *See* Petition, Attachment 1 at 40.

1303. NMED did not make changes to 20.6.7.39 in the Amended Rule. *See* Amended Petition, Attachment 2 at 43-44.

1304. The Commission finds that 20.6.7.39 is undisputed because Freeport, the Attorney General, GRIP, TRP, Amigos Bravos, and Mr. Olson did not provide alternative rule language.

1305. NMED made no changes to 20.6.7.39 in the Proposed Final Rule.

1306. Based on the weight of the evidence, the Commission hereby adopts 20.6.7.39 as proposed by NMED in the Proposed Final Rule.

**ADDITIONAL ISSUES**

***The Commission’s 2009 Decision and Order in the Tyrone Litigation***

1307. In the Hearing Officer’s Order on “Attorney General’s Motion to Admit Record from Tyrone Permit Appeal into Record Proper,” which ruled on arguments in the Attorney General’s motion, the Hearing Officer stated: “To the extent that the Petition in this rulemaking presented and invitation or opportunity for the Commission to reach different conclusions about

“places of withdrawal of water for present or reasonably foreseeable future use” than it did in 2009, the Commission will have to confront that decision and articulate a basis for any significant change in course.” Order on Attorney General’s Motion to Admit Tyrone Record, filed February 6, 2013, (Pleading 40).

1308. The “Tyrone Permit Appeal” referenced in the above-referenced Order was an appeal of a discharge permit, DP-1341, in which NMED prescribed permit conditions for closure of the Tyrone Mine. The appeal was made pursuant to the NMSA 1978, sections 74-6-1 to 74-6-17 and 20.6.2 NMAC and the Commission’s rule for adjudication of permit disputes.

1309. Tyrone initially challenged NMED’s draft closure permit during a 10-day evidentiary hearing in May of 2002 before NMED, and NMED issued the closure permit for Tyrone. *See* Attorney General’s Motion to Remand the Proposed Copper Mine Rule to NMED (hereinafter, “AG Motion to Remand”) at 9, filed December 14, 2012 (Pleading 16).

1310. Tyrone then challenged NMED’s closure permit by filing an appeal petition with the Commission on July 3, 2003, and the Commission held a 10-day hearing on the matter in October and November of 2003 with the Commission eventually issuing a decision. *See id.*

1311. Tyrone then appealed the Commission’s decision to the New Mexico Court of Appeals, and in 2006, the Court issued a decision and remanded the matter to the Commission for further consideration on particular issues. *See id.*; *see also Phelps Dodge Tyrone, Inc. v. N.M. Water Quality Control Comm’n*, 2006-NMCA-115, ¶ 35, 140 N.M. 464, 143 P.3d 502 (hereinafter, “Tyrone Decision”).

1312. The 2006 decision of the Court of Appeals expressly recognized the difficulties of applying the phrase “places of withdrawal of water for present or reasonably future use” in the context of a large copper mining operation such as the Tyrone Mine, and its remand granted the

Commission substantial latitude in determining how that phrase should be interpreted for purposes of identifying the locations at which ground water quality compliance is to be determined.

1313. In 2007, the Commission held a 24-day hearing dealing with the Tyrone Decision on remand, and the Commission issued its decision on February 9, 2007 (hereinafter the “Tyrone Remand Order”). *See* AG Motion to Remand at 9-10.

1314. The Tyrone Remand Order made certain findings and conclusions relating, among other things, to factors to be considered by NMED in identifying “places of withdrawal,” and ordered the parties to the adjudication to perform certain actions by certain dates in applying the factors to the Tyrone Mine site as a means of identifying the locations where compliance with groundwater standards would be measured under Tyrone’s discharge permit for closure, DP-1341.

1315. Following the Tyrone Remand Order, Tyrone initiated a further appeal to the Court of Appeals on March 9, 2009, and during the pendency of that appeal, three of the four parties to the adjudication, including NMED and Tyrone, sought the Commission’s permission to depart from the Tyrone Remand Order so that certain regulatory solutions could be pursued to avoid further protracted litigation over “places of withdrawal.”

1316. The Commission granted the parties relief from the directives of the Tyrone Remand Order to allow for implementation of a settlement through various regulatory actions and processes. One of the regulatory processes agreed to in the settlement was this Copper Mine Rule proceeding, which is a proceeding that was also contemplated by directives of the New Mexico Legislature under its 2009 amendments to the WQA.



1317. The administrative and judicial proceedings starting with challenge of the draft closure permit in 2002 through the Commission's decision dealing with the Tyrone Decision on remand shall be collectively referred to as the "Tyrone Permit Adjudications."

1318. In June of 2009, the WQA was amended to require, among other things, that the Commission adopt these Copper Mine Rules. The statutory amendments occurred subsequent to the Tyrone Permit Adjudications. *See* Freeport Consolidated Response at 11-12.

1319. The Commission finds that the Tyrone Permit Adjudications occurred prior to the amendments to the WQA in 2009 and decisions were made based on the Commission's existing regulations and the WQA as it existed before 2009.

1320. The 2009 amendments to the WQA, which were enacted after the Tyrone Remand Order, implemented a new regulatory paradigm by requiring this Commission to enact by rule previously unauthorized specifications of the appropriate discharge control technologies for the copper mining industry as a whole. *Freeport Consolidated Response at 15.*

1321. The Commission finds that the new regulatory paradigm implemented through the 2009 Amendments to the WQA and these Copper Mine Rules render the Tyrone Permit Adjudications and any precedents, policies, and decisions interpreting such adjudications either obsolete or distinguishable. *See* Freeport Consolidated Response at 15.

1322. The Commission finds that prior to the 2009 amendments to the WQA, NMED had to determine and resolve the "place of withdrawal" concept before it could decide on appropriate discharge control technologies through permit conditions for the closure permit for the Tyrone Mine. *See* Freeport Consolidated Response at 15.

1323. The Commission finds that subsequent to the 2009 amendments to the WQA, the Commission (as opposed to the Department) is now required to specify appropriate discharge

control technologies for the industry as a whole in the first instance by rule (as opposed to the previous system of NMED identifying appropriate discharge controls through permit conditions), although the rules may include variable requirements reflecting differences in site conditions. *See* Freeport Consolidated Response at 15.

1324. The Commission finds that the circumstances which have transpired since the Tyrone Remand Order, including but not limited to the Commission's prior grant of relief from the directives of that Order, the Legislature's 2009 amendments to the WQA, the opportunities for public input and stakeholder negotiations that ensued, the development of draft regulations forming the basis of this rulemaking proceeding, and the extensive testimony presented in these Copper Mine Rule proceedings, justify the Commission's departure from certain aspects of the Tyrone Remand Order.

1325. The Commission finds that, at least within the copper mining industry, the criteria adopted in the Tyrone Remand Order for identifying "places of withdrawal" where compliance is determined under the WQA requires certain adjustments to allow for consistency with industry practices, with past NMED permitting practices for copper mining units in New Mexico, and with the continued ability of existing and future copper mining to conduct their operations in a manner which is protective of ground water resources, as addressed in the evidence presented in this proceeding.

1326. The Commission finds that the necessary adjustments to the Tyrone Remand Order represented by the Copper Mine Rules that the Commission adopts in this proceeding fully comport with letter and spirit of the 2006 decision of the New Mexico Court of Appeals, and are well within the substantial latitude afforded by that Court in determining how the "place of

withdrawal” phrase should be interpreted and applied, particularly recognizing the 2009 amendments subsequently enacted by the New Mexico Legislature.

1327. One area of the Tyrone Remand Order the Commission finds it appropriate to supersede is to allow for the various containment and treatment methodologies specified in these Copper Mine Rules as reasonable and prudent means of ensuring a copper mine’s protection of groundwater resources. To the extent that application of the Tyrone Remand Order and its factors would not accommodate employment of these specified methods of discharge control technologies, this Commission expressly intends to supersede effectiveness of the Order.

1328. Another area of the Tyrone Remand Order the Commission finds it appropriate to supersede is to allow for the determination of the locations where compliance with ground water standards is required in relation to particular mine-related units. To the extent that application of the Tyrone Remand Order and its criteria would not allow for determining compliance at the specified locations, this Commission expressly intends to supersede the effectiveness of the Order.

1329. Another area of the Tyrone Remand Order the Commission finds it appropriate to supersede is to allow for the employment of containment, pump-back, pump and treat or dewatering wells associated with mining or mine closure without having those wells and the associated water withdrawals be deemed present or future uses water for purposes of the phrase “place of withdrawal of water for present or reasonably foreseeable future use” as that language or language like it is used in the WQA and this Commission’s regulations. To the extent that the Tyrone Remand Order and its factors would result in such wells being deemed as “places of withdrawal” where compliance with groundwater standards must be met, this Commission expressly intends to supersede the effectiveness of the Order.

1330. The Commission's bases for superseding the Tyrone Remand Order in these respects, and in any other respects that are incompatible with the Copper Mine Rules adopted herein, are as explained above, and are further supported by the Commission's belief that these Copper Mine Rules strike an appropriate policy balance of protecting the State's groundwater resources and allowing for the continued ability of the copper mining industry to positively support state and local economies.

1331. The Commission concludes as a matter of law that the Tyrone Permit Adjudications arose in the context of administrative adjudications under the existing regulations, while this matter before the Commission arises in the context of a rulemaking, thereby making the proceedings distinguishable. A rulemaking is a quasi-legislative function, not an adjudicatory function, and results in new law that need not follow prior adjudicatory precedents, particularly if the reasons for any departure are explained, as they are in this document.

1332. In adopting these Copper Mine Rules, the Commission is mindful that the measures specified herein to prevent water pollution rely upon containment strategies, as described in the testimony of Mr. Brown, that may allow ground water underlying certain units to exceed the standards of 20.6.2.3103 during mine operations.

1333. Mr. Brown's testimony supported a conclusion that, during mine operations, these areas are not available as "places of withdrawal" within the meaning of the WQA.

### ***Public Comments***

1334. The Commission received many public comments during the hearing and in the hearing session held in Silver City. There were approximately the same number of public commenters who spoke in favor of the Copper Mine Rule as those who spoke in opposition.

1335. The Commission appreciates the number of public comments made and the public interest in this rulemaking and have considered all comments in ruling.

### *State Comparatives*

1336. Evidence was presented in the testimony of Mr. Brown that New Mexico's Proposed Copper Rule is as protective of ground water as the states of Arizona and Nevada, which are similar in terms of hard rock mining in desert environments. *See* NMED, Brown, Direct Testimony.

1337. The Department's proposed rule was compared with other state regulations in the Southwest region and determined to be comprehensive, robust, and proscriptive in the areas that it needs to specify. (TRV 3, P. 564, L. 17-25).

## ANALYSIS OF RULEMAKING FACTORS

### *Best Available Scientific Information*

1338. The WQA requires in § 74-6-4(K) that the Commission must consider the "best available scientific information" in developing and proposing the Copper Mine Rule. NMED Skibitski Direct Testimony.

1339. In addition to the statutory criteria the Commission must consider, the WQA requires in § 74-6-4(K) that the Commission must consider the "best available scientific information." NMED Skibitski.

1340. In developing and proposing the Copper Mine Rule, the Department has relied upon the best scientific information available to it as described in the testimony of the Department's technical expert witness. NMED.

1341. The Department heard from various experts regarding the available scientific information regarding copper mines and water quality protection during the Advisory Committee process. NMED Skibitski Direct at 9-11.

1342. The parties to this proceeding had the opportunity to, and did retain, expert witnesses to provide to the Commission the best available scientific information regarding copper mining and protection of water quality. *See*, generally, Notices of Intent filed by NMED, AG, Freeport, GRIP, TRP, AB, and WCO.

1343. As discussed above, the Commission received the scientific information provided during the hearing, sifted through the various testimony and evidence, evaluated the weight of the evidence, and relied upon the best available scientific information presented to it in adopting the Copper Mine Rule. In addition to the information discussed above with respect to specific sections, the Commission relied upon the following evidence.

1344. The WQA does not require “state-of-the-art” method to be applied, rather, the WQA requires that “ground water protection” be met at the place of withdrawal regardless of how that is achieved. *See* Brown Rebuttal; 20.6.7.6 ; TRV 3, at 566, L. 1-13.

1345. Open pits of a sufficient size will penetrate the water table, causing an in-mine lake with evaporative water loss causing inflow, or requiring pumping of water from the pit to maintain dry mining conditions, but either way, containment will be maintained. TRV. 3 at 564-565, L. 22-10).

1346. A liner may not be the best solution for every situation because if the rule were to require a liner then other issues related to the environment in terms of long term discharge management and short term operability come into play. NMED Brown, Direct at 19.

1347. Specific to tailings impoundments, lining reduces or eliminates the drainage of interstitial water from the tailings, thereby increasing the porewater pressure in the tailings which reduces the static stability of the pile and the ability of the pile to withstand earthquake loading without liquefying. TRV 10 at 2372, L. 8-10).

1348. Liner failure has the potential to create widespread impact to the water resources of New Mexico, both surface water and ground water. NMED Brown Rebuttal at 2, TRV 10 at 2554, L. 21-24).

1349. Specific to waste rock stockpiles, testimony was given that lining is potentially problematic, for the following reasons: (1) protection of the lining is difficult during Placement of the waste rock, due to the impact of the large rocks that are dumped; (2) placement of liner is difficult on steeply sloping areas that are often used for waste rock piles; and (3) the use of a liner frequently creates a plane of weakness beneath the pile, particularly where the pile is located on sloping ground or bedrock. This causes reduced stability, which threatens the integrity of the liner due to mass movement of the pile, and by material from a slope failure impacting ground water. NMED Brown Rebuttal at 3.

1350. It is not possible to line an active mine pit, and to do so would be a de-facto banning of the mining of copper in New Mexico, which the WQA clearly does not intend. Brown Rebuttal at 3.

### ***Water Resources and Conservation Issues***

1351. The Attorney General and Amigos Bravos presented witnesses who testified regarding water conservation issues and the usage of water by copper mines.

1352. On behalf of the Attorney General, Dr. Bruce Thomson testified regarding the water resources of Grant County, its uses, and its importance to communities in the county. He

testified regarding declining water levels and that copper mines in Grant County constitute a large fraction of total withdrawals. *See* AG Direct Testimony of Bruce Thomson, Ph.D, P.E., (hereinafter “Thompson Direct”) at 4-7 and 9.

1353. Dr. Thomson, although admittedly not a climatologist, also testified regarding the predicted effect of climate change on New Mexico’s water resources. Thomson Direct at 7-9.

1354. Dr. Thomson discussed the factors related to copper mines that can result in water contamination and discussed the different types of pollutants that can be generated. He also presented information on treatment methods and costs. *See* Thomson Direct at 10-11.

1355. Dr. Thomson testified that he is concerned about establishing a “point of compliance regulatory structure” in light of potential ground water contamination from mines, and gave as an example a uranium mine. *See* Thomson Direct at 11-12. He gave a general recommendation that the Commission “adopt standards that will protect our most vital resource to the maximum extent possible,” but he did not relate his testimony to specific provision of the Copper Mine Rule or identify any specific changes that he recommended. *See* AG Thomson Direct at 12-13.

1356. Freeport presented rebuttal to Dr. Thomson’s testimony through Messrs. Eastep, Shelley, and Blandford. *See* Freeport Eastep Rebuttal at 12-13; Freeport Shelley Rebuttal at 4-8; and Freeport Blandford Rebuttal at 27-32.

1357. Because Dr. Thomson’s testimony is not tied to any specific provision of the Copper Mine Rule, it is addressed separately here. The Commission has considered the testimony of Dr. Thomson and the rebuttal testimony. For the reasons discussed elsewhere in this Statement of Reasons, the Commission believes that the Copper Mine Rule is consistent



with the recommendation of Dr. Thomson to protect New Mexico's water resources using feasible, practicable and available technologies.

1358. Amigos Bravos presented testimony through Kathleen A. Garland, PhD relating to water technologies. Written Rebuttal Testimony of Kathleen A. Garland, PhD (Pleading 66) (hereinafter "AB Garland Rebuttal").

1359. Dr. Garland testified regarding a project she did in the late 1990s in South America where she observed certain technologies in use at various mines, including liner technologies. The testimony does not provide any specific examples or indicate the nature of the liner designs. *See* AB Garland 1-2. Dr. Garland's testimony regarding South American operations was rebutted through the testimony of Mr. Brack. TRV 1 at 98 L. 21 to 102 L. 12.

1360. Dr. Garland also identified a project in South America involving treatment of sea water for use at mines and mentioned the need for water conservation. *See* Garland Rebuttal at 3.

1361. Dr. Garland testified that the Copper Mine Rule does not require certain potential technologies, although she does not address those technologies with respect to particular rule provisions and does not identify specific descriptions of technologies that she recommends for inclusion in the rule or address their feasibility or practicability for copper mines. *See* AB Garland Rebuttal at 3-4.

1362. In conclusion, Dr. Garland urges the Commission to consider water conservation requirements. *See* AB Garland Rebuttal at 5.

1363. The Commission has considered Dr. Garland's testimony, as it has also reviewed and addressed the parties' proposals and evaluations of the specific technologies for prevention of water pollution as introduced by the parties and their experts. Without more specific

information from Dr. Garland, does not have sufficient information to evaluate or to include the additional technologies that she lists into the Copper Mine Rule.

**Other Factors the Commission Must Consider:**

1364. In Subsection E of NMSA 1978, § 74-6-4 (2009), the WQA requires the commission to consider: “(1) character and degree of injury to or interference with health, welfare, environment and property.”

1365. Testimony was given that copper mines pose a high potential risk of ground water contamination if leachate, process water, and impacted storm water are not stored and handled properly. (TRV 3, P. 236, L. 20-23), (TRV 2, P. 257, L. 10-18), (TRV 3, P. 507, L. 17-20), (TRV. Vol. 3, P. 576-577, L. 23-1), (TRV 3, P. 577, L. 5-7), (TRV 3, P. 588, L. 16-22), TRV 3, P. 590, L. 9-17), (TRV 5, P. 1036, L. 19-24).

1366. The Copper Rule contains specific requirements to contain these three potential sources of contamination. (TRV 4, P. 736, L. 15-23), (TRV 4, P. 741-742, L. 22-5), (TRV 4, P. 746, L. 16-22).

1367. In Subsection E of NMSA 1978, § 74-6-4 (2009), the WQA requires the commission to consider: “(2) the public interest, including the social and economic value of the sources of water contaminants.”

1368. Copper mines have a social and economic value. They provide jobs and a source of income for almost two thousand New Mexicans. TRV 1 at 91, L. 8-20.

1369. The Copper Mine Rule proposed by the Department is intended to assure that ground water contamination is prevented or minimized to the extent practicable. TRV 1 at 15, L. 17-25.

1370. The existing ground water rules already require remediation of contamination if it should occur. TRV 1 at 23, L. 14-20.

1371. Good prevention practices assure that costs are borne by the company responsible for the contamination, rather than creating the potential that the public or others will bear the cost of remediation. TRV 2 at 421, L. 14-22.

1372. The Department's proposed Copper Mine Rule strikes a fair balance between the interests of the state and public in maintaining uncontaminated ground and surface water, and the economic value of the industrial source of the water contaminants. TRV 2 at 441, L. 14-17).

1373. In Subsection E of NMSA 1978, § 74-6-4 (2009), the WQA requires the commission to consider: “(3) technical practicability and economic reasonableness of reducing or eliminating water contaminants from the sources involved and previous experience with equipment and methods available to control the water contaminants involved.”

1374. The construction and operation requirements called for in the Department's proposed Copper Mine Rule are technically practical and economically reasonable. TRV 2 at 398, L. 3-18.

1375. Prevention or containment of ground water contamination at copper mines is achievable through available control technologies and proper operating methods. TRV at 567, L. 19-22.

1376. None of the prevention and monitoring practices called for in the Department's proposal are novel or technically impractical. TRV 3 at 569-570, L. 25-25.

1377. In Subsection E of NMSA 1978, § 74-6-4 (2009), the WQA requires the commission to consider: “(4) successive uses, including but not limited to domestic, commercial, industrial, pastoral, agricultural, wildlife and recreational uses.”

1378. The primary concern of the Department's proposed Copper Mine Rule is to prevent ground water contamination, and to monitor ground water to assure that it remains uncontaminated. TRV 1 at 16, L. 1-22.

1379. In Subsection E of NMSA 1978, § 74-6-4 (2009), the WQA requires the commission to consider: “(5) feasibility of a user or a subsequent user treating the water before a subsequent use.”

1380. Should ground water become contaminated by a copper mine, it is possible that users or subsequent users of the ground water could treat the water before use, but this is not a preferred alternative to prevention, and the costs likely would be much higher than prevention. TRV 3 at 709, L. 12-16.

1381. In addition, it could shift the costs of the contamination from those who caused the contamination to the public or future generations. TRV 3 at 711-712, L. 23-1.

1382. The Commission's water quality regulations require abatement of contaminated water by the responsible party, rather than requiring treatment of water by subsequent users. TRV 3 at 527, L. 11-18.

1383. In Subsection E of NMSA 1978, § 74-6-4 (2009), the WQA requires the commission to consider: “(6) property rights and accustomed uses.”

1384. Freeport-McMoRan currently operates three mines in New Mexico. TRV 1 at 81, L. 17-24. Freeport's Chino Mine has been in operation for over one hundred years. TRV 1 at 160, L. 7-11.

1385. In Subsection E of NMSA 1978, § 74-6-4 (2009), the WQA requires the commission to consider: “(7) federal water quality requirements.”

1386. The Department's proposed regulations recognize that stormwater is regulated by the Environmental Protection Agency, because New Mexico is one of five states that do not have primacy over surface water discharges. As a result, the Department's proposed regulations address storm water discharges only as they relate to possible contamination of ground water. TRV at 16, L. 1-22, TRV at 751, L. 14-20.

Respectfully submitted,

NEW MEXICO ENVIRONMENT DEPARTMENT

A handwritten signature in black ink, appearing to read "Andrew P. Knight", written over a horizontal line.

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CERTIFICATE OF SERVICE

I certify that a copy of the Department's Statement of Reasons was served by email on the following on this 22<sup>nd</sup> day of August, 2013:

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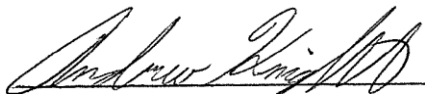
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A handwritten signature in black ink, appearing to read "Andrew P. Knight", written over a horizontal line.

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## ATTACHMENT 1

**TITLE 20 ENVIRONMENTAL PROTECTION**  
**CHAPTER 6 WATER QUALITY**  
**PART 7 GROUND WATER PROTECTION - SUPPLEMENTAL PERMITTING REQUIREMENTS FOR COPPER MINE FACILITIES**

**20.6.7.1 ISSUING AGENCY:** Water Quality Control Commission.

**20.6.7.2 SCOPE:** All persons subject to the Water Quality Act, NMSA 1978, Sections 74-6-1 et seq and specifically copper mine facilities and their operations.

**20.6.7.3 STATUTORY AUTHORITY:** Standards and regulations are adopted by the commission under the authority of the Water Quality Act, NMSA 1978, Sections 74-6-1 through 74-6-17.

**20.6.7.4 DURATION:** Permanent.

**20.6.7.5 EFFECTIVE DATE:** \_\_/\_\_/\_\_, unless a later date is cited at the end of a section.

**20.6.7.6 OBJECTIVE:** The purpose of 20.6.7 NMAC is to supplement the general permitting requirements of 20.6.2.3000 through 20.6.2.3114 NMAC to control discharges of water contaminants specific to copper mine facilities and their operations to prevent water pollution. Compliance with these rules does not relieve an applicant or permittee of a copper mine facility from complying with the Mining Act rules in Title 19, Chapter 10 NMAC under the authority of the mining and minerals division.

**20.6.7.7 DEFINITIONS:**

A. Terms defined in the Water Quality Act and 20.6.2.7 NMAC shall have the meanings as given in such.

B. A term defined in this part shall have the following meaning.

(1) "Acid mine drainage" means water that is discharged from an area affected by mining exploration, mining, or reclamation, with a pH of less than 5.5 and in which total acidity exceeds total alkalinity as defined by the latest edition of *standard methods for the examination of water and wastewater*.

(2) "Additional conditions" means conditions and requirements included in a discharge permit pursuant to Section 74-6-5(D) NMSA 1978 that are based on site specific circumstances and that are in addition to those imposed in the rules of the commission.

(3) "Applicable standards" means ~~either the standards set forth in 20.6.2.3103 NMAC including, when applicable, the existing concentration;~~ the background concentration approved by the department; or, any alternative abatement standard approved by the commission pursuant to 20.6.2.4103.F.

(4) "Applicant" means the person applying for a new, renewed, modified, or amended discharge permit.

(5) "Area of open pit hydrologic containment" means, for an open pit that intercepts the water table, the area where ground water drains to the open pit and is removed by evaporation and/or pumping, and is interior to the department approved monitoring well network installed around the perimeter of an open pit pursuant to Paragraph (4) of Subsection B of 20.6.7.28 NMAC and also limited to the area of disturbance authorized by a discharge permit.

(6) "As-built drawings" means engineering drawings which portray ~~facilities~~ units as constructed.

(7) "Background" means the concentration of water contaminants naturally occurring from undisturbed geologic sources of water contaminants.

(8) "Below-grade tank" means a tank including sumps where a portion of the tank's side walls is below the surrounding ground surface elevation. A below-grade tank does not include an above ground tank that is located at or above the surrounding ground surface elevation and is surrounded by berms.

(9) "Closure" means all activities that are required pursuant to 20.6.7.33 NMAC through 20.6.7.35 NMAC and an approved discharge permit to monitor, minimize, control, mitigate, prevent or abate water pollution associated with a copper mine facility after operations at the copper mine facility, or at an an part-individual unit ~~within~~ of the copper mine facility, have ceased.

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**Comment [A1]:** The comment boxes are for explanatory purposes only, and should not be relied upon as basis for the changes to the Department's Proposed Final Rule. See the Department's Proposed Statement of Reasons for the basis of all changes.

**Comment [A2]:** Deletion proposed by AGO. Existing concentration language is included in 20.6.2.3103 NMAC and is therefore unnecessary.

**Comment [A3]:** During the hearing there was significant confusion regarding the purpose of this term. Existing and future mine units may straddle the OPSDA, resulting in impacts to ground water beyond the OPSDA. Therefore this is a necessary definition with respect to areas where impacts to ground water will be allowed. The proposed change limits the area where contamination is allowed to beneath the area of disturbance.

**Comment [A4]:** In a number of places the department has made minor edits to clarify the use of the words "facility" and "unit" and the phrase "copper mine facility". As used in the copper mine rule the use of the word facility corresponds solely to "copper mine facility". Change by NMED based on hearing testimony.



(10) "Construction quality assurance" or "CQA" means a planned system of activities necessary to ensure that standards and procedures are adhered to and that construction and installation meet design criteria, plans and specifications. A CQA includes inspections, verifications, audits, evaluations of material and workmanship necessary to determine and document the quality of the constructed impoundment or structure, and corrective actions when necessary.

(11) "Construction quality control" or "CQC" means a planned system of operational techniques and activities used to preserve the quality of materials and ensure construction to specifications. Elements of a CQC include inspections, testing, data collection, data analysis and appropriate corrective actions.

(12) "CQA/CQC report" means a report that summarizes all inspection, testing, data collection, data analysis and any corrective actions completed as part of CQA or CQC for a project.

(13) "Copper mine facility" means all areas within which copper mining and its related activities that may discharge water contaminants occurs and where the discharge will or does take place including, but not limited to open pits; waste rock piles; ore stockpiles; leaching operations; solution extraction and electrowinning plants; ore crushing, ore milling, ore concentrators; tailings impoundments; smelters; pipeline systems, tanks or impoundments used to convey or store process water, tailings or impacted stormwater; and truck or equipment washing facilities.

(14) "Copper mine rule" means 20.6.7 NMAC, as amended.

(15) "Cover system" means any engineered or constructed system designed as a source control measure to minimize to the maximum extent practicable the ingress of water or oxygen into a waste rock pile, leach stockpile or tailing material. A cover system may be comprised of a monolithic layer of, or any combination of, earthen materials, synthetic materials, vegetation, and amendments.

(16) "Critical structure" means earthen or rock structures or embankments (such as an outslope of a rock stockpile), that are likely to cause an exceedance of applicable groundwater standards or undue risk to property in the event of a significant unexpected slope movement.

(17) "Date of postal notice" means the date when the United States postal service first makes notice to the applicant or permittee of its possession of certified mail addressed to the applicant or permittee.

(18) "Discharge" means spilling, leaking, pumping, pouring, emitting, or dumping of a water contaminant in a location and manner where there is a reasonable probability that the water contaminant may reach ground water.

(19) "Discharge permit amendment" means a minor modification of a discharge permit that does not result in a significant change in the location of a discharge, an increase in daily discharge volume of greater than ten percent of the original daily discharge volume approved in an existing discharge permit for an individual discharge location, a significant increase in the concentration of water contaminants discharged, or introduction of a new water contaminant discharged.

(20) "Discharge volume" means the volume of discharged process water, impacted stormwater or tailings measured at a specific point at the copper mine facility over a specified period of time.

(21) "Existing copper mine facility" means a copper mine facility operating under an approved discharge permit as of the effective date of the copper mine rule. Existing copper mine facility includes a copper mine covered under an approved discharge permit as of the effective date of the copper mine rule that is on standby status in accordance with mining and minerals division rules.

(22) "Existing impoundment" means an impoundment that is currently receiving or has ever received process water or collected impacted stormwater and that has not been closed pursuant to a discharge permit.

(23) "Expiration" means the date upon which the term of a discharge permit ends.

(24) "Factor of safety" means, for slope stability purposes, the ratio of the resisting forces to the driving forces.

(25) "Final CQA report" means a report prepared by the CQA officer that includes as-built drawings and a detailed description of the installation methods and procedures that document that the work was conducted as designed.

(26) "Flow meter" means a measuring device or structure used to measure the volume of water, process water, tailings or stormwater that passes a particular reference section in a unit of time.

(27) "Freeboard" means the vertical distance between the elevation at the lowest point of the top inside edge of the impoundment and the design high water elevation of the water level in the impoundment.

(28) "Highway" means any public road operated and maintained by the local, county, state or federal government.

(29) "Impacted stormwater" means direct precipitation and runoff that comes into contact with water contaminants within a copper mine facility which causes the stormwater to exceed one or more of the standards of

20.6.2.3103 NMAC and includes overflow from a primary process solution impoundment or other collection ~~facility~~ system resulting from a precipitation event.

(30) "Impoundment" means any structure designed and used for storage or containment of mine process water, or impacted stormwater, or used for solids settling, excluding a tailings impoundment. A process water or stormwater transfer sump or a tank, below-grade tank, drum or pit bottom is not an impoundment.

(31) "Interbench slope" means the outslope surface between terrace benches or between a terrace bench and any engineered conveyance system (i.e., a system to divert runoff).

(32) "Large copper mine facility" means a copper mine facility that has disturbed or is proposing to disturb an area of 1500 acres or greater.

(33) "Leach stockpile" means stockpiles of ore and all other rock piles associated with mining disturbances that have been leached, are currently being leached or have been placed in a pile for the purpose of being leached.

(34) "Liner system" means an engineered system required by the copper mine rule for the containment, management or storage of process water, leach stockpile material, waste rock, tailings or other materials that have the potential to generate water contaminants including all constructed elements of the system and may include the subgrade, liner bedding, leak detection systems, synthetic liners, earthen liners, overlayers, solution collection systems, anchor trenches, and berms, or other system elements, as applicable.

(35) "Maximum daily discharge volume" means the total daily volume of process water (expressed in gallons per day) or tailings (expressed in tons per day) authorized for discharge by a discharge permit.

(36) "Medium copper mine facility" means a copper mine facility that has disturbed or is proposing to disturb an area of a minimum of 500 acres but less than 1500 acres.

(37) "Mining and minerals division" means the mining and minerals division of the New Mexico energy, minerals, and natural resources department.

(38) "Mining Act" means the New Mexico Mining Act, NMSA 1978, Sections 69-36-1 through 69-36-20, NMSA 1978.

(39) "New copper mine facility" means a copper mine facility that is not operating under an approved discharge permit as of the effective date of the copper mine rule.

(40) "Non-impacted stormwater" means stormwater run-off generated as a result of direct precipitation at a copper mine facility that does not exceed the standards of 20.6.2.3103 NMAC.

(41) "Open pit" means the area within which ore and waste rock are exposed and removed by surface mining.

(42) "Open pit surface drainage area" means the area in which storm water drains into an open pit and cannot feasibly be diverted by gravity outside the pit perimeter, and the underlying ground water is hydrologically contained by pumping or evaporation of water from the open pit.

(43) "Operator" means the person or persons responsible for the overall operations of a copper mine facility.

(44) "Outslope" means the sloped perimeter of waste rock piles, leach stockpiles and tailings impoundments.

(45) "Owner" means the person or persons who own all or part of a copper mine facility.

(46) "Permittee" means a person who is issued or receives by transfer a discharge permit for a copper mine facility, the holder of an expired discharge permit, or, in the absence of a discharge permit, a person who makes or controls a discharge at a copper mine facility.

(47) "Pipeline corridor" means a constructed pathway that contains concentrate, tailing and/or process water pipelines, associated spill containment structures, the pipeline subgrade and access roads.

(48) "Pipeline system" means one or more pipelines and associated structures used to transport process water, concentrate, slurry, tailing or impacted stormwater.

(49) "PLS" means pregnant leach solution that is generated from leaching ore or rock stockpiles.

(50) "Process water" means any water containing water contaminants in excess of the standards of 20.6.2.3103 NMAC that is generated, managed or used within a copper mine facility including raffinate; PLS; leachate collected from waste rock stockpiles, leach stockpiles, and tailings impoundments; tailings decant water; pit dewatering water; intercepted ground water, laboratory or other waste discharges containing water contaminants; and domestic wastes mixed with process water.

(51) "Seepage" means leachate that is discharged from a waste rock stockpile or tailing impoundment and emerges ~~as a seep above~~ or at the ground surface or that is present in the vadose zone and may be captured prior to entering ground water.

(52) "Slag" means a partially vitreous by-product of the process of smelting ore.

**Comment [A5]:** Remove word "seep" from definition of seepage. Proposed by FMI (Grass).

(53) "Slope angle" means the horizontal run distance divided by the vertical rise, measured along the steepest gradient of the interbench slope's physical surface (for example, a 2.5:1 slope refers to 2.5 horizontal and 1 vertical).

(54) "Small copper mine facility" means a copper mine facility that has disturbed or is proposing to disturb less than 500 acres and that does not contain tailings impoundments or leach stockpiles-facilities.

(55) "Spillway" means a structure used for controlled releases from a stormwater or process water impoundment, in a manner that protects the structural integrity of the impoundment.

(56) "Stormwater" means all direct precipitation and runoff generated within a copper mine facility from a storm event.

(57) "Surface water(s) of the State" means all surface waters as defined in 20.6.4.7 NMAC.

(58) "SX/EW" means solution extraction and electrowinning.

(59) "Tailings" means finely crushed and ground rock residue and associated fluids discharged from an ore milling, flotation beneficiation and concentrating process.

(60) "Tailings impoundment" means an impoundment that is the final repository of tailings.

(61) "Unauthorized discharge" means a release of process water, tailings, leachate or seepage from individual copper mine facility components, impacted stormwater or other substances containing water contaminants not approved by a discharge permit.

(62) "Underground mine" means the below-surface mine workings within which ore and waste rock are removed.

(63) "Unit" means a component of a mining operation including but not limited to processing, leaching, excavation, storage, stockpile or waste units.

(64) "Variance" means a commission order establishing requirements for a copper mine facility or a portion of a copper mine facility that are different than the requirements in the copper mine rule.

(65) "Waste rock" means all material excavated from a copper mine facility that is not ore or clean top soil.

#### **20.6.7.8 REQUIREMENTS FOR DISCHARGING FROM COPPER MINE FACILITIES:**

**A.** No person shall discharge effluent or leachate from a copper mine facility so that it may move directly or indirectly into ground water without a discharge permit approved by the department. A person intending to discharge from a copper mine facility shall submit an application for a discharge permit pursuant to 20.6.7.10 NMAC and remit fees pursuant to 20.6.7.9 NMAC.

**B.** Permittees, owners of a copper mine facility and holders of an expired permit are responsible for complying with the copper mine rule.

**C.** Unless otherwise noted in 20.6.7 NMAC, the requirements of 20.6.2.3101 through 20.6.2.3114 NMAC apply to a copper mine facility.

**D.** Compliance with commission rules including the requirements of 20.6.7 NMAC does not relieve a copper mine facility owner, operator or permittee from complying with the requirements of other applicable local, state and federal regulations or laws.

#### **20.6.7.9 FEES:** An applicant or permittee shall pay fees to the department's water quality management fund pursuant to this section in lieu of 20.6.2.3114.

**A.** The permittee of a copper mine shall remit an annual permit fee as follows: large copper mines, one hundred and twenty-five thousand dollars (\$125,000); medium copper mines, sixty-two thousand and five hundred dollars (\$62,500); and small copper mines, twelve thousand and five hundred dollars (\$12,500). Annual permit fees shall be due each August 1 after the effective date of the discharge permit until the discharge permit is terminated.

**B.** An applicant for a discharge permit, a discharge permit renewal, discharge permit renewal and modification, or discharge permit modification for a copper mine facility shall remit an application fee of one thousand dollars (\$1,000). The application fee is not refundable and may not be applied toward future discharge permit applications.

**C.** A permittee requesting a discharge permit amendment separate from a discharge permit renewal or modification shall remit with the request a discharge permit amendment fee of five hundred dollars (\$500). The permit amendment fee is not refundable and may not be applied toward future discharge permit applications or amendments.

**D.** A permittee requesting temporary permission to discharge pursuant to Subsection B of 20.6.2.3106 NMAC shall remit with the request a temporary permission fee of one thousand dollars (\$1,000). The

temporary permission fee is not refundable and may not be applied toward future discharge permit applications or requests for temporary permission to discharge.

**20.6.7.10 GENERAL APPLICATION REQUIREMENTS FOR ALL COPPER MINE FACILITIES:**

This section specifies the general requirements for discharge permit applications for all types of copper mine facilities.

**A.** Before submitting an initial application for a new copper mine facility, a prospective applicant shall schedule a pre-application meeting with the department to discuss the proposed location of the copper mine facility and individual units, the operating plans for the proposed process units, the physical characteristics of the copper mine facility's proposed site and other information that is required to be submitted in an application for a discharge permit. The pre-application meeting shall be held in Santa Fe, unless otherwise agreed to by the department. The pre-application meeting should occur no less than 60 days before the submission of the application except as approved by the department.

**B.** Instead of the information required by Subsection C of 20.6.2.3106 NMAC, an applicant shall provide information and supporting technical documentation pursuant to this section and 20.6.7.11 NMAC.

**C.** Notwithstanding Subsection F of 20.6.2.3106 NMAC, a permittee shall submit an application for renewal of a discharge permit for a copper mine facility or a portion-unit of the copper mine facility to the department at least 270 days before the discharge permit expiration date, unless closure of the copper mine facility is approved by the department before that date.

**D.** For a copper mine facility that has been issued a discharge permit but has not been constructed or operated, a permittee shall submit to the department at least 270 days before the discharge permit expiration date an application for renewal pursuant to Subsection B of this section or a statement certifying that the copper mine facility has not been and will not be constructed and that no discharges have occurred or will occur. Upon the department's verification of the certification, the department shall terminate the discharge permit, if necessary, and retire the discharge permit number from use.

**E.** An application for a new, renewed, or modified discharge permit for a copper mine facility shall include the information and supporting documentation required by this section except that previously submitted materials may be included by reference in discharge permit renewal or modification applications provided that the materials are current, readily available to the secretary and sufficiently identified to be retrieved. The applicant shall attest to the truth of the information and supporting documentation in the application. The applicant shall provide to the department a hard copy (paper format) of the original signed completed application and all supporting documentation. The applicant shall also provide an electronic copy of the original signed application and all supporting documentation in portable document format (PDF) on a compact disc (CD) or digital versatile disc (DVD) or other format approved by the department.

**F.** Within 90 days of the department notifying the applicant in writing that the application is deemed administratively complete pursuant to Subsection A of 20.6.2.3108 NMAC, the department shall review the application for technical completeness and shall issue a written notice by certified mail to the applicant indicating whether the application is technically complete or is deemed to be deficient. An application must include the information required by Subsection B of this section to be deemed technically complete.

**G.** If the department determines that an application is technically deficient, the applicant shall have 60 days from the date of postal notice of the technical deficiency notification to provide the information required by this section. Upon request by the applicant and for good cause shown, the department may grant one or more extensions of time for the applicant to provide the information required by the technical deficiency notification.

(1) If an applicant for a new discharge permit does not provide all information required by this section to the department within 60 days of the date of postal notice of the technical deficiency, or within any extension granted by the department, the department may deny the application. The department shall provide notice of denial to the applicant by certified mail.

(2) If an applicant for a renewed or modified discharge permit does not provide all information required by this section to the department within 60 days of the date of postal notice of the technical deficiency, or within any extension granted by the department, the department may deny the application or may propose a discharge permit for approval consistent with the requirements of the copper mine rule. If the department denies the application, the department shall provide notice of denial to the applicant by certified mail.

(3) An applicant may supplement an application at any time during the technical review period. The department shall review the information for technical completeness within 90 days of receipt.

**H.** Within 90 days after an application is deemed technically complete or all information has been submitted to the department pursuant to a technical deficiency notification, the department shall make available a

proposed approval of a discharge permit and a draft discharge permit or a notice of denial of a discharge permit application pursuant to Subsection H of 20.6.2.3108 NMAC and provide a copy to the mining and minerals division. The draft discharge permit shall contain applicable conditions specified in the copper mine rule, any conditions based on a variance issued for the copper mine facility pursuant to 20.6.2.1210 NMAC, and any additional conditions imposed under Subsection I of this section. Requests for a hearing on the proposed approval of a discharge permit or denial of a discharge permit shall be submitted to the department pursuant to Subsection K of 20.6.2.3108 NMAC.

**I.** The department may impose additional conditions on a discharge permit in accordance with Section 74-6-5 NMSA 1978. If the department proposes an additional condition in a discharge permit that is not included in the copper mine rule, the department shall include a written explanation of the reason for the additional condition with the copy of the draft permit and proposed approval sent to the applicant pursuant to Subsection H of 20.6.2.3108 NMAC. Pursuant to subsection K of 20.6.2.3108 NMAC, written comments regarding the additional condition may be submitted to the department during the comment period and a hearing may be requested regarding the additional conditions.

**J.** The secretary shall approve a discharge permit provided that it poses neither a hazard to public health nor undue risk to property, and:

- (1) the requirements of the copper mine rule are met;
- (2) the provisions of 20.6.2.3109 NMAC are met, with the exception of Subsection C of 20.6.2.3109

NMAC; and

(3) the denial of an application for a discharge permit is not required pursuant to Section 74-6-5(E) NMSA 1978.

#### **20.6.7.11 APPLICATION REQUIREMENTS FOR DISCHARGE PERMITS FOR A COPPER MINE FACILITY:**

**A.** An application for a new discharge permit or a renewal of an existing discharge permit shall include the applicable information in this section. An application for a modification of an existing discharge permit shall include the information in this section relevant to the proposed modification but need not include information listed in this section if the information was submitted to the department in the prior discharge permit application and the information has not changed since the discharge permit was issued. The department may require separate operational and closure discharge permits, or may combine operational and closure requirements in the same permit.

**B. Contact information.** An application shall include:

- (1) applicant's name, title and affiliation with the copper mine facility, mailing address, and telephone number;
- (2) the name, mailing address and telephone number of each owner and operator of the copper mine facility;
- (3) if different than the applicant, the application preparer's name, title and affiliation with the copper mine facility, mailing address, telephone number and signature;
- (4) the mailing address and telephone number of any independent contractor authorized to assist the copper mine facility with compliance with the Water Quality Act and 20.6.2 NMAC and 20.6.7 NMAC; and
- (5) if the person submitting the application is not the owner or operator of the copper mine facility, a certification that the person is duly authorized to submit the application on behalf of the owner or operator.

**C. Ownership and real property agreements.**

(1) An application shall include the copper mine facility owner's name, title, mailing address and phone number.

(a) If more than one person has an ownership interest in the copper mine facility or a partnership exists, then the applicant shall list all persons having an ownership interest in the copper mine facility, including their names, titles, mailing addresses and telephone numbers.

(b) If any corporate entity holds an ownership interest in the copper mine facility, the applicant shall also list the name(s), as filed with the New Mexico public regulation commission, of the corporate entity, and the corporate entity's registered agent's name and address.

(2) If the applicant is not the owner of the real property upon which the copper mine facility is or will be situated, or upon which the discharge will occur, the applicant shall submit the name, address and telephone number of the owner(s), and a notarized statement from the owner which authorizes the use of the real property for the duration of the term of the requested permit. In the event the property is under Federal or State ownership the applicant shall provide other evidence of authorization to enter public lands for mining.

**Comment [A6]:** There was discussion during the hearing based on an interpretation that as written the language would exempt the bad actor provision. That is not the case. The language as written states that the secretary shall approve a permit if denial is not required due to the existing bad actor provisions in the Act.

**Comment [A7]:** This is a suggested change from FMI (Tim Eastep testimony) that acknowledges that mineral resources may be located on public lands.

**D. Setbacks.** An application for a new copper mine facility shall include a scaled map of the proposed copper mine facility layout demonstrating that the copper mine facility meets the setback requirements of 20.6.7.19 NMAC.

**E. Copper mine facility information and location.** An application shall include:

- (1) the copper mine facility name, physical address and county;
- (2) the township, range and section for the entire copper mine facility; and
- (3) the total acreage of the copper mine facility.

**F. Public notice preparation.**

(1) An application for a new, modified or renewed and modified discharge permit shall include the name of a newspaper of general circulation in the location of the copper mine facility for the display advertisement publication, the proposed public location(s) for posting of the 2-foot by 3-foot sign, and the proposed off-site public location for posting of the additional notice, as required by Subsection B of 20.6.2.3108 NMAC.

(2) An application for a renewed discharge permit that does not seek a discharge permit modification shall include the name of a newspaper of general circulation in the location of the copper mine facility for the future display advertisement publication as required by Subsection C of 20.6.2.3108 NMAC.

**G. Pre-discharge total dissolved solids concentration in ground water.** An application shall include the pre-discharge total dissolved solids concentration, or range of concentration, from analytical results of ground water obtained from on-site test data from the aquifer(s) that may be affected by discharges from the copper mine facility. A copy of the laboratory analysis stating the pre-discharge total dissolved solids concentration shall be submitted with the application.

**H. Determination of maximum daily discharge volume.** An application shall include the following information.

(1) The proposed maximum daily discharge volume of process water and tailings for each discharge location and a description of the discharge locations and the methods and calculations used to determine that volume.

(2) The identification of all sources of process water and tailings.

(3) The estimated daily volume of process water and tailings generated.

(4) Information regarding other waste discharges (i.e., domestic or industrial) at the copper mine facility. Permit identification numbers shall be submitted for those discharges that are already permitted.

**I. Process water and tailings quality.** An application shall include estimated concentrations of process water and tailings slurry quality for the constituents identified in 20.6.2.3103 NMAC including the basis for these estimations.

**J. Identification and physical description of the copper mine facility.** An application shall include the following information.

(1) A scaled map of the entire existing or proposed copper mine facility showing the location of all features identified in Paragraphs 2 through 11 of this Subsection. The map shall be clear and legible, and drawn to a scale such that all necessary information is plainly shown and identified. The map shall show the scale in feet or metric measure, a graphical scale, a north arrow, and the effective date of the map. Multiple maps showing different portions of the copper mine facility may be provided using different scales as appropriate to represent the facility. Documentation identifying the means used to locate the mapped objects (i.e., global positioning system (GPS), land survey, digital map interpolation, etc.) and the relative accuracy of the data (i.e., within a specified distance expressed in feet or meters) shall be included with the map. Any object that cannot be directly shown due to its location inside of existing structures, or because it is buried without surface identification, shall be identified on the map in a schematic format and identified as such;

(2) A description of each existing or proposed tailing impoundment, leach stockpile, process water and impacted stormwater impoundment, waste rock stockpile, and slag including information about its location, purpose, liner material, storage or disposal capacity, and the methods proposed or used to prevent pollution of ground water;

(3) A description of each existing or proposed open pit and underground mine within the proposed copper mine facility and information about its location, depth, size, and acreage;

(4) A description of each existing or proposed material handling and processing facility-unit including crushing, milling, concentrating, smelting and SX/EW facilities-units within the copper mine facility, and information about its location and proposed methods of process water handling and disposal;

(5) A description of existing or proposed sumps, tanks, pipelines and truck and equipment wash facilities-units, including information for each unit regarding its location, purpose, construction material, dimensions

**Comment [A8]:** Clarifying language proposed by AGO.



and capacity. For portable tanks or pipelines or those subject to periodic relocation, identify the areas within which they may be used;

(6) A description of the proposed method(s) to manage stormwater runoff and run-on to minimize leachate that may be discharged;

(7) A description of water wells and monitoring wells, including information for each well regarding its location, construction material, dimensions and capacity;

(8) A description of flow meters required pursuant to the copper mine rule or a discharge permit and fixed pumps for discharge of process water, tailings and impacted stormwater;

(9) A description of any surface water(s) of the state and any other springs, seeps, ditch irrigation systems, acequias, and irrigation canals and drains located within the boundary of the copper mine facility;

(10) A description of proposed sampling locations; and

(11) A description of all septic tanks and leachfields used for the disposal of domestic wastes.

**K. Surface soil survey, geology and hydrology.** An application shall include:

(1) the most recent regional soil survey map and associated descriptions identifying surface soil type(s);

(2) a geologic map covering the area within a one-mile radius of the copper mine facility and geologic and lithological information which provides a geologic profile of the subsurface conditions beneath the copper mine site, including the thickness of each geologic unit, identification of which geologic units are water bearing, cross sectional diagrams and sources of all such information; and

(3) hydrologic information on any surface waters of the state within one-half mile of the boundary of the copper mine facility, and of subsurface conditions for all water bearing zones beneath the copper mine facility including maximum and minimum depths to ground water, direction of ground water flow, hydrologic gradients shown by potentiometric maps, transmissivity and storativity, and ground water quality. The sources of all such information shall be provided with the application.

**L. Location map.** An application shall include a location map with topographic surface contours identifying all of the following features located within a one-mile radius of the copper mine facility:

(1) watercourses, lakebeds, sinkholes, playa lakes, seeps and springs (springs used to provide water for human consumption shall be so denoted);

(2) wells supplying water for a public water system and private domestic water wells;

(3) irrigation and other water supply wells; and

(4) ditch irrigations systems, acequias, irrigation canals and drains.

**M. Flood zone map.** An application shall include, if available, the most recent 100-year flood zone map developed by the federal emergency management administration (FEMA), flood insurance rate map or other flood boundary and floodway map with the copper mine clearly identified along with all 100-year frequency flood zones for the copper mine facility, and a description of any engineered measures used for flood protection.

**N. Engineering design, construction and surveying.** Pursuant to 20.6.7.17 NMAC, 20.6.7.18 NMAC, 20.6.7.20 NMAC, 20.6.7.21 NMAC, 20.6.7.22 NMAC, 20.6.7.23 NMAC and 20.6.7.26 NMAC an application shall include:

(1) plans and specifications for proposed new or modified tailings ~~facilities~~ impoundments, leach stockpiles, waste rock stockpiles, and process water and impacted stormwater impoundments and associated liners;

(2) plans and specifications for proposed new or modified tanks, pipelines, truck and equipment wash ~~facilities~~ units and other containment systems; and

(3) a stormwater management plan.

**O. Material characterization plan and material handling plan.** An application shall include a material characterization plan and, if applicable, a material handling plan for all waste rock excavated at the copper mine facility pursuant to Subsection A of 20.6.7.21 NMAC.

**P. Hydrologic conceptual model.** An application for a discharge permit for a new copper mine facility shall include a site hydrologic conceptual model providing:

(1) a description of the hydrogeologic setting at the copper mine facility including ground water potentiometric maps, surface water drainages and flows, types of ground water and surface water recharge and its distribution, and hydrologic boundary conditions and divides;

(2) the site hydrogeologic setting relative to both local and regional hydrology and geology including appropriate cross-sectional diagrams depicting major geologic formations and structures, aquifers, and ground water depths;

(3) potential sources of water contaminants including discharge types and their locations;

(4) potential pathways for migration of water contaminants to ground water and surface water; and

(5) any surface waters of the state that are gaining because of inflow of ground water that may be affected by water contaminants discharged from the copper mine facility.

**Q. Waste minimization plan.** An application shall include a waste minimization plan to implement, as practicable, best management practices for minimization and recycling of process water and wastes generated at the copper mine facility to reduce the potential for impacts to ground water.

**R. Monitoring wells.** An application shall include the location of all existing and proposed ground water monitoring wells pursuant to 20.6.7.28 NMAC.

**S. Flow metering.** An application shall describe a copper mine facility's flow metering system pursuant to Paragraph (5) of Subsection C of 20.6.7.17 NMAC, Subsection E of 20.6.7.18 NMAC, and Subsections C and E of 20.6.7.29 NMAC, including:

(1) the method(s) (i.e., pumped versus gravity flow) of process water discharge and stormwater transfer and handling;

(2) the proposed flow measurement devices for each flow method and information about its type and capacity; and

(3) the location of all existing and proposed flow meters required pursuant to the copper mine rule or a discharge permit.

**T. Closure plan.** An application shall include a closure plan for all portions of a copper mine facility pursuant to Subsection A of 20.6.7.18 NMAC, 20.6.7.33 NMAC, 20.6.7.34 NMAC and 20.6.7.35 NMAC unless closure of the copper mine facility is covered, or will be covered, by a separate closure discharge permit.

**U. Financial assurance.** An application shall include a proposal for financial assurance for those portions of a copper mine facility to be reclaimed in accordance with a closure plan submitted pursuant to Subsection A of 20.6.7.18 NMAC, 20.6.7.33 NMAC, 20.6.7.34 NMAC and 20.6.7.35 NMAC .

**V. Variances.** An application shall identify any issued or proposed variances for the copper mine facility pursuant to 20.6.2.1210 NMAC and the sections of the copper mine rule affected by the variance(s).

**W. Meteorological data.** An application shall include a plan to measure meteorological data at sites throughout the copper mine facility including precipitation, temperature, relative humidity, solar radiation, wind speed and wind direction.

**20.6.7.12 RESERVED**

**20.6.7.13 RESERVED**

**20.6.7.14 REQUIREMENTS FOR A DISCHARGE PERMIT AMENDMENT:**

**A.** A permittee may submit a request for a discharge permit amendment to the department at any time during the term of an approved discharge permit.

**B.** A permittee shall remit a fee pursuant to Subsection C of 20.6.7.9 NMAC with the request for a discharge permit amendment.

**C.** A discharge permit amendment shall be administratively reviewed and evaluated by the department and is not subject to public notice or a public hearing.

**D.** The department shall approve, disapprove or request additional information necessary for a determination regarding a discharge permit amendment within 30 days of receipt of a request.

**E.** The department shall provide notice of all discharge permit amendment approvals or denials to those persons on the [copper mine](#) facility-specific list maintained by the department who have requested notice of discharge permit applications.

**20.6.7.15 RESERVED**

**20.6.7.16 RESERVED**

**20.6.7.17 GENERAL ENGINEERING AND SURVEYING REQUIREMENTS:**

**A. Practice of engineering.** All plans, designs, drawings, reports and specifications required by the copper mine rule that require the practice of engineering shall bear the seal and signature of a licensed New Mexico professional engineer pursuant to the New Mexico Engineering and Surveying Practice Act, [NMSA 1978](#), Sections 61-23-1 through 61-23-33, [NMSA 1978](#), and the rules promulgated under that authority.

**B. Practice of surveying.** All plans, drawings and reports required by the copper mine rule that require the practice of surveying shall bear the seal and signature of a licensed New Mexico professional surveyor



pursuant to the New Mexico Engineering and Surveying Practice Act, ~~NMSA 1978~~, Sections 61-23-1 through 61-23-33, NMSA 1978, and the rules promulgated under that authority.

**C. Engineering plans and specifications requirements.** The following engineering plans and specifications and associated requirements shall be submitted to the department for approval with an application for a new, renewed or modified discharge permit, as applicable.

(1) **Liner system plans and specifications.** An applicant or permittee proposing or required to construct a new or improve an existing liner system required by the copper mine rule or an existing discharge permit, including the repair, modification or replacement of a liner system, shall include the following elements in all liner system plans and specifications submitted to the department.

(a) **Construction plans and specifications.** Detailed and complete construction plans and specifications and supporting design calculations developed pursuant to this section and 20.6.7.18 and 20.6.7. 20 through 20.6.7.26 NMAC shall be submitted to the department.

(b) **Liner system CQA/CQC.** The construction and installation of all liner systems and the repair, modification or replacement of a liner system shall be conducted in accordance with a construction quality assurance/construction quality control (CQA/CQC) plan. A CQA/CQC plan shall be included as part of the design plans and specifications. The CQA/CQC plan shall specify the observations and tests to be used to ensure that construction of the liner system meets all design criteria, plans and specifications. All liner system testing and evaluation reports for liner construction and installation, including modifications and replacements shall be signed and sealed by a licensed New Mexico professional engineer with experience in liner system construction and installation. The CQA/CQC plan shall include the following elements.

(i) The identity of persons responsible for overseeing the CQA/CQC program. The person responsible for overseeing the CQA/CQC plan shall be a licensed New Mexico professional engineer with experience in liner system construction and installation;

(ii) An inspection protocol;

(iii) Identification of field and laboratory testing equipment and facilities proposed to be used, and calibration methods;

(iv) The procedures for observing and testing the liner, subgrade, liner bedding, and other liner system construction material;

(v) A protocol for verification of any manufacturers' quality control testing and procedures;

(vi) The procedures for reviewing inspection test results and laboratory and field sampling test results;

(vii) The actions to be taken to replace or repair liner material, subgrade, liner bedding, or other liner system construction materials should deficiencies be identified;

(viii) The procedures for seaming synthetic liners;

(ix) The reporting procedures for all inspections and test data; and

(x) The submission of a CQA/CQC report.

(c) **Management of process water, solids and sludge or impacted stormwater during liner system improvement.** An applicant or permittee proposing or required to improve copper mine facility operational units that requires the use of a liner system, including re-lining or replacement of an existing liner system, shall submit a plan for managing process water, solids and sludges, or impacted stormwater during preparation and construction of the improvement. The plan shall be submitted as part of the design plans and specifications. The plan shall include the following minimum elements.

(i) A plan for handling and disposal of process water, solids and sludges and impacted stormwater discharges during improvement to the impoundment;

(ii) A plan for removal and disposal of process water, solids and sludges or impacted stormwater within the liner system prior to beginning improvement to the liner system;

(iii) A plan and schedule for implementation of the project; and

(iv) If the plan proposes a temporary location for the discharge of process water, solids and sludge, or impacted stormwater not authorized by the effective discharge permit, the applicant or permittee shall request temporary permission to discharge from the department pursuant to Subsection B of Section 20.6.2.3106 NMAC.

(d) **Dam safety.** An applicant or permittee proposing or required to construct a tailings ~~facility~~ ~~or~~ impoundment shall submit documentation of compliance with the requirements of the dam safety bureau of the state engineer pursuant to Section 72-5-32 NMSA 1978, and rules promulgated under that authority, unless exempt by law from such requirements.

(2) **Tank, pipeline, sump or other containment system plans and specifications.** An applicant or permittee proposing or required to construct a new tank, pipeline, sump or other containment system for the management of tailings, process water or other water contaminants shall submit detailed and complete construction plans and specifications and supporting design calculations developed pursuant to this section and 20.6.7.23 NMAC. The construction plans and specifications for an improvement(s) or replacement of an existing tank, pipeline, sump or other containment systems shall address the management of solids, waste, process water or other water contaminants generated during preparation and construction of the improvements or replacement. This requirement does not apply to portable or temporary tanks, pipelines, sumps, or other containment systems that are subject to periodic relocation during mining operations.

(3) **Process water or impacted stormwater treatment system plans and specifications.** An applicant or permittee proposing or required to construct a treatment system during mine operations for process water or impacted stormwater to be treated prior to discharge ~~or for water collected and treated during closure or post closure activities shall~~ submit detailed and complete construction plans and specifications and supporting design calculations developed pursuant to this section and 20.6.7.18 NMAC.

(4) **Impacted stormwater management plans and specifications.** An applicant shall submit stormwater management plans and specifications to limit run-on of stormwater and manage impacted stormwater in a manner which prevents water pollution that may cause an exceedance of the applicable standards. The plans and specifications shall be submitted with an application for a new or renewed discharge permit, or as applicable with an application for a modified discharge permit, and shall include the following information.

(a) A scaled map of the copper mine facility showing:

- (i) the property boundaries of the copper mine facility and the mining areas;
- (ii) all existing and proposed structures;
- (iii) existing and proposed final ground surface contours outside of the open pit surface drainage area at appropriate vertical intervals; and
- (iv) existing and proposed stormwater containment and conveyance structures, including construction materials, size, type, slope, capacity and inlet and invert elevation (or minimum and maximum slopes) of the structures, as applicable.

(b) A description of existing surface water drainage conditions.  
(c) A description of the proposed post-development surface water drainage conditions.  
(d) Supplemental information supporting the stormwater management plan including the following information:

(i) hydrologic and hydraulic calculations for design storm events;  
(ii) hydraulic calculations demonstrating the capacity of existing and proposed stormwater impoundments;  
(iii) hydraulic calculations demonstrating ~~the capacity of existing and proposed conveyance channels to divert stormwater or contain and transport runoff to stormwater impoundment(s); and~~  
(iv) a list of tools and references used to develop the hydrologic and hydraulic calculations such as computer software, documents, circulars, and manuals.

(e) A plan to manage impacted stormwater, and to divert run-on of non-impacted stormwater where practicable. The plan shall include, as necessary, design, construction, and installation of stormwater run-on ~~and, run-off, and stormwater diversion~~ structures, collection of impacted stormwater, and a description of existing surface water drainage conditions. The plan shall consider:

(i) the amount, intensity, duration and frequency of precipitation;  
(ii) watershed characteristics including the size, topography, soils and vegetation of the watershed; and  
(iii) runoff characteristics including the peak rate, volumes and time distribution of runoff events.

(5) **Flow metering plans.** An applicant or permittee proposing or required to install a flow meter(s) pursuant to the copper mine rule shall submit a flow metering plan to support the selection of the proposed device along with information or construction plans and specifications, as appropriate, detailing the installation or construction of each device. This information or construction plans and specifications proposed by the applicant or permittee shall be submitted to the department with the application for a new discharge permit or a renewed or modified discharge permit if a new flow meter is proposed.

**D. New impoundment engineering design requirements.** At a minimum, construction of a new impoundment or replacement of an existing impoundment shall be in accordance with the applicable liner, design,

**Comment [A9]:** FMI raised the issue of water treatment at closure (Tom Shelley) and that "detailed and complete" construction plans and specs early in the mine life are not necessary if proposed for water treatment at closure. Water treatment system design for closure is addressed under 20.6.7.33.H.

**Comment [A10]:** Clarifying edit-Stormwater diversion structures are run-on and run-off diversion structures. Change by NMED.

and construction requirements of this Subsection. These requirements do not apply to tailing impoundments that are subject to the specific engineering design requirements of Paragraph 4 of Subsection A of 20.6.7.22 NMAC.

(1) **General design and construction requirements.**

(a) The outside slopes of an impoundment shall be a maximum of two (horizontal) to one (vertical) and shall meet a minimum static factor of safety of 1.3 with water impounded to the maximum capacity design level, except where an impoundment is bounded by rock walls or is below the surrounding surface grade.

(b) The dikes of an impoundment shall be designed to allow for access for maintenance unless otherwise approved by the department.

(c) Liners shall be installed with sufficient slack in the liner material to accommodate expansion and contraction due to temperature changes. Folds in the liner material shall not be present in the completed liner except to the extent necessary to provide slack.

(d) Liners shall be anchored in an anchor trench. The trench shall be of a size and setback distance sufficient for the size of the impoundment.

(e) Liner panels shall be oriented such that all sidewall seams are vertical.

(f) Any opening in the liner through which a pipe or other fixture protrudes shall be sealed in accordance with the liner manufacturer's requirements. Liner penetrations shall be detailed in the construction plans and as-built drawings.

(g) All liners shall be installed by an individual that has the necessary training and experience as required by the liner manufacturer.

(h) Liner manufacturer's installation and field seaming guidelines shall be followed.

(i) All liner seams shall be field tested by the installer and verification of the adequacy of the seams shall be submitted to the department along with the as-built drawings.

(j) Concrete slabs installed on top of a liner for operational purposes shall be completed in accordance with manufacturer and installer recommendations to ensure liner integrity.

(2) **Impoundment capacity.** Impoundments shall meet the following design capacities. Capacity requirements may be satisfied by a single impoundment or by the collective capacity of multiple interconnected impoundments and any interconnected tanks.

(a) **Capacity requirements for impoundments that contain leach solutions.-** Process water systems that impound leach solutions shall be designed for adequate overflow capacity for upset conditions such as power outages, pump or conveyance disruptions and significant precipitation events. Any impoundment that collects leach solutions and is routinely at capacity shall be designed to maintain a minimum of two feet of freeboard during normal operating conditions while conveying the maximum design process flows.- The appropriate overflow capacity design shall consider system redundancies such as backup power systems and pumps. The overflow capacity shall be designed to contain the maximum design flows for the collection system for the maximum period of time that is required for maintenance activities or restoration to normal operating conditions while maintaining two feet of freeboard. If the collection system receives direct precipitation run-off with little or no flow attenuation in the upgradient leach stockpile collection system, the overflow capacity shall be sized to contain the runoff from a 100 year, 24 hour storm event in addition to the upset condition capacity. For process water impoundments located within the open pit surface drainage area, the open pit bottom may be utilized for a portion of the permitted impoundment capacity. Impoundments constructed on a leach stockpile such that any overflow would discharge to and be contained by the approved leach stockpile system are not subject to this capacity requirement.

(b) **Other process water impoundment capacity requirements.** Process water impoundments intended to manage or dispose of process water, other than leach solutions, shall be designed for adequate overflow capacity for upset conditions such as power outages, pump or conveyance disruptions and significant precipitation events. Any impoundment that collects such process water and is routinely at capacity shall be designed to maintain a minimum of two feet of freeboard during normal operating conditions while conveying the maximum design process flows. The appropriate overflow capacity design shall consider system redundancies such as backup power systems and pumps. The overflow capacity shall be designed to contain the maximum design flows for the collection system for the maximum period of time that is required for maintenance activities or restoration to normal operating conditions while maintaining two feet of freeboard. For process water impoundments located within the open pit surface drainage area, the open pit bottom may be utilized for a portion of the permitted impoundment capacity. Impoundments constructed on a leach stockpile such that any overflow would discharge to and be contained by the approved leach stockpile system are not subject to this capacity requirement.

(c) **Combination process water/impacted stormwater impoundment capacity requirements.** Impoundments, other than impoundments for the containment of leach solutions, intended to dispose

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of a combination of process water and impacted stormwater shall be designed to contain, at a minimum, the volume described in Subparagraph (b) of this Paragraph and the volume of stormwater runoff and direct precipitation generated from the receiving surface area resulting from a 100 year, 24 hour storm event while preserving two feet of freeboard. For combination process water/impacted stormwater impoundments located within the open pit surface drainage area, the open pit bottom may be utilized for a portion of the impoundment capacity.

(d) **Evaporative impacted stormwater impoundment design requirements.** Impoundments intended to manage or dispose of impacted stormwater by evaporation shall be designed to contain, at a minimum, the volume of stormwater runoff and direct precipitation generated from the receiving surface area resulting from a 100 year, 24 hour storm event while preserving two feet of freeboard. For impoundments located within the open pit surface drainage area, the open pit bottom may be utilized for a portion of the impoundment capacity.

(e) **Other impacted stormwater impoundment design requirements.** Other impacted stormwater impoundment systems shall be designed to prevent overflow resulting from a 100-year, 24-hour return interval storm event while maintaining two feet of freeboard and may use interconnected impoundments, gravity flow conveyances and pumping systems designed to remove water from individual impoundments at rates to prevent overflow during the design storm event. The appropriate overflow capacity design shall consider system redundancies such as backup power systems and pumps. For impacted stormwater impoundments located within the open pit surface drainage area, the open pit bottom may be utilized for a portion of the permitted impoundment capacity.

(f) **Conveyance design requirement.** Open channel conveyance structures intended to transport stormwater to an impoundment shall be designed to convey, at a minimum, the peak flow from a 100-year, 24 hour storm event while preserving adequate freeboard, but not less than six inches of freeboard. Conveyances shall be designed to minimize ponding and infiltration of stormwater.

(g) **Solids settling.** An impoundment designed and used for solids settling shall not be used to satisfy the impoundment capacity requirements of this Paragraph.

(3) **Process water and impacted stormwater long-term storage impoundments.** Process water, and impacted stormwater impoundments that store impacted stormwater for longer than thirty days shall meet the following design and construction requirements, except that process water and impacted stormwater long-term impoundments located within an open pit surface drainage area of an existing copper mine facility may be designed and constructed in accordance with the requirements of Paragraph (4) of this Subsection.

(a) **Liner system.** At a minimum, impoundments subject to this Paragraph shall be designed and constructed as an engineered liner system consisting of a suitable subgrade and liner bedding overlain by a secondary synthetic liner which is overlain by a leak collection system overlain by a primary synthetic liner, unless an alternate design is approved by the department pursuant to Subparagraph (e) of this Paragraph. The liner system shall be installed in accordance with a department approved CQA/CQC plan pursuant to Paragraph (2) of Subsection C of 20.6.7.17 NMAC

(b) **Liner system sub-grade and bedding.** The liner system shall be placed upon a stable sub-grade. The sub-grade shall be free of sharp rocks, vegetation and stubble to a depth of at least six inches below the liner. Liners shall be placed on a liner bedding of sand or fine soil. The surface in contact with the liner shall be smooth to allow for good contact between liner bedding. The liner bedding surface shall be sufficiently dry during liner installation such that free or excess water will not hinder the welding of seams. The liner installer shall provide the owner or permittee with a sub-grade and liner bedding acceptance certificate prior to installing the liner indicating acceptance of the earthwork.

(c) **Liner type.** The primary and secondary synthetic liners for the impoundment shall provide the same or greater level of containment, including permeability, as a 60 mil HDPE geomembrane liner system. The liner system's tensile strength, tear and puncture resistance and resistance to degradation by ultraviolet light shall be compatible with design loads, exposure and conditions.

(d) **Leak collection system.** A leak collection system shall be constructed between the primary and secondary synthetic liners for the purpose of collecting and rapidly removing fluids from leaks that may occur in the primary liner so that minimal hydraulic head is maintained on the secondary liner. The leak collection system shall consist of a drainage layer, fluid collection pipes and a fluid removal system to prevent hydraulic head transference from the primary liner to the secondary liner and shall meet the following requirements.

(i) The drainage layer shall be constructed of granular soil materials or geosynthetic drainage net (geonet) with a design slope of at least two percent. Drainage material shall have a coefficient of permeability of  $1 \times 10^{-2}$  centimeters/second or greater.

(ii) Perforated fluid collection pipes shall be installed to transmit fluid from the drainage layer to a fluid collection sump(s). Collection pipe material, diameter, wall thickness, and slot size and distribution

shall be sufficient to prevent deflection, buckling, collapse or other failure. Collection pipes shall be installed with slopes equivalent to the slope of the drainage layer. Collection pipe systems shall be designed to allow for cleaning of all collection pipes with standard pipe cleaning equipment.

(iii) A fluid removal system shall be installed to remove fluid from the leak collection system. The fluid removal system shall consist of a sump(s), a dedicated pump(s), an automated pump activation system that activates the pump(s) when a specific fluid level is reached in a sump(s), a totalizing flow meter to measure the volume of leachate pumped from the system, and an automated alarm system that provides warning of pump failure. Alternately a gravity drain system may be utilized where practicable and approved by the department.

(e) An applicant or permittee may propose for department approval an alternative design for process water and impacted stormwater long-term storage impoundments that provides the same or greater level of containment as a double synthetically lined system with leak collection.

(4) **Impacted stormwater impoundments.** Impacted stormwater impoundments that store impacted stormwater for less than thirty days shall meet the following design and construction requirements; except that any such impoundments located within an open pit surface drainage area may not require a liner.

(a) **Liner system.** At a minimum, an impacted stormwater impoundment subject to this Paragraph shall be ~~shall~~ constructed as an engineered liner system consisting of a compacted subbase overlain by a synthetic liner. The liner system shall be installed in accordance with a department approved CQA/CQC plan pursuant to Paragraph (2) of Subsection C of 20.6.7.17 NMAC

(b) **Liner system subgrade and liner bedding.** The liner system shall be prepared and placed upon a stable subgrade. The top surface of the subgrade shall be smooth and free of sharp rocks or any other material that could penetrate the overlying liner bedding or synthetic liner. Liner bedding shall be placed atop the subgrade and shall consist of a minimum of six inches of sand or fine soil to allow for good contact between liner and liner bedding. The liner bedding surface shall be sufficiently dry during liner installation such that free or excess water will not hinder the welding of seams. The liner installer shall provide the owner or permittee with a sub-grade and liner bedding acceptance certificate prior to installing the liner indicating acceptance of the earthwork.

(c) **Liner type.** Synthetic liners for an impacted stormwater impoundment shall provide the same or greater level of containment, including permeability, as a 60 mil HDPE geomembrane liner system. The liner system's tensile strength, tear and puncture resistance and resistance to degradation by ultraviolet light shall be compatible with design loads, exposure and conditions.

(d) **Wind protection.** Liner systems for impacted stormwater impoundments shall be designed and constructed with a weighting system to secure the liner and limit liner damage during periods of extreme wind events when the impoundment is empty.

(e) **Alternate design.** An applicant or permittee may propose for department approval an alternative design for an impacted stormwater impoundment that provides the same or greater level of containment as the liner system described in Subparagraphs (a) through (d) of this Paragraph.

(5) **Non-impacted stormwater impoundments.** Non-impacted stormwater impoundments located outside the open pit surface drainage area over contaminated areas where the water has the potential to infiltrate and produce a leachate that may cause an exceedance of the applicable standards require a liner system designed and installed in accordance with Paragraph (4) this Subsection.

(6) **Separation between impoundments and ground water.** Impoundments that require a liner pursuant to this Subsection shall not be constructed in a location where the vertical distance between the seasonal high ground water level and the finished grade of the floor of the impoundment is less than or equal to four feet unless the applicant or permittee submits an engineering evaluation from a licensed New Mexico professional engineer that demonstrates that the impoundment design will not be affected by shallow ground water conditions.

(7) **Spillways.** Impacted stormwater impoundments shall have spillways to safely discharge the peak runoff of a 25-year, 24-hour precipitation event, or an event with a 90-percent chance of not being exceeded for the design life of the impoundment. Impoundments intended as primary containment for process water shall not be designed with a spillway that empties onto the ground surface.

#### **20.6.7.18 GENERAL OPERATIONAL REQUIREMENTS:**

A. **Planning for closure.** To the extent practicable, copper mine facility units shall be designed and operated in a manner that considers implementation of the copper mine facility closure plan submitted pursuant to 20.6.7.33 NMAC including:

(1) identifying material that is suitable for use to construct covers and, when feasible, segregating that material from other mined materials to preserve it for use to construct covers; and,

(2) consideration of closure grading and drainage plans in the design and construction of leach stockpiles, tailings impoundments, waste rock stockpiles, and other copper mine facilities.

**B. Construction requirements.** A permittee shall meet the following requirements for construction of a liner system for the containment of water contaminants, including repair or relining of a liner system.

(1) A permittee shall notify the department at least five working days before starting construction or repair or relining to allow for an inspection by the department, except in the case of an emergency repair. If an emergency repair is necessary, the permittee shall notify the department within 24 hours of starting the repair.

(2) A permittee shall submit to the department a construction certification report bearing the seal and signature of a licensed New Mexico professional engineer, when required by the New Mexico Engineering and Surveying Practice Act, NMSA 1978, sections 61-23-1 through 61-23-33, and the rules promulgated under that authority, verifying that installation and construction was completed pursuant to Subsections C and D of 20.6.7.17 NMAC. The construction certification report shall include as-built drawings, final specifications, final capacity calculations and the CQA/CQC report.

(3) The construction certification report shall be submitted to the department before discharging or placing ore or wastes in a liner system.

**C. Notice of mining operations and discharge.** A permittee shall provide written notice to the department of the commencement, or recommencement of operations as follows.

(1) **For new copper mine facilities.**

(a) **Commencement of construction.** A permittee shall provide written notice to the department a minimum of 30 days before commencing construction of ~~facilities-units~~ covered by a permit issued pursuant to the copper mine rule.

(b) **Commencement of discharge.** A minimum of 30 days prior to discharging or emplacement of ore or waste rock in a constructed impoundment, stockpile, or tailings ~~facility-impoundment~~ a permittee shall provide written notice to the department of the anticipated date that discharge or emplacement of ore or waste rock will commence. A permittee shall provide written verification to the department of the actual date of commencement within 30 days of commencement.

(2) **For existing copper mine facilities.**

(a) **Commencement of a new discharge.** A minimum of 30 days prior to discharging or emplacement of ore or waste in a newly constructed impoundment, stockpile, or tailings ~~facility-impoundment~~ the permittee shall provide written notice to the department of the anticipated date that discharge or emplacement of ore or waste will commence. A permittee shall provide written verification to the department of the actual date of commencement within 30 days of commencement.

(b) **Recommencement of mining.** If a permittee is on standby pursuant to the Mining Act, a permittee shall provide written notice to the department indicating the planned date of recommencement of operations at a copper mine facility that include operation of ~~facilities-units~~ covered by a permit issued pursuant to the copper mine rule. Written notification shall be submitted to the department a minimum of 30 days prior to the date mining is to recommence.

**D. Stormwater management.** A permittee shall divert and manage stormwater from the open pit, leach stockpiles, waste rock and tailings impoundments and other copper mine facility areas containing material that could generate or release water contaminants in accordance with a stormwater management plan as required by Paragraph (4) of Subsection C of 20.6.7.17 NMAC.

**E. Flow meters.** A permittee shall employ a flow metering system that uses flow measurement devices (flow meters, weirs or other department approved method) to measure the volume of process water and tailings discharged at a copper mine facility as follows.

(1) **Flow meter installation.** Flow meters shall be installed in accordance with the flow meter plans submitted with the application for a new, renewed or modified discharge permit pursuant to Paragraph (5) of Subsection C of 20.6.7.17 NMAC, and this Section. Flow meters shall be permanently labeled with meter identification nomenclature, and the month and year of meter installation.

(2) **Flow meter inspection and maintenance.** A permittee shall visually inspect flow meters on a monthly basis for evidence of malfunction. If a visual inspection indicates a flow meter is not functioning to measure flow, the permittee shall repair or replace the meter within 30 days of or as soon as practicable following discovery. The repaired or replaced flow meter shall be installed and calibrated pursuant to this Subsection. The permittee shall submit a report of repaired or replaced meters to the department in the subsequent monitoring report which shall include:



(a) information on repairs including a description of the malfunction; a statement verifying the repair, and a description of calibration of the flow meter pursuant to Paragraph (3) of this Subsection.

(b) for replacement meters, information demonstrating that the device is in accordance with the plan for flow metering devices submitted pursuant to Paragraph (5) of Subsection C of 20.6.7.17 NMAC, and that the device has been calibrated pursuant to Paragraph (3) of this Subsection.

(3) **Flow meter calibration.** All flow meters required under the copper mine rule shall be calibrated to have their accuracy ascertained according to the flow metering plan submitted pursuant to Paragraph (5) of Subsection C of 20.6.7.17 NMAC and the approved discharge permit. Flow meters shall be calibrated to within plus or minus ten percent of actual flow.

(4) **Excluded flow meters.** A permittee may utilize additional flow meters not required by the copper mine rule and those flow meters are not subject to the copper mine rule requirements.

**F. Impoundments.**

(1) **New impoundments.** Construction of an impoundment pursuant to a discharge permit issued after the effective date of the copper mine rule shall be performed in accordance with the liner, design, and construction requirements of Subsection D of 20.6.7.17 NMAC.

(2) **Existing impoundments.** An impoundment authorized by a discharge permit issued prior to the effective date of the copper mine rule and in existence on the effective date of the copper mine rule that does not meet the requirements of Paragraph (3) of Subsection D of 20.6.7.17 NMAC may continue to receive process water or impacted stormwater provided the requirements of Subparagraphs (a) and (b) or (c) of this Paragraph are met or the impoundment is located within the open pit surface drainage area. If the requirements of Subparagraphs (a) and (b) or (c) of this Paragraph are not met, the impoundment shall be replaced or improved in accordance with the liner, design, and construction requirements of Subsection D of 20.6.7.17 NMAC.

(a) Ground water monitoring data from monitoring wells downgradient of the impoundment ~~does not indicate~~ that the impoundment is ~~not functioning~~ as designed.

(b) The impoundment has integrity and is capable of maintaining integrity for its operational life.

(c) The impoundment is covered by a variance granted pursuant to 20.6.2.1210 NMAC.

(3) **Impoundment inspection and maintenance.** A permittee shall maintain impoundments to prevent conditions which could affect the structural integrity of the impoundments and associated liners during active operations. Such conditions include, but are not limited to, erosion damage; animal burrows or other animal damage; the presence of vegetation including aquatic plants, weeds, woody shrubs or trees growing within five feet of the top inside edge of a sub-grade impoundment, within five feet of the toe of the outside berm of an above-grade impoundment, or within the impoundment itself; evidence of seepage; evidence of berm subsidence; and the presence of large debris or large quantities of debris in the impoundments. A permittee shall inspect impoundments and surrounding berms on a quarterly basis to ensure proper condition and control vegetation growing in and around the impoundments in a manner that is protective of the liners. Within 24 hours of discovery, a permittee shall report to the department any evidence of damage that threatens the structural integrity of a berm or liner of an impoundment or that may result in an unauthorized discharge. A permittee is not required to report routine berm maintenance to the department.

(4) **Freeboard.** The fluid level elevation in an impoundment shall be maintained such that a minimum of two feet of freeboard is preserved within the impoundment at all times.

(5) **Leak collection system inspection and maintenance:** A permittee shall inspect and maintain impoundments utilizing primary and secondary liners and equipped with leak collection systems as follows:

(a) ~~leachate liquid~~ accumulation within the sump of the leak collection system shall be returned to the respective impoundment or the process water system utilizing an automatically activated pump or other engineered design approved by the department to minimize hydraulic head on the secondary liner by insuring the interstitial space between the liners does not become saturated; and

(b) the permittee shall inspect the sump(s), dedicated pump(s), any automated pump activation system, any automated alarm system and totalizing flow meter associated with the leak detection and collection system on a monthly basis for evidence of malfunction. If an inspection indicates malfunction of any of these components, the permittee shall repair the component(s) within 30 days of discovery or shall retain a record of why the repair took longer. The permittee shall notify the department of component malfunctions and repairs made in the subsequent quarterly report.

**Comment [A11]:** Remove double negative. Language proposed by Amigos Bravos.

**Comment [A12]:** Change proposed by Amigos Bravos. All leak collection sumps in double lined impoundments should be equipped with automatic pumps. Language modified by NMED to allow for alternate design.

**20.6.7.19 SETBACK REQUIREMENTS FOR A COPPER MINE FACILITY APPLYING FOR A DISCHARGE PERMIT:**

- A. The setback requirements of this Section apply to a new copper mine facility for which an application for a discharge permit is received by the department after the effective date of the copper mine rule.
- B. The setback requirements shall be measured as horizontal map distances.
- C. The required setback distances shall be met as certified by the applicant as of the receipt date of the application.
- D. If the setback requirements apply to a copper mine facility, an applicant or permittee shall not propose or construct a leach stockpile, waste rock stockpile, tailing impoundment, or process water and impacted stormwater impoundment that does not meet the setback as determined as of the receipt date of the application for a new discharge permit by the department.

**E. Leach stockpile, waste rock stockpile, tailing impoundment, process water impoundment or impacted stormwater impoundment setback requirements.**

- (1) Leach stockpiles, waste rock stockpiles, tailing impoundments, process water impoundments or impacted stormwater impoundments shall be located:
  - (a) greater than 500 feet from a private domestic water well or spring that supplies water for human consumption; and
  - (b) greater than 1000 feet from any water well or spring that supplies water for a public water system as defined by 20.7.10 NMAC, unless a wellhead protection program established by the public water system requires a greater distance.
- (2) The requirements of Subparagraph (a) of Paragraph (1) of this Subsection shall not apply to wells or springs that supply water to the copper mine facility for human consumption and are located within the property boundary of the copper mine facility.
- (3) The requirements of Paragraph (1) of this Subsection shall not apply to wells that are constructed after a copper mine facility received a discharge permit for a leach stockpile, waste rock stockpile, tailing impoundment, process water impoundment or impacted stormwater impoundment.
- (4) Setback distances shall be measured from the toe of the outer edge of a leach stockpile, waste rock stockpile, tailing impoundment, process water impoundment or impacted stormwater impoundment at its final design build out.

**20.6.7.20 REQUIREMENTS FOR LEACH STOCKPILES AND SX/EW FACILITIES PLANTS:**

- A. **Engineering design requirements.** At a minimum, the following requirements shall be met in designing leach stockpiles at copper mine facilities unless the applicant or permittee can demonstrate that an alternate design will provide an equal or greater level of containment.
  - (1) **New leach stockpiles.** New leach stockpiles shall meet the following requirements.
    - (a) **Liner system.** A new leach stockpile shall be placed on an engineered liner system consisting of a subgrade and compacted earthen liner overlain by a synthetic liner which is overlain by a solution collection system designed to transmit process fluids out of the leach stockpile. The liner system shall be approved by the department prior to installation and shall be installed in accordance with a department approved CQA/CQC plan pursuant to Paragraph (1) of Subsection C of 20.6.7.17 NMAC
    - (b) **Liner system subgrade and earthen liner.** A liner system earthen liner shall be prepared and placed upon a stable subgrade. The prepared earthen liner shall consist of a minimum of 12 inches of soil that has a minimum re-compacted in-place coefficient of permeability of  $1 \times 10^{-6}$  cm/sec. The top surface of the earthen liner shall be smooth and free of sharp rocks or any other material that could penetrate the overlying synthetic liner.
    - (c) **Liner type.** A synthetic liner for a leach stockpile shall provide the same or greater level of containment, including permeability, as a 60 mil HDPE geomembrane liner system. The liner system's tensile strength, tear and puncture resistance and resistance to degradation by ultraviolet light shall be compatible with design loads, exposures and conditions. A licensed New Mexico professional engineer with experience in liner system construction and installation shall identify the basis for the geomembrane composition and specific liner based upon:
      - (i) the type, slope and stability of the subgrade;
      - (ii) the overliner protection and provisions for hydraulic relief within the liner system;
      - (iii) the load and the means of applying the load on the liner system;
      - (iv) the compatibility of the liner material with process solutions applied to the leach stockpile and temperature extremes of the location at which it will be installed; and
      - (v) the liner's ability to remain functional for five years after the implementation of closure of the leach stockpile.



(d) **Solution collection system.** A solution collection system shall be constructed in an overliner protection and drainage system. The solution collection system shall be designed to remain functional for five years after the operational life of the leach stockpile. The overliner protection shall be designed and constructed to protect the synthetic liner from damage during loading and minimize the potential for penetration of the synthetic liner. A sloped collection system shall be designed that will transmit fluids out of the drainage layer of the leach stockpile. The collection system shall be designed to maintain a hydraulic head of less than the thickness of the drainage layer but the drainage layer shall not exceed five feet in thickness. Any penetration of the liner by the collection system through which a pipe or other fixture protrudes shall be constructed in accordance with the liner manufacturer's requirements. Liner penetrations shall be detailed in the construction plans and as-built drawings.

(e) **Solution containment ~~facilities~~systems.** PLS flows exiting the leach stockpile shall be collected, contained and conveyed to a process water impoundment(s) or tank(s) using pipelines or lined conveyance systems.

(f) **Alternate design.** An applicant may propose and the department may approve an alternative design for a leach stockpile located within an open pit surface drainage area provided that the stockpile and solution capture systems are designed to maximize leach solution capture considering the site-specific conditions of the open pit, underlying geology and hydrology, and leach solutions will not migrate outside of the open pit surface drainage area.

(2) **Solution extraction/electrowinning (SX/EW) ~~facilities~~plants.** All SX/EW ~~facilities~~plants shall be designed to contain all associated process fluids within impermeable vessels with secondary containment or process water impoundments meeting the requirements of Subsection D of 20.6.7.17 NMAC. All pipeline and tank systems associated with ~~the SX/EW facilities~~plants shall be designed and operated pursuant to 20.6.7.23 NMAC.

**B. Construction.**

(1) **New leach stockpile and SX/EW ~~facilities~~plants.** Construction of a new leach stockpile or SX/EW ~~facility~~plant, including expansion of an existing leach stockpile beyond its ground surface footprint on the effective date of the copper mine rule, shall be performed in accordance with the applicable engineering requirements of Subsection A of 20.6.7.20 and 20.6.7.17 NMAC.

(2) **Existing leach stockpiles.** A leach stockpile system, including its associated solution collection or containment system, at a copper mine facility in existence on the effective date of the copper mine rule is not required to meet the design and construction requirements of Subsection A of 20.6.7.20 NMAC and may continue to operate as previously permitted under a discharge permit subject to compliance with the contingency requirements of 20.6.30 NMAC. A permit issued for such an existing leach stockpile system after the effective date of the copper mine rule may include the conditions of the existing discharge permit, which shall not be considered to be "additional conditions" under Subsection I of 20.6.7 NMAC.

**C. Operational requirements.**

(1) **Leach stockpile operating requirements.** A permittee operating a leach stockpile shall operate the stockpile pursuant to the following requirements.

- (a) The stockpile shall remain within the area identified in the discharge permit.
- (b) The perimeter of the stockpile and the solution collection system shall be inspected

monthly.

(c) Any evidence of instability in the stockpile that could potentially result in a slope failure or an unauthorized discharge shall be reported to the department as soon as possible, but not later than 24 hours after discovery and corrected pursuant to Subsection ~~F-H~~ of Section 20.6.7.30 NMAC.

(d) Any leaks or spills of PLS or leach solutions outside the leach stockpile or containment system shall be recorded and reported pursuant to 20.6.2.1203 NMAC.

(e) If seeps occur they shall be monitored on a monthly basis and an estimate of the seep flow rate shall be made. Monthly records of the seep inspections and flow rates shall be maintained and included in the site monitoring reports.

(f) Leach solution application rates shall not exceed the maximum rates approved in the discharge permit.

(g) The daily leach solution application and PLS collection rate shall be determined using flow meters installed in accordance with this Section and Paragraph (5) of Subsection C of 20.6.7.17 NMAC.

(h) The daily rate and monthly volume of leach solution applied and PLS collected shall be recorded, maintained, and included in the site monitoring reports.

(2) **Solution extraction/electrowinning (SX/EW) ~~facilities~~plants.** A permittee operating a SX/EW ~~facility~~plant shall operate the ~~facility~~SX/EW plant pursuant to the following requirements.

(a) All solution management and extraction operations shall be contained within pipeline and tank systems designed and operated pursuant to 20.6.7.23 NMAC or process water impoundments meeting the requirements of Subsection D of 20.6.7.17 NMAC.

(b) Sludge and spent electrolyte from the SX/EW facility plant shall be either placed upon the leach stockpile for leaching or disposed of at an approved facility location.

#### 20.6.7.21 REQUIREMENTS FOR COPPER MINE WASTE ROCK STOCKPILES

##### A. Material characterization requirements:

(1) **Material characterization and acid mine drainage prediction.** All waste rock stored, deposited or disposed of at a copper mine facility shall be evaluated for its potential to generate acid and/or to release water contaminants at levels in excess of the standards of 20.6.2.3103 NMAC. A plan for determining the potential of the material to release water contaminants, and the method for such evaluations shall be submitted to the department for approval in a material characterization plan that includes the following.

(a) The geologic, mineralogical, physical, and geochemical characteristics of the material stored, deposited or disposed of at the copper mine facility.

(b) A sampling and analysis plan to provide representative samples of the entire range of material stored, deposited or disposed of at the copper mine facility. The plan shall include quality assurance/quality control procedures to be implemented to ensure the validity of the sample results. The plan shall consider the following factors in collecting and establishing representative samples:

- (i) lithological variations;
- (ii) particle size distribution of each lithology;
- (iii) hydraulic conductivity, water content and matric suction relationship for each

lithology;

- (iv) mineralogical and textural variations;
- (v) the nature and extent of sulfide mineralization;
- (vi) color variation;
- (vii) degree and nature of fracturing;
- (viii) variations in oxidation and reducing conditions; and
- (ix) the nature and extent of secondary mineralization.

(c) A static testing program using, at a minimum, acid/base accounting, or a department approved equivalent testing method, to evaluate the acid generation and neutralization potential of the material; and meteoric water mobility procedure or other department approved method for whole rock testing to determine water contaminant leaching potential.

(d) If the results of static testing indicate that a material may be acid generating and/or may generate a leachate containing water contaminants, a kinetic testing program shall be proposed to evaluate reaction rates, provide data to estimate drainage quality, the lag time to acidification of the material, and primary weathering and secondary mineral precipitation/dissolution as it may affect acidification, neutralization and drainage quality. The length of and/or means of determining when kinetic tests will be discontinued shall be approved by the department prior to implementation of the kinetic testing program. If a liner system is proposed for storage or disposal of waste rock pursuant to Subparagraph (d) of Paragraph (1) of Subsection B of this Section, a kinetic testing program is not required.

(e) If the results of the static testing or kinetic testing indicate that the material will be acid generating and/or generate water contaminants, and the materials will be placed outside of an open pit surface drainage area, a plan shall be submitted to the department to evaluate whether discharges of leachate from the stockpile may cause an exceedance of applicable standards, including an evaluation of the geology and hydrology of the area where the material is to be stored placed. The plan may include either a department approved model or a monitored, large scale field testing program or other department approved demonstration.

(f) If an interceptor system pursuant to Subparagraph (d) of Paragraph (1) of Subsection B of this Section or a liner system is proposed for storage or disposal of waste rock, the kinetic testing program is not required.

(2) **Material handling plan.** A permittee shall manage waste rock that may generate and/or release water contaminants according to a material handling plan approved by the department. The material handling plan shall address:

(a) segregation of acid generating materials and materials that may generate and/or release water contaminants and the method for handling, storage or disposal of the materials in a manner designed to prevent an exceedance of applicable standards;

**Comment [A13]:** Corrects an incomplete sentence.

**Comment [A14]:** This was in the material handling section below, but is actually part of the material characterization phase for determining if an impact to ground water will occur. Moved here with minor edits. Change by NMED.

**Comment [A15]:** Changed shall to may as an applicant may provide some other means of making this evaluation. Also removed language regarding a "large scale field testing program as this sounds essentially like building the waste rock unit and then monitoring it. The evaluation should be done prior to construction of the facility. That said, the new language would allow for a field demonstration proposal. Change by NMED.

**Comment [A16]:** This sentence was moved here from (d) above and "liner system" was replaced by "interceptor system to be consistent with the rule as drafted. Change by NMED

(b) stockpiling of non-acid generating materials for potential use in neutralizing acid generating materials or in reclamation;

(c) blending or layering of material types to maximize the benefit of acid neutralizing material;

(d) any chemical amendments of the waste rock;

(e) a description of any proposed containment system(s) proposed in accordance with Subsection B of 20.6.7.21 NMAC.

~~(e) if the results of the static testing or kinetic testing indicate that the material will be acid generating and/or generate water contaminants, and the materials will be placed outside of an open pit surface drainage area, a plan shall be submitted to the department to evaluate whether discharges of leachate from the stockpile may cause an exceedance of applicable standards, including an evaluation of the geologic and hydrologic area where the material is to be stored. The plan shall include either a department approved model or a monitored, large scale field testing program.~~

**B. Engineering design requirements for new waste rock stockpiles.** At a minimum, the following requirements shall be met in designing engineered structures for waste rock stockpiles at copper mine facilities unless the applicant or permittee can demonstrate that an alternate design will provide an equal or greater level of containment, that may generate water contaminants and/or acid mine drainage that may cause an exceedance of applicable standards, as determined through implementation of a material characterization and handling plan pursuant to Subsection A of 20.6.7.21 NMAC.

(1) **New waste rock stockpiles located outside an open pit surface drainage area.** New waste rock stockpiles located outside an open pit surface drainage area shall meet the following requirements unless the applicant or permittee demonstrates through material characterization or implementation of a material handling plan pursuant to Subsection A of this section that the waste rock pile will not cause an exceedance of applicable standards, unless the applicant or permittee can demonstrate that an alternate design will provide an equal or greater level of containment.

(a) Stormwater run-on shall be diverted and/or contained to minimize contact between stormwater run-on and the stockpiled material.

(b) Seepage from the sides of a waste rock stockpile shall be captured and contained through the construction of headwalls, impoundments and diversion structures as applicable.

(c) Ground water impacted by waste rock stockpiles in excess of applicable standards shall be captured and contained through the construction of interceptor systems as applicable.

(d) The applicant shall submit design plans signed and sealed by a qualified licensed New Mexico professional engineer along with a design report that includes the following:

— (i) the proposed areal extent and configuration of the waste rock stockpile;

— (ii) the topography of the site where the waste rock stockpile will be located;

— (iii) the geology of the site;

— (iv) the design of waste rock stockpile seepage collection systems, to be proposed based on consideration of site-specific conditions;

(v) the design of stormwater diversion structures to minimize contact between stormwater run-on and the waste rock material. The design shall consider the amount, intensity, duration and frequency of precipitation; watershed characteristics including the area, topography, geomorphology, soils and vegetation of the watershed; and run-off characteristics of the watershed including the peak rate, volumes and time distribution of run-off events.

(vi) an aquifer evaluation to determine the potential nature and extent of impacts to ground water from the waste rock stockpile based on the proposed waste rock stockpile design and geochemical characteristics. The aquifer evaluation shall include a complete description of aquifer characteristics and hydrogeologic controls on the movement of leachate from the waste rock stockpile and ground water impacted by the waste rock stockpile based on actual field data.

(vii) a design report for a proposed interceptor system for containment and capture of ground water impacted by the waste rock stockpile based on the aquifer evaluation required in Subparagraph (d) of Paragraph (1) of Subsection B of this Section. The design report shall include, at a minimum construction drawings and interceptor system performance information, recommended equipment including pumps and meters, recommended pump settings and pumping rates, methods for data collection, and a demonstration that the permittee has adequate water rights to operate the system as designed. The design report shall include a demonstration that the interceptor system design will capture ground water impacted by the waste rock stockpile such that applicable standards will not be exceeded at monitor well locations specified by 20.6.7.28 NMAC. The interceptor ~~well~~ system

**Comment [A17]:** Moved to 21.A(1)(e) above.

**Comment [A18]:** Change proposed by Olson to make this language consistent with Sections 20.6.7.20.A, 20.6.7.22.A, 20.6.7.23.A, and 20.6.7.26.A NMAC. This sentence was previously in Paragraph B(1) of this Section. This also replaces similar language that was in 20.6.7.B(1)(e) below.

**Comment [A19]:** Language proposed by Olson that clarifies when containment systems are required. Language similar to this was previously above in Paragraph B of this Section.

**Comment [A20]:** As written Section 21.A(2)(e) and 21.B above, if moving forward with an interceptor system design it has already been determined whether or not the unit will impact groundwater. This clarifies that the intent of this aquifer evaluation is to guide the design of an interceptor system. Change by NMED.

shall be designed to maximize capture of impacted ground water and minimize the extent of ground water impacted by the waste rock stockpile.

\_\_\_\_\_ (viii) within 120 days of completion of seepage collection and interceptor system construction, or liner system installation a final report shall be submitted to the department that includes complete as-built drawings and a summary of how the items in 20.6.7. ~~22A21.B.(41)(a)(i) thru 20.6.7.22A21.B.(41)(a)(iii)~~ were incorporated into the design.

\_\_\_\_\_ (be) If ~~the permittee or~~ the department determines that the proposed waste rock stockpile, seepage collection and interceptor systems, when operated in accordance with the design plan specified in this Paragraph, would cause ground water to exceed applicable standards at monitoring well locations specified by 20.6.7.28 NMAC, ~~the applicant may propose, or~~ the department ~~may shall~~ require additional controls including which may include but are not limited to a liner system as additional conditions in accordance with 20.6.7.10.H NMAC.

(2) **New waste rock stockpiles located inside an open pit surface drainage area.** Stormwater run-on shall be diverted or contained to minimize contact between stormwater run-on and the stockpiled material.

**C. Construction.**

(1) **New waste rock stockpiles.** Construction of a new waste rock stockpile shall be performed in accordance with the applicable engineering requirements of Subsection B of 20.6.7.21 NMAC and 20.6.7.17 NMAC.

(2) **Existing waste rock stockpiles.** A waste rock stockpile in existence on the effective date of the copper mine rule is not required to meet the design and construction requirements of Subsection B of 20.6.7.21 NMAC and may continue to operate as previously ~~permitted-authorized~~ under a discharge permit unless ground water monitoring of the stockpile pursuant to 20.6.7.28 NMAC requires implementation of corrective action under Subsection A of 20.6.7.30 NMAC. A permit issued for such an existing waste rock stockpile after the effective date of the copper mine rule may include the conditions of the existing discharge permit, which shall not be considered to be "additional conditions" under Subsection I of 20.6.7 NMAC.

**D. Operational requirements.** A permittee operating a waste rock stockpile shall operate the stockpile pursuant to the following requirements.

(1) The stockpile shall remain within the area identified in the approved design plan required in Paragraph (1) of Subsection B of 20.6.7.21 NMAC.

(2) The perimeter of the stockpile and the solution collection systems ~~facilities~~ shall be inspected monthly.

(3) Any evidence of mass instability in the stockpile that could potentially result in a slope failure that may result in an unauthorized discharge shall be reported to the department as soon as possible, but not later than 24 hours after discovery and corrected pursuant to Subsection ~~I-H~~ of Section 20.6.7.30 NMAC.

(4) Any leaks or spills of leachate outside the waste rock stockpile and any associated containment system shall be recorded and reported pursuant to 20.6.2.1203 NMAC.

(5) If seeps occur, they shall be monitored on a monthly basis and an estimate of the seep flow rate shall be made. Monthly records of the seep inspections and flow rates shall be maintained and included in the site monitoring reports.

(6) Interceptor system collection rates shall be determined using flow meters installed in accordance with Paragraph (5) of Subsection C of 20.6.7.17 NMAC.

(7) The placement of waste rock shall be in accordance with an operating plan that describes the sequencing of waste rock deposition on an annual basis, operation of seepage collection systems, operation of interceptor systems, operation of systems to return water to the concentrator or other locations as appropriate, and any other water management features.

(8) If an interceptor system to maintain capture of ground water impacted by a waste rock stockpile exists, the permittee shall submit an interceptor system monitoring and evaluation report pursuant to 20.6.7.29 NMAC.

**20.6.7.22 REQUIREMENTS FOR COPPER CRUSHING, MILLING, CONCENTRATOR, SMELTING AND TAILINGS IMPOUNDMENT ~~FACILITIES~~ UNITS**

**A. Engineering design requirements.** At a minimum, the following requirements shall be met in designing crushing, milling, concentrating, smelting and tailings ~~impoundment facilities~~ units at copper mine facilities unless the applicant or permittee can demonstrate that an alternate design will provide an equal or greater level of containment.

**Comment [A21]:** There is no consideration in 20.6.7.10.H for a permittee to propose additional conditions. Language in 21.A.(1)(f) above provides an option for the permittee to propose a liner system in lieu of an interceptor system.. Same change in 22.A(4)(e) below. Change by NMED.

**Comment [A22]:** Change by NMED to make existing permit condition language consistent throughout rule. Olson had proposed adding this language to 20.6.7.10.J. NMED has instead added this language to the pertinent sections of the rule.

(1) **New crushing and milling facilities~~units~~.** New crushing and milling ~~facilities~~units, including associated ore storage, except when located within the open pit surface drainage area, shall be designed to contain and manage all materials containing water contaminants that have the potential to migrate to ground water and cause an exceedance of applicable standards on concrete or low permeability surfaces approved by the department.

(2) **New concentrator ~~facilities~~units.** New concentrator ~~facilities~~units shall be designed to contain and manage in tank and pipeline systems designed and operated pursuant to 20.6.7.23 NMAC all materials containing water contaminants that have the potential to migrate to ground water and cause an exceedance of applicable standards. Tailing and concentrate thickener tanks may be constructed with concrete or low permeability bottoms consisting of a minimum of 12 inches of soil that has a minimum re-compacted in-place coefficient of permeability of  $1 \times 10^{-6}$  cm/sec. The tank designs shall be based on plans and specifications signed and sealed by a licensed New Mexico professional engineer. For low permeability bottoms, such plans and specifications shall describe how process rates, material density and settling rates were considered in the design to minimize infiltration such that water contaminants in the tank will not migrate to ground water and cause an exceedance of applicable standards.

(3) **New smelting ~~facilities~~units.** New smelting ~~facilities~~units shall be designed to contain and manage on impermeable surfaces all materials, including associated slag and flue dust, containing water contaminants that have the potential to migrate to ground water and cause an exceedance of applicable standards.

(4) **New tailings impoundments.** Tailings impoundments shall be designed according to the following requirements.

(a) Stormwater run-on shall be diverted and/or contained to minimize contact between stormwater run-on and the tailing material.

(b) Seepage from the sides of a tailing impoundment shall be captured and contained through the construction of headwalls, impoundments and diversion structures as applicable.

(c) Ground water impacted by the tailing impoundment in excess of applicable standards shall be captured and contained through the construction of interceptor systems ~~as applicable~~designed in accordance with 20.6.7.22.A(4)(d) NMAC.

(d) The applicant shall submit design plans signed and sealed by a licensed New Mexico professional engineer along with a design report that includes the following:

(i) the annual volumes and daily maximum design rates of tailings or other discharge approved by the department to be deposited in the impoundment;

(ii) the topography of the site where the impoundment will be located;

(iii) the geology of the site;

(iv) the design footprint of the tailing impoundment;

(v) the design of tailing seepage collection systems, to be proposed based on consideration of site-specific conditions;

(vi) the design of stormwater diversion structures to minimize contact between stormwater run-on and the tailing material. The design shall consider the amount, intensity, duration and frequency of precipitation; watershed characteristics including the area, topography, geomorphology, soils and vegetation of the watershed; and run-off characteristics of the watershed including the peak rate, volumes and time distribution of run-off events.

(vii) an aquifer evaluation to determine ~~the potential~~ nature and extent of impacts on ground water from the tailings impoundment based on the proposed tailings impoundment design. The aquifer evaluation shall include a complete description of aquifer characteristics and hydrogeologic controls on movement of tailing drainage and ground water impacted by the tailings impoundment.

(viii) a design report for a proposed interceptor system for containment and capture of ground water impacted by the tailings impoundment based on the aquifer evaluation required in Subparagraph (d) of Paragraph (4) of Subsection A of this Section. The design report shall include, at a minimum construction drawings and interceptor system performance information, recommended equipment including pumps and meters, recommended pump settings and pumping rates, methods for data collection, and a demonstration that the permittee has adequate water rights to operate the system as designed. The design report shall include a demonstration that interceptor system design will capture ground water impacted by the tailings impoundment such that applicable standards will not be exceeded at monitoring well locations specified by 20.6.7.28 NMAC. The interceptor system shall be designed to maximize capture of impacted ground water and minimize the extent of ground water impacted by the tailings impoundment.

(ix) within 120 days of seepage collection and interceptor well system construction, or liner system installation a final report shall be submitted to the department that includes complete as-built drawings

**Comment [A23]:** This clarifies that the intent of the aquifer evaluation is to guide the design of an interceptor system. Change by NMED



and a summary of how the items in 20.6.7.22A.(4)(a)(~~vi~~) thru 20.6.7.22A.(4)(~~ad~~)(~~vii~~) were incorporated into the design.

(c) If ~~the permittee or~~ the department determines that the proposed tailings impoundment, seepage collection and interceptor systems, when constructed and operated in accordance with the design plan specified in this Paragraph, would cause ground water to exceed applicable standards at monitoring well locations specified by 20.6.7.28 NMAC, ~~the permittee may propose, or~~ the department ~~may shall require~~ additional controls, ~~including which may include~~ but ~~are~~ not limited to, a liner system as additional conditions in accordance with Subsection I of 20.6.7.10 NMAC.

(5) **New dry stack tailing piles.** New dry stack tailings piles ~~located outside an open pit surface drainage area~~ shall comply with the material characterization, engineering design, construction, and operational requirements of 20.6.7.21 NMAC, as applicable.

#### **B. Construction.**

(1) **New crushing, milling, concentrating, smelting, or tailings impoundment facility.** Construction of a new crushing, milling, concentrating, smelting, or tailings impoundment ~~facility~~ shall be performed in accordance with the applicable engineering requirements of Subsection A of 20.6.7.22 and 20.6.7.17 NMAC.

(2) **Existing crushing, milling, concentrating, smelting or tailings impoundments.** Crushing, milling, concentrating, smelting and tailings impoundments at an existing copper mine facility in existence on the effective date of the copper mine rule are not required to meet the liner, design, and construction requirements of Subsection A of 20.6.7.22 NMAC and may continue to operate as previously ~~permitted-authorized~~ under a discharge permit subject to compliance with the contingency requirements of 20.6.7.30 NMAC so long as they are maintained within the existing footprint. ~~Permit conditions contained in an existing discharge permit may be included in a discharge permit issued under the copper mine rule, and such conditions shall not be considered to be "additional conditions" under Subsection I of 20.6.7.10 NMAC. A permit issued for such an existing crushing, milling, concentrating, smelting or tailings impoundment after the effective date of the copper mine rule may include the conditions of the existing discharge permit, which shall not be considered to be "additional conditions" under Subsection I of 20.6.7 NMAC.~~

#### **C. Operational Requirements.**

(1) **Tailings impoundment operating requirements.** A permittee operating a tailings impoundment shall operate the impoundment pursuant to the following requirements.

- (a) The tailings impoundment shall remain within the area identified in the approved design.
- (b) The perimeter of the tailings impoundment and any associated solution collection systems ~~facilities~~ shall be inspected monthly.
- (c) Any evidence of instability in the tailings impoundment that could potentially result in a dam failure and an unauthorized discharge shall be reported to the department as soon as possible, but not later than 24 hours after discovery.
- (d) Any leaks or spills outside the tailings impoundment and any associated containment system shall be recorded and reported pursuant to 20.6.2.1203 NMAC.
- (e) If seeps occur, they shall be monitored on a monthly basis and an estimate of the seep flow rate shall be made. Monthly records of the seep inspections and flow rates shall be maintained and included in the site monitoring reports.
- (f) The monthly volume of tailings placed in the impoundment shall be recorded, maintained, and included in the site monitoring reports.
- (g) Tailings deposition rates shall not exceed the maximum rates approved in the discharge permit.
- (h) The daily tailings deposition and associated solution system collection rate shall be determined using flow meters installed in accordance with Paragraph (5) of Subsection C of 20.6.7.17 NMAC.
- (i) The average daily rate and monthly volume of tailings deposited and solution collected shall be recorded, maintained, and included in the site monitoring reports.
- (j) The placement of tailings and effluent shall be in accordance with an operating plan that describes the following:
  - (i) the sequencing of tailings deposition on an annual basis;
  - (ii) measures to manage the surface impoundment area to maintain adequate freeboard;
  - (iii) operation of seepage collection systems;
  - (iv) operation of interceptor systems;

**Comment [A24]:** Same change as for waste rock stockpiles above in comment A23.

**Comment [A25]:** Edit proposed by Olson, GRIP and Amigos Bravos. The intent of the material characterization is to insure proper handling of material. Following that characterization a proposal for how the material is handled to insure containment will occur, which may include placement within the OPSDA.

**Comment [A26]:** Change by NMED to make the existing permit condition language consistent throughout the rule. Olson proposed adding this language to 20.6.7.10.J. NMED has instead added the language to pertinent sections of the rule.

- (v) operation of systems to return water to the concentrator or other locations as appropriate and
- (vi) any other water management features.
- (k) If an interceptor system to maintain capture of ground water impacted by a tailings impoundment exists on the effective date of the Copper Rule, the permittee shall submit an interceptor system monitoring and evaluation report pursuant to 20.6.7.29 NMAC.
- (2) **Smelting facilities units.** A permittee operating a smelting facility unit shall operate pursuant to the following requirements.
  - (a) The smelting facility unit shall remain within the area identified in the discharge permit.
  - (b) Slag and flue dust generated as a result of smelting activities shall be characterized, managed, and properly stored and disposed of.
  - (c) Any leaks or spills outside the containment systems of the smelter facility unit shall be recorded and reported pursuant to 20.6.2.1203 NMAC.
- (3) **Crushing, milling and concentrating unit operating requirements.** A permittee operating a crushing, milling, or concentrating facility unit shall operate pursuant to the following requirements.
  - (a) The crushing, milling and concentrating operations shall remain within the area identified in the discharge permit.
  - (b) All containment system structures shall be inspected monthly.
  - (c) Any leaks or spills of process water outside the containment system shall be recorded and reported pursuant to 20.6.2.1203 NMAC.

#### 20.6.7.23 REQUIREMENTS FOR NEW PIPELINES AND TANKS

**A. Engineering design requirements.** At a minimum, the following requirements shall be met in designing new pipeline or tank systems at copper mine facilities that contain process water or impacted stormwater unless the applicant or permittee can demonstrate that an alternate design will provide an equal or greater level of containment.

- (1) **New Pipelines.** New pipelines shall:
  - (a) be constructed of impermeable materials that are compatible with the particular contents that are contained and carried in the pipeline and are resistant to degradation by ultraviolet light if they will be exposed to sunlight;
  - (b) for pipelines located outside of the open pit surface drainage area and outside an area authorized for discharge of process water, impacted stormwater or tailings, incorporate a mechanism for monitoring the integrity of the pipeline system including visual inspections, pressure change sensors, or other appropriate means; and
  - (c) for pipelines located outside of the open pit surface drainage area and outside an area authorized for discharge of process water, impacted stormwater or tailings, incorporate a mechanism of secondary containment to contain and control leaks and spills including berms, placement within or drainage toward areas authorized for discharge of the conveyed fluids, and impoundments that are constructed consistent with the requirements of Subsection D of 20.6.7.17.D NMAC.
- (2) **Tanks.** New tank systems shall meet the following requirements.
  - (a) Tanks shall be designed and constructed of steel, concrete or impermeable materials that are compatible with the particular contents that are contained within the tank and resistant to degradation by ultraviolet light where exposed to sunlight.
  - (b) A tank system shall have a constructed foundation consisting of a stable, level base free of rocks, debris, sharp edges or irregularities that could puncture, crack or indent the tank materials.
  - (c) A tank system shall be designed to prevent overflow and the collection of surface water run-on.
  - (d) An above-ground tank system shall be bermed to contain 110 percent of the volume of the largest tank within the system or the largest interconnected tanks.
  - (e) A below-grade tank system shall either be placed in such a manner that the side walls are open for visual inspection or the tank shall be designed with a secondary containment and leak detection system.

#### **B. Construction.**

- (1) **New pipeline and tank facilities units.** Construction of a new pipeline or tank system shall be performed in accordance with the applicable requirements of Subsection A of 20.6.7.23 NMAC and 20.6.7.17 NMAC.

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(2) **Existing pipeline and tank facilities**~~units~~. A pipeline or tank system in existence on the effective date of the copper mine rule is not required to meet the design requirements of Subsection A of 20.6.7.23 NMAC and may continue to operate as previously permitted under a discharge permit provided that, for a tank in contact with the ground surface and located outside an open pit surface drainage area, it is inspected and tested at least once every ten years for integrity pursuant to Subsection C of 20.6.7.23 NMAC. If an existing tank or pipeline system cannot maintain integrity it shall be replaced in accordance with the engineering requirements of Subsection A of 20.6.7.23 NMAC and 20.6.7.17 NMAC as applicable. A permit issued for such an existing tank or pipeline system after the effective date of the copper mine rule may include the conditions of the existing discharge permit, which shall not be considered to be "additional conditions" under Subsection I of 20.6.7 NMAC.

**C. Operational requirements.** A permittee operating a pipeline or tank system shall operate the system pursuant to the following requirements, as applicable.

- (1) Pipelines and tanks shall remain within the area identified in the discharge permit.
- (2) Pipelines, tanks and secondary containment systems shall be inspected on a monthly basis.
- (3) The permittee shall maintain and operate a below-grade tank(s) to prevent overtopping of the

tank(s).

(4) Any evidence of leaks or spills of fluids, process water or tailings from a pipeline or tank system outside of permitted secondary containment systems or outside an area permitted for discharge shall be recorded, reported and corrected pursuant to Subsection ~~H-G~~ of 20.6.7.30 NMAC.

(5) Any evidence of leaks or spills of fluids, process water or tailings from a pipeline or tank system inside of permitted secondary containment systems or inside an area permitted for discharge shall be recorded and reported to the department in the semiannual reports submitted pursuant to Subsection A of 20.6.7.29 NMAC.

(6) Existing pipelines that do not meet the engineering requirements of Subsection A of 20.6.7.23 shall be tested-evaluated for integrity at least once every five years. A pipeline testing-evaluation plan for such pipelines shall be included in an application for renewal of a discharge permit for a copper mine facility.

(7) Existing below-grade tanks that do not meet the engineering requirements of Subsection A of 20.6.7.23 NMAC shall be emptied and visually inspected for integrity at least once every five years.

(8) A written record of all pipeline and tank system inspections and integrity testing shall be maintained by the permittee for a period of at least five years.

(9) Any wastes generated from the cleaning of pipeline or tank systems shall be disposed of offsite in accordance with applicable laws or onsite in a manner approved by the department.

#### 20.6.7.24. REQUIREMENTS FOR OPEN PITS

**A. Operational requirements.** A permittee operating an open pit shall operate the open pit pursuant to the following requirements, as applicable.

- (1) The open pit shall remain within the area identified in the discharge permit.
- (2) Stormwater shall be diverted outward and away from the perimeter of the open pit and, to the extent practicable, shall not be directed into the open pit.

(3) Water generated from within the perimeter of the open pit and pit dewatering activities shall be managed according to a mine operation water management plan. The water management plan shall be submitted to the department for approval in a discharge permit application for a new copper mine facility or in an application for a discharge permit renewal.

(4) During operation of an open pit, the standards of 20.6.2.3103 NMAC do not apply within the area ~~-~~ of open pit hydrologic containment.

(5) The design and location of ~~each~~ stockpiles, waste rock piles, and other regulated mine ~~facilities~~ units in and surrounding an open pit surface drainage area shall be designed and located to facilitate the drainage of water away from ~~minimize~~ -the size of the open pit surface drainage areas to the extent practicable.

#### 20.6.7.25 REQUIREMENTS FOR UNDERGROUND COPPER MINE FACILITIES:

**A. Material characterization requirements:** All waste rock removed from an underground mine and taken to the surface shall be characterized and managed pursuant to the copper mine rule. Any waste rock removed from an underground copper mine facility, any tailings or any other waste that is intended to be deposited in the mine shall be evaluated for its potential to generate acid and/or to release water contaminants that would cause an exceedance of applicable standards following placement in the underground mine ~~facility~~. A plan for determining the potential of the material to release water contaminants, and the method for such evaluations, shall be submitted to the department for approval in a material characterization plan pursuant to Paragraph (1) of Section A of 20.6.7.21 NMAC.

**Comment [A27]:** Change by NMED to make existing permit condition language consistent throughout rule. Olson had proposed adding this language to 20.6.7.10.J. NMED has instead added this language to the pertinent sections of the rule.

**Comment [A28]:** This was an FMI suggested change (Tim Eastep) that is appropriate.

**Comment [A29]:** Change by NMED to more clearly state the intent of this language. The previous language was taken from the Tyrone Settlement and was not clear in the intent. FMI objected to the previous language during the hearing.



**B. Deposition of material in an underground copper mine.** A permittee of an underground copper mine facility shall not:

- (1) deposit any waste rock or tailings in an underground mine that may generate a leachate that may cause an exceedance of applicable standards as determined by Subsection A of this Section;
- (2) deposit any other wastes in an underground mine unless deposition of the waste is expressly authorized by a discharge permit approved by the department.

**C. Operational requirements.** A permittee authorized to deposit waste rock, tailings or other waste in an underground copper mine shall maintain records of the monthly volume of waste rock, tailings or waste placed in the mine, and include this information in the site monitoring reports submitted pursuant to 20.6.7.29 NMAC.

#### **20.6.7.26 REQUIREMENTS FOR TRUCK AND EQUIPMENT WASHING ~~FACILITIES~~ UNITS**

**A. Engineering design requirements.** At a minimum, the following requirements shall be met in designing new truck and equipment washing ~~facilities~~ units at copper mine facilities unless the applicant or permittee can demonstrate that an alternate design will provide an equal or greater level of containment.

- (1) Truck and equipment washing shall be conducted on a concrete pad or a pad constructed of materials of equivalent or lower permeability designed to capture all wash water.
- (2) Captured wash water shall freely drain from the containment pad and when necessary be conveyed to an oil water separator to remove oil and grease from the wash water.
- (3) Wash water from the oil water separator shall be conveyed to a tank system designed and constructed pursuant to 20.6.7.23 NMAC, an impoundment meeting the requirements of Subsection D of 20.6.2.7.17 NMAC, or may be directed to the mine process water circuit for use.

##### **B. Construction.**

(1) **New ~~wash facilities~~ units for trucks or equipment ~~wash facilities~~.** Construction of new truck or equipment wash ~~facility~~ shall be performed in accordance with the applicable engineering requirements of Subsection A of 20.6.7.26 NMAC and 20.6.7.17 NMAC.

(2) **Existing ~~wash facilities~~ units for trucks and equipment ~~wash facilities~~.** A truck or equipment wash ~~facility~~ unit in existence on the effective date of the copper mine rule and located outside of the open pit surface drainage area shall meet the design requirements of Subsection A of 20.6.7.26 NMAC within one year of the approval of a discharge permit renewal pursuant to the copper mine rule.

**C. Operational requirements.** A permittee operating a truck or equipment wash ~~facility~~ unit at a copper mine facility shall operate pursuant to the following requirements.

- (1) The truck or equipment wash ~~facility~~ unit shall remain within the area identified in the discharge permit.
- (2) Wash water generated at the ~~facility~~ unit shall be contained within the designed containment pad, separator and tank system, or impoundment until treated to meet applicable standards for discharge or conveyed to the process water circuit.
- (3) The tank systems associated with the ~~facility~~ unit shall meet the operational requirements of 20.6.7.26 NMAC.
- (4) Any leaks or spills of wash water from the containment pad, separator, tank system or impoundment shall be recorded, reported and corrected pursuant to Subsection ~~H-G~~ of 20.6.7.30 NMAC.
- (5) Any wastes generated from the oil water separator or the tank system shall be disposed of offsite in accordance with applicable laws or onsite in a manner approved by the department.

#### **20.6.7.27 RESERVED**

**20.6.7.28 WATER QUALITY MONITORING REQUIREMENTS FOR ALL COPPER MINE FACILITIES:** The following water quality monitoring requirements apply to all copper mine facilities unless otherwise specified.

**A. Monitoring wells - location proposals.** An applicant for a new, renewed or modified discharge permit or permittee shall submit a plan for department approval identifying the proposed location of monitoring wells required pursuant to Subsection B of this Section, and shall include the following information.

- (1) The location of each monitoring well relative to the unit of the copper mine facility it is intended to monitor shall be indicated on the scaled map required by Subsection J of 20.6.7.11 NMAC
- (2) The ground water flow direction beneath the copper mine facility used to determine the monitoring well location(s), including supporting documentation used to determine ground water flow direction.

**Comment [A30]:** Change suggested by FMI to clarify meaning.

**B. Monitoring wells - required locations.** A permittee shall monitor ground water quality as close as practicable around the perimeter and downgradient of each open pit, leach stockpile, waste rock stockpile, tailings impoundment, process water impoundment, and impacted stormwater impoundment. The department may require additional wells around the perimeter of mine units that are underlain by areas where ground water flow directions are uncertain, including fracture flow systems, and around copper mine units that have the potential to cause ground water mounding. The department may require additional monitoring wells at any other unit of a copper mine facility that has the potential to cause an exceedance of applicable standards as additional permit conditions in accordance with Subsection I of 20.6.7.10 NMAC. Monitoring wells shall be located pursuant to this Section to detect an exceedance(s) or a trend towards exceedance(s) of the ground water applicable standards at the earliest possible occurrence, so that investigation of the extent of contamination and actions to address the source of contamination may be implemented as soon as possible.

(1) **Use of existing monitoring wells.** A monitoring well in existence before the effective date of the copper mine rule shall be deemed to be in an approved location for ground water monitoring purposes provided the following requirements are met.

- (a) The monitoring well location was previously approved by the department; and,
- (b) The monitoring well is constructed as previously approved by the department; or
- (c) If the monitoring well and construction was not previously approved by the department, the

applicant or permittee can demonstrate that the well meets the location and construction requirements of this section.

(2) **Ground water monitoring – leach stockpiles, waste rock stockpiles, tailings impoundments.** A permittee shall install monitoring wells around the perimeter and downgradient of the perimeter ~~of each~~ new leach stockpile, waste rock stockpile and tailings impoundment located outside of the open pit surface drainage area, including its leachate and solution capture and containment systems, to adequately monitor ground water that may be impacted by water contaminants from those units. Each monitoring well shall be installed as close as practicable to the proposed leach stockpile, waste rock stockpile or tailings impoundment, including its leachate and solution capture and containment systems, taking into account surface topography, hydrogeologic conditions, geologic controls, infrastructure, engineering design plans, depth to ground water, working distance and safety.

(a) For a new copper mine facility, the monitoring well networks shall be installed at least 180 days before emplacement of ore, waste rock or discharge of tailings at an individual leach stockpile, waste rock stockpile or tailings impoundment to allow sampling prior to discharge.

(b) A permittee constructing a new leach stockpile, waste rock stockpile or tailings impoundment at an existing copper mine facility, or expanding the footprint of an existing leach stockpile, waste rock stockpile, or tailings impoundment, shall install the monitoring well networks required to monitor ground water around and downgradient of the leach stockpile, waste rock stockpile or tailings impoundment before emplacement of ore, waste rock or discharge of tailings unless an existing monitor well network adequately monitors water quality in the area of the new leach stockpile, waste rock stockpile or tailings impoundment.

(3) **Ground water monitoring – process water and impacted stormwater impoundments.** A minimum of ~~two~~ one monitoring ~~well~~ wells shall be located downgradient and within 75 feet (measured as horizontal map distance) or as close as practicable taking into account surface topography, hydrogeologic conditions, infrastructure, working distance and safety of each new process water or impacted stormwater impoundment located outside of an open pit surface drainage area.

(a) For a new copper mine facility, monitoring wells shall be installed at least 90 days before discharging to an individual process water or impacted stormwater impoundment at the copper mine facility to allow for sampling prior to discharge.

(b) A permittee constructing a new process water or impacted stormwater impoundment at an existing copper mine facility shall install the monitoring well(s) required to monitor ground water downgradient of the impoundment before discharging process water to the impoundment, before collecting impacted stormwater in the impoundment unless an existing monitor well network adequately monitors water quality in the area of the new impoundment.

(4) **Ground water monitoring – open pit.** A permittee shall install a sufficient number of monitoring wells around the perimeter of an open pit to monitor ground water quality and the hydrologic gradient around the pit.

(a) For a new open pit, an applicant or permittee shall submit a monitor well network installation plan to the department for approval. The plan shall include proposed locations of monitoring wells, a statement of the reasons for selection of the monitoring well locations, and a schedule for installation.

**Comment [A31]:** Addition proposed by AGO that is consistent with well location language elsewhere in this section.

**Comment [A32]:** AGO proposed insertion of “20.6.2.3103 NMAC”. To be consistent with other places in the rule the department has changed this to “applicable standards” since some areas of the mine may be subject to either background or alternate abatement standards in addition to the standards of 3103.

**Comment [A33]:** NMED change to make language consistent with B above and well location language elsewhere in the rule.

**Comment [A34]:** These are small impoundments required to have double liners with leak collection systems and most often only one well is necessary. The language would allow NMED to require additional wells if they are warranted. Change by NMED.

(5) **Ground water monitoring – upgradient of each potential contaminant source.** A minimum of one monitoring well shall be located upgradient of each new leach stockpile, waste rock stockpile, tailings impoundment, and process water and impacted stormwater impoundment at a copper mine facility to establish upgradient ground water quality conditions not likely to be affected by each contamination source that is being monitored. If an applicant or permittee has existing monitoring wells located appropriately to obtain sufficient background data at a copper mine facility and establish and monitor upgradient conditions, the department may waive the requirement for additional upgradient wells.

(a) For a new copper mine facility, upgradient source monitoring wells shall be installed a minimum of 180 days before emplacement of ore, waste rock or discharge of tailings or other water contaminants at an individual leach stockpile, waste rock stockpile, tailings impoundment or other impoundment.

(b) A permittee constructing a new leach stockpile, waste rock stockpile, tailings impoundment or other impoundment at an existing copper mine facility shall install the monitoring well(s) required to monitor ground water quality upgradient of a leach stockpile, waste rock stockpile, tailings impoundment or other impoundment before emplacement of ore, waste rock or discharging of tailings or water contaminants into the individual source required to be monitored.

(6) **Ground water monitoring – upgradient of the copper mine facility.** A sufficient number of monitoring wells shall be located upgradient of all potential ground water contamination sources at a copper mine facility to establish upgradient ground water quality conditions that are not affected by any potential contamination sources at the copper mine facility.

(a) For a new copper mine facility, upgradient monitoring wells shall be installed at least 180 days before ~~before~~ emplacement of ore, waste rock or discharge of tailings or other water contaminants at an individual leach stockpile, waste rock stockpile, tailings impoundment or other impoundment.

**C. Monitoring wells - identification tags.** A permittee shall clearly identify all monitoring wells required by the copper mine rule with a permanent well identification tag that contains well identification nomenclature included on the scaled map required by Subsection J of 20.6.7.11 NMAC.

**D. Monitoring wells - construction and completion.** A permittee shall construct monitoring wells pursuant to 19.27.4 NMAC and the following requirements unless the department approves of an alternate monitoring well construction and completion design based upon site-specific hydrogeologic conditions.

(1) All well drilling activities shall be performed by an individual with a current and valid well driller license issued by the state of New Mexico pursuant to 19.27.4 NMAC.

(2) The well driller shall employ drilling methods that allow for accurate determinations of water table locations unless otherwise approved by the department in advance of drilling. All drill bits, drill rods, and down-hole tools shall be thoroughly cleaned immediately before drilling. The borehole diameter shall allow a minimum annular space of two inches between the outer circumference of the well materials (casing or screen) and the borehole wall to allow for the emplacement of sand and sealant.

(3) The well shall be developed so that formation water flows freely through the screen and is not turbid, and sediment and drilling disturbances are removed from the well to the maximum extent practicable.

(4) Unless otherwise approved by the department, schedule 40 (or heavier) polyvinyl chloride (PVC) pipe, stainless steel pipe, or carbon steel pipe shall be used as casing. The casing shall have an inside diameter not less than two inches. The casing material selected for use shall be compatible with, and chemically inert with respect to the anticipated chemistry of the ground water and appropriate for the contaminants of interest at the copper mine facility. The casing material and thickness selected for use shall have sufficient collapse strength to withstand the pressure exerted by grouts used as annular seals and thermal properties sufficient to withstand the heat generated by the hydration of cement-based grouts.

(5) Casing sections shall be joined using welded, threaded, or mechanically locking joints. The method selected shall provide sufficient joint strength for the specific well installation.

(6) The casing shall extend from the top of the screen to at least 18 inches above ground surface. The top of the casing shall be fitted with a removable cap, and the exposed casing shall be protected by a locking steel well shroud. The shroud shall be large enough in diameter to allow easy access for removal of the cap. Alternatively, monitoring wells may be completed below grade. In this case, the casing shall extend from the top of the screen to six to twelve inches below the ground surface; the monitoring wells shall be sealed with locking, expandable well plugs; a flush-mount, watertight well vault that is rated to withstand traffic loads shall be emplaced around the wellhead; and the cover shall be secured with at least one bolt. The vault cover shall indicate that the wellhead of a monitoring well is contained within the vault.

(7) **Well Screen.**

(a) **For water table monitoring wells.** A maximum 20-foot section of continuous well screen shall be installed across the water table with at least five feet of well screen placed above the water table interface to allow for seasonal fluctuations. The department may approve a greater screen length based on the hydraulic properties of the aquifer, the hydrogeologic setting, predictable water level decline rates, or the depth of the well. Screen shall consist of continuous-slot, machine slotted, or other manufactured schedule 40 (or heavier) PVC or stainless steel. Screens created by cutting slots into solid casing with saws or other tools, other than as performed by the manufacturer, shall not be used. The screen material selected for use shall be compatible with the anticipated chemistry of the ground water and appropriate for the contaminants of interest at the copper mine facility. The screen slot size shall be selected to retain 90 percent of the filter pack.

(b) **For deep or confined aquifer monitoring wells.** Monitoring wells installed in confined aquifers or below the water table elevation of the shallowest aquifer to monitor ground water conditions in different aquifers at depth shall be installed with a maximum ten foot section of continuous well screen. The department may approve a greater screen length based on the hydraulic properties of the aquifer, the hydrogeologic setting, or the depth of the well. The top of the screen shall be placed at the location of the geologic boundary between the top of the aquifer and the bottom of confining aquifers. Screen shall consist of continuous-slot, machine slotted, or other manufactured schedule 40 or heavier PVC or stainless steel. Screens created by cutting slots into solid casing with saws or other tools shall not be used. The screen material selected for use shall be compatible with the anticipated chemistry of the ground water and appropriate for the contaminants of interest at the copper mine facility. The screen slot size shall be selected to retain 90 percent of the filter pack.

(8) Screen sections shall be joined using welded, threaded, or mechanically locking joints. The method selected shall provide sufficient joint strength for the specific well installation and shall not introduce constituents that may reasonably be considered contaminants of interest at the copper mine facility. A cap shall be attached to the bottom of the well screen.

(9) Casing and well screen shall be centered in the borehole by installing centralizers near the top and bottom of the well screen.

(10) A filter pack shall be installed around the screen by filling the annular space from the bottom of the screen to at least two feet above the top of the screen with clean silica sand using methods that prevent bridging. The filter pack shall be properly sized to exclude the entrance of fine sand, silt, and clay from the formation into the monitoring well. All filter pack placed deeper than twenty feet below land surface shall be placed by tremie pipe. The well shall be surged or bailed to settle the filter pack and additional sand added, if necessary, before the bentonite seal is emplaced.

(11) A bentonite seal shall be constructed immediately above the filter pack by emplacing bentonite chips or pellets, three eighths of an inch in size or smaller, in a manner that prevents bridging of the chips/pellets in the annular space. All bentonite seals placed deeper than twenty feet below land surface shall be placed by tremie pipe. The bentonite seal shall be a minimum of three feet in thickness and hydrated with clean water. Adequate time shall be allowed for expansion of the bentonite seal before installation of the annular space seal.

(12) The annular space above the bentonite seal shall be sealed with cement grout or bentonite-based sealing material acceptable to the state engineer in accordance with 19.27.4 NMAC. All annular sealing materials placed deeper than twenty feet below land surface shall be placed by tremie pipe. Annular space seals shall extend from the top of the bentonite seal to the ground surface for wells completed above grade, or to a level three to six inches below the top of casing for wells completed at or below grade.

(13) A concrete pad with a minimum two-foot radius and a minimum four-inch thickness shall be poured around the shroud or well vault and wellhead. The concrete and surrounding soil shall be sloped to direct rainfall and runoff away from the wellhead.

**E. Monitoring wells - office of the state engineer requirements.** A permittee shall obtain any well permits required by the office of the state engineer prior to well drilling.

**F. Ground water sample collection procedure.** A permittee shall perform all ground water sample collection, preservation, transport and analysis according to the following procedure.

(1) Depth to ground water shall be measured from the top of well casing at point of survey to the nearest 0.01 feet using an electronic water level indicator consisting of dual conductor wire encased in a cable or tape graduated to 0.01 feet, a probe attached to the end of the conductor wire, and a visual or audible indicator; pneumatically or by using a fiberglass or steel measuring tape using the chalk method, or other method approved by the department.

(2) Monitoring wells shall be purged before sample collection by one of the following methods, unless otherwise approved by the department.

(a) Three well volumes of water shall be purged from the well using conventional methods before sample collection; or

(b) The monitoring well shall be purged using low-flow purging methods as approved by the department until measurements of indicator parameters have stabilized. Low-flow purging shall be conducted with a low-flow pump using a low-stress approach, micro-purge method or minimal drawdown method. Indicator parameters shall be measured periodically during purging. A parameter stabilization log shall be kept during each sampling event for each monitoring well and include: date; water quality indicator parameter measurements; time for all measurements; and the purge volume extracted; or

(c) For low yield wells, the well shall be purged of all available water.

(3) Following purging and immediately before sample collection the following field parameters shall be measured and recorded: pH, specific conductance, and temperature.

(4) In-line flow-through cells shall be disconnected or by-passed during sample collection, if used during purging.

(5) Samples from the well shall be obtained, prepared, preserved and transported to an analytical laboratory for analysis pursuant to the methods authorized by Subsection B of 20.6.7.29 NMAC.

**G. Ground water sampling –existing copper mine facilities.** For existing copper mine facilities a permittee shall collect ground water samples from all monitoring wells, seeps and springs for the analytes and at the frequency specified in an existing discharge permit. A permittee shall submit to the department ~~in the~~ semi-annual monitoring reports containing the information required in Section 20.6.7.29 NMAC.

**H. Ground water sampling– reduction of sampling analytes.** A permittee may request approval from the department to reduce the sampling frequency of individual water quality analytes. The basis for consideration of reduction of sampling frequency may include a demonstration that the analyte is not present in the impoundment or mine unit being monitored, or could not be generated from the materials present through degradation, oxidation, decay or any other expected process. A permittee may also request approval from the department to reduce sampling frequency of an individual analyte if it has not been detected in a particular monitoring well, is consistently below the applicable standard, or is stable and predictable for eight consecutive quarters. Ground water sampling analyte lists and the frequency of sampling shall be reevaluated upon permit renewal.

**I. Ground water sampling - new monitoring wells.** A permittee shall submit to the department for approval a proposal for quarterly ground water sampling from each newly installed monitoring required pursuant to this Section. Sampling analyte lists shall be based on the geochemical characteristics of the solution or material contained in the impoundment or mine unit intended to be monitored, including constituents that can be generated from the materials present through degradation, oxidation, decay or any other expected process. Proposed analytes shall include field parameters as required in Subsection F of this Section, alkalinity-bicarbonate, alkalinity-carbonate, metals, and other analytes from Section 20.6.2.3103 NMAC as applicable.

(1) Samples shall be collected from each newly installed monitoring well required pursuant to this Section for a copper mine facility before emplacement of ore, waste rock or discharge of tailings or other water contaminants at an individual leach stockpile, waste rock stockpile, tailings impoundment or other impoundment.

(2) For copper mine facilities installing a new monitoring well during the term of a discharge permit, during construction of a new impoundment, or as a result of required corrective actions, samples shall be collected from the newly installed monitoring wells within 30 days of well completion and prior to commencing operation of the newly constructed facility unit as applicable.

**J. Monitoring well survey and ground water flow determination.** The permittee shall survey or otherwise locate monitoring wells and provide location information as required by this section. The coordinate location (northing and easting) shall be provided in the established coordinate system for the copper mine facility with an accuracy (rounded to the nearest foot/tenth meter) and shall also be provided to the department in one of the following coordinate systems: NM state plane (NAD 83) to the nearest foot, UTM (NAD 83) to the nearest tenth of a meter, or latitude/longitude (Lat/Long - WGS84) to the nearest tenth of a second. Elevation of the ground surface at the well location shall be provided to the nearest foot above mean sea level. Elevation of the water level measuring point shall be provided to the nearest hundredth of a foot above mean sea level. The water level measuring point for monitoring wells shall be clearly marked on the casing. Depth to -ground water at each monitoring well location shall be measured from the point of survey to the nearest hundredth of a foot in all surveyed wells pursuant to Subsection F of this Section, and the data shall be used to develop a map showing the location of all monitoring wells and the direction and gradient of ground water flow at the copper mine facility.

**Comment [A35]:** Change suggested by FMI (Blandford) that is acceptable. This is simply a request for department approval, not an automatic reduction as it was worded in the original draft.

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**K. Monitoring well completion report.** A permittee shall submit to the department a monitoring well completion report for all newly installed monitoring wells. The report shall be submitted within 60 days of completion of installation of the monitoring well. The report shall contain the following information.

(1) Construction and lithologic logs for the new monitoring wells including well record information specified by 19.27.4 NMAC.

(2) Depth to ground water measured in each new monitoring well.

(3) Survey data and a survey map showing the locations of each new monitoring well and a ground water elevation contour map developed pursuant to Subsection L of this Section.

(4) Analytical results of ground water samples collected from the new monitoring wells, including laboratory quality assurance and quality control summary reports, and field parameter measurements.

**L. Ground water elevation contour maps.** A permittee shall develop ground water elevation contour maps on a semi-annual basis using data associated with all monitoring wells installed in the appropriate geologic formation and as required pursuant to this Section. Top of casing elevation data, obtained from monitoring well surveys completed pursuant to this section and quarterly depth to ground water measurements in monitoring wells shall be used to calculate ground water elevations at monitoring well locations. Ground water elevations between monitoring well locations shall be estimated using common interpolation methods. Ground water elevations shall be expressed in feet. A contour interval appropriate to the data shall be used. Ground water elevation data used to create potentiometric maps shall be limited to data collected during the quarter being reported. Ground water elevation contour maps shall depict the ground water flow direction, using arrows, based on the orientation of the ground water elevation contours, and the location and identification of each monitoring well and monitored structure or impoundment. A permittee shall submit ground water elevation contour maps to the department in the semi-annual monitoring reports, and submit annually a map showing the extent of the existing open pit surface drainage area as defined in Paragraph (43) of Subsection B of 20.6.7.7 NMAC.

**M. Perennial stream sampling and reporting - routine.** A permittee shall submit to the department for approval a proposal to collect quarterly surface water samples from each perennial surface waters of the state within a copper mine facility as necessary to monitor potential ground water inflow to the perennial surface water. Analytes to be sampled and analyzed shall be based on the geochemical characteristics of the solution or material contained in the impoundment or mine unit closest to or most likely to effect the perennial stream being sampled. A permittee shall submit to the department in the semi-annual monitoring reports the field parameter measurements, the analytical results (including the laboratory quality assurance and quality control summary report) and a map showing the location of each sampling location in relation to the copper mine facility.

**N. Process water, tailings slurry, impacted stormwater, seep, and spring sampling and reporting.** An applicant for a new, renewed or modified discharge permit or permittee shall submit for department approval a sampling and analysis plan to monitor quarterly the quality of process water, tailings slurry and impacted stormwater at a copper mine facility. Proposed analytes shall include field parameters as required in Subsection F of this Section, alkalinity-bicarbonate, alkalinity-carbonate, metals, and other analytes from Section 20.6.2.3103 NMAC as applicable.

#### **20.6.7.29 GENERAL MONITORING REQUIREMENTS FOR ALL COPPER MINE FACILITIES:**

**A. Monitoring reports - schedule of submittal.** A permittee shall submit monitoring reports to the department on a semi-annual schedule that shall contain all quarterly monitoring data and information collected pursuant to the copper mine rule. Semi-annual monitoring reports shall be submitted according to the following schedule:

(1) January 1 through June 30 (first and second quarter sample periods) - report due by August 31; and

(2) July 1 through December 31 (third and fourth quarter sample periods) - report due by February 28.

**B. Monitoring reports – general requirements.** A permittee shall submit monitoring reports to the department that include a summary providing of all activities related to discharges at the copper mine facility during the preceding six months including, but not limited to the following.

(1) operational activities,

(2) minor spills and corrective actions not reportable under Section 20.6.2.1203 NMAC,

(3) major spills and corrective actions reportable under Section 20.6.2.1203 NMAC,

(4) maintenance and repairs of discharge systems or ~~facilities~~ units,

(5) a synopsis of completed studies relevant to the copper mine facility or unit,

(6) monitoring well installation and abandonment,

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- (7) construction or demolition of structures,
- (8) general locations and volumes of leach ore placement,
- (9) general locations and volumes of waste rock placement,
- (10) a summary of seep and spring flows, if applicable.

**C. Monitoring Reports – analytical requirements.** A permittee shall submit monitoring reports to the department that include the following analytical information.

(1) A single table shall be provided semi-annually in a paper and electronic spreadsheet format approved by the department. The table shall include water quality data with those parameters analyzed and water levels measured shown in columns. Single sampling events for each monitoring site shall be shown in rows with the site name in the far left column, the sampling date in the second column, the water level in the third column, followed by individual analytes in the following columns. Tabulated electrical conductivity shall include the measured field values and corrected values to 25 degrees Celsius. Values exceeding standards shall be bolded. Any constituent not analyzed for a particular site shall be shown as “NA”, any site not sampled shall be shown as “NS” with an associated reason, and any site not measured for water levels shall be shown as “NM” with an associated reason.

(2) Semi-annual monitoring reports shall include water quality trends, laboratory CQA/CQC, trends in hydrographs, and potentiometric surface maps. At a minimum, graphs with the previous 5 years of indicator parameter data shall be presented for TDS, sulfate, and water levels. pH may substituted for water levels at reservoirs or springs.

**D. Sampling and analysis methods.** A permittee shall sample and analyze water pursuant to Subsection B of 20.6.2.3107 NMAC.

**E. Process water, leach solutions, tailings and liner solution collection system volume measurement and reporting.** A permittee shall measure the volume of process water, leach solutions applied, and tailings discharges and solution collection system fluids collected using flow meters pursuant to 20.6.7.16.C(5) NMAC. Meter readings shall be recorded at intervals no less than once per week. The average daily discharge volume for each recording interval shall be calculated by dividing the difference between the meter readings by the number of days between meter readings. The permittee shall provide the meter readings including the date, time and units of each measurement, and calculations for the average daily volumes discharged and collected in gallons per day, in the semi-annual monitoring reports submitted to the department.

**F. Flow meter accuracy.** Flow meters shall be monitored for accuracy by comparing flow meter readings with prior readings and noting any significant variations in readings that are not consistent with changes in operating conditions. If a flow meter shows inconsistent readings or otherwise appears to be non-operational, the permittee shall make a record of the inconsistent readings and shall repair or replace a flow meter that does not appear to be operating properly with a flow meter calibrated according to the flow metering plan pursuant to Paragraph (5) of Subsection C of 20.6.7.17 NMAC. The permittee shall submit the results of any inconsistent meter readings and the repair or replacement of any flow meter(s) to the department annually in the monitoring report due by February 1, including information on the location and meter identification nomenclature specified in 20.6.7.18.E(1) NMAC.

**G. Meteorological data.** A permittee shall annually submit to the department meteorological data collected at sites throughout the copper mine facility during each calendar year according to the approved meteorological data plan submitted pursuant to Subsection W of 20.6.7.11 NMAC. The data shall be submitted to the department in the monitoring report due on February 28 of each year.

**H. Interceptor system monitoring and evaluation.** A permittee operating an interceptor well system for a tailing impoundment or a waste rock stockpile shall provide an annual monitoring and evaluation report of the interceptor system. The report shall be submitted to the department in the monitoring report due by February 28 of each year and shall include the following information obtained from within and surrounding the interceptor system as applicable:

- (1) monthly measurements of the volume of impacted ground water pumped by individual wells, interceptor trenches, or other interceptor system components and the total volume pumped within the monitoring period;
- (2) the operational status of interceptor system components;
- (3) water level measurements of monitoring and interceptor wells or other system components as applicable;
- (4) semi-annual ground water elevation contour maps pursuant to the requirements of Subsection L of 20.6.7.28 NMAC;

(65) semi-annual iso-concentration maps of contaminants of concern; and  
 (76) an annual performance evaluation assessment of the interceptor well system that contains information on:

- (a) the performance of individual interceptor wells and/or other interceptor system components over time;
- (b) accumulated drawdown maps showing the historical change in water level;
- (c) time series hydrographs and graphs of water quality trends for contaminants of concern covering at a minimum data from the past 5 year time period;
- (d) water quality distribution within the system over time;
- (e) cross-sectional diagrams depicting the geologic, water level elevation and water quality in vertical profile;
- (f) an analysis of the data, maps, graphs and diagrams contained in the assessment; and
- (g) recommendations for changes to optimize performance of the system.

#### 20.6.7.30 CONTINGENCY REQUIREMENTS FOR COPPER MINE FACILITIES:

**A. Exceedance of ground water standards, ~~all monitoring wells except impoundment monitoring wells~~.** If monitoring of a water contaminant source ~~other than an impoundment~~ indicates that applicable standards are exceeded, or ~~if~~ the extent or magnitude of existing ground water contamination is significantly increasing, the permittee shall collect a confirmatory sample from the monitoring location(s) within 15 days to confirm the initial sampling results, unless the permittee elects to accept the initial sampling results as an accurate measurement of water quality. Within 30 days of the confirmation of the exceedance of applicable standards or significant increases in existing contamination, the permittee shall take the following actions. The department may approve a longer time period not to exceed 90 days for good cause shown.

(1) A corrective action plan shall be submitted to the department for approval. The corrective action plan shall describe any repairs made or proposed to address the cause of the exceedance or increase and shall propose source control measures and a schedule for implementation. The department shall approve or disapprove the corrective action plan within 60 days of receipt. Following the department's approval of the corrective action plan, the permittee shall initiate implementation of the plan according to the approved schedule. If the department does not approve the corrective action plan, the department shall notify the permittee of the deficiencies by certified mail. The permittee shall submit a revised corrective action plan to the department within 60 days of the date of postal notice of the notice of deficiency. The department shall approve or disapprove the revised corrective action plan within 60 days of receipt.

~~(2) The permittee may be required to submit to the department for approval an abatement plan, which includes a site investigation to define the source, nature and extent of contamination; a proposed abatement option, and a schedule for its implementation. The site investigation and abatement option shall be consistent with the requirements and provisions of Sections 20.6.2.4101, 20.6.2.4103, 20.6.2.4106, 20.6.2.4107, 20.6.2.4108 and 20.6.2.4112 NMAC.~~

~~(3) A corrective action plan or abatement plan approved or submitted prior to the date of the copper mine rule that shall satisfy the requirements of this Subsection provided that any substantial change in monitoring results after the effective date of the copper mine rule may require additional corrective action under this Subsection or modification of a previously approved or submitted corrective action plan or abatement plan.~~

**B. ~~Exceedance of ground water standards impoundment monitoring well.~~** If sampling from a monitoring well(s) intended to monitor an impoundment indicates that applicable water standards are exceeded, or the extent or magnitude of existing ground water contamination is significantly increasing, the permittee shall collect a confirmatory sample from the monitoring location(s) within 15 days to confirm the initial sampling results unless the permittee elects to accept the initial sampling results as an accurate measurement of water quality. Within 30 days of the confirmation of the exceedance of applicable standards or significant increases in existing contamination, the permittee shall take the following actions. The department may approve a longer time period not to exceed 90 days for good cause shown.

~~(1) A corrective action plan shall be submitted to the department for approval. The corrective action plan shall describe any repairs or changes in practices made or proposed to address the cause of the exceedance or increase and shall propose source control measures and a schedule for implementation. The department shall approve or disapprove the corrective action plan within 60 days of receipt.~~

~~(2) If the corrective action plan proposes actions to correct deficiencies with the a liner, the proposed actions shall include repair or replacement of the existing liner, or construction and lining of a new impoundment. If liner repair is practicable, repairs shall be made pursuant to 20.6.7.17 NMAC or using a material that is equivalent to~~

**Comment [A36]:** GRIP proposed edits that would combine Sections A and Section B. Due to redundant language in these two Sections the department has combined them, albeit not in quite the same manner GRIP proposed but with similar results. AGO also proposed edits that would combine these two Sections.



the existing liner with respect to material thickness and composition. Repairs shall be completed in accordance with the approved schedule. If liner repair is not practicable, the corrective action plan shall propose reconstruction and relining of the impoundment pursuant to 20.6.7.17 NMAC or construction and lining of a new impoundment pursuant to 20.6.7.17 NMAC. Reconstruction or construction plans and specifications for the impoundment shall be completed pursuant to 20.6.7.17 NMAC and submitted with the corrective action plan along with a schedule for implementation. If a new impoundment is constructed the existing impoundment shall be closed pursuant to 20.6.7.33 NMAC.

~~(2) Following the department's approval of the corrective action plan, the permittee shall initiate implementation of the plan according to the approved schedule. If the department does not approve the corrective action plan, the department shall notify the permittee of the deficiencies by certified mail. The permittee shall submit a revised corrective action plan to the department within 60 days of the date of postal notice of the notice of deficiency. The department shall approve or disapprove the revised corrective action plan within 60 days of receipt.~~

(3) The permittee may be required to submit to the department for approval an abatement plan, which includes a site investigation to define the source, nature and extent of contamination; a proposed abatement option, and a schedule for its implementation. The site investigation and abatement option shall be consistent with the requirements and provisions of Sections 20.6.2.4101, 20.6.2.4103, 20.6.2.4106, 20.6.2.4107, 20.6.2.4108 and 20.6.2.4112 NMAC.

(4) A corrective action plan or abatement plan approved or submitted prior to the date of the copper mine rule shall satisfy the requirements of this subsection provided that any substantial change in monitoring results after the effective date of the copper mine rule may require additional corrective action under this Subsection or modification of a previously approved or submitted corrective action plan or abatement plan.

**CB. Monitoring well replacement.** If information available to the department indicates that a monitoring well(s) required by 20.6.7.28 NMAC is not located downgradient of or does not adequately monitor the contamination source it is intended to monitor, is not completed pursuant to 20.6.7.28 NMAC, or contains insufficient water to effectively monitor ground water quality, a permittee shall install a replacement monitoring well(s). The replacement monitoring well(s) shall be installed within 120 days of the date of postal notice of notification from the department and a survey of the replacement monitoring well(s) shall be performed within 150 days of the date of postal notice of notification from the department. The replacement monitoring well(s) shall be located, installed, completed, surveyed and sampled pursuant to 20.6.7.28 NMAC. The permittee shall develop a monitoring well completion report pursuant to Subsection K of 20.6.7.28 NMAC and submit it to the department within 180 days of the date of postal notice of notification from the department. The department may approve longer time periods for good cause shown.

**DC. Exceedance of permitted maximum daily discharge volume.** If the maximum daily discharge volume authorized by the discharge permit at a particular permitted location is exceeded by more than ten percent for any three average daily discharge volumes within any one year period, the permittee shall submit within 60 days of the third exceedance a corrective action plan for reducing the discharge volume or an application for a modified or renewed and modified discharge permit pursuant to 20.6.7.10 NMAC. Within 30 days of postal notice of department approval, the permittee shall initiate implementation of the corrective action plan.

**ED. Insufficient impoundment capacity.** If a survey or capacity calculations indicate an existing impoundment or impoundment system is not capable of meeting the capacity requirements in Subsection D of 20.6.7.17 NMAC, within 90 days of the effective date of the discharge permit the permittee shall submit a corrective action plan for department approval. The plan may include, but is not limited to, proposals for constructing an additional impoundment, reducing the discharge volume, removing accumulated solids, or changing process water or impacted stormwater management practices. The corrective action plan shall include a schedule for implementation. The schedule shall propose completion within one year from the submittal date of the initial corrective action plan. Within 30 days of the date of postal notice of the department's approval of the corrective action plan, the permittee shall initiate implementation of the plan. Should the corrective action plan include removal of accumulated solids, solids shall be removed from the impoundment in a manner that is protective of the impoundment liner. The plan shall include the method of removal, and locations and methods for storage and disposal of the solids.

**FE. Inability to preserve required freeboard.** If a minimum of two feet of freeboard cannot be preserved in the process water or impacted stormwater impoundment, the permittee shall submit a corrective action plan to the department for approval. The corrective action plan shall be submitted within 30 days of the date of discovery of the initial exceedance of the freeboard requirement. The plan may include, but is not limited to, proposals for constructing an additional impoundment, reducing the maximum daily discharge volume, or changing process water or impacted stormwater management practices. The corrective action plan shall include actions to be

immediately implemented to regain and maintain a minimum of two feet of freeboard until permanent corrective actions have been completed. The corrective action plan shall include a schedule for implementation. The schedule shall propose completion within one year from the submittal date of the initial corrective action plan. Within 30 days of the date of postal notice of the department's approval of the corrective action plan, the permittee shall initiate implementation of the plan.

**GF. Impoundment - structural integrity compromised.** Within 24 hours of discovery, a permittee shall report to the department any damage to the berms or the liner of an impoundment or any condition that may compromise the structural integrity of the impoundment. Within 15 days of discovery, the permittee shall submit to the department a corrective action plan describing any actions taken or proposed to be taken to repair the damage or condition. Within 30 days of receipt, the department shall approve or disapprove the proposed corrective action plan. Repairs to the impoundment liner or berms shall be completed pursuant to 20.6.7.17 NMAC. The corrective action plan shall include a schedule for implementation. Within 30 days of the date of postal notice of the department's approval of the corrective action plan, the permittee shall initiate implementation of the plan.

**HG. Unauthorized discharge - reporting and correction.** In the event of a spill or release that is not authorized by the discharge permit, the permittee shall notify the department and take corrective actions pursuant to 20.6.2.1203 NMAC. Process water or impacted stormwater or other material that is spilled or released that has the potential to impact water quality shall be contained and pumped to a sump, impoundment, or leach stockpile permitted pursuant to the copper mine rule. The permittee shall repair or replace failed components within 48 hours from the time of failure or as soon as practicable.

**HI. Leach stockpiles, tailings impoundment or waste rock stockpiles – unstable slopes.** Within 24 hours of discovery, a permittee shall report to the department any evidence of instability of the slope of a leach stockpile or tailings impoundment or any condition that may compromise the structural integrity of the leach stockpile, tailings impoundment or waste rock stockpile. Within 15 days of discovery, the permittee shall submit to the department a corrective action plan describing any actions taken or proposed to be taken to repair the damage or condition. Within 30 days of receipt, the department shall respond to the proposed corrective action plan. Repairs to the slopes shall be completed consistent with the requirements of 20.6.7.20 NMAC, 20.6.7.21 NMAC, 20.6.7.22 NMAC, and 20.6.7.33 NMAC, as applicable. The corrective action plan shall include a schedule for implementation. Within 30 days of the date of postal notice of the department's approval of the corrective action plan, the permittee shall initiate implementation of the plan.

**IJ. Erosion of cover system or compromised stormwater conveyance structure, ponding of stormwater, or other conditions.** Within 24 hours of discovery, a permittee shall report to the department any evidence of significant erosion of a cover system required by 20.6.7.33 NMAC or compromise of a stormwater conveyance structure; any significant ponding of stormwater on the cover system; or any other condition that may significantly compromise the cover system or stormwater conveyance structure. Within 15 days of the reported discovery, the permittee shall submit to the department a corrective action plan describing any actions taken or proposed to be taken to repair the damage or condition. Within 30 days of receipt, the department shall respond to the proposed corrective action plan. Repairs to the cover system or stormwater conveyance structure shall be completed consistent with the applicable requirements of 20.6.7.33 NMAC. The corrective action plan shall include a schedule for implementation. Within 30 days of the date of postal notice of the department's approval of the corrective action plan, the permittee shall initiate implementation of the plan.

**KJ. Water management and water treatment system failure.** Within 24 hours of discovery, a permittee shall report to the department any significant failure of a water management or water treatment system constructed and operated pursuant to 20.6.7.33 NMAC or any condition that may cause a significant failure of the water treatment system. Within 15 days of the reported discovery, the permittee shall submit to the department a corrective action plan describing any actions taken or proposed to be taken to repair the damage or condition. Within 30 days of receipt, the department shall respond to the proposed corrective action plan. Repairs to the water treatment system shall be completed consistent with the applicable requirements of 20.6.7.33 NMAC. The corrective action plan shall include a schedule for implementation. Within 30 days of the date of postal notice of the department's approval of the corrective action plan, the permittee shall initiate implementation of the plan.

**LK. Interim Emergency Water Management:** An applicant or permittee shall develop and submit to the department an interim emergency fluid management plan. The purpose of the interim emergency water management plan is to provide information to the department on how process water systems, interceptor wells, seepage collection systems and storm water management systems are operated and maintained to prevent discharges in the event the department assumes management of the copper mine facility. An applicant or permittee shall include in the plan process water flow charts showing electrical system requirements, pump operations, seepage collection and interceptor well operations and applicable operation and maintenance requirements. The interim

process water management plan shall be updated as major process water system changes occur that would affect the interim emergency water management plan. The interim emergency water management plan shall be maintained on site and be available for department review. The plan shall be submitted within 180 days of discharge permit renewal for an existing copper mine facility and no less than 60 days prior to discharge at a new copper mine facility.

**20.6.7.31 RESERVED**

**20.6.7.32 RESERVED**

**20.6.7.33 CLOSURE REQUIREMENTS FOR COPPER MINE FACILITIES:** An applicant or permittee shall submit a closure plan for all portions of a copper mine facility covered by a discharge permit that addresses the following requirements.

**A. Design storm event.** Permanent storm water conveyances, ditches, channels and diversions required for closure of a discharging **facility-unit** at a copper mine facility shall be designed to convey the peak flow generated by the 100 year return interval storm event. The appropriate design storm duration shall be selected based on the maximum peak flow generated using generally accepted flood routing methods. Sediment traps or small basins intended as best management practices may not be subject to this requirement, based on department approval.

**B. Slope stability.** At closure, tailing impoundment(s) not regulated by the office of the state engineer, leach stockpile(s) or waste rock stockpile(s) shall be constructed to promote the long-term stability of the structure. Closure of all critical structures at a copper mine facility shall be designed for a long-term static factor of safety of 1.5 or greater and non-critical structures shall be designed for a long-term static factor of safety of 1.3 or greater. The **facilities-units** being closed shall also be designed for a factor of safety of 1.1 or greater under pseudostatic analysis. A stability analysis shall be conducted for the **facility-unit** and shall include evaluation for static and seismic induced liquefaction.

**C. Surface re-grading:** During closure of any tailing impoundment, waste rock pile or leach stockpile at a copper mine facility, the surface shall be re-graded to a stable configuration that minimizes ponding and promotes the conveyance of surface water off the **facility-unit**. The operator may propose for department approval a grading plan that allows ponding as an appropriate part of closure provided additional ground water protection measures, such as synthetic liner systems, are included as part of the design.

(1) The top surfaces of all tailing impoundments at a copper mine facility shall be constructed to a minimum final grade of one-half of one percent (0.5%) after accounting for the estimated magnitude and location of large-scale settlement due to totaling consolidation or differential settlement. Prior to final re-grading activities, the permittee shall ensure that adequate drainage of the tailing impoundment has occurred to ensure that large-scale settlement following grading is minimized. The CQC and CQA plan shall provide the methods and procedures to ensure that the design and construction activities will be completed according to the approved final design and specifications, including design aspects related to potential future settlement.

(2) The top surfaces of all waste rock and leach stockpiles at a copper mine facility shall be constructed to a minimum final grade of one percent (1%).

(3) The outslopes of all tailing impoundments, waste rock and leach stockpiles at a copper mine facility shall be constructed to an interbench slope no steeper than three (3) horizontal to one (1) vertical (3H:1V). Alternative slope gradients may be allowed within an open pit surface drainage area, or if the permittee provides information showing that the cover performance objectives in Subsection F of this Section are met and the exception is approved by the department.

(a) At existing copper mine facilities, where re-grading of individual outslopes would intersect a highway, cultural resource, physical infrastructure or a surface water of the state, outslopes may be re-graded no steeper than 2.5:1 or as otherwise approved by the department in Paragraph (3) of this Subsection.

(b) At existing copper mine facilities, the waste rock and leach stockpile outslopes within an open pit surface drainage area are not required to be graded and covered.

(4) For design purposes, allowable uninterrupted slope lengths shall be calculated using a generally accepted erosion estimation method and shall be based on the final slope angle and cover material characteristics representative of the cover materials proposed for use at the site. The maximum uninterrupted slope lengths shall be no greater than 300 feet for 4.0:1, 200 feet for 3:1 slopes and 175 feet for 2.5:1 slopes. Alternative slope lengths may be allowed if the permittee provides information showing that the cover performance objectives specified in Subsection F of this Section will be achieved and the exception is approved by the department.

**D. Open pits.** The applicant or permittee shall provide detailed information and a closure plan for open pits that demonstrates how the following criteria will be addressed through water management and/or other activities at ~~these facilities~~open pits to minimize the potential to cause an exceedance of applicable water quality standards:

(1) Open pits in which the evaporation from the surface of an open pit water body is predicted to exceed the water inflow shall be considered to be a hydrologic evaporative sink. If an open pit is determined to be a hydrologic evaporative sink, the standards of 20.6.2.3103 NMAC do not apply within the area of open pit hydrologic containment. - This is limited to contaminants associated with standard copper mining practices and found to be present within the open pit, or that can be generated from the natural materials present in the open pit through degradation, oxidation, decay or other expected process.

(2) After closure, if water within an open pit is predicted to flow from the open pit into ground water and the discharge from an open pit may cause an exceedance of applicable standards at monitoring well locations specified by 20.6.7.28 NMAC, then the open pit shall be considered a flow-through pit. In a flow-through pit system and the open pit water quality must meet ground water standards of 20.6.2.3103 NMAC or the open pit must be pumped in order to maintain an area of open pit hydrologic containment.

**E. Surface water management:** The permittee of a copper mine facility shall maintain and implement a plan for the management of all stormwater and sediment generated from the copper mine facility during reclamation and following closure.

**F. Cover system:** At closure, a permittee shall install a cover system on waste rock piles, leach stockpiles, tailing impoundments and other ~~facilities~~units that have the potential to generate leachate and cause an exceedance of applicable standards at monitoring well locations specified by 20.6.7.28 NMAC using the following criteria, as appropriate. Any soil cover systems installed before the effective date of the copper mine rule are not subject to the requirements of the copper mine rule unless the department determines that an exceedance of applicable standards has occurred or is likely to occur as a result of the existing installed cover system, and that modification of the cover will prevent further impacts to ground water. Any cover system installed at an existing copper mine facility after the effective date of the copper mine rule shall be a store and release earthen cover system with a thickness of 36 inches and shall be constructed in accordance with the applicable requirements of Paragraphs 1 through 3 of this Subsection. For leach and waste rock stockpiles inside the open pit surface drainage area, a 36-inch cover is only required on the top surfaces.

(1) The cover system shall be constructed of 36 inches of earthen materials that are capable of sustaining plant growth without continuous augmentation and have erosion resistant characteristics. Erosion rates shall be equal to or less than stable slopes in the surrounding environment after the vegetation has reached near-equilibrium cover levels. Erosion will be estimated using generally acceptable methods.

(2) Soil cover systems shall be designed to limit net-percolation by having the capacity to store within the fine fraction at least 95 percent of the long-term average winter (December, January and February) precipitation or at least 35 percent of the long-term average summer (June, July and August) precipitation, whichever is greater. The water holding capacity of the cover system will be determined by multiplying the thickness of the cover times the incremental water holding capacity of the approved cover materials. Appropriate field or laboratory test results or published estimates of available water capacity shall be provided by the permittee to show that the proposed cover material meets this performance standard.

(3) Cover thickness or other design criteria may be reduced or modified if:

(a) the cover system is installed over a lined facility-unit and the design and function of the liner system will complement the cover system, or the permittee proposes a composite, layered or an alternate cover system with an equal or greater level of ground water protection described in Paragraphs (1) and (2) of this Section, or

(b) a demonstration is made that an alternate proposed cover system will ensure that an exceedance of applicable standards will not occur in ground water. Such a demonstration shall include:

(i) a comprehensive modeling study to estimate the quantity of net-percolation through a cover system that will not result in an exceedance of applicable standards in ground water;

(ii) a plan for performance monitoring of the cover system, including ground water monitoring; and

(iii) an agreement by the permittee to pay for the cost of a third party review of the modeling study and performance monitoring plan.

(4) A CQA/CQC plan shall be submitted for department review as part of the final cover design. The plan shall identify a licensed New Mexico professional engineer as the designated CQA officer and include his or her supervision of the CQA plan and shall identify the methods proposed to ensure that the closure construction will

**Comment [A37]:** Language added to address concerns expressed during the hearing to limit impacts to water quality within the open pit to those associate with mining. Change by NMED.

**Comment [A38]:** Broken into two sentences by NMED.

be completed in accordance with the design and specifications. Following the completion of the work, the CQA officer shall prepare a final CQA report. The final CQA report shall provide a detailed description of the installation methods and procedures and document that the work was conducted as designed.

**G. Process solution reduction plans:** The closure plan shall include a process solution reduction plan for the copper mine facility. The process solution reduction plan ~~is shall be~~ a conceptual engineering document that describes the processes and methods that are expected to be used at a copper mine facility to reduce the quantities of process water in storage and circulation inventory at the end of copper production in preparation for long-term water management and/or treatment. The plan shall describe and list the current or proposed process water management ~~facilities-units~~ and inventories of process water. The plan shall describe the modifications to the process water management system required to create an efficient process water reduction system and the operation and maintenance requirements for the system with material take-offs of sufficient detail to prepare an engineering-level cost estimate equivalent to the cost estimate to be provided with the closure plan. The plan shall provide an estimate of the required water reduction period based on the water reduction calculations provided in the plan to be used for planning and operation and maintenance cost calculations.

**H. Closure water management and water treatment plan:** The applicant or permittee shall submit a closure water management and water treatment plan. The closure water management and water treatment plan shall consist of a conceptual engineering document that describes the processes and methods that are expected to be used at a copper mine facility for long-term management and/or treatment of process water. The plan shall include an analysis of the expected ~~operational~~ life of each long-term water management and/or water treatment system, including interceptor systems, until each system is no longer needed to protect ground water quality and applicable standards are met. The plan shall describe the long-term water management and water treatment ~~facilities-systems~~ with sufficient detail, including locations of key components, expected operational life, material take-offs, and capital, operational and maintenance costs to prepare an engineering-level cost estimate. The plans shall provide sufficient detail to estimate capital and operating costs to provide the basis for financial assurance for these activities.

**I. Impoundments:** The permittee shall close all reservoirs and impoundments in a manner that ensures that the requirements of the Water Quality Act, commission rules and the discharge permit are met. Closure activities shall meet the following requirements:

- (1) Fluids from reservoirs and impoundments shall be drained and appropriately disposed of.
- (2) Sediments in the reservoir or impoundment shall be characterized and abated or appropriately disposed of in a manner that will not cause an exceedance of applicable standards.
- (3) Materials underlying the reservoir or impoundment shall be characterized to determine if releases of water contaminants have occurred.
- (4) Where characterization results show materials remaining within or beneath any reservoir or other impoundment that are not naturally occurring to be a source or potential source of ground water contamination outside the open pit surface drainage area, the reservoir or impoundment, shall be covered and re-vegetated pursuant to this Section.
- (5) Based on the characterization conducted pursuant to Paragraph (4) of this Subsection, further characterization of ground water beneath and adjacent to the reservoir or impoundment may be required to determine if abatement is necessary.
- (6) Reservoirs and impoundments located outside the open pit surface drainage area shall be closed in a manner that creates positive drainage away from the impoundments, unless needed during closure and post closure for storm water retention or seepage interception, post-closure water management and treatment, or unless otherwise approved by the department. Post-closure reservoirs or impoundments to be used for the collection of non-impacted storm water and located over areas where residual wastes, vadose zone contamination or ground water contamination remains shall be synthetically lined pursuant to the design and construction criteria of Paragraph (4) of Subsection D of 20.6.7.17 NMAC.
- (7) The department may approve alternative plans for closure of impoundments based on site-specific conditions when the alternative closure method will provide the same level of ground water protection as the methods specified in Paragraphs (1) through (6) of this Subsection.

**J. Pipelines, tanks and sumps:** The permittee shall remove and/or properly dispose of the tailing, process water, or other materials contained in pipelines, tanks or sumps as soon as they are no longer needed for site operations, water treatment, or other post-closure water management. Any residual tailing, process water, sediments or contaminated water shall be removed from the pipelines, tanks or sumps prior to closure and dispose of the material in a department approved manner. Pipelines may be removed for appropriate disposal or cleaned and buried in place. Sumps may be removed for disposal or cleaned and broken up and buried in place. During

pipeline, tank or sump closure, the permittee shall inspect the entire pipeline, tank or sump area for evidence of past spills and characterize the impacts and potential impacts of such spills. The permittee shall document all areas where there is evidence of spills and propose to the department appropriate corrective actions pursuant to 20.6.2.1203 NMAC. Following pipeline, tank or sump removal, the permittee shall remove for disposal or reclaim in place all acid generating pipeline, tank or sump bedding material that has the potential to impact water quality in excess of the applicable standards.

**K. Crushing, milling, concentrating and smelting:** The permittee shall close all crushing, milling, concentrating or smelting areas in a manner that ensures that the requirements of the Water Quality Act, commission rules and the discharge permit are met. Any remaining materials containing water contaminants that may cause an exceedance of the applicable standards shall be removed or disposed of in a department approved manner or covered pursuant to this Section. The permittee shall characterize the crushing, milling, concentrating or smelting area for the presence of any remaining potential water contaminants. If water contaminants are present that may with reasonable probability move directly or indirectly into ground water and cause an exceedance of the applicable standards, the area shall be covered pursuant to this Section.

**L. Closure monitoring and maintenance:** During closure the permittee shall continue monitoring pursuant to 20.6.7.28 NMAC and 20.6.7.29 NMAC. The permittee may propose and the department may approve modifications to the required monitoring to reflect changes in conditions during closure, including abandonment of monitoring wells.

**M. Exceptions to design criteria:** The closure design criteria of this Section may be modified if approved by the department. Design criteria required by the office of the state engineer dam safety bureau for regulated ~~facilities~~ units, such as jurisdictional impoundments (including tailing impoundments), shall supersede the criteria in this Section.

#### **20.6.7.34 IMPLEMENTATION OF CLOSURE**

**A. Notification of intent to close.** A permittee shall notify the department in writing of its intent to implement the closure plan for a copper mine facility or an individual unit of a copper mine facility. Notification shall be given at least 30 days prior to implementation of closure construction activities.

**B. Initiation of closure.** Upon notice of intent to implement a closure plan, a permittee shall commence closure in accordance with the approved closure plan. Implementation of closure includes preparation and submittal of a final design and CQA/CQC plan. The permittee shall submit the final design and CQA/CQC plan to the department for approval within 180 days of submission of a notice of intent to implement the closure plan. The permittee shall commence final closure construction of the copper mine facility or unit within 180 days of receipt of written approval of the final design and CQA/CQC plan. These timelines may be modified by the department upon request by the permittee for good cause shown, including allowance for time for procurement and mobilization of construction services and materials prior to actual closure construction.

**C. Notification of change in operational status.** Whenever operation of a copper mine facility subject to closure requirements under the copper mine rule is suspended or resumed, the permittee shall provide the department written notification within thirty days of the date operation is suspended or resumed. Each subsequent semi-annual report submitted during suspension of operation of a copper mine facility shall state whether the permittee intends to resume operations and the anticipated date of resumption of operations or the conditions under which operations will resume.

**D. Department notice regarding suspended operations and enforcement action.** If leaching operations or milling operations at a copper mine facility are suspended for more than one year, the department may issue a written notice to the permittee requesting that the permittee provide evidence that the permittee is capable of and intends to resume operation of the facility unit. If the permittee does not respond within 30 days of postal notice of the department's written notice, or if the permittee does not provide evidence that the copper mine facility or unit is capable of resuming operation, that the permittee intends to resume operation of the copper mine facility or unit, and that the copper mine facility or unit does not pose a threat to public health or cause undue damage to property, the department may determine that the permittee is in violation of the copper mine rule for failure to implement closure of the copper mine facility or unit in a timely manner and may take appropriate enforcement action pursuant to Section 74-6-10 NMSA 1978, including requiring implementation of closure in accordance with 20.6.7.33 NMAC and this Section.

**E. Deferral of closure.** A permittee may request deferral of closure of a unit at a copper mine facility that has reached the end of its useful life with no intent by the permittee to resume operations if the proximity of active operations at the copper mine facility could result in ongoing contamination of the unit, closure would require relocation or replacement of infrastructure that supports ongoing operations, or for other good cause



shown. The department may approve a deferral of closure if the permittee demonstrates that adequate water management measures are being implemented and maintained to protect ground water quality during the period of deferral.

**F. Final design.** The permittee shall submit a final design and CQA/CQC plan to the department for approval at least 60 days prior to construction, including commencement of surface shaping activities, of any area subject to a closure plan pursuant to the copper mine rule including, but not limited to, tailing impoundments, waste rock piles, leach stockpiles, and any other area where cover is required under the approved closure plan. The CQA/CQC plan must include detailed engineering designs for storm water management structures and associated conveyance systems, cover design specifications, a cover material suitability assessment, a borrow source location, a rip rap suitability assessment, a rip rap source location, a post reclamation storm water management plan, and a schedule for completion. In addition, the final design and CQA/CQC plan shall include best management practices that will be employed during reclamation to address erosion and storm water management in a manner that meets the requirements of the Water Quality Act and commission regulations. The final design and CQA/CQC plan shall bear the signature and seal of a licensed professional engineer in accordance with Subsection A of 20.6.7.17 NMAC.

**G. CQA/CQC report.** Within 180 days after project completion, the permittee shall submit a final CQA/CQC report to the department. The CQA/CQC report shall include, at a minimum, as-built drawings of the entire reclaimed area including test pit locations and cover thickness data, a final survey report and topographic map following cover placement, a summary of work conducted, construction photographs, the location of reclaimed borrow areas, soil testing results, and laboratory analytical reports. The contour intervals on topographic maps shall be no greater than two feet for the top surfaces and no greater than ten feet for the outslopes for closure of tailing impoundments, leach stockpiles or waste rock stockpiles. The CQA/CQC report shall provide summaries of the quality assurance data, documenting that the project was completed according to the approved final design and CQA/CQC plan with significant exceptions explained. The CQA/CQC report shall bear the signature and seal of a licensed professional engineer in accordance with Subsection A of 20.6.7.17 NMAC.

**20.6.7.35 POST-CLOSURE REQUIREMENTS:** For each unit closed at a copper mine facility, the closure period shall cease, and the post-closure period shall commence, following the permittee's submission and department approval of a final CQA/CQC report that includes as-built drawings and a closure report documenting completion of regrading, covering, seeding, and construction of any other elements required for closure of a unit. The post-closure period for a copper mine facility or unit shall begin when the final CQA report is approved and only monitoring, inspections, maintenance, and/or operation of a closure water treatment and management plan remain to be conducted. During the post-closure period, a permittee shall conduct post-closure monitoring, inspection, reporting, maintenance, and implementation of contingency actions as specified by this Section. The post-closure period shall end for a unit of a copper mine facility upon the completion of post-closure monitoring, inspection and maintenance for the unit as required by this Section. The post-closure period shall cease when all monitoring, inspections, maintenance, and operation of the water management and treatment plan required under this Section may cease. For units of a copper mine facility subject to an abatement plan, monitoring, inspection, reporting, and operation of abatement systems shall be conducted in accordance with the approved abatement plan rather than this Section.

**A. Interceptor system inspections.** A permittee shall perform quarterly inspections and annual evaluations of all interceptor systems and perform maintenance as necessary to ensure that the systems are performing as designed and are functioning in a manner that is protective of ground water quality. The inspection results and any maintenance performed by the permittee on interception systems shall be reported pursuant to Subsection D of this Section.

**B. Water quality monitoring and reporting.** A permittee shall perform water quality monitoring and reporting during the post-closure period pursuant to 20.6.7.28 NMAC and 20.6.7.29 NMAC, as applicable and modified by this Section. Ground water elevation contour maps required pursuant to Subsection L of 20.6.27 NMAC shall be submitted annually during the post-closure period. A permittee may request to reduce the frequency of or cease sampling a water quality monitoring location if the water contaminants in a monitoring well have been below the applicable standards for eight consecutive quarters, provided an adequate monitoring well network remains. If sampling of a monitoring well ceases in accordance with this Subsection, the monitoring well shall be abandoned in accordance with applicable requirements unless the permittee requests and the department approves the monitoring well to remain in place for an alternative use or future monitoring.

**C. Reclamation monitoring, maintenance, and inspections.**

(1) **Vegetation.** To ensure that vegetated covers required by the copper mine rule or the approved discharge permit are protective of water quality, a permittee shall perform post-closure monitoring of vegetation

pursuant to schedules and monitoring requirements approved by the mining and minerals division. Any proposed changes to the closure or post-closure vegetation monitoring plan to meet Mining Act requirements shall be submitted to the department to ensure monitoring is protective of water quality. The permittee shall provide the department with a copy of monitoring results for vegetated covers, including photographic documentation as required by the mining and minerals division. At such time as the mining and minerals division vegetation success requirements under the Mining Act have been met, the permittee shall provide a final report to the department and vegetation monitoring may cease.

(2) **Erosion, subsidence, slope instability, ponding, and other features.** The permittee shall visually inspect closed discharge permit areas where a cover was installed for signs of excessive erosion, subsidence features, slope instability, ponding, development of fissures, or any other feature that may compromise the functional integrity of the cover system or drainage channels. Drainage channels, diversion structures, retention ponds, and auxiliary erosion control features shall be inspected in accordance with professionally recognized standards (e.g., U.S. department of agriculture natural resources conservation service standards). The inspections shall be conducted monthly for the first year following submission of the final CQA/CQC report for the unit, and quarterly thereafter until the end of post-closure monitoring, provided the department may approve a schedule allowing less-frequent monitoring. Discharge permit areas where covers were installed shall also be inspected for evidence of excessive erosion within 24 hours, or the next business day, following storm events of one inch or greater as measured at the nearest rain gauge on the copper mine facility. The permittee shall report and take corrective action pursuant to 20.6.2.7.30 NMAC regarding signs of excessive erosion, subsidence features, slope instability, ponding, development of fissures, or any other feature that may compromise the functional integrity of the cover system or drainage channels. Monitoring and inspection results shall be reported as required by Subsection D of this Section.

(3) **Entry.** A permittee shall inspect and maintain the fencing or other management systems required by the discharge permit to prevent access by wildlife and unauthorized members of the public to an open pit, reservoir, impoundment or any sump that contains water that may present a hazard to public health or wildlife.

(4) **Cover maintenance.** A permittee shall perform maintenance on all areas where a cover system was installed as required by the copper mine rule, including associated drainage channels and diversion structures if their performance may affect cover system function. Based on monitoring of vegetation and erosion required by Paragraphs (1) and (2) of this Subsection, a permittee shall provide recommendations for maintenance work in semiannual monitoring reports described in Subsection D of this Section, including a schedule for completion of work.

(5) **Other inspection and maintenance.** A permittee shall routinely inspect and maintain all structures, ~~facilities~~units, and equipment the failure of which may impact ground water quality. Water collected that exceeds the ground water quality standards in Section 20.6.2.3103 NMAC shall be stored, conveyed, treated and discharged in a manner that is consistent with the closure water treatment and management plan any other applicable regulatory requirements. The inspection results shall be reported as required in Subsection D of this Section. Inspections and maintenance shall include but are not limited to:

- i) storm water retention reservoir(s);
- ii) water treatment plant(s);
- iii) pumps and pipelines to deliver water to water treatment plant(s); and
- iv) seepage collection ponds.

(6) **Implementation of water management and treatment plan.** The permittee shall continue to implement the water management and treatment plan required by Subsection H of 20.6.7.33 NMAC during the post-closure period. The water management and treatment plan may be modified in accordance with its terms or by approval of the department to reflect changes in site conditions.

**D. Reporting.** A permittee shall submit to department semi-annual reports pursuant to the schedule in Subsection A of 20.6.7.29 NMAC until the post-closure period ends for the copper mine facility. The reports shall contain:

- (1) a description and the results of all post-closure monitoring conducted pursuant to this section.
- (2) a description of any work completed during the preceding semi-annual period including but not limited to:
  - (i) the status of post-closure activities for the copper mine facility; and
  - (ii) any maintenance and repair work conducted for any closure unit.
- (3) semi-annual potentiometric maps including data from all monitoring wells, extraction wells, piezometers, seeps and springs appropriate to the water table being mapped.



E. The contingency requirements of 20.6.7.30 NMAC apply to any deficiencies in the implemented closure systems discovered during the post-closure monitoring and inspections required pursuant to this section.

**20.6.7.36 RESERVED**

**20.6.7.37 RECORD RETENTION REQUIREMENTS FOR ALL COPPER MINE FACILITIES:**

A. A permittee shall retain a written record at the copper mine facility of all data and information related to field measurements, sampling, and analysis conducted pursuant to the copper mine rule and the discharge permit. The following information shall be recorded and shall be made available to the department upon request.

- (1) The dates, exact location and times of sampling or field measurements.
- (2) The name and title of the individuals who performed each sample collection or field measurement.
- (3) The date of the analysis of each sample.
- (4) The name and address of the laboratory and the name and title of the person that performed the analysis of each sample.
- (5) The analytical technique or method used to analyze each sample or take each field measurement.
- (6) The results of each analysis or field measurement, including raw data.
- (7) The results of any split, spiked, duplicate or repeat sample.
- (8) A description of the quality assurance and quality control procedures used.

B. A permittee shall retain a written record at the copper mine facility of any spills, seeps, or leaks of effluent, and of leachate or process fluids not authorized by the discharge permit. Records shall be made available to the department upon request.

C. A permittee shall retain a written record at the copper mine facility of the operation, maintenance, and repair of all features/equipment used as required by the copper mine rule or the approved discharge permit to treat, store or dispose of process water, tailings, and impacted stormwater, measure flow rates, monitor water quality, or collect other data. Records shall include repair, replacement or calibration of any monitoring equipment and repair or replacement of any equipment used in the process water, tailings or impacted stormwater discharge system required by the copper mine rule or the approved discharge permit. Records shall be made available to the department upon request.

D. A permittee shall retain records of all monitoring information at the copper mine facility required by the copper mine rule, including all sampling results and other monitoring, calibration and maintenance records, copies of all reports, and the application for the discharge permit. Records shall be retained for a period of at least ten years from the date of the sample collection, measurement, report or application.

**20.6.7.38 TRANSFER OF COPPER MINE DISCHARGE PERMITS:**

A. Transfer of discharge permits for copper mine facilities shall be made pursuant to 20.6.2.3111 NMAC and this Section.

B. The transferor(s) shall notify the department, in writing, of the date of transfer of ownership, control or possession and provide contact information for the transferee(s) pursuant to Subsection B of 20.6.7.11 NMAC and Subsection B of 20.6.7.12 NMAC. Notification shall be submitted to the department of the transfer within 30 days of the ownership transfer.

**20.6.7.39 CONTINUING EFFECT OF PRIOR ACTIONS DURING TRANSITION:**

A. A discharge permit issued pursuant to 20.6.2.3109 NMAC that has not expired on or before the effective date of the copper mine rule shall remain in effect and enforceable pursuant to the conditions of the discharge permit and for its term as designated by the permit. If an effective discharge permit contains a permit condition with a time period for submittal of a renewal application that is different from the time period contained in Subsection C of 20.6.7.10 NMAC that condition will remain in effect for two years following the effective date of the copper mine rule.

B. An application for a new discharge permit or an application for a renewed or modified discharge permit for an existing copper mine facility submitted to the department before the effective date of the copper mine rule and for which a draft permit has not been provided to the applicant shall be processed by the department pursuant to the copper mine rule. The applicant shall submit applicable permit fees to the department pursuant to 20.6.7.9 NMAC within 90 days of the effective date of the copper mine rule.

C. An application for a new discharge permit or an application for a renewed or modified discharge permit for an existing copper mine facility submitted to the department before the effective date of the copper mine

rule and for which a draft permit has been provided to the applicant shall be processed by the department pursuant to 20.6.2.3000 NMAC through 20.6.2.3113 NMAC. The applicant shall submit applicable permit fees to the department pursuant to 20.6.7.9 NMAC within 90 days of the effective date of the copper mine rule.

**D.** If a discharge permit for a copper mine facility is expired on the effective date of the copper mine rule and an application for renewal has not been received by the department, the permittee or owner of the copper mine facility:

- (1) shall within 90 days of the effective date of the copper mine rule submit to the department an application for a discharge permit renewal, renewal and modification or closure pursuant to 20.6.7.10 NMAC and applicable permit fees pursuant to 20.6.7.9 NMAC; or
- (2) if the copper mine facility has not been constructed or operated, the permittee or the owner of record of the copper mine facility may submit a statement to the department instead of an application for renewal certifying that the copper mine facility has not been constructed or operated and that no discharges have occurred. Upon the department's verification of the certification, the department shall retire the discharge permit number from use.

**E.** The permittee or owner of record of any copper mine facility discharging, capable of recommencing discharging, or that has ceased discharging within the term of its most recent discharge permit shall continue all monitoring and submittal of monitoring reports as prescribed in the most recent discharge permit until the department issues a renewed or renewed and modified discharge permit.

## ATTACHMENT 2

**TITLE 20 ENVIRONMENTAL PROTECTION**  
**CHAPTER 6 WATER QUALITY**  
**PART 7 GROUND WATER PROTECTION - SUPPLEMENTAL PERMITTING**  
**REQUIREMENTS FOR COPPER MINE FACILITIES**

**20.6.7.1 ISSUING AGENCY:** Water Quality Control Commission.

**20.6.7.2 SCOPE:** All persons subject to the Water Quality Act, NMSA 1978, Sections 74-6-1 et seq and specifically copper mine facilities and their operations.

**20.6.7.3 STATUTORY AUTHORITY:** Standards and regulations are adopted by the commission under the authority of the Water Quality Act, NMSA 1978, Sections 74-6-1 through 74-6-17.

**20.6.7.4 DURATION:** Permanent.

**20.6.7.5 EFFECTIVE DATE:** \_\_/\_\_/\_\_\_\_, unless a later date is cited at the end of a section.

**20.6.7.6 OBJECTIVE:** The purpose of 20.6.7 NMAC is to supplement the general permitting requirements of 20.6.2.3000 through 20.6.2.3114 NMAC to control discharges of water contaminants specific to copper mine facilities and their operations to prevent water pollution. Compliance with these rules does not relieve an applicant or permittee of a copper mine facility from complying with the Mining Act rules in Title 19, Chapter 10 NMAC under the authority of the mining and minerals division.

**20.6.7.7 DEFINITIONS:**

**A.** Terms defined in the Water Quality Act and 20.6.2.7 NMAC shall have the meanings as given in such.

**B.** A term defined in this part shall have the following meaning.

(1) "Acid mine drainage" means water that is discharged from an area affected by mining exploration, mining, or reclamation, with a pH of less than 5.5 and in which total acidity exceeds total alkalinity as defined by the latest edition of *standard methods for the examination of water and wastewater*.

(2) "Additional conditions" means conditions and requirements included in a discharge permit pursuant to Section 74-6-5(D) NMSA 1978 that are based on site specific circumstances and that are in addition to those imposed in the rules of the commission.

(3) "Applicable standards" means the standards set forth in 20.6.2.3103; the background concentration approved by the department; or, any alternative abatement standard approved by the commission pursuant to 20.6.2.4103.F.

(4) "Applicant" means the person applying for a new, renewed, modified, or amended discharge permit.

(5) "Area of open pit hydrologic containment" means, for an open pit that intercepts the water table, the area where ground water drains to the open pit and is removed by evaporation and/or pumping, and is interior to the department approved monitoring well network installed around the perimeter of an open pit pursuant to Paragraph (4) of Subsection B of 20.6.7.28 NMAC and also limited to the area of disturbance authorized by a discharge permit.

(6) "As-built drawings" means engineering drawings which portray units as constructed.

(7) "Background" means the concentration of water contaminants naturally occurring from undisturbed geologic sources of water contaminants.

(8) "Below-grade tank" means a tank including sumps where a portion of the tank's side walls is below the surrounding ground surface elevation. A below-grade tank does not include an above ground tank that is located at or above the surrounding ground surface elevation and is surrounded by berms.

(9) "Closure" means all activities that are required pursuant to 20.6.7.33 NMAC through 20.6.7.35 NMAC and an approved discharge permit to monitor, minimize, control, mitigate, prevent or abate water pollution associated with a copper mine facility after operations at the copper mine facility, or at an individual unit within the copper mine facility, have ceased.

(10) “Construction quality assurance” or “CQA” means a planned system of activities necessary to ensure that standards and procedures are adhered to and that construction and installation meet design criteria, plans and specifications. A CQA includes inspections, verifications, audits, evaluations of material and workmanship necessary to determine and document the quality of the constructed impoundment or structure, and corrective actions when necessary.

(11) “Construction quality control” or “CQC” means a planned system of operational techniques and activities used to preserve the quality of materials and ensure construction to specifications. Elements of a CQC include inspections, testing, data collection, data analysis and appropriate corrective actions.

(12) “CQA/CQC report” means a report that summarizes all inspection, testing, data collection, data analysis and any corrective actions completed as part of CQA or CQC for a project.

(13) “Copper mine facility” means all areas within which copper mining and its related activities that may discharge water contaminants occurs and where the discharge will or does take place including, but not limited to open pits; waste rock piles; ore stockpiles; leaching operations; solution extraction and electrowinning plants; ore crushing, ore milling, ore concentrators; tailings impoundments; smelters; pipeline systems, tanks or impoundments used to convey or store process water, tailings or impacted stormwater; and truck or equipment washing units.

(14) “Copper mine rule” means 20.6.7 NMAC, as amended.

(15) “Cover system” means any engineered or constructed system designed as a source control measure to minimize to the maximum extent practicable the ingress of water or oxygen into a waste rock pile, leach stockpile or tailing material. A cover system may be comprised of a monolithic layer of, or any combination of, earthen materials, synthetic materials, vegetation, and amendments.

(16) “Critical structure” means earthen or rock structures or embankments (such as an outslope of a rock stockpile), that are likely to cause an exceedance of applicable groundwater standards or undue risk to property in the event of a significant unexpected slope movement.

(17) “Date of postal notice” means the date when the United States postal service first makes notice to the applicant or permittee of its possession of certified mail addressed to the applicant or permittee.

(18) “Discharge” means spilling, leaking, pumping, pouring, emitting, or dumping of a water contaminant in a location and manner where there is a reasonable probability that the water contaminant may reach ground water.

(19) “Discharge permit amendment” means a minor modification of a discharge permit that does not result in a significant change in the location of a discharge, an increase in daily discharge volume of greater than ten percent of the original daily discharge volume approved in an existing discharge permit for an individual discharge location, a significant increase in the concentration of water contaminants discharged, or introduction of a new water contaminant discharged.

(20) “Discharge volume” means the volume of discharged process water, impacted stormwater or tailings measured at a specific point at the copper mine facility over a specified period of time.

(21) “Existing copper mine facility” means a copper mine facility operating under an approved discharge permit as of the effective date of the copper mine rule. Existing copper mine facility includes a copper mine covered under an approved discharge permit as of the effective date of the copper mine rule that is on standby status in accordance with mining and minerals division rules.

(22) “Existing impoundment” means an impoundment that is currently receiving or has ever received process water or collected impacted stormwater and that has not been closed pursuant to a discharge permit.

(23) “Expiration” means the date upon which the term of a discharge permit ends.

(24) “Factor of safety” means, for slope stability purposes, the ratio of the resisting forces to the driving forces.

(25) “Final CQA report” means a report prepared by the CQA officer that includes as-built drawings and a detailed description of the installation methods and procedures that document that the work was conducted as designed.

(26) “Flow meter” means a measuring device or structure used to measure the volume of water, process water, tailings or stormwater that passes a particular reference section in a unit of time.

(27) “Freeboard” means the vertical distance between the elevation at the lowest point of the top inside edge of the impoundment and the design high water elevation of the water level in the impoundment.

(28) “Highway” means any public road operated and maintained by the local, county, state or federal government.

(29) “Impacted stormwater” means direct precipitation and runoff that comes into contact with water contaminants within a copper mine facility which causes the stormwater to exceed one or more of the standards of

20.6.2.3103 NMAC and includes overflow from a primary process solution impoundment or other collection system resulting from a precipitation event.

(30) “Impoundment” means any structure designed and used for storage or containment of mine process water, or impacted stormwater, or used for solids settling, excluding a tailings impoundment. A process water or stormwater transfer sump or a tank, below-grade tank, drum or pit bottom is not an impoundment.

(31) “Interbench slope” means the outslope surface between terrace benches or between a terrace bench and any engineered conveyance system (i.e., a system to divert runoff).

(32) “Large copper mine facility” means a copper mine facility that has disturbed or is proposing to disturb an area of 1500 acres or greater.

(33) “Leach stockpile” means stockpiles of ore and all other rock piles associated with mining disturbances that have been leached, are currently being leached or have been placed in a pile for the purpose of being leached.

(34) “Liner system” means an engineered system required by the copper mine rule for the containment, management or storage of process water, leach stockpile material, waste rock, tailings or other materials that have the potential to generate water contaminants including all constructed elements of the system and may include the subgrade, liner bedding, leak detection systems, synthetic liners, earthen liners, overlayers, solution collection systems, anchor trenches, and berms, or other system elements, as applicable.

(35) “Maximum daily discharge volume” means the total daily volume of process water (expressed in gallons per day) or tailings (expressed in tons per day) authorized for discharge by a discharge permit.

(36) “Medium copper mine facility” means a copper mine facility that has disturbed or is proposing to disturb an area of a minimum of 500 acres but less than 1500 acres.

(37) “Mining and minerals division” means the mining and minerals division of the New Mexico energy, minerals, and natural resources department.

(38) “Mining Act” means the New Mexico Mining Act, Sections 69-36-1 through 69-36-20, NMSA 1978.

(39) “New copper mine facility” means a copper mine facility that is not operating under an approved discharge permit as of the effective date of the copper mine rule.

(40) “Non-impacted stormwater” means stormwater run-off generated as a result of direct precipitation at a copper mine facility that does not exceed the standards of 20.6.2.3103 NMAC.

(41) “Open pit” means the area within which ore and waste rock are exposed and removed by surface mining.

(42) “Open pit surface drainage area” means the area in which storm water drains into an open pit and cannot feasibly be diverted by gravity outside the pit perimeter, and the underlying ground water is hydrologically contained by pumping or evaporation of water from the open pit.

(43) “Operator” means the person or persons responsible for the overall operations of a copper mine facility.

(44) “Outslope” means the sloped perimeter of waste rock piles, leach stockpiles and tailings impoundments.

(45) “Owner” means the person or persons who own all or part of a copper mine facility.

(46) “Permittee” means a person who is issued or receives by transfer a discharge permit for a copper mine facility, the holder of an expired discharge permit, or, in the absence of a discharge permit, a person who makes or controls a discharge at a copper mine facility.

(47) “Pipeline corridor” means a constructed pathway that contains concentrate, tailing and/or process water pipelines, associated spill containment structures, the pipeline subgrade and access roads.

(48) “Pipeline system” means one or more pipelines and associated structures used to transport process water, concentrate, slurry, tailing or impacted stormwater.

(49) “PLS” means pregnant leach solution that is generated from leaching ore or rock stockpiles.

(50) “Process water” means any water containing water contaminants in excess of the standards of 20.6.2.3103 NMAC that is generated, managed or used within a copper mine facility including raffinate; PLS; leachate collected from waste rock stockpiles, leach stockpiles, and tailings impoundments; tailings decant water; pit dewatering water; intercepted ground water, laboratory or other waste discharges containing water contaminants; and domestic wastes mixed with process water.

(51) “Seepage” means leachate that is discharged from a waste rock stockpile or tailing impoundment and emerges above or at the ground surface or that is present in the vadose zone and may be captured prior to entering ground water.

(52) “Slag” means a partially vitreous by-product of the process of smelting ore.

(53) "Slope angle" means the horizontal run distance divided by the vertical rise, measured along the steepest gradient of the interbench slope's physical surface (for example, a 2.5:1 slope refers to 2.5 horizontal and 1 vertical).

(54) "Small copper mine facility" means a copper mine facility that has disturbed or is proposing to disturb less than 500 acres and that does not contain tailings impoundments or leach stockpiles.

(55) "Spillway" means a structure used for controlled releases from a stormwater or process water impoundment, in a manner that protects the structural integrity of the impoundment.

(56) "Stormwater" means all direct precipitation and runoff generated within a copper mine facility from a storm event.

(57) "Surface water(s) of the State" means all surface waters as defined in 20.6.4.7 NMAC.

(58) "SX/EW" means solution extraction and electrowinning.

(59) "Tailings" means finely crushed and ground rock residue and associated fluids discharged from an ore milling, flotation beneficiation and concentrating process.

(60) "Tailings impoundment" means an impoundment that is the final repository of tailings.

(61) "Unauthorized discharge" means a release of process water, tailings, leachate or seepage from individual copper mine facility components, impacted stormwater or other substances containing water contaminants not approved by a discharge permit.

(62) "Underground mine" means the below-surface mine workings within which ore and waste rock are removed.

(63) "Unit" means a component of a mining operation including but not limited to processing, leaching, excavation, storage, stockpile or waste units.

(64) "Variance" means a commission order establishing requirements for a copper mine facility or a portion of a copper mine facility that are different than the requirements in the copper mine rule.

(65) "Waste rock" means all material excavated from a copper mine facility that is not ore or clean top soil.

#### **20.6.7.8 REQUIREMENTS FOR DISCHARGING FROM COPPER MINE FACILITIES:**

**A.** No person shall discharge effluent or leachate from a copper mine facility so that it may move directly or indirectly into ground water without a discharge permit approved by the department. A person intending to discharge from a copper mine facility shall submit an application for a discharge permit pursuant to 20.6.7.10 NMAC and remit fees pursuant to 20.6.7.9 NMAC.

**B.** Permittees, owners of a copper mine facility and holders of an expired permit are responsible for complying with the copper mine rule.

**C.** Unless otherwise noted in 20.6.7 NMAC, the requirements of 20.6.2.3101 through 20.6.2.3114 NMAC apply to a copper mine facility.

**D.** Compliance with commission rules including the requirements of 20.6.7 NMAC does not relieve a copper mine facility owner, operator or permittee from complying with the requirements of other applicable local, state and federal regulations or laws.

#### **20.6.7.9 FEES:** An applicant or permittee shall pay fees to the department's water quality management fund pursuant to this section in lieu of 20.6.2.3114.

**A.** The permittee of a copper mine shall remit an annual permit fee as follows: large copper mines, one hundred and twenty-five thousand dollars (\$125,000); medium copper mines, sixty-two thousand and five hundred dollars (\$62,500); and small copper mines, twelve thousand and five hundred dollars (\$12,500). Annual permit fees shall be due each August 1 after the effective date of the discharge permit until the discharge permit is terminated.

**B.** An applicant for a discharge permit, a discharge permit renewal, discharge permit renewal and modification, or discharge permit modification for a copper mine facility shall remit an application fee of one thousand dollars (\$1,000). The application fee is not refundable and may not be applied toward future discharge permit applications.

**C.** A permittee requesting a discharge permit amendment separate from a discharge permit renewal or modification shall remit with the request a discharge permit amendment fee of five hundred dollars (\$500). The permit amendment fee is not refundable and may not be applied toward future discharge permit applications or amendments.

**D.** A permittee requesting temporary permission to discharge pursuant to Subsection B of 20.6.2.3106 NMAC shall remit with the request a temporary permission fee of one thousand dollars (\$1,000). The

temporary permission fee is not refundable and may not be applied toward future discharge permit applications or requests for temporary permission to discharge.

**20.6.7.10 GENERAL APPLICATION REQUIREMENTS FOR ALL COPPER MINE FACILITIES:**

This section specifies the general requirements for discharge permit applications for all types of copper mine facilities.

**A.** Before submitting an initial application for a new copper mine facility, a prospective applicant shall schedule a pre-application meeting with the department to discuss the proposed location of the copper mine facility and individual units, the operating plans for the proposed process units, the physical characteristics of the copper mine facility's proposed site and other information that is required to be submitted in an application for a discharge permit. The pre-application meeting shall be held in Santa Fe, unless otherwise agreed to by the department. The pre-application meeting should occur no less than 60 days before the submission of the application except as approved by the department.

**B.** Instead of the information required by Subsection C of 20.6.2.3106 NMAC, an applicant shall provide information and supporting technical documentation pursuant to this section and 20.6.7.11 NMAC.

**C.** Notwithstanding Subsection F of 20.6.2.3106 NMAC, a permittee shall submit an application for renewal of a discharge permit for a copper mine facility or a unit of the copper mine facility to the department at least 270 days before the discharge permit expiration date, unless closure of the copper mine facility is approved by the department before that date.

**D.** For a copper mine facility that has been issued a discharge permit but has not been constructed or operated, a permittee shall submit to the department at least 270 days before the discharge permit expiration date an application for renewal pursuant to Subsection B of this section or a statement certifying that the copper mine facility has not been and will not be constructed and that no discharges have occurred or will occur. Upon the department's verification of the certification, the department shall terminate the discharge permit, if necessary, and retire the discharge permit number from use.

**E.** An application for a new, renewed, or modified discharge permit for a copper mine facility shall include the information and supporting documentation required by this section except that previously submitted materials may be included by reference in discharge permit renewal or modification applications provided that the materials are current, readily available to the secretary and sufficiently identified to be retrieved. The applicant shall attest to the truth of the information and supporting documentation in the application. The applicant shall provide to the department a hard copy (paper format) of the original signed completed application and all supporting documentation. The applicant shall also provide an electronic copy of the original signed application and all supporting documentation in portable document format (PDF) on a compact disc (CD) or digital versatile disc (DVD) or other format approved by the department.

**F.** Within 90 days of the department notifying the applicant in writing that the application is deemed administratively complete pursuant to Subsection A of 20.6.2.3108 NMAC, the department shall review the application for technical completeness and shall issue a written notice by certified mail to the applicant indicating whether the application is technically complete or is deemed to be deficient. An application must include the information required by Subsection B of this section to be deemed technically complete.

**G.** If the department determines that an application is technically deficient, the applicant shall have 60 days from the date of postal notice of the technical deficiency notification to provide the information required by this section. Upon request by the applicant and for good cause shown, the department may grant one or more extensions of time for the applicant to provide the information required by the technical deficiency notification.

(1) If an applicant for a new discharge permit does not provide all information required by this section to the department within 60 days of the date of postal notice of the technical deficiency, or within any extension granted by the department, the department may deny the application. The department shall provide notice of denial to the applicant by certified mail.

(2) If an applicant for a renewed or modified discharge permit does not provide all information required by this section to the department within 60 days of the date of postal notice of the technical deficiency, or within any extension granted by the department, the department may deny the application or may propose a discharge permit for approval consistent with the requirements of the copper mine rule. If the department denies the application, the department shall provide notice of denial to the applicant by certified mail.

(3) An applicant may supplement an application at any time during the technical review period. The department shall review the information for technical completeness within 90 days of receipt.

**H.** Within 90 days after an application is deemed technically complete or all information has been submitted to the department pursuant to a technical deficiency notification, the department shall make available a

proposed approval of a discharge permit and a draft discharge permit or a notice of denial of a discharge permit application pursuant to Subsection H of 20.6.2.3108 NMAC and provide a copy to the mining and minerals division. The draft discharge permit shall contain applicable conditions specified in the copper mine rule, any conditions based on a variance issued for the copper mine facility pursuant to 20.6.2.1210 NMAC, and any additional conditions imposed under Subsection I of this section. Requests for a hearing on the proposed approval of a discharge permit or denial of a discharge permit shall be submitted to the department pursuant to Subsection K of 20.6.2.3108 NMAC.

**I.** The department may impose additional conditions on a discharge permit in accordance with Section 74-6-5 NMSA 1978. If the department proposes an additional condition in a discharge permit that is not included in the copper mine rule, the department shall include a written explanation of the reason for the additional condition with the copy of the draft permit and proposed approval sent to the applicant pursuant to Subsection H of 20.6.2.3108 NMAC. Pursuant to subsection K of 20.6.2.3108 NMAC, written comments regarding the additional condition may be submitted to the department during the comment period and a hearing may be requested regarding the additional conditions.

**J.** The secretary shall approve a discharge permit provided that it poses neither a hazard to public health nor undue risk to property, and:

- (1) the requirements of the copper mine rule are met;
- (2) the provisions of 20.6.2.3109 NMAC are met, with the exception of Subsection C of 20.6.2.3109 NMAC; and
- (3) the denial of an application for a discharge permit is not required pursuant to Section 74-6-5(E) NMSA 1978.

#### **20.6.7.11 APPLICATION REQUIREMENTS FOR DISCHARGE PERMITS FOR A COPPER MINE FACILITY:**

**A.** An application for a new discharge permit or a renewal of an existing discharge permit shall include the applicable information in this section. An application for a modification of an existing discharge permit shall include the information in this section relevant to the proposed modification but need not include information listed in this section if the information was submitted to the department in the prior discharge permit application and the information has not changed since the discharge permit was issued. The department may require separate operational and closure discharge permits, or may combine operational and closure requirements in the same permit.

**B. Contact information.** An application shall include:

- (1) applicant's name, title and affiliation with the copper mine facility, mailing address, and telephone number;
- (2) the name, mailing address and telephone number of each owner and operator of the copper mine facility;
- (3) if different than the applicant, the application preparer's name, title and affiliation with the copper mine facility, mailing address, telephone number and signature;
- (4) the mailing address and telephone number of any independent contractor authorized to assist the copper mine facility with compliance with the Water Quality Act and 20.6.2 NMAC and 20.6.7 NMAC; and
- (5) if the person submitting the application is not the owner or operator of the copper mine facility, a certification that the person is duly authorized to submit the application on behalf of the owner or operator.

**C. Ownership and real property agreements.**

- (1) An application shall include the copper mine facility owner's name, title, mailing address and phone number.
  - (a) If more than one person has an ownership interest in the copper mine facility or a partnership exists, then the applicant shall list all persons having an ownership interest in the copper mine facility, including their names, titles, mailing addresses and telephone numbers.
  - (b) If any corporate entity holds an ownership interest in the copper mine facility, the applicant shall also list the name(s), as filed with the New Mexico public regulation commission, of the corporate entity, and the corporate entity's registered agent's name and address.
- (2) If the applicant is not the owner of the real property upon which the copper mine facility is or will be situated, or upon which the discharge will occur, the applicant shall submit the name, address and telephone number of the owner(s), and a notarized statement from the owner which authorizes the use of the real property for the duration of the term of the requested permit. In the event the property is under Federal or State ownership the applicant shall provide other evidence of authorization to enter public lands for mining.



**D. Setbacks.** An application for a new copper mine facility shall include a scaled map of the proposed copper mine facility layout demonstrating that the copper mine facility meets the setback requirements of 20.6.7.19 NMAC.

**E. Copper mine facility information and location.** An application shall include:

- (1) the copper mine facility name, physical address and county;
- (2) the township, range and section for the entire copper mine facility; and
- (3) the total acreage of the copper mine facility.

**F. Public notice preparation.**

(1) An application for a new, modified or renewed and modified discharge permit shall include the name of a newspaper of general circulation in the location of the copper mine facility for the display advertisement publication, the proposed public location(s) for posting of the 2-foot by 3-foot sign, and the proposed off-site public location for posting of the additional notice, as required by Subsection B of 20.6.2.3108 NMAC.

(2) An application for a renewed discharge permit that does not seek a discharge permit modification shall include the name of a newspaper of general circulation in the location of the copper mine facility for the future display advertisement publication as required by Subsection C of 20.6.2.3108 NMAC.

**G. Pre-discharge total dissolved solids concentration in ground water.** An application shall include the pre-discharge total dissolved solids concentration, or range of concentration, from analytical results of ground water obtained from on-site test data from the aquifer(s) that may be affected by discharges from the copper mine facility. A copy of the laboratory analysis stating the pre-discharge total dissolved solids concentration shall be submitted with the application.

**H. Determination of maximum daily discharge volume.** An application shall include the following information.

(1) The proposed maximum daily discharge volume of process water and tailings for each discharge location and a description of the discharge locations and the methods and calculations used to determine that volume.

(2) The identification of all sources of process water and tailings.

(3) The estimated daily volume of process water and tailings generated.

(4) Information regarding other waste discharges (i.e., domestic or industrial) at the copper mine facility. Permit identification numbers shall be submitted for those discharges that are already permitted.

**I. Process water and tailings quality.** An application shall include estimated concentrations of process water and tailings slurry quality for the constituents identified in 20.6.2.3103 NMAC including the basis for these estimations.

**J. Identification and physical description of the copper mine facility.** An application shall include the following information.

(1) A scaled map of the entire existing or proposed copper mine facility showing the location of all features identified in Paragraphs 2 through 11 of this Subsection. The map shall be clear and legible, and drawn to a scale such that all necessary information is plainly shown and identified. The map shall show the scale in feet or metric measure, a graphical scale, a north arrow, and the effective date of the map. Multiple maps showing different portions of the copper mine facility may be provided using different scales as appropriate. Documentation identifying the means used to locate the mapped objects (i.e., global positioning system (GPS), land survey, digital map interpolation, etc.) and the relative accuracy of the data (i.e., within a specified distance expressed in feet or meters) shall be included with the map. Any object that cannot be directly shown due to its location inside of existing structures, or because it is buried without surface identification, shall be identified on the map in a schematic format and identified as such;

(2) A description of each existing or proposed tailing impoundment, leach stockpile, process water and impacted stormwater impoundment, waste rock stockpile, and slag including information about its location, purpose, liner material, storage or disposal capacity, and the methods proposed or used to prevent pollution of ground water;

(3) A description of each existing or proposed open pit and underground mine within the proposed copper mine facility and information about its location, depth, size, and acreage;

(4) A description of each existing or proposed material handling and processing unit including crushing, milling, concentrating, smelting and SX/EW units within the copper mine facility, and information about its location and proposed methods of process water handling and disposal;

(5) A description of existing or proposed sumps, tanks, pipelines and truck and equipment wash units, including information for each unit regarding its location, purpose, construction material, dimensions and capacity.

For portable tanks or pipelines or those subject to periodic relocation, identify the areas within which they may be used;

(6) A description of the proposed method(s) to manage stormwater runoff and run-on to minimize leachate that may be discharged;

(7) A description of water wells and monitoring wells, including information for each well regarding its location, construction material, dimensions and capacity;

(8) A description of flow meters required pursuant to the copper mine rule or a discharge permit and fixed pumps for discharge of process water, tailings and impacted stormwater;

(9) A description of any surface water(s) of the state and any other springs, seeps, ditch irrigation systems, acequias, and irrigation canals and drains located within the boundary of the copper mine facility;

(10) A description of proposed sampling locations; and

(11) A description of all septic tanks and leachfields used for the disposal of domestic wastes.

**K. Surface soil survey, geology and hydrology.** An application shall include:

(1) the most recent regional soil survey map and associated descriptions identifying surface soil type(s);

(2) a geologic map covering the area within a one-mile radius of the copper mine facility and geologic and lithological information which provides a geologic profile of the subsurface conditions beneath the copper mine site, including the thickness of each geologic unit, identification of which geologic units are water bearing, cross sectional diagrams and sources of all such information; and

(3) hydrologic information on any surface waters of the state within one-half mile of the boundary of the copper mine facility, and of subsurface conditions for all water bearing zones beneath the copper mine facility including maximum and minimum depths to ground water, direction of ground water flow, hydrologic gradients shown by potentiometric maps, transmissivity and storativity, and ground water quality. The sources of all such information shall be provided with the application.

**L. Location map.** An application shall include a location map with topographic surface contours identifying all of the following features located within a one-mile radius of the copper mine facility:

(1) watercourses, lakebeds, sinkholes, playa lakes, seeps and springs (springs used to provide water for human consumption shall be so denoted);

(2) wells supplying water for a public water system and private domestic water wells;

(3) irrigation and other water supply wells; and

(4) ditch irrigations systems, acequias, irrigation canals and drains.

**M. Flood zone map.** An application shall include, if available, the most recent 100-year flood zone map developed by the federal emergency management administration (FEMA), flood insurance rate map or other flood boundary and floodway map with the copper mine clearly identified along with all 100-year frequency flood zones for the copper mine facility, and a description of any engineered measures used for flood protection.

**N. Engineering design, construction and surveying.** Pursuant to 20.6.7.17 NMAC, 20.6.7.18 NMAC, 20.6.7.20 NMAC, 20.6.7.21 NMAC, 20.6.7.22 NMAC, 20.6.7.23 NMAC and 20.6.7.26 NMAC an application shall include:

(1) plans and specifications for proposed new or modified tailings impoundments, leach stockpiles, waste rock stockpiles, and process water and impacted stormwater impoundments and associated liners;

(2) plans and specifications for proposed new or modified tanks, pipelines, truck and equipment wash units and other containment systems; and

(3) a stormwater management plan.

**O. Material characterization plan and material handling plan.** An application shall include a material characterization plan and, if applicable, a material handling plan for all waste rock excavated at the copper mine facility pursuant to Subsection A of 20.6.7.21 NMAC.

**P. Hydrologic conceptual model.** An application for a discharge permit for a new copper mine facility shall include a site hydrologic conceptual model providing:

(1) a description of the hydrogeologic setting at the copper mine facility including ground water potentiometric maps, surface water drainages and flows, types of ground water and surface water recharge and its distribution, and hydrologic boundary conditions and divides;

(2) the site hydrogeologic setting relative to both local and regional hydrology and geology including appropriate cross-sectional diagrams depicting major geologic formations and structures, aquifers, and ground water depths;

(3) potential sources of water contaminants including discharge types and their locations;

(4) potential pathways for migration of water contaminants to ground water and surface water; and

(5) any surface waters of the state that are gaining because of inflow of ground water that may be affected by water contaminants discharged from the copper mine facility.

**Q. Waste minimization plan.** An application shall include a waste minimization plan to implement, as practicable, best management practices for minimization and recycling of process water and wastes generated at the copper mine facility to reduce the potential for impacts to ground water.

**R. Monitoring wells.** An application shall include the location of all existing and proposed ground water monitoring wells pursuant to 20.6.7.28 NMAC.

**S. Flow metering.** An application shall describe a copper mine facility's flow metering system pursuant to Paragraph (5) of Subsection C of 20.6.7.17 NMAC, Subsection E of 20.6.7.18 NMAC, and Subsections C and E of 20.6.7.29 NMAC, including:

(1) the method(s) (i.e., pumped versus gravity flow) of process water discharge and stormwater transfer and handling;

(2) the proposed flow measurement devices for each flow method and information about its type and capacity; and

(3) the location of all existing and proposed flow meters required pursuant to the copper mine rule or a discharge permit.

**T. Closure plan.** An application shall include a closure plan for all portions of a copper mine facility pursuant to Subsection A of 20.6.7.18 NMAC, 20.6.7.33 NMAC, 20.6.7.34 NMAC and 20.6.7.35 NMAC unless closure of the copper mine facility is covered, or will be covered, by a separate closure discharge permit.

**U. Financial assurance.** An application shall include a proposal for financial assurance for those portions of a copper mine facility to be reclaimed in accordance with a closure plan submitted pursuant to Subsection A of 20.6.7.18 NMAC, 20.6.7.33 NMAC, 20.6.7.34 NMAC and 20.6.7.35 NMAC .

**V. Variances.** An application shall identify any issued or proposed variances for the copper mine facility pursuant to 20.6.2.1210 NMAC and the sections of the copper mine rule affected by the variance(s).

**W. Meteorological data.** An application shall include a plan to measure meteorological data at sites throughout the copper mine facility including precipitation, temperature, relative humidity, solar radiation, wind speed and wind direction.

**20.6.7.12            RESERVED**

**20.6.7.13            RESERVED**

**20.6.7.14            REQUIREMENTS FOR A DISCHARGE PERMIT AMENDMENT:**

**A.** A permittee may submit a request for a discharge permit amendment to the department at any time during the term of an approved discharge permit.

**B.** A permittee shall remit a fee pursuant to Subsection C of 20.6.7.9 NMAC with the request for a discharge permit amendment.

**C.** A discharge permit amendment shall be administratively reviewed and evaluated by the department and is not subject to public notice or a public hearing.

**D.** The department shall approve, disapprove or request additional information necessary for a determination regarding a discharge permit amendment within 30 days of receipt of a request.

**E.** The department shall provide notice of all discharge permit amendment approvals or denials to those persons on the copper mine facility-specific list maintained by the department who have requested notice of discharge permit applications.

**20.6.7.15            RESERVED**

**20.6.7.16            RESERVED**

**20.6.7.17            GENERAL ENGINEERING AND SURVEYING REQUIREMENTS:**

**A. Practice of engineering.** All plans, designs, drawings, reports and specifications required by the copper mine rule that require the practice of engineering shall bear the seal and signature of a licensed New Mexico professional engineer pursuant to the New Mexico Engineering and Surveying Practice Act, Sections 61-23-1 through 61-23-33, NMSA 1978, and the rules promulgated under that authority.

**B. Practice of surveying.** All plans, drawings and reports required by the copper mine rule that require the practice of surveying shall bear the seal and signature of a licensed New Mexico professional surveyor

pursuant to the New Mexico Engineering and Surveying Practice Act, Sections 61-23-1 through 61-23-33, NMSA 1978, and the rules promulgated under that authority.

**C. Engineering plans and specifications requirements.** The following engineering plans and specifications and associated requirements shall be submitted to the department for approval with an application for a new, renewed or modified discharge permit, as applicable.

(1) **Liner system plans and specifications.** An applicant or permittee proposing or required to construct a new or improve an existing liner system required by the copper mine rule or an existing discharge permit, including the repair, modification or replacement of a liner system, shall include the following elements in all liner system plans and specifications submitted to the department.

(a) **Construction plans and specifications.** Detailed and complete construction plans and specifications and supporting design calculations developed pursuant to this section and 20.6.7.18 and 20.6.7. 20 through 20.6.7.26 NMAC shall be submitted to the department.

(b) **Liner system CQA/CQC.** The construction and installation of all liner systems and the repair, modification or replacement of a liner system shall be conducted in accordance with a construction quality assurance/construction quality control (CQA/CQC) plan. A CQA/CQC plan shall be included as part of the design plans and specifications. The CQA/CQC plan shall specify the observations and tests to be used to ensure that construction of the liner system meets all design criteria, plans and specifications. All liner system testing and evaluation reports for liner construction and installation, including modifications and replacements shall be signed and sealed by a licensed New Mexico professional engineer with experience in liner system construction and installation. The CQA/CQC plan shall include the following elements.

(i) The identity of persons responsible for overseeing the CQA/CQC program. The person responsible for overseeing the CQA/CQC plan shall be a licensed New Mexico professional engineer with experience in liner system construction and installation;

(ii) An inspection protocol;

(iii) Identification of field and laboratory testing equipment and facilities proposed to be used, and calibration methods;

(iv) The procedures for observing and testing the liner, subgrade, liner bedding, and other liner system construction material;

(v) A protocol for verification of any manufacturers' quality control testing and procedures;

(vi) The procedures for reviewing inspection test results and laboratory and field sampling test results;

(vii) The actions to be taken to replace or repair liner material, subgrade, liner bedding, or other liner system construction materials should deficiencies be identified;

(viii) The procedures for seaming synthetic liners;

(ix) The reporting procedures for all inspections and test data; and

(x) The submission of a CQA/CQC report.

(c) **Management of process water, solids and sludge or impacted stormwater during liner system improvement.** An applicant or permittee proposing or required to improve copper mine facility operational units that requires the use of a liner system, including re-lining or replacement of an existing liner system, shall submit a plan for managing process water, solids and sludges, or impacted stormwater during preparation and construction of the improvement. The plan shall be submitted as part of the design plans and specifications. The plan shall include the following minimum elements.

(i) A plan for handling and disposal of process water, solids and sludges and impacted stormwater discharges during improvement to the impoundment;

(ii) A plan for removal and disposal of process water, solids and sludges or impacted stormwater within the liner system prior to beginning improvement to the liner system;

(iii) A plan and schedule for implementation of the project; and

(iv) If the plan proposes a temporary location for the discharge of process water, solids and sludge, or impacted stormwater not authorized by the effective discharge permit, the applicant or permittee shall request temporary permission to discharge from the department pursuant to Subsection B of Section 20.6.2.3106 NMAC.

(d) **Dam safety.** An applicant or permittee proposing or required to construct a tailings impoundment shall submit documentation of compliance with the requirements of the dam safety bureau of the state engineer pursuant to Section 72-5-32 NMSA 1978, and rules promulgated under that authority, unless exempt by law from such requirements.

(2) **Tank, pipeline, sump or other containment system plans and specifications.** An applicant or permittee proposing or required to construct a new tank, pipeline, sump or other containment system for the management of tailings, process water or other water contaminants shall submit detailed and complete construction plans and specifications and supporting design calculations developed pursuant to this section and 20.6.7.23 NMAC. The construction plans and specifications for an improvement(s) or replacement of an existing tank, pipeline, sump or other containment systems shall address the management of solids, waste, process water or other water contaminants generated during preparation and construction of the improvements or replacement. This requirement does not apply to portable or temporary tanks, pipelines, sumps, or other containment systems that are subject to periodic relocation during mining operations.

(3) **Process water or impacted stormwater treatment system plans and specifications.** An applicant or permittee proposing or required to construct a treatment system during mine operations for process water or impacted stormwater to be treated prior to discharge shall submit detailed and complete construction plans and specifications and supporting design calculations developed pursuant to this section and 20.6.7.18 NMAC.

(4) **Impacted stormwater management plans and specifications.** An applicant shall submit stormwater management plans and specifications to limit run-on of stormwater and manage impacted stormwater in a manner which prevents water pollution that may cause an exceedance of the applicable standards. The plans and specifications shall be submitted with an application for a new or renewed discharge permit, or as applicable with an application for a modified discharge permit, and shall include the following information.

(a) A scaled map of the copper mine facility showing:

- (i) the property boundaries of the copper mine facility and the mining areas;
- (ii) all existing and proposed structures;
- (iii) existing and proposed final ground surface contours outside of the open pit surface drainage area at appropriate vertical intervals; and
- (iv) existing and proposed stormwater containment and conveyance structures, including construction materials, size, type, slope, capacity and inlet and invert elevation (or minimum and maximum slopes) of the structures, as applicable.

(b) A description of existing surface water drainage conditions.

(c) A description of the proposed post-development surface water drainage conditions.

(d) Supplemental information supporting the stormwater management plan including the following information:

- (i) hydrologic and hydraulic calculations for design storm events;
- (ii) hydraulic calculations demonstrating the capacity of existing and proposed stormwater impoundments;
- (iii) hydraulic calculations demonstrating the capacity of existing and proposed conveyance channels to divert stormwater or contain and transport runoff to stormwater impoundment(s); and
- (iv) a list of tools and references used to develop the hydrologic and hydraulic calculations such as computer software, documents, circulars, and manuals.

(e) A plan to manage impacted stormwater, and to divert run-on of non-impacted stormwater where practicable. The plan shall include, as necessary, design, construction, and installation of stormwater run-on and run-off diversion structures, collection of impacted stormwater, and a description of existing surface water drainage conditions. The plan shall consider:

- (i) the amount, intensity, duration and frequency of precipitation;
- (ii) watershed characteristics including the size, topography, soils and vegetation of the watershed; and
- (iii) runoff characteristics including the peak rate, volumes and time distribution of runoff events.

(5) **Flow metering plans.** An applicant or permittee proposing or required to install a flow meter(s) pursuant to the copper mine rule shall submit a flow metering plan to support the selection of the proposed device along with information or construction plans and specifications, as appropriate, detailing the installation or construction of each device. This information or construction plans and specifications proposed by the applicant or permittee shall be submitted to the department with the application for a new discharge permit or a renewed or modified discharge permit if a new flow meter is proposed.

**D. New impoundment engineering design requirements.** At a minimum, construction of a new impoundment or replacement of an existing impoundment shall be in accordance with the applicable liner, design, and construction requirements of this Subsection. These requirements do not apply to tailing impoundments that are subject to the specific engineering design requirements of Paragraph 4 of Subsection A of 20.6.7.22 NMAC.

(1) **General design and construction requirements.**

(a) The outside slopes of an impoundment shall be a maximum of two (horizontal) to one (vertical) and shall meet a minimum static factor of safety of 1.3 with water impounded to the maximum capacity design level, except where an impoundment is bounded by rock walls or is below the surrounding surface grade.

(b) The dikes of an impoundment shall be designed to allow for access for maintenance unless otherwise approved by the department.

(c) Liners shall be installed with sufficient slack in the liner material to accommodate expansion and contraction due to temperature changes. Folds in the liner material shall not be present in the completed liner except to the extent necessary to provide slack.

(d) Liners shall be anchored in an anchor trench. The trench shall be of a size and setback distance sufficient for the size of the impoundment.

(e) Liner panels shall be oriented such that all sidewall seams are vertical.

(f) Any opening in the liner through which a pipe or other fixture protrudes shall be sealed in accordance with the liner manufacturer's requirements. Liner penetrations shall be detailed in the construction plans and as-built drawings.

(g) All liners shall be installed by an individual that has the necessary training and experience as required by the liner manufacturer.

(h) Liner manufacturer's installation and field seaming guidelines shall be followed.

(i) All liner seams shall be field tested by the installer and verification of the adequacy of the seams shall be submitted to the department along with the as-built drawings.

(j) Concrete slabs installed on top of a liner for operational purposes shall be completed in accordance with manufacturer and installer recommendations to ensure liner integrity.

(2) **Impoundment capacity.** Impoundments shall meet the following design capacities. Capacity requirements may be satisfied by a single impoundment or by the collective capacity of multiple interconnected impoundments and any interconnected tanks.

(a) **Capacity requirements for impoundments that contain leach solutions.** Process water systems that impound leach solutions shall be designed for adequate overflow capacity for upset conditions such as power outages, pump or conveyance disruptions and significant precipitation events. Any impoundment that collects leach solutions and is routinely at capacity shall be designed to maintain a minimum of two feet of freeboard during normal operating conditions while conveying the maximum design process flows. The appropriate overflow capacity design shall consider system redundancies such as backup power systems and pumps. The overflow capacity shall be designed to contain the maximum design flows for the collection system for the maximum period of time that is required for maintenance activities or restoration to normal operating conditions while maintaining two feet of freeboard. If the collection system receives direct precipitation run-off with little or no flow attenuation in the upgradient leach stockpile collection system, the overflow capacity shall be sized to contain the runoff from a 100 year, 24 hour storm event in addition to the upset condition capacity. For process water impoundments located within the open pit surface drainage area, the open pit bottom may be utilized for a portion of the permitted impoundment capacity. Impoundments constructed on a leach stockpile such that any overflow would discharge to and be contained by the approved leach stockpile system are not subject to this capacity requirement.

(b) **Other process water impoundment capacity requirements.** Process water impoundments intended to manage or dispose of process water, other than leach solutions, shall be designed for adequate overflow capacity for upset conditions such as power outages, pump or conveyance disruptions and significant precipitation events. Any impoundment that collects such process water and is routinely at capacity shall be designed to maintain a minimum of two feet of freeboard during normal operating conditions while conveying the maximum design process flows. The appropriate overflow capacity design shall consider system redundancies such as backup power systems and pumps. The overflow capacity shall be designed to contain the maximum design flows for the collection system for the maximum period of time that is required for maintenance activities or restoration to normal operating conditions while maintaining two feet of freeboard. For process water impoundments located within the open pit surface drainage area, the open pit bottom may be utilized for a portion of the permitted impoundment capacity. Impoundments constructed on a leach stockpile such that any overflow would discharge to and be contained by the approved leach stockpile system are not subject to this capacity requirement.

(c) **Combination process water/impacted stormwater impoundment capacity requirements.** Impoundments, other than impoundments for the containment of leach solutions, intended to dispose of a combination of process water and impacted stormwater shall be designed to contain, at a minimum, the volume described in Subparagraph (b) of this Paragraph and the volume of stormwater runoff and direct precipitation generated from the receiving surface area resulting from a 100 year, 24 hour storm event while preserving two feet

of freeboard. For combination process water/impacted stormwater impoundments located within the open pit surface drainage area, the open pit bottom may be utilized for a portion of the impoundment capacity.

(d) **Evaporative impacted stormwater impoundment design requirements.** Impoundments intended to manage or dispose of impacted stormwater by evaporation shall be designed to contain, at a minimum, the volume of stormwater runoff and direct precipitation generated from the receiving surface area resulting from a 100 year, 24 hour storm event while preserving two feet of freeboard. For impoundments located within the open pit surface drainage area, the open pit bottom may be utilized for a portion of the impoundment capacity.

(e) **Other impacted stormwater impoundment design requirements.** Other impacted stormwater impoundment systems shall be designed to prevent overflow resulting from a 100-year, 24-hour return interval storm event while maintaining two feet of freeboard and may use interconnected impoundments, gravity flow conveyances and pumping systems designed to remove water from individual impoundments at rates to prevent overflow during the design storm event. The appropriate overflow capacity design shall consider system redundancies such as backup power systems and pumps. For impacted stormwater impoundments located within the open pit surface drainage area, the open pit bottom may be utilized for a portion of the permitted impoundment capacity.

(f) **Conveyance design requirement.** Open channel conveyance structures intended to transport stormwater to an impoundment shall be designed to convey, at a minimum, the peak flow from a 100-year, 24 hour storm event while preserving adequate freeboard, but not less than six inches of freeboard. Conveyances shall be designed to minimize ponding and infiltration of stormwater.

(g) **Solids settling.** An impoundment designed and used for solids settling shall not be used to satisfy the impoundment capacity requirements of this Paragraph.

(3) **Process water and impacted stormwater long-term storage impoundments.** Process water, and impacted stormwater impoundments that store impacted stormwater for longer than thirty days shall meet the following design and construction requirements, except that process water and impacted stormwater long-term impoundments located within an open pit surface drainage area of an existing copper mine facility may be designed and constructed in accordance with the requirements of Paragraph (4) of this Subsection.

(a) **Liner system.** At a minimum, impoundments subject to this Paragraph shall be designed and constructed as an engineered liner system consisting of a suitable subgrade and liner bedding overlain by a secondary synthetic liner which is overlain by a leak collection system overlain by a primary synthetic liner, unless an alternate design is approved by the department pursuant to Subparagraph (e) of this Paragraph. The liner system shall be installed in accordance with a department approved CQA/CQC plan pursuant to Paragraph (2) of Subsection C of 20.6.7.17 NMAC

(b) **Liner system sub-grade and bedding.** The liner system shall be placed upon a stable sub-grade. The sub-grade shall be free of sharp rocks, vegetation and stubble to a depth of at least six inches below the liner. Liners shall be placed on a liner bedding of sand or fine soil. The surface in contact with the liner shall be smooth to allow for good contact between liner bedding. The liner bedding surface shall be sufficiently dry during liner installation such that free or excess water will not hinder the welding of seams. The liner installer shall provide the owner or permittee with a sub-grade and liner bedding acceptance certificate prior to installing the liner indicating acceptance of the earthwork.

(c) **Liner type.** The primary and secondary synthetic liners for the impoundment shall provide the same or greater level of containment, including permeability, as a 60 mil HDPE geomembrane liner system. The liner system's tensile strength, tear and puncture resistance and resistance to degradation by ultraviolet light shall be compatible with design loads, exposure and conditions.

(d) **Leak collection system.** A leak collection system shall be constructed between the primary and secondary synthetic liners for the purpose of collecting and rapidly removing fluids from leaks that may occur in the primary liner so that minimal hydraulic head is maintained on the secondary liner. The leak collection system shall consist of a drainage layer, fluid collection pipes and a fluid removal system to prevent hydraulic head transference from the primary liner to the secondary liner and shall meet the following requirements.

(i) The drainage layer shall be constructed of granular soil materials or geosynthetic drainage net (geonet) with a design slope of at least two percent. Drainage material shall have a coefficient of permeability of  $1 \times 10^{-2}$  centimeters/second or greater.

(ii) Perforated fluid collection pipes shall be installed to transmit fluid from the drainage layer to a fluid collection sump(s). Collection pipe material, diameter, wall thickness, and slot size and distribution shall be sufficient to prevent deflection, buckling, collapse or other failure. Collection pipes shall be installed with slopes equivalent to the slope of the drainage layer. Collection pipe systems shall be designed to allow for cleaning of all collection pipes with standard pipe cleaning equipment.

(iii) A fluid removal system shall be installed to remove fluid from the leak collection system. The fluid removal system shall consist of a sump(s), a dedicated pump(s), an automated pump activation system that activates the pump(s) when a specific fluid level is reached in a sump(s), a totalizing flow meter to measure the volume of leachate pumped from the system, and an automated alarm system that provides warning of pump failure. Alternately a gravity drain system may be utilized where practicable and approved by the department.

(e) An applicant or permittee may propose for department approval an alternative design for process water and impacted stormwater long-term storage impoundments that provides the same or greater level of containment as a double synthetically lined system with leak collection.

(4) **Impacted stormwater impoundments.** Impacted stormwater impoundments that store impacted stormwater for less than thirty days shall meet the following design and construction requirements; except that any such impoundments located within an open pit surface drainage area may not require a liner.

(a) **Liner system.** At a minimum, an impacted stormwater impoundment subject to this Paragraph shall be constructed as an engineered liner system consisting of a compacted subbase overlain by a synthetic liner. The liner system shall be installed in accordance with a department approved CQA/CQC plan pursuant to Paragraph (2) of Subsection C of 20.6.7.17 NMAC

(b) **Liner system subgrade and liner bedding.** The liner system shall be prepared and placed upon a stable subgrade. The top surface of the subgrade shall be smooth and free of sharp rocks or any other material that could penetrate the overlying liner bedding or synthetic liner. Liner bedding shall be placed atop the subgrade and shall consist of a minimum of six inches of sand or fine soil to allow for good contact between liner and liner bedding. The liner bedding surface shall be sufficiently dry during liner installation such that free or excess water will not hinder the welding of seams. The liner installer shall provide the owner or permittee with a sub-grade and liner bedding acceptance certificate prior to installing the liner indicating acceptance of the earthwork.

(c) **Liner type.** Synthetic liners for an impacted stormwater impoundment shall provide the same or greater level of containment, including permeability, as a 60 mil HDPE geomembrane liner system. The liner system's tensile strength, tear and puncture resistance and resistance to degradation by ultraviolet light shall be compatible with design loads, exposure and conditions.

(d) **Wind protection.** Liner systems for impacted stormwater impoundments shall be designed and constructed with a weighting system to secure the liner and limit liner damage during periods of extreme wind events when the impoundment is empty.

(e) **Alternate design.** An applicant or permittee may propose for department approval an alternative design for an impacted stormwater impoundment that provides the same or greater level of containment as the liner system described in Subparagraphs (a) through (d) of this Paragraph.

(5) **Non-impacted stormwater impoundments.** Non-impacted stormwater impoundments located outside the open pit surface drainage area over contaminated areas where the water has the potential to infiltrate and produce a leachate that may cause an exceedance of the applicable standards require a liner system designed and installed in accordance with Paragraph (4) this Subsection.

(6) **Separation between impoundments and ground water.** Impoundments that require a liner pursuant to this Subsection shall not be constructed in a location where the vertical distance between the seasonal high ground water level and the finished grade of the floor of the impoundment is less than or equal to four feet unless the applicant or permittee submits an engineering evaluation from a licensed New Mexico professional engineer that demonstrates that the impoundment design will not be affected by shallow ground water conditions.

(7) **Spillways.** Impacted stormwater impoundments shall have spillways to safely discharge the peak runoff of a 25-year, 24-hour precipitation event, or an event with a 90-percent chance of not being exceeded for the design life of the impoundment. Impoundments intended as primary containment for process water shall not be designed with a spillway that empties onto the ground surface.

#### **20.6.7.18 GENERAL OPERATIONAL REQUIREMENTS:**

**A. Planning for closure.** To the extent practicable, copper mine facility units shall be designed and operated in a manner that considers implementation of the copper mine facility closure plan submitted pursuant to 20.6.7.33 NMAC including:

(1) identifying material that is suitable for use to construct covers and, when feasible, segregating that material from other mined materials to preserve it for use to construct covers; and,

(2) consideration of closure grading and drainage plans in the design and construction of leach stockpiles, tailings impoundments, waste rock stockpiles, and other copper mine facilities.



**B. Construction requirements.** A permittee shall meet the following requirements for construction of a liner system for the containment of water contaminants, including repair or relining of a liner system.

(1) A permittee shall notify the department at least five working days before starting construction or repair or relining to allow for an inspection by the department, except in the case of an emergency repair. If an emergency repair is necessary, the permittee shall notify the department within 24 hours of starting the repair.

(2) A permittee shall submit to the department a construction certification report bearing the seal and signature of a licensed New Mexico professional engineer, when required by the New Mexico Engineering and Surveying Practice Act, NMSA 1978, sections 61-23-1 through 61-23-33, and the rules promulgated under that authority, verifying that installation and construction was completed pursuant to Subsections C and D of 20.6.7.17 NMAC. The construction certification report shall include as-built drawings, final specifications, final capacity calculations and the CQA/CQC report.

(3) The construction certification report shall be submitted to the department before discharging or placing ore or wastes in a liner system.

**C. Notice of mining operations and discharge.** A permittee shall provide written notice to the department of the commencement, or recommencement of operations as follows.

(1) **For new copper mine facilities.**

(a) **Commencement of construction.** A permittee shall provide written notice to the department a minimum of 30 days before commencing construction of units covered by a permit issued pursuant to the copper mine rule.

(b) **Commencement of discharge.** A minimum of 30 days prior to discharging or emplacement of ore or waste rock in a constructed impoundment, stockpile, or tailings impoundment a permittee shall provide written notice to the department of the anticipated date that discharge or emplacement of ore or waste rock will commence. A permittee shall provide written verification to the department of the actual date of commencement within 30 days of commencement.

(2) **For existing copper mine facilities.**

(a) **Commencement of a new discharge.** A minimum of 30 days prior to discharging or emplacement of ore or waste in a newly constructed impoundment, stockpile, or tailings impoundment the permittee shall provide written notice to the department of the anticipated date that discharge or emplacement of ore or waste will commence. A permittee shall provide written verification to the department of the actual date of commencement within 30 days of commencement.

(b) **Recommencement of mining.** If a permittee is on standby pursuant to the Mining Act, a permittee shall provide written notice to the department indicating the planned date of recommencement of operations at a copper mine facility that include operation of units covered by a permit issued pursuant to the copper mine rule. Written notification shall be submitted to the department a minimum of 30 days prior to the date mining is to recommence.

**D. Stormwater management.** A permittee shall divert and manage stormwater from the open pit, leach stockpiles, waste rock and tailings impoundments and other copper mine facility areas containing material that could generate or release water contaminants in accordance with a stormwater management plan as required by Paragraph (4) of Subsection C of 20.6.7.17 NMAC.

**E. Flow meters.** A permittee shall employ a flow metering system that uses flow measurement devices (flow meters, weirs or other department approved method) to measure the volume of process water and tailings discharged at a copper mine facility as follows.

(1) **Flow meter installation.** Flow meters shall be installed in accordance with the flow meter plans submitted with the application for a new, renewed or modified discharge permit pursuant to Paragraph (5) of Subsection C of 20.6.7.17 NMAC, and this Section. Flow meters shall be permanently labeled with meter identification nomenclature, and the month and year of meter installation.

(2) **Flow meter inspection and maintenance.** A permittee shall visually inspect flow meters on a monthly basis for evidence of malfunction. If a visual inspection indicates a flow meter is not functioning to measure flow, the permittee shall repair or replace the meter within 30 days of or as soon as practicable following discovery. The repaired or replaced flow meter shall be installed and calibrated pursuant to this Subsection. The permittee shall submit a report of repaired or replaced meters to the department in the subsequent monitoring report which shall include:

(a) information on repairs including a description of the malfunction; a statement verifying the repair, and a description of calibration of the flow meter pursuant to Paragraph (3) of this Subsection.

(b) for replacement meters, information demonstrating that the device is in accordance with the plan for flow metering devices submitted pursuant to Paragraph (5) of Subsection C of 20.6.7.17 NMAC, and that the device has been calibrated pursuant to Paragraph (3) of this Subsection.

(3) **Flow meter calibration.** All flow meters required under the copper mine rule shall be calibrated to have their accuracy ascertained according to the flow metering plan submitted pursuant to Paragraph (5) of Subsection C of 20.6.7.17 NMAC and the approved discharge permit. Flow meters shall be calibrated to within plus or minus ten percent of actual flow.

(4) **Excluded flow meters.** A permittee may utilize additional flow meters not required by the copper mine rule and those flow meters are not subject to the copper mine rule requirements.

**F. Impoundments.**

(1) **New impoundments.** Construction of an impoundment pursuant to a discharge permit issued after the effective date of the copper mine rule shall be performed in accordance with the liner, design, and construction requirements of Subsection D of 20.6.7.17 NMAC.

(2) **Existing impoundments.** An impoundment authorized by a discharge permit issued prior to the effective date of the copper mine rule and in existence on the effective date of the copper mine rule that does not meet the requirements of Paragraph (3) of Subsection D of 20.6.7.17 NMAC may continue to receive process water or impacted stormwater provided the requirements of Subparagraphs (a) and (b) or (c) of this Paragraph are met or the impoundment is located within the open pit surface drainage area. If the requirements of Subparagraphs (a) and (b) or (c) of this Paragraph are not met, the impoundment shall be replaced or improved in accordance with the liner, design, and construction requirements of Subsection D of 20.6.7.17 NMAC.

(a) Ground water monitoring data from monitoring wells downgradient of the impoundment indicates that the impoundment is functioning as designed.

(b) The impoundment has integrity and is capable of maintaining integrity for its operational life.

(c) The impoundment is covered by a variance granted pursuant to 20.6.2.1210 NMAC.

(3) **Impoundment inspection and maintenance.** A permittee shall maintain impoundments to prevent conditions which could affect the structural integrity of the impoundments and associated liners during active operations. Such conditions include, but are not limited to, erosion damage; animal burrows or other animal damage; the presence of vegetation including aquatic plants, weeds, woody shrubs or trees growing within five feet of the top inside edge of a sub-grade impoundment, within five feet of the toe of the outside berm of an above-grade impoundment, or within the impoundment itself; evidence of seepage; evidence of berm subsidence; and the presence of large debris or large quantities of debris in the impoundments. A permittee shall inspect impoundments and surrounding berms on a quarterly basis to ensure proper condition and control vegetation growing in and around the impoundments in a manner that is protective of the liners. Within 24 hours of discovery, a permittee shall report to the department any evidence of damage that threatens the structural integrity of a berm or liner of an impoundment or that may result in an unauthorized discharge. A permittee is not required to report routine berm maintenance to the department.

(4) **Freeboard.** The fluid level elevation in an impoundment shall be maintained such that a minimum of two feet of freeboard is preserved within the impoundment at all times.

(5) **Leak collection system inspection and maintenance:** A permittee shall inspect and maintain impoundments utilizing primary and secondary liners and equipped with leak collection systems as follows:

(a) liquid accumulation within the sump of the leak collection system shall be returned to the respective impoundment or the process water system utilizing an automatically activated pump or other engineered design approved by the department to minimize hydraulic head on the secondary liner by insuring the interstitial space between the liners does not become saturated; and

(b) the permittee shall inspect the sump(s), dedicated pump(s), any automated pump activation system, any automated alarm system and totalizing flow meter associated with the leak detection and collection system on a monthly basis for evidence of malfunction. If an inspection indicates malfunction of any of these components, the permittee shall repair the component(s) within 30 days of discovery or shall retain a record of why the repair took longer. The permittee shall notify the department of component malfunctions and repairs made in the subsequent quarterly report.

**20.6.7.19 SETBACK REQUIREMENTS FOR A COPPER MINE FACILITY APPLYING FOR A DISCHARGE PERMIT:**

**A.** The setback requirements of this Section apply to a new copper mine facility for which an application for a discharge permit is received by the department after the effective date of the copper mine rule.

- B.** The setback requirements shall be measured as horizontal map distances.
- C.** The required setback distances shall be met as certified by the applicant as of the receipt date of the application.
- D.** If the setback requirements apply to a copper mine facility, an applicant or permittee shall not propose or construct a leach stockpile, waste rock stockpile, tailing impoundment, or process water and impacted stormwater impoundment that does not meet the setback as determined as of the receipt date of the application for a new discharge permit by the department.
- E. Leach stockpile, waste rock stockpile, tailing impoundment, process water impoundment or impacted stormwater impoundment setback requirements.**
- (1) Leach stockpiles, waste rock stockpiles, tailing impoundments, process water impoundments or impacted stormwater impoundments shall be located:
- (a) greater than 500 feet from a private domestic water well or spring that supplies water for human consumption; and
- (b) greater than 1000 feet from any water well or spring that supplies water for a public water system as defined by 20.7.10 NMAC, unless a wellhead protection program established by the public water system requires a greater distance.
- (2) The requirements of Subparagraph (a) of Paragraph (1) of this Subsection shall not apply to wells or springs that supply water to the copper mine facility for human consumption and are located within the property boundary of the copper mine facility.
- (3) The requirements of Paragraph (1) of this Subsection shall not apply to wells that are constructed after a copper mine facility received a discharge permit for a leach stockpile, waste rock stockpile, tailing impoundment, process water impoundment or impacted stormwater impoundment.
- (4) Setback distances shall be measured from the toe of the outer edge of a leach stockpile, waste rock stockpile, tailing impoundment, process water impoundment or impacted stormwater impoundment at its final design build out.

#### **20.6.7.20 REQUIREMENTS FOR LEACH STOCKPILES AND SX/EW PLANTS:**

- A. Engineering design requirements.** At a minimum, the following requirements shall be met in designing leach stockpiles at copper mine facilities unless the applicant or permittee can demonstrate that an alternate design will provide an equal or greater level of containment.
- (1) **New leach stockpiles.** New leach stockpiles shall meet the following requirements.
- (a) **Liner system.** A new leach stockpile shall be placed on an engineered liner system consisting of a subgrade and compacted earthen liner overlain by a synthetic liner which is overlain by a solution collection system designed to transmit process fluids out of the leach stockpile. The liner system shall be approved by the department prior to installation and shall be installed in accordance with a department approved CQA/CQC plan pursuant to Paragraph (1) of Subsection C of 20.6.7.17 NMAC
- (b) **Liner system subgrade and earthen liner.** A liner system earthen liner shall be prepared and placed upon a stable subgrade. The prepared earthen liner shall consist of a minimum of 12 inches of soil that has a minimum re-compacted in-place coefficient of permeability of  $1 \times 10^{-6}$  cm/sec. The top surface of the earthen liner shall be smooth and free of sharp rocks or any other material that could penetrate the overlying synthetic liner.
- (c) **Liner type.** A synthetic liner for a leach stockpile shall provide the same or greater level of containment, including permeability, as a 60 mil HDPE geomembrane liner system. The liner system's tensile strength, tear and puncture resistance and resistance to degradation by ultraviolet light shall be compatible with design loads, exposures and conditions. A licensed New Mexico professional engineer with experience in liner system construction and installation shall identify the basis for the geomembrane composition and specific liner based upon:
- (i) the type, slope and stability of the subgrade;
- (ii) the overliner protection and provisions for hydraulic relief within the liner system;
- (iii) the load and the means of applying the load on the liner system;
- (iv) the compatibility of the liner material with process solutions applied to the leach stockpile and temperature extremes of the location at which it will be installed; and
- (v) the liner's ability to remain functional for five years after the implementation of closure of the leach stockpile.
- (d) **Solution collection system.** A solution collection system shall be constructed in an overliner protection and drainage system. The solution collection system shall be designed to remain functional for five years after the operational life of the leach stockpile. The overliner protection shall be designed and constructed

to protect the synthetic liner from damage during loading and minimize the potential for penetration of the synthetic liner. A sloped collection system shall be designed that will transmit fluids out of the drainage layer of the leach stockpile. The collection system shall be designed to maintain a hydraulic head of less than the thickness of the drainage layer but the drainage layer shall not exceed five feet in thickness. Any penetration of the liner by the collection system through which a pipe or other fixture protrudes shall be constructed in accordance with the liner manufacturer's requirements. Liner penetrations shall be detailed in the construction plans and as-built drawings.

(e) **Solution containment systems.** PLS flows exiting the leach stockpile shall be collected, contained and conveyed to a process water impoundment(s) or tank(s) using pipelines or lined conveyance systems.

(f) **Alternate design.** An applicant may propose and the department may approve an alternative design for a leach stockpile located within an open pit surface drainage area provided that the stockpile and solution capture systems are designed to maximize leach solution capture considering the site-specific conditions of the open pit, underlying geology and hydrology, and leach solutions will not migrate outside of the open pit surface drainage area.

(2) **Solution extraction/electrowinning (SX/EW) plants.** All SX/EW plants shall be designed to contain all associated process fluids within impermeable vessels with secondary containment or process water impoundments meeting the requirements of Subsection D of 20.6.7.17 NMAC. All pipeline and tank systems associated with SX/EW plants shall be designed and operated pursuant to 20.6.7.23 NMAC.

**B. Construction.**

(1) **New leach stockpile and SX/EW plants.** Construction of a new leach stockpile or SX/EW plant, including expansion of an existing leach stockpile beyond its ground surface footprint on the effective date of the copper mine rule, shall be performed in accordance with the applicable engineering requirements of Subsection A of 20.6.7.20 and 20.6.7.17 NMAC.

(2) **Existing leach stockpiles.** A leach stockpile system, including its associated solution collection or containment system, at a copper mine facility in existence on the effective date of the copper mine rule is not required to meet the design and construction requirements of Subsection A of 20.6.7.20 NMAC and may continue to operate as previously permitted under a discharge permit subject to compliance with the contingency requirements of 20.6.30 NMAC. A permit issued for such an existing leach stockpile system after the effective date of the copper mine rule may include the conditions of the existing discharge permit, which shall not be considered to be "additional conditions" under Subsection I of 20.6.7 NMAC.

**C. Operational requirements.**

(1) **Leach stockpile operating requirements.** A permittee operating a leach stockpile shall operate the stockpile pursuant to the following requirements.

(a) The stockpile shall remain within the area identified in the discharge permit.

(b) The perimeter of the stockpile and the solution collection system shall be inspected monthly.

(c) Any evidence of instability in the stockpile that could potentially result in a slope failure or an unauthorized discharge shall be reported to the department as soon as possible, but not later than 24 hours after discovery and corrected pursuant to Subsection H of Section 20.6.7.30 NMAC.

(d) Any leaks or spills of PLS or leach solutions outside the leach stockpile or containment system shall be recorded and reported pursuant to 20.6.2.1203 NMAC.

(e) If seeps occur they shall be monitored on a monthly basis and an estimate of the seep flow rate shall be made. Monthly records of the seep inspections and flow rates shall be maintained and included in the site monitoring reports.

(f) Leach solution application rates shall not exceed the maximum rates approved in the discharge permit.

(g) The daily leach solution application and PLS collection rate shall be determined using flow meters installed in accordance with this Section and Paragraph (5) of Subsection C of 20.6.7.17 NMAC.

(h) The daily rate and monthly volume of leach solution applied and PLS collected shall be recorded, maintained, and included in the site monitoring reports.

(2) **Solution extraction/electrowinning (SX/EW) plants.** A permittee operating a SX/EW plant shall operate the SX/EW plant pursuant to the following requirements.

(a) All solution management and extraction operations shall be contained within pipeline and tank systems designed and operated pursuant to 20.6.7.23 NMAC or process water impoundments meeting the requirements of Subsection D of 20.6.7.17 NMAC.

(b) Sludge and spent electrolyte from the SX/EW plant shall be either placed upon the leach stockpile for leaching or disposed of at an approved location.

#### **20.6.7.21 REQUIREMENTS FOR COPPER MINE WASTE ROCK STOCKPILES**

##### **A. Material characterization requirements:**

(1) **Material characterization and acid mine drainage prediction.** All waste rock stored, deposited or disposed of at a copper mine facility shall be evaluated for its potential to generate acid and/or to release water contaminants at levels in excess of the standards of 20.6.2.3103 NMAC. A plan for determining the potential of the material to release water contaminants, and the method for such evaluations shall be submitted to the department for approval in a material characterization plan that includes the following.

(a) The geologic, mineralogical, physical, and geochemical characteristics of the material stored, deposited or disposed of at the copper mine facility.

(b) A sampling and analysis plan to provide representative samples of the entire range of material stored, deposited or disposed of at the copper mine facility. The plan shall include quality assurance/quality control procedures to be implemented to ensure the validity of the sample results. The plan shall consider the following factors in collecting and establishing representative samples:

- (i) lithological variations;
- (ii) particle size distribution of each lithology;
- (iii) hydraulic conductivity, water content and matric suction relationship for each

lithology;

- (iv) mineralogical and textural variations;
- (v) the nature and extent of sulfide mineralization;
- (vi) color variation;
- (vii) degree and nature of fracturing;
- (viii) variations in oxidation and reducing conditions; and
- (ix) the nature and extent of secondary mineralization.

(c) A static testing program using, at a minimum, acid/base accounting, or a department approved equivalent testing method, to evaluate the acid generation and neutralization potential of the material; and meteoric water mobility procedure or other department approved method for whole rock testing to determine water contaminant leaching potential.

(d) If the results of static testing indicate that a material may be acid generating and/or may generate a leachate containing water contaminants, a kinetic testing program shall be proposed to evaluate reaction rates, provide data to estimate drainage quality, the lag time to acidification of the material, and primary weathering and secondary mineral precipitation/dissolution as it may affect acidification, neutralization and drainage quality. The length of and/or means of determining when kinetic tests will be discontinued shall be approved by the department prior to implementation of the kinetic testing program.

(e) If the results of the static testing or kinetic testing indicate that the material will be acid generating and/or generate water contaminants, and the materials will be placed outside of an open pit surface drainage area, a plan shall be submitted to the department to evaluate whether discharges of leachate from the stockpile may cause an exceedance of applicable standards, including an evaluation of the geology and hydrology of the area where the material is to be placed. The plan may include either a department approved model or other department approved demonstration.

(f) If an interceptor system pursuant to Subparagraph (d) of Paragraph (1) of Subsection B of this Section or a liner system is proposed for storage or disposal of waste rock, the kinetic testing program is not required.

(2) **Material handling plan.** A permittee shall manage waste rock that may generate and/or release water contaminants according to a material handling plan approved by the department. The material handling plan shall address:

(a) segregation of acid generating materials and materials that may generate and/or release water contaminants and the method for handling, storage or disposal of the materials in a manner designed to prevent an exceedance of applicable standards;

(b) stockpiling of non-acid generating materials for potential use in neutralizing acid generating materials or in reclamation;

(c) blending or layering of material types to maximize the benefit of acid neutralizing material;

(d) any chemical amendments of the waste rock;

(e) a description of any proposed containment system(s) proposed in accordance with Subsection B of 20.6.7.21 NMAC.

**B. Engineering design requirements for new waste rock stockpiles.** At a minimum, the following requirements shall be met in designing engineered structures for waste rock stockpiles at copper mine facilities unless the applicant or permittee can demonstrate that an alternate design will provide an equal or greater level of containment.

(1) **New waste rock stockpiles located outside an open pit surface drainage area.** New waste rock stockpiles located outside an open pit surface drainage area shall meet the following requirements unless the applicant or permittee demonstrates through material characterization or implementation of a material handling plan pursuant to Subsection A of this section that the waste rock pile will not cause an exceedence of applicable standards.

(a) Stormwater run-on shall be diverted and/or contained to minimize contact between stormwater run-on and the stockpiled material.

(b) Seepage from the sides of a waste rock stockpile shall be captured and contained through the construction of headwalls, impoundments and diversion structures as applicable.

(c) Ground water impacted by waste rock stockpiles in excess of applicable standards shall be captured and contained through the construction of interceptor systems as applicable.

(d) The applicant shall submit design plans signed and sealed by a qualified licensed New Mexico professional engineer along with a design report that includes the following:

(i) the proposed areal extent and configuration of the waste rock stockpile;

(ii) the topography of the site where the waste rock stockpile will be located;

(iii) the geology of the site;

(iv) the design of waste rock stockpile seepage collection systems, to be proposed based on consideration of site-specific conditions;

(v) the design of stormwater diversion structures to minimize contact between stormwater run-on and the waste rock material. The design shall consider the amount, intensity, duration and frequency of precipitation; watershed characteristics including the area, topography, geomorphology, soils and vegetation of the watershed; and run-off characteristics of the watershed including the peak rate, volumes and time distribution of run-off events.

(vi) an aquifer evaluation to determine the potential nature and extent of impacts to ground water from the waste rock stockpile based on the proposed waste rock stockpile design and geochemical characteristics. The aquifer evaluation shall include a complete description of aquifer characteristics and hydrogeologic controls on the movement of leachate from the waste rock stockpile and ground water impacted by the waste rock stockpile based on actual field data.

(vii) a design report for a proposed interceptor system for containment and capture of ground water impacted by the waste rock stockpile based on the aquifer evaluation required in Subparagraph (d) of Paragraph (1) of Subsection B of this Section. The design report shall include, at a minimum construction drawings and interceptor system performance information, recommended equipment including pumps and meters, recommended pump settings and pumping rates, methods for data collection, and a demonstration that the permittee has adequate water rights to operate the system as designed. The design report shall include a demonstration that the interceptor system design will capture ground water impacted by the waste rock stockpile such that applicable standards will not be exceeded at monitor well locations specified by 20.6.7.28 NMAC. The interceptor system shall be designed to maximize capture of impacted ground water and minimize the extent of ground water impacted by the waste rock stockpile.

(viii) within 120 days of completion of seepage collection and interceptor system construction, or liner system installation a final report shall be submitted to the department that includes complete as-built drawings and a summary of how the items in 20.6.7.21.B.(1)(a) thru 20.6.7.21.B.(1)(d) were incorporated into the design.

(e) If the department determines that the proposed waste rock stockpile, seepage collection and interceptor systems when operated in accordance with the design plan specified in this Paragraph would cause ground water to exceed applicable standards at monitoring well locations specified by 20.6.7.28 NMAC, the department shall require additional controls which may include but are not limited to a liner system as additional conditions in accordance with 20.6.7.10.H NMAC.

(2) **New waste rock stockpiles located inside an open pit surface drainage area.** Stormwater run-on shall be diverted or contained to minimize contact between stormwater run-on and the stockpiled material.

**C. Construction.**

(1) **New waste rock stockpiles.** Construction of a new waste rock stockpile shall be performed in accordance with the applicable engineering requirements of Subsection B of 20.6.7.21 NMAC and 20.6.7.17 NMAC.

(2) **Existing waste rock stockpiles.** A waste rock stockpile in existence on the effective date of the copper mine rule is not required to meet the design and construction requirements of Subsection B of 20.6.7.21 NMAC and may continue to operate as previously authorized under a discharge permit unless ground water monitoring of the stockpile pursuant to 20.6.7.28 NMAC requires implementation of corrective action under Subsection A of 20.6.7.30 NMAC. A permit issued for such an existing waste rock stockpile after the effective date of the copper mine rule may include the conditions of the existing discharge permit, which shall not be considered to be “additional conditions” under Subsection I of 20.6.7 NMAC.

**D. Operational requirements.** A permittee operating a waste rock stockpile shall operate the stockpile pursuant to the following requirements.

(1) The stockpile shall remain within the area identified in the approved design plan required in Paragraph (1) of Subsection B of 20.6.7.21 NMAC.

(2) The perimeter of the stockpile and the solution collection systems shall be inspected monthly.

(3) Any evidence of mass instability in the stockpile that could potentially result in a slope failure that may result in an unauthorized discharge shall be reported to the department as soon as possible, but not later than 24 hours after discovery and corrected pursuant to Subsection H of Section 20.6.7.30 NMAC.

(4) Any leaks or spills of leachate outside the waste rock stockpile and any associated containment system shall be recorded and reported pursuant to 20.6.2.1203 NMAC.

(5) If seeps occur, they shall be monitored on a monthly basis and an estimate of the seep flow rate shall be made. Monthly records of the seep inspections and flow rates shall be maintained and included in the site monitoring reports.

(6) Interceptor system collection rates shall be determined using flow meters installed in accordance with Paragraph (5) of Subsection C of 20.6.7.17 NMAC.

(7) The placement of waste rock shall be in accordance with an operating plan that describes the sequencing of waste rock deposition on an annual basis, operation of seepage collection systems, operation of interceptor systems, operation of systems to return water to the concentrator or other locations as appropriate, and any other water management features.

(8) If an interceptor system to maintain capture of ground water impacted by a waste rock stockpile exists, the permittee shall submit an interceptor system monitoring and evaluation report pursuant to 20.6.7.29 NMAC.

#### **20.6.7.22 REQUIREMENTS FOR COPPER CRUSHING, MILLING, CONCENTRATOR, SMELTING AND TAILINGS IMPOUNDMENT UNITS**

**A. Engineering design requirements.** At a minimum, the following requirements shall be met in designing crushing, milling, concentrating, smelting and tailings impoundment units at copper mine facilities unless the applicant or permittee can demonstrate that an alternate design will provide an equal or greater level of containment.

(1) **New crushing and milling units.** New crushing and milling units, including associated ore storage, except when located within the open pit surface drainage area, shall be designed to contain and manage all materials containing water contaminants that have the potential to migrate to ground water and cause an exceedance of applicable standards on concrete or low permeability surfaces approved by the department.

(2) **New concentrator units.** New concentrator units shall be designed to contain and manage in tank and pipeline systems designed and operated pursuant to 20.6.7.23 NMAC all materials containing water contaminants that have the potential to migrate to ground water and cause an exceedance of applicable standards. Tailing and concentrate thickener tanks may be constructed with concrete or low permeability bottoms consisting of a minimum of 12 inches of soil that has a minimum re-compacted in-place coefficient of permeability of  $1 \times 10^{-6}$  cm/sec. The tank designs shall be based on plans and specifications signed and sealed by a licensed New Mexico professional engineer. For low permeability bottoms, such plans and specifications shall describe how process rates, material density and settling rates were considered in the design to minimize infiltration such that water contaminants in the tank will not migrate to ground water and cause an exceedance of applicable standards.

(3) **New smelting units.** New smelting units shall be designed to contain and manage on impermeable surfaces all materials, including associated slag and flue dust, containing water contaminants that have the potential to migrate to ground water and cause an exceedance of applicable standards.

(4) **New tailings impoundments.** Tailings impoundments shall be designed according to the following requirements.

(a) Stormwater run-on shall be diverted and/or contained to minimize contact between stormwater run-on and the tailing material.

(b) Seepage from the sides of a tailing impoundment shall be captured and contained through the construction of headwalls, impoundments and diversion structures as applicable.

(c) Ground water impacted by the tailing impoundment in excess of applicable standards shall be captured and contained through the construction of interceptor systems designed in accordance with 20.6.7.22.A(4)(d) NMAC.

(d) The applicant shall submit design plans signed and sealed by a licensed New Mexico professional engineer along with a design report that includes the following:

(i) the annual volumes and daily maximum design rates of tailings or other discharge approved by the department to be deposited in the impoundment;

(ii) the topography of the site where the impoundment will be located;

(iii) the geology of the site;

(iv) the design footprint of the tailing impoundment;

(v) the design of tailing seepage collection systems, to be proposed based on consideration of site-specific conditions;

(vi) the design of stormwater diversion structures to minimize contact between stormwater run-on and the tailing material. The design shall consider the amount, intensity, duration and frequency of precipitation; watershed characteristics including the area, topography, geomorphology, soils and vegetation of the watershed; and run-off characteristics of the watershed including the peak rate, volumes and time distribution of run-off events.

(vii) an aquifer evaluation to determine the potential nature and extent of impacts on ground water from the tailings impoundment based on the proposed tailings impoundment design. The aquifer evaluation shall include a complete description of aquifer characteristics and hydrogeologic controls on movement of tailing drainage and ground water impacted by the tailings impoundment.

(viii) a design report for a proposed interceptor system for containment and capture of ground water impacted by the tailings impoundment based on the aquifer evaluation required in Subparagraph (d) of Paragraph (4) of Subsection A of this Section. The design report shall include, at a minimum construction drawings and interceptor system performance information, recommended equipment including pumps and meters, recommended pump settings and pumping rates, methods for data collection, and a demonstration that the permittee has adequate water rights to operate the system as designed. The design report shall include a demonstration that interceptor system design will capture ground water impacted by the tailings impoundment such that applicable standards will not be exceeded at monitoring well locations specified by 20.6.7.28 NMAC. The interceptor system shall be designed to maximize capture of impacted ground water and minimize the extent of ground water impacted by the tailings impoundment.

(ix) within 120 days of seepage collection and interceptor well system construction, or liner system installation a final report shall be submitted to the department that includes complete as-built drawings and a summary of how the items in 20.6.7.22A.(4)(a) thru 20.6.7.22A.(4)(d) were incorporated into the design.

(e) If the department determines that the proposed tailings impoundment, seepage collection and interceptor systems when constructed and operated in accordance with the design plan specified in this Paragraph would cause ground water to exceed applicable standards at monitoring well locations specified by 20.6.7.28 NMAC, the department shall require additional controls, which may include but are not limited to, a liner system as additional conditions in accordance with Subsection I of 20.6.7.10 NMAC.

(5) **New dry stack tailing piles.** New dry stack tailings piles shall comply with the material characterization, engineering design, construction, and operational requirements of 20.6.7.21 NMAC, as applicable.

#### **B. Construction.**

(1) **New crushing, milling, concentrating, smelting, or tailings impoundment.** Construction of a new crushing, milling, concentrating, smelting, or tailings impoundment shall be performed in accordance with the applicable engineering requirements of Subsection A of 20.6.7.22 and 20.6.7.17 NMAC.

(2) **Existing crushing, milling, concentrating, smelting or tailings impoundments.** Crushing, milling, concentrating, smelting and tailings impoundments at an existing copper mine facility in existence on the effective date of the copper mine rule are not required to meet the liner, design, and construction requirements of Subsection A of 20.6.7.22 NMAC and may continue to operate as previously authorized under a discharge permit subject to compliance with the contingency requirements of 20.6.7.30 NMAC so long as they are maintained within



the existing footprint. A permit issued for such an existing crushing, milling, concentrating, smelting or tailings impoundment after the effective date of the copper mine rule may include the conditions of the existing discharge permit, which shall not be considered to be “additional conditions” under Subsection I of 20.6.7 NMAC.

**C. Operational Requirements.**

(1) **Tailings impoundment operating requirements.** A permittee operating a tailings impoundment shall operate the impoundment pursuant to the following requirements.

- (a) The tailings impoundment shall remain within the area identified in the approved design.
- (b) The perimeter of the tailings impoundment and any associated solution collection systems shall be inspected monthly.
- (c) Any evidence of instability in the tailings impoundment that could potentially result in a dam failure and an unauthorized discharge shall be reported to the department as soon as possible, but not later than 24 hours after discovery.
- (d) Any leaks or spills outside the tailings impoundment and any associated containment system shall be recorded and reported pursuant to 20.6.2.1203 NMAC.
- (e) If seeps occur, they shall be monitored on a monthly basis and an estimate of the seep flow rate shall be made. Monthly records of the seep inspections and flow rates shall be maintained and included in the site monitoring reports.
- (f) The monthly volume of tailings placed in the impoundment shall be recorded, maintained, and included in the site monitoring reports.
- (g) Tailings deposition rates shall not exceed the maximum rates approved in the discharge permit.
- (h) The daily tailings deposition and associated solution system collection rate shall be determined using flow meters installed in accordance with Paragraph (5) of Subsection C of 20.6.7.17 NMAC.
- (i) The average daily rate and monthly volume of tailings deposited and solution collected shall be recorded, maintained, and included in the site monitoring reports.
- (j) The placement of tailings and effluent shall be in accordance with an operating plan that describes the following:
  - (i) the sequencing of tailings deposition on an annual basis;
  - (ii) measures to manage the surface impoundment area to maintain adequate freeboard;
  - (iii) operation of seepage collection systems;
  - (iv) operation of interceptor systems;
  - (v) operation of systems to return water to the concentrator or other locations as appropriate and
  - (vi) any other water management features.
- (k) If an interceptor system to maintain capture of ground water impacted by a tailings impoundment exists on the effective date of the Copper Rule, the permittee shall submit an interceptor system monitoring and evaluation report pursuant to 20.6.7.29 NMAC.

(2) **Smelting units.** A permittee operating a smelting unit shall operate pursuant to the following requirements.

- (a) The smelting unit shall remain within the area identified in the discharge permit.
- (b) Slag and flue dust generated as a result of smelting activities shall be characterized, managed, and properly stored and disposed of.
- (c) Any leaks or spills outside the containment systems of the smelter unit shall be recorded and reported pursuant to 20.6.2.1203 NMAC.

(3) **Crushing, milling and concentrating unit operating requirements.** A permittee operating a crushing, milling, or concentrating unit shall operate pursuant to the following requirements.

- (a) The crushing, milling and concentrating operations shall remain within the area identified in the discharge permit.
- (b) All containment system structures shall be inspected monthly.
- (c) Any leaks or spills of process water outside the containment system shall be recorded and reported pursuant to 20.6.2.1203 NMAC.

**20.6.7.23 REQUIREMENTS FOR NEW PIPELINES AND TANKS**

**A. Engineering design requirements.** At a minimum, the following requirements shall be met in designing new pipeline or tank systems at copper mine facilities that contain process water or impacted stormwater

unless the applicant or permittee can demonstrate that an alternate design will provide an equal or greater level of containment.

(1) **New Pipelines.** New pipelines shall:

(a) be constructed of impermeable materials that are compatible with the particular contents that are contained and carried in the pipeline and are resistant to degradation by ultraviolet light if they will be exposed to sunlight;

(b) for pipelines located outside of the open pit surface drainage area and outside an area authorized for discharge of process water, impacted stormwater or tailings, incorporate a mechanism for monitoring the integrity of the pipeline system including visual inspections, pressure change sensors, or other appropriate means; and

(c) for pipelines located outside of the open pit surface drainage area and outside an area authorized for discharge of process water, impacted stormwater or tailings, incorporate a mechanism of secondary containment to contain and control leaks and spills including berms, placement within or drainage toward areas authorized for discharge of the conveyed fluids, and impoundments that are constructed consistent with the requirements of Subsection D of 20.6.7.17.D NMAC.

(2) **Tanks.** New tank systems shall meet the following requirements.

(a) Tanks shall be designed and constructed of steel, concrete or impermeable materials that are compatible with the particular contents that are contained within the tank and resistant to degradation by ultraviolet light where exposed to sunlight.

(b) A tank system shall have a constructed foundation consisting of a stable, level base free of rocks, debris, sharp edges or irregularities that could puncture, crack or indent the tank materials.

(c) A tank system shall be designed to prevent overflow and the collection of surface water run-on.

(d) An above-ground tank system shall be bermed to contain 110 percent of the volume of the largest tank within the system or the largest interconnected tanks.

(e) A below-grade tank system shall either be placed in such a manner that the side walls are open for visual inspection or the tank shall be designed with a secondary containment and leak detection system.

**B. Construction.**

(1) **New pipeline and tank units.** Construction of a new pipeline or tank system shall be performed in accordance with the applicable requirements of Subsection A of 20.6.7.23 NMAC and 20.6.7.17 NMAC.

(2) **Existing pipeline and tank units.** A pipeline or tank system in existence on the effective date of the copper mine rule is not required to meet the design requirements of Subsection A of 20.6.7.23 NMAC and may continue to operate as previously permitted under a discharge permit provided that, for a tank in contact with the ground surface and located outside an open pit surface drainage area, it is inspected and tested at least once every ten years for integrity pursuant to Subsection C of 20.6.7.23 NMAC. If an existing tank or pipeline system cannot maintain integrity it shall be replaced in accordance with the engineering requirements of Subsection A of 20.6.7.23 NMAC and 20.6.7.17 NMAC as applicable. A permit issued for such an existing tank or pipeline system after the effective date of the copper mine rule may include the conditions of the existing discharge permit, which shall not be considered to be "additional conditions" under Subsection I of 20.6.7 NMAC.

**C. Operational requirements.** A permittee operating a pipeline or tank system shall operate the system pursuant to the following requirements, as applicable.

(1) Pipelines and tanks shall remain within the area identified in the discharge permit.

(2) Pipelines, tanks and secondary containment systems shall be inspected on a monthly basis.

(3) The permittee shall maintain and operate a below-grade tank(s) to prevent overtopping of the tank(s).

(4) Any evidence of leaks or spills of fluids, process water or tailings from a pipeline or tank system outside of permitted secondary containment systems or outside an area permitted for discharge shall be recorded, reported and corrected pursuant to Subsection G of 20.6.7.30 NMAC.

(5) Any evidence of leaks or spills of fluids, process water or tailings from a pipeline or tank system inside of permitted secondary containment systems or inside an area permitted for discharge shall be recorded and reported to the department in the semiannual reports submitted pursuant to Subsection A of 20.6.7.29 NMAC.

(6) Existing pipelines that do not meet the engineering requirements of Subsection A of 20.6.7.23 shall be evaluated for integrity at least once every five years. A pipeline evaluation plan for such pipelines shall be included in an application for renewal of a discharge permit for a copper mine facility.

(7) Existing below-grade tanks that do not meet the engineering requirements of Subsection A of 20.6.7.23 NMAC shall be emptied and visually inspected for integrity at least once every five years.

(8) A written record of all pipeline and tank system inspections and integrity testing shall be maintained by the permittee for a period of at least five years.

(9) Any wastes generated from the cleaning of pipeline or tank systems shall be disposed of offsite in accordance with applicable laws or onsite in a manner approved by the department.

#### **20.6.7.24. REQUIREMENTS FOR OPEN PITS**

**A. Operational requirements.** A permittee operating an open pit shall operate the open pit pursuant to the following requirements, as applicable.

(1) The open pit shall remain within the area identified in the discharge permit.

(2) Stormwater shall be diverted outward and away from the perimeter of the open pit and, to the extent practicable, shall not be directed into the open pit.

(3) Water generated from within the perimeter of the open pit and pit dewatering activities shall be managed according to a mine operation water management plan. The water management plan shall be submitted to the department for approval in a discharge permit application for a new copper mine facility or in an application for a discharge permit renewal.

(4) During operation of an open pit, the standards of 20.6.2.3103 NMAC do not apply within the area of open pit hydrologic containment.

(5) Leach stockpiles, waste rock piles, and other regulated mine units in and surrounding an open pit surface drainage area shall be designed and located to minimize the size of the open pit surface drainage area to the extent practicable.

#### **20.6.7.25 REQUIREMENTS FOR UNDERGROUND COPPER MINE FACILITIES:**

**A. Material characterization requirements:** All waste rock removed from an underground mine and taken to the surface shall be characterized and managed pursuant to the copper mine rule. Any waste rock removed from an underground copper mine facility, any tailings or any other waste that is intended to be deposited in the mine shall be evaluated for its potential to generate acid and/or to release water contaminants that would cause an exceedance of applicable standards following placement in the underground mine. A plan for determining the potential of the material to release water contaminants, and the method for such evaluations, shall be submitted to the department for approval in a material characterization plan pursuant to Paragraph (1) of Section A of 20.6.7.21 NMAC.

**B. Deposition of material in an underground copper mine.** A permittee of an underground copper mine facility shall not:

(1) deposit any waste rock or tailings in an underground mine that may generate a leachate that may cause an exceedance of applicable standards as determined by Subsection A of this Section;

(2) deposit any other wastes in an underground mine unless deposition of the waste is expressly authorized by a discharge permit approved by the department.

**C. Operational requirements.** A permittee authorized to deposit waste rock, tailings or other waste in an underground copper mine shall maintain records of the monthly volume of waste rock, tailings or waste placed in the mine, and include this information in the site monitoring reports submitted pursuant to 20.6.7.29 NMAC.

#### **20.6.7.26 REQUIREMENTS FOR TRUCK AND EQUIPMENT WASHING UNITS**

**A. Engineering design requirements.** At a minimum, the following requirements shall be met in designing new truck and equipment washing units at copper mine facilities unless the applicant or permittee can demonstrate that an alternate design will provide an equal or greater level of containment.

(1) Truck and equipment washing shall be conducted on a concrete pad or a pad constructed of materials of equivalent or lower permeability designed to capture all wash water.

(2) Captured wash water shall freely drain from the containment pad and when necessary be conveyed to an oil water separator to remove oil and grease from the wash water.

(3) Wash water from the oil water separator shall be conveyed to a tank system designed and constructed pursuant to 20.6.7.23 NMAC, an impoundment meeting the requirements of Subsection D of 20.6.2.7.17 NMAC, or may be directed to the mine process water circuit for use.

#### **B. Construction.**

(1) **New wash units for trucks or equipment.** Construction of new truck or equipment wash shall be performed in accordance with the applicable engineering requirements of Subsection A of 20.6.7.26 NMAC and 20.6.7.17 NMAC.

(2) **Existing wash units for trucks and equipment.** A truck or equipment wash unit in existence on the effective date of the copper mine rule and located outside of the open pit surface drainage area shall meet the design requirements of Subsection A of 20.6.7.26 NMAC within one year of the approval of a discharge permit renewal pursuant to the copper mine rule.

**C. Operational requirements.** A permittee operating a truck or equipment wash unit at a copper mine facility shall operate pursuant to the following requirements.

(1) The truck or equipment wash unit shall remain within the area identified in the discharge permit.  
(2) Wash water generated at the unit shall be contained within the designed containment pad, separator and tank system, or impoundment until treated to meet applicable standards for discharge or conveyed to the process water circuit.

(3) The tank systems associated with the unit shall meet the operational requirements of 20.6.7.26 NMAC.

(4) Any leaks or spills of wash water from the containment pad, separator, tank system or impoundment shall be recorded, reported and corrected pursuant to Subsection G of 20.6.7.30 NMAC.

(5) Any wastes generated from the oil water separator or the tank system shall be disposed of offsite in accordance with applicable laws or onsite in a manner approved by the department.

#### **20.6.7.27 RESERVED**

#### **20.6.7.28 WATER QUALITY MONITORING REQUIREMENTS FOR ALL COPPER MINE**

**FACILITIES:** The following water quality monitoring requirements apply to all copper mine facilities unless otherwise specified.

**A. Monitoring wells - location proposals.** An applicant for a new, renewed or modified discharge permit or permittee shall submit a plan for department approval identifying the proposed location of monitoring wells required pursuant to Subsection B of this Section, and shall include the following information.

(1) The location of each monitoring well relative to the unit of the copper mine facility it is intended to monitor shall be indicated on the scaled map required by Subsection J of 20.6.7.11 NMAC

(2) The ground water flow direction beneath the copper mine facility used to determine the monitoring well location(s), including supporting documentation used to determine ground water flow direction.

**B. Monitoring wells - required locations.** A permittee shall monitor ground water quality as close as practicable around the perimeter and downgradient of each open pit, leach stockpile, waste rock stockpile, tailings impoundment, process water impoundment, and impacted stormwater impoundment. The department may require additional wells around the perimeter of mine units that are underlain by areas where ground water flow directions are uncertain, including fracture flow systems, and around copper mine units that have the potential to cause ground water mounding. The department may require additional monitoring wells at any other unit of a copper mine facility that has the potential to cause an exceedance of applicable standards as additional permit conditions in accordance with Subsection I of 20.6.7.10 NMAC. Monitoring wells shall be located pursuant to this Section to detect an exceedance(s) or a trend towards exceedance(s) of the applicable standards at the earliest possible occurrence, so that investigation of the extent of contamination and actions to address the source of contamination may be implemented as soon as possible.

(1) **Use of existing monitoring wells.** A monitoring well in existence before the effective date of the copper mine rule shall be deemed to be in an approved location for ground water monitoring purposes provided the following requirements are met.

(a) The monitoring well location was previously approved by the department; and,  
(b) The monitoring well is constructed as previously approved by the department; or  
(c) If the monitoring well and construction was not previously approved by the department, the applicant or permittee can demonstrate that the well meets the location and construction requirements of this section.

(2) **Ground water monitoring – leach stockpiles, waste rock stockpiles, tailings impoundments.** A permittee shall install monitoring wells around the perimeter and downgradient of each new leach stockpile, waste rock stockpile and tailings impoundment located outside of the open pit surface drainage area, including its leachate and solution capture and containment systems, to adequately monitor ground water that may be impacted by water contaminants from those units. Each monitoring well shall be installed as close as practicable to the proposed leach stockpile, waste rock stockpile or tailings impoundment, including its leachate and solution capture and containment systems, taking into account surface topography, hydrogeologic conditions, geologic controls, infrastructure, engineering design plans, depth to ground water, working distance and safety.

(a) For a new copper mine facility, the monitoring well networks shall be installed at least 180 days before emplacement of ore, waste rock or discharge of tailings at an individual leach stockpile, waste rock stockpile or tailings impoundment to allow sampling prior to discharge.

(b) A permittee constructing a new leach stockpile, waste rock stockpile or tailings impoundment at an existing copper mine facility, or expanding the footprint of an existing leach stockpile, waste rock stockpile, or tailings impoundment, shall install the monitoring well networks required to monitor ground water around and downgradient of the leach stockpile, waste rock stockpile or tailings impoundment before emplacement of ore, waste rock or discharge of tailings unless an existing monitor well network adequately monitors water quality in the area of the new leach stockpile, waste rock stockpile or tailings impoundment.

(3) **Ground water monitoring – process water and impacted stormwater impoundments.** A minimum of one monitoring well shall be located downgradient and within 75 feet (measured as horizontal map distance) or as close as practicable taking into account surface topography, hydrogeologic conditions, infrastructure, working distance and safety of each new process water or impacted stormwater impoundment located outside of an open pit surface drainage area.

(a) For a new copper mine facility, monitoring wells shall be installed at least 90 days before discharging to an individual process water or impacted stormwater impoundment at the copper mine facility to allow for sampling prior to discharge.

(b) A permittee constructing a new process water or impacted stormwater impoundment at an existing copper mine facility shall install the monitoring well(s) required to monitor ground water downgradient of the impoundment before discharging process water to the impoundment, before collecting impacted stormwater in the impoundment unless an existing monitor well network adequately monitors water quality in the area of the new impoundment.

(4) **Ground water monitoring – open pit.** A permittee shall install a sufficient number of monitoring wells around the perimeter of an open pit to monitor ground water quality and the hydrologic gradient around the pit.

(a) For a new open pit, an applicant or permittee shall submit a monitor well network installation plan to the department for approval. The plan shall include proposed locations of monitoring wells, a statement of the reasons for selection of the monitoring well locations, and a schedule for installation.

(5) **Ground water monitoring – upgradient of each potential contaminant source.** A minimum of one monitoring well shall be located upgradient of each new leach stockpile, waste rock stockpile, tailings impoundment, and process water and impacted stormwater impoundment at a copper mine facility to establish upgradient ground water quality conditions not likely to be affected by each contamination source that is being monitored. If an applicant or permittee has existing monitoring wells located appropriately to obtain sufficient background data at a copper mine facility and establish and monitor upgradient conditions, the department may waive the requirement for additional upgradient wells.

(a) For a new copper mine facility, upgradient source monitoring wells shall be installed a minimum of 180 days before emplacement of ore, waste rock or discharge of tailings or other water contaminants at an individual leach stockpile, waste rock stockpile, tailings impoundment or other impoundment.

(b) A permittee constructing a new leach stockpile, waste rock stockpile, tailings impoundment or other impoundment at an existing copper mine facility shall install the monitoring well(s) required to monitor ground water quality upgradient of a leach stockpile, waste rock stockpile, tailings impoundment or other impoundment before emplacement of ore, waste rock or discharging of tailings or water contaminants into the individual source required to be monitored.

(6) **Ground water monitoring – upgradient of the copper mine facility.** A sufficient number of monitoring wells shall be located upgradient of all potential ground water contamination sources at a copper mine facility to establish upgradient ground water quality conditions that are not affected by any potential contamination sources at the copper mine facility.

(a) For a new copper mine facility, upgradient monitoring wells shall be installed at least 180 days before emplacement of ore, waste rock or discharge of tailings or other water contaminants at an individual leach stockpile, waste rock stockpile, tailings impoundment or other impoundment.

**C. Monitoring wells - identification tags.** A permittee shall clearly identify all monitoring wells required by the copper mine rule with a permanent well identification tag that contains well identification nomenclature included on the scaled map required by Subsection J of 20.6.7.11 NMAC.

**D. Monitoring wells - construction and completion.** A permittee shall construct monitoring wells pursuant to 19.27.4 NMAC and the following requirements unless the department approves of an alternate monitoring well construction and completion design based upon site-specific hydrogeologic conditions.

(1) All well drilling activities shall be performed by an individual with a current and valid well driller license issued by the state of New Mexico pursuant to 19.27.4 NMAC.

(2) The well driller shall employ drilling methods that allow for accurate determinations of water table locations unless otherwise approved by the department in advance of drilling. All drill bits, drill rods, and down-hole tools shall be thoroughly cleaned immediately before drilling. The borehole diameter shall allow a minimum annular space of two inches between the outer circumference of the well materials (casing or screen) and the borehole wall to allow for the emplacement of sand and sealant.

(3) The well shall be developed so that formation water flows freely through the screen and is not turbid, and sediment and drilling disturbances are removed from the well to the maximum extent practicable.

(4) Unless otherwise approved by the department, schedule 40 (or heavier) polyvinyl chloride (PVC) pipe, stainless steel pipe, or carbon steel pipe shall be used as casing. The casing shall have an inside diameter not less than two inches. The casing material selected for use shall be compatible with, and chemically inert with respect to the anticipated chemistry of the ground water and appropriate for the contaminants of interest at the copper mine facility. The casing material and thickness selected for use shall have sufficient collapse strength to withstand the pressure exerted by grouts used as annular seals and thermal properties sufficient to withstand the heat generated by the hydration of cement-based grouts.

(5) Casing sections shall be joined using welded, threaded, or mechanically locking joints. The method selected shall provide sufficient joint strength for the specific well installation.

(6) The casing shall extend from the top of the screen to at least 18 inches above ground surface. The top of the casing shall be fitted with a removable cap, and the exposed casing shall be protected by a locking steel well shroud. The shroud shall be large enough in diameter to allow easy access for removal of the cap. Alternatively, monitoring wells may be completed below grade. In this case, the casing shall extend from the top of the screen to six to twelve inches below the ground surface; the monitoring wells shall be sealed with locking, expandable well plugs; a flush-mount, watertight well vault that is rated to withstand traffic loads shall be emplaced around the wellhead; and the cover shall be secured with at least one bolt. The vault cover shall indicate that the wellhead of a monitoring well is contained within the vault.

(7) **Well Screen.**

(a) **For water table monitoring wells.** A maximum 20-foot section of continuous well screen shall be installed across the water table with at least five feet of well screen placed above the water table interface to allow for seasonal fluctuations. The department may approve a greater screen length based on the hydraulic properties of the aquifer, the hydrogeologic setting, predictable water level decline rates, or the depth of the well. Screen shall consist of continuous-slot, machine slotted, or other manufactured schedule 40 (or heavier) PVC or stainless steel. Screens created by cutting slots into solid casing with saws or other tools, other than as performed by the manufacturer, shall not be used. The screen material selected for use shall be compatible with the anticipated chemistry of the ground water and appropriate for the contaminants of interest at the copper mine facility. The screen slot size shall be selected to retain 90 percent of the filter pack.

(b) **For deep or confined aquifer monitoring wells.** Monitoring wells installed in confined aquifers or below the water table elevation of the shallowest aquifer to monitor ground water conditions in different aquifers at depth shall be installed with a maximum ten foot section of continuous well screen. The department may approve a greater screen length based on the hydraulic properties of the aquifer, the hydrogeologic setting, or the depth of the well. The top of the screen shall be placed at the location of the geologic boundary between the top of the aquifer and the bottom of confining aquifers. Screen shall consist of continuous-slot, machine slotted, or other manufactured schedule 40 or heavier PVC or stainless steel. Screens created by cutting slots into solid casing with saws or other tools shall not be used. The screen material selected for use shall be compatible with the anticipated chemistry of the ground water and appropriate for the contaminants of interest at the copper mine facility. The screen slot size shall be selected to retain 90 percent of the filter pack.

(8) Screen sections shall be joined using welded, threaded, or mechanically locking joints. The method selected shall provide sufficient joint strength for the specific well installation and shall not introduce constituents that may reasonably be considered contaminants of interest at the copper mine facility. A cap shall be attached to the bottom of the well screen.

(9) Casing and well screen shall be centered in the borehole by installing centralizers near the top and bottom of the well screen.

(10) A filter pack shall be installed around the screen by filling the annular space from the bottom of the screen to at least two feet above the top of the screen with clean silica sand using methods that prevent bridging. The filter pack shall be properly sized to exclude the entrance of fine sand, silt, and clay from the formation into the monitoring well. All filter pack placed deeper than twenty feet below land surface shall be placed by tremie pipe.

The well shall be surged or bailed to settle the filter pack and additional sand added, if necessary, before the bentonite seal is emplaced.

(11) A bentonite seal shall be constructed immediately above the filter pack by emplacing bentonite chips or pellets, three eighths of an inch in size or smaller, in a manner that prevents bridging of the chips/pellets in the annular space. All bentonite seals placed deeper than twenty feet below land surface shall be placed by tremie pipe. The bentonite seal shall be a minimum of three feet in thickness and hydrated with clean water. Adequate time shall be allowed for expansion of the bentonite seal before installation of the annular space seal.

(12) The annular space above the bentonite seal shall be sealed with cement grout or bentonite-based sealing material acceptable to the state engineer in accordance with 19.27.4 NMAC. All annular sealing materials placed deeper than twenty feet below land surface shall be placed by tremie pipe. Annular space seals shall extend from the top of the bentonite seal to the ground surface for wells completed above grade, or to a level three to six inches below the top of casing for wells completed at or below grade.

(13) A concrete pad with a minimum two-foot radius and a minimum four-inch thickness shall be poured around the shroud or well vault and wellhead. The concrete and surrounding soil shall be sloped to direct rainfall and runoff away from the wellhead.

**E. Monitoring wells - office of the state engineer requirements.** A permittee shall obtain any well permits required by the office of the state engineer prior to well drilling.

**F. Ground water sample collection procedure.** A permittee shall perform all ground water sample collection, preservation, transport and analysis according to the following procedure.

(1) Depth to ground water shall be measured from the top of well casing at point of survey to the nearest 0.01 feet using an electronic water level indicator consisting of dual conductor wire encased in a cable or tape graduated to 0.01 feet, a probe attached to the end of the conductor wire, and a visual or audible indicator; pneumatically or by using a fiberglass or steel measuring tape using the chalk method, or other method approved by the department.

(2) Monitoring wells shall be purged before sample collection by one of the following methods, unless otherwise approved by the department.

(a) Three well volumes of water shall be purged from the well using conventional methods before sample collection; or

(b) The monitoring well shall be purged using low-flow purging methods as approved by the department until measurements of indicator parameters have stabilized. Low-flow purging shall be conducted with a low-flow pump using a low-stress approach, micro-purge method or minimal drawdown method. Indicator parameters shall be measured periodically during purging. A parameter stabilization log shall be kept during each sampling event for each monitoring well and include: date; water quality indicator parameter measurements; time for all measurements; and the purge volume extracted; or

(c) For low yield wells, the well shall be purged of all available water.

(3) Following purging and immediately before sample collection the following field parameters shall be measured and recorded: pH, specific conductance, and temperature.

(4) In-line flow-through cells shall be disconnected or by-passed during sample collection, if used during purging.

(5) Samples from the well shall be obtained, prepared, preserved and transported to an analytical laboratory for analysis pursuant to the methods authorized by Subsection B of 20.6.7.29 NMAC.

**G. Ground water sampling –existing copper mine facilities.** For existing copper mine facilities a permittee shall collect ground water samples from all monitoring wells, seeps and springs for the analytes and at the frequency specified in an existing discharge permit. A permittee shall submit to the department semi-annual monitoring reports containing the information required in Section 20.6.7.29 NMAC.

**H. Ground water sampling– reduction of sampling analytes.** A permittee may request approval from the department to reduce the sampling frequency of individual water quality analytes. The basis for consideration of reduction of sampling frequency may include a demonstration that the analyte is not present in the impoundment or mine unit being monitored, or could not be generated from the materials present through degradation, oxidation, decay or any other expected process. A permittee may also request approval from the department to reduce sampling frequency of an individual analyte if it has not been detected in a particular monitoring well, is consistently below the applicable standard, or is stable and predictable for eight consecutive quarters. Ground water sampling analyte lists and the frequency of sampling shall be reevaluated upon permit renewal.

**I. Ground water sampling - new monitoring wells.** A permittee shall submit to the department for approval a proposal for quarterly ground water sampling from each newly installed monitoring required pursuant to

this Section. Sampling analyte lists shall be based on the geochemical characteristics of the solution or material contained in the impoundment or mine unit intended to be monitored, including constituents that can be generated from the materials present through degradation, oxidation, decay or any other expected process. Proposed analytes shall include field parameters as required in Subsection F of this Section, alkalinity-bicarbonate, alkalinity-carbonate, metals, and other analytes from Section 20.6.2.3103 NMAC as applicable.

(1) Samples shall be collected from each newly installed monitoring well required pursuant to this Section for a copper mine facility before emplacement of ore, waste rock or discharge of tailings or other water contaminants at an individual leach stockpile, waste rock stockpile, tailings impoundment or other impoundment.

(2) For copper mine facilities installing a new monitoring well during the term of a discharge permit, during construction of a new impoundment, or as a result of required corrective actions, samples shall be collected from the newly installed monitoring wells within 30 days of well completion and prior to commencing operation of the newly constructed unit as applicable.

**J. Monitoring well survey and ground water flow determination.** The permittee shall survey or otherwise locate monitoring wells and provide location information as required by this section. The coordinate location (northing and easting) shall be provided in the established coordinate system for the copper mine facility with an accuracy (rounded to the nearest foot/tenth meter) and shall also be provided to the department in one of the following coordinate systems: NM state plane (NAD 83) to the nearest foot, UTM (NAD 83) to the nearest tenth of a meter, or latitude/longitude (Lat/Long - WGS84) to the nearest tenth of a second. Elevation of the ground surface at the well location shall be provided to the nearest foot above mean sea level. Elevation of the water level measuring point shall be provided to the nearest hundredth of a foot above mean sea level. The water level measuring point for monitoring wells shall be clearly marked on the casing. Depth to ground water at each monitoring well location shall be measured from the point of survey to the nearest hundredth of a foot in all surveyed wells pursuant to Subsection F of this Section, and the data shall be used to develop a map showing the location of all monitoring wells and the direction and gradient of ground water flow at the copper mine facility.

**K. Monitoring well completion report.** A permittee shall submit to the department a monitoring well completion report for all newly installed monitoring wells. The report shall be submitted within 60 days of completion of installation of the monitoring well. The report shall contain the following information.

(1) Construction and lithologic logs for the new monitoring wells including well record information specified by 19.27.4 NMAC.

(2) Depth to ground water measured in each new monitoring well.

(3) Survey data and a survey map showing the locations of each new monitoring well and a ground water elevation contour map developed pursuant to Subsection L of this Section.

(4) Analytical results of ground water samples collected from the new monitoring wells, including laboratory quality assurance and quality control summary reports, and field parameter measurements.

**L. Ground water elevation contour maps.** A permittee shall develop ground water elevation contour maps on a semi-annual basis using data associated with all monitoring wells installed in the appropriate geologic formation and as required pursuant to this Section. Top of casing elevation data, obtained from monitoring well surveys completed pursuant to this section and quarterly depth to ground water measurements in monitoring wells shall be used to calculate ground water elevations at monitoring well locations. Ground water elevations between monitoring well locations shall be estimated using common interpolation methods. Ground water elevations shall be expressed in feet. A contour interval appropriate to the data shall be used. Ground water elevation data used to create potentiometric maps shall be limited to data collected during the quarter being reported. Ground water elevation contour maps shall depict the ground water flow direction, using arrows, based on the orientation of the ground water elevation contours, and the location and identification of each monitoring well and monitored structure or impoundment. A permittee shall submit ground water elevation contour maps to the department in the semi-annual monitoring reports, and submit annually a map showing the extent of the existing open pit surface drainage area as defined in Paragraph (43) of Subsection B of 20.6.7.7 NMAC.

**M. Perennial stream sampling and reporting - routine.** A permittee shall submit to the department for approval a proposal to collect quarterly surface water samples from each perennial surface waters of the state within a copper mine facility as necessary to monitor potential ground water inflow to the perennial surface water. Analytes to be sampled and analyzed shall be based on the geochemical characteristics of the solution or material contained in the impoundment or mine unit closest to or most likely to effect the perennial stream being sampled. A permittee shall submit to the department in the semi-annual monitoring reports the field parameter measurements, the analytical results (including the laboratory quality assurance and quality control summary report) and a map showing the location of each sampling location in relation to the copper mine facility.

**N. Process water, tailings slurry, impacted stormwater, seep, and spring sampling and**



**reporting.** An applicant for a new, renewed or modified discharge permit or permittee shall submit for department approval a sampling and analysis plan to monitor quarterly the quality of process water, tailings slurry and impacted stormwater at a copper mine facility. Proposed analytes shall include field parameters as required in Subsection F of this Section, alkalinity-bicarbonate, alkalinity-carbonate, metals, and other analytes from Section 20.6.2.3103 NMAC as applicable.

**20.6.7.29 GENERAL MONITORING REQUIREMENTS FOR ALL COPPER MINE FACILITIES:**

**A. Monitoring reports - schedule of submittal.** A permittee shall submit monitoring reports to the department on a semi-annual schedule that shall contain all quarterly monitoring data and information collected pursuant to the copper mine rule. Semi-annual monitoring reports shall be submitted according to the following schedule:

- (1) January 1 through June 30 (first and second quarter sample periods) - report due by August 31;
- and
- (2) July 1 through December 31 (third and fourth quarter sample periods) - report due by February 28.

**B. Monitoring reports – general requirements.** A permittee shall submit monitoring reports to the department that include a summary providing of all activities related to discharges at the copper mine facility during the preceding six months including, but not limited to the following.

- (1) operational activities,
- (2) minor spills and corrective actions not reportable under Section 20.6.2.1203 NMAC,
- (3) major spills and corrective actions reportable under Section 20.6.2.1203 NMAC,
- (4) maintenance and repairs of discharge systems or units,
- (5) a synopsis of completed studies relevant to the copper mine facility or unit,
- (6) monitoring well installation and abandonment,
- (7) construction or demolition of structures,
- (8) general locations and volumes of leach ore placement,
- (9) general locations and volumes of waste rock placement,
- (10) a summary of seep and spring flows, if applicable.

**C. Monitoring Reports – analytical requirements.** A permittee shall submit monitoring reports to the department that include the following analytical information.

(1) A single table shall be provided semi-annually in a paper and electronic spreadsheet format approved by the department. The table shall include water quality data with those parameters analyzed and water levels measured shown in columns. Single sampling events for each monitoring site shall be shown in rows with the site name in the far left column, the sampling date in the second column, the water level in the third column, followed by individual analytes in the following columns. Tabulated electrical conductivity shall include the measured field values and corrected values to 25 degrees Celsius. Values exceeding standards shall be bolded. Any constituent not analyzed for a particular site shall be shown as “NA”, any site not sampled shall be shown as “NS” with an associated reason, and any site not measured for water levels shall be shown as “NM” with an associated reason.

(2) Semi-annual monitoring reports shall include water quality trends, laboratory CQA/CQC, trends in hydrographs, and potentiometric surface maps. At a minimum, graphs with the previous 5 years of indicator parameter data shall be presented for TDS, sulfate, and water levels. pH may substituted for water levels at reservoirs or springs.

**D. Sampling and analysis methods.** A permittee shall sample and analyze water pursuant to Subsection B of 20.6.2.3107 NMAC.

**E. Process water, leach solutions, tailings and liner solution collection system volume measurement and reporting.** A permittee shall measure the volume of process water, leach solutions applied, and tailings discharges and solution collection system fluids collected using flow meters pursuant to 20.6.7.16.C(5) NMAC. Meter readings shall be recorded at intervals no less than once per week. The average daily discharge volume for each recording interval shall be calculated by dividing the difference between the meter readings by the number of days between meter readings. The permittee shall provide the meter readings including the date, time and units of each measurement, and calculations for the average daily volumes discharged and collected in gallons per day, in the semi-annual monitoring reports submitted to the department.

**F. Flow meter accuracy.** Flow meters shall be monitored for accuracy by comparing flow meter readings with prior readings and noting any significant variations in readings that are not consistent with changes in operating conditions. If a flow meter shows inconsistent readings or otherwise appears to be non-operational, the

permittee shall make a record of the inconsistent readings and shall repair or replace a flow meter that does not appear to be operating properly with a flow meter calibrated according to the flow metering plan pursuant to Paragraph (5) of Subsection C of 20.6.7.17 NMAC. The permittee shall submit the results of any inconsistent meter readings and the repair or replacement of any flow meter(s) to the department annually in the monitoring report due by February 1, including information on the location and meter identification nomenclature specified in 20.6.7.18.E(1) NMAC.

**G. Meteorological data.** A permittee shall annually submit to the department meteorological data collected at sites throughout the copper mine facility during each calendar year according to the approved meteorological data plan submitted pursuant to Subsection W of 20.6.7.11 NMAC. The data shall be submitted to the department in the monitoring report due on February 28 of each year.

**H. Interceptor system monitoring and evaluation.** A permittee operating an interceptor well system for a tailing impoundment or a waste rock stockpile shall provide an annual monitoring and evaluation report of the interceptor system. The report shall be submitted to the department in the monitoring report due by February 28 of each year and shall include the following information obtained from within and surrounding the interceptor system as applicable:

- (1) monthly measurements of the volume of impacted ground water pumped by individual wells, interceptor trenches, or other interceptor system components and the total volume pumped within the monitoring period;
- (2) the operational status of interceptor system components;
- (3) water level measurements of monitoring and interceptor wells or other system components as applicable;
- (4) semi-annual ground water elevation contour maps pursuant to the requirements of Subsection L of 20.6.7.28 NMAC;
- (5) semi-annual iso-concentration maps of contaminants of concern; and
- (6) an annual performance evaluation assessment of the interceptor well system that contains information on:
  - (a) the performance of individual interceptor wells and/or other interceptor system components over time;
  - (b) accumulated drawdown maps showing the historical change in water level;
  - (c) time series hydrographs and graphs of water quality trends for contaminants of concern covering at a minimum data from the past 5 year time period;
  - (d) water quality distribution within the system over time;
  - (e) cross-sectional diagrams depicting the geologic, water level elevation and water quality in vertical profile;
  - (f) an analysis of the data, maps, graphs and diagrams contained in the assessment; and
  - (g) recommendations for changes to optimize performance of the system.

#### **20.6.7.30 CONTINGENCY REQUIREMENTS FOR COPPER MINE FACILITIES:**

**A. Exceedance of ground water standards.** If monitoring of a water contaminant source indicates that applicable standards are exceeded, or if the extent or magnitude of existing ground water contamination is significantly increasing, the permittee shall collect a confirmatory sample from the monitoring location(s) within 15 days to confirm the initial sampling results, unless the permittee elects to accept the initial sampling results as an accurate measurement of water quality. Within 30 days of the confirmation of the exceedance of applicable standards or significant increases in existing contamination, the permittee shall take the following actions. The department may approve a longer time period not to exceed 90 days for good cause shown.

(1) A corrective action plan shall be submitted to the department for approval. The corrective action plan shall describe any repairs made or proposed to address the cause of the exceedance or increase and shall propose source control measures and a schedule for implementation. The department shall approve or disapprove the corrective action plan within 60 days of receipt. Following the department's approval of the corrective action plan, the permittee shall initiate implementation of the plan according to the approved schedule. If the department does not approve the corrective action plan, the department shall notify the permittee of the deficiencies by certified mail. The permittee shall submit a revised corrective action plan to the department within 60 days of the date of postal notice of the notice of deficiency. The department shall approve or disapprove the revised corrective action plan within 60 days of receipt.

(2) If the corrective action plan proposes actions to correct deficiencies with a liner, the proposed actions shall include repair or replacement of the existing liner, or construction and lining of a new impoundment. If

liner repair is practicable, repairs shall be made pursuant to 20.6.7.17 NMAC or using a material that is equivalent to the existing liner with respect to material thickness and composition. Repairs shall be completed in accordance with the approved schedule. If liner repair is not practicable, the corrective action plan shall propose reconstruction and relining of the impoundment pursuant to 20.6.7.17 NMAC or construction and lining of a new impoundment pursuant to 20.6.7.17 NMAC. Reconstruction or construction plans and specifications for the impoundment shall be completed pursuant to 20.6.7.17 NMAC and submitted with the corrective action plan along with a schedule for implementation. If a new impoundment is constructed the existing impoundment shall be closed pursuant to 20.6.7.33 NMAC.

(3) The permittee may be required to submit to the department for approval an abatement plan, which includes a site investigation to define the source, nature and extent of contamination; a proposed abatement option, and a schedule for its implementation. The site investigation and abatement option shall be consistent with the requirements and provisions of Sections 20.6.2.4101, 20.6.2.4103, 20.6.2.4106, 20.6.2.4107, 20.6.2.4108 and 20.6.2.4112 NMAC.

(4) A corrective action plan or abatement plan approved or submitted prior to the date of the copper mine rule shall satisfy the requirements of this subsection provided that any substantial change in monitoring results after the effective date of the copper mine rule may require additional corrective action under this Subsection or modification of a previously approved or submitted corrective action plan or abatement plan.

**B. Monitoring well replacement.** If information available to the department indicates that a monitoring well(s) required by 20.6.7.28 NMAC is not located downgradient of or does not adequately monitor the contamination source it is intended to monitor, is not completed pursuant to 20.6.7.28 NMAC, or contains insufficient water to effectively monitor ground water quality, a permittee shall install a replacement monitoring well(s). The replacement monitoring well(s) shall be installed within 120 days of the date of postal notice of notification from the department and a survey of the replacement monitoring well(s) shall be performed within 150 days of the date of postal notice of notification from the department. The replacement monitoring well(s) shall be located, installed, completed, surveyed and sampled pursuant to 20.6.7.28 NMAC. The permittee shall develop a monitoring well completion report pursuant to Subsection K of 20.6.7.28 NMAC and submit it to the department within 180 days of the date of postal notice of notification from the department. The department may approve longer time periods for good cause shown.

**C. Exceedance of permitted maximum daily discharge volume.** If the maximum daily discharge volume authorized by the discharge permit at a particular permitted location is exceeded by more than ten percent for any three average daily discharge volumes within any one year period, the permittee shall submit within 60 days of the third exceedance a corrective action plan for reducing the discharge volume or an application for a modified or renewed and modified discharge permit pursuant to 20.6.7.10 NMAC. Within 30 days of postal notice of department approval, the permittee shall initiate implementation of the corrective action plan.

**D. Insufficient impoundment capacity.** If a survey or capacity calculations indicate an existing impoundment or impoundment system is not capable of meeting the capacity requirements in Subsection D of 20.6.7.17 NMAC, within 90 days of the effective date of the discharge permit the permittee shall submit a corrective action plan for department approval. The plan may include, but is not limited to, proposals for constructing an additional impoundment, reducing the discharge volume, removing accumulated solids, or changing process water or impacted stormwater management practices. The corrective action plan shall include a schedule for implementation. The schedule shall propose completion within one year from the submittal date of the initial corrective action plan. Within 30 days of the date of postal notice of the department's approval of the corrective action plan, the permittee shall initiate implementation of the plan. Should the corrective action plan include removal of accumulated solids, solids shall be removed from the impoundment in a manner that is protective of the impoundment liner. The plan shall include the method of removal, and locations and methods for storage and disposal of the solids.

**E. Inability to preserve required freeboard.** If a minimum of two feet of freeboard cannot be preserved in the process water or impacted stormwater impoundment, the permittee shall submit a corrective action plan to the department for approval. The corrective action plan shall be submitted within 30 days of the date of discovery of the initial exceedance of the freeboard requirement. The plan may include, but is not limited to, proposals for constructing an additional impoundment, reducing the maximum daily discharge volume, or changing process water or impacted stormwater management practices. The corrective action plan shall include actions to be immediately implemented to regain and maintain a minimum of two feet of freeboard until permanent corrective actions have been completed. The corrective action plan shall include a schedule for implementation. The schedule shall propose completion within one year from the submittal date of the initial corrective action plan. Within 30

days of the date of postal notice of the department's approval of the corrective action plan, the permittee shall initiate implementation of the plan.

**F. Impoundment - structural integrity compromised.** Within 24 hours of discovery, a permittee shall report to the department any damage to the berms or the liner of an impoundment or any condition that may compromise the structural integrity of the impoundment. Within 15 days of discovery, the permittee shall submit to the department a corrective action plan describing any actions taken or proposed to be taken to repair the damage or condition. Within 30 days of receipt, the department shall approve or disapprove the proposed corrective action plan. Repairs to the impoundment liner or berms shall be completed pursuant to 20.6.7.17 NMAC. The corrective action plan shall include a schedule for implementation. Within 30 days of the date of postal notice of the department's approval of the corrective action plan, the permittee shall initiate implementation of the plan.

**G. Unauthorized discharge - reporting and correction.** In the event of a spill or release that is not authorized by the discharge permit, the permittee shall notify the department and take corrective actions pursuant to 20.6.2.1203 NMAC. Process water or impacted stormwater or other material that is spilled or released that has the potential to impact water quality shall be contained and pumped to a sump, impoundment, or leach stockpile permitted pursuant to the copper mine rule. The permittee shall repair or replace failed components within 48 hours from the time of failure or as soon as practicable.

**H. Leach stockpiles, tailings impoundment or waste rock stockpiles – unstable slopes.** Within 24 hours of discovery, a permittee shall report to the department any evidence of instability of the slope of a leach stockpile or tailings impoundment or any condition that may compromise the structural integrity of the leach stockpile, tailings impoundment or waste rock stockpile. Within 15 days of discovery, the permittee shall submit to the department a corrective action plan describing any actions taken or proposed to be taken to repair the damage or condition. Within 30 days of receipt, the department shall respond to the proposed corrective action plan. Repairs to the slopes shall be completed consistent with the requirements of 20.6.7.20 NMAC, 20.6.7.21 NMAC, 20.6.7.22 NMAC, and 20.6.7.33 NMAC, as applicable. The corrective action plan shall include a schedule for implementation. Within 30 days of the date of postal notice of the department's approval of the corrective action plan, the permittee shall initiate implementation of the plan.

**I. Erosion of cover system or compromised stormwater conveyance structure, ponding of stormwater, or other conditions.** Within 24 hours of discovery, a permittee shall report to the department any evidence of significant erosion of a cover system required by 20.6.7.33 NMAC or compromise of a stormwater conveyance structure; any significant ponding of stormwater on the cover system; or any other condition that may significantly compromise the cover system or stormwater conveyance structure. Within 15 days of the reported discovery, the permittee shall submit to the department a corrective action plan describing any actions taken or proposed to be taken to repair the damage or condition. Within 30 days of receipt, the department shall respond to the proposed corrective action plan. Repairs to the cover system or stormwater conveyance structure shall be completed consistent with the applicable requirements of 20.6.7.33 NMAC. The corrective action plan shall include a schedule for implementation. Within 30 days of the date of postal notice of the department's approval of the corrective action plan, the permittee shall initiate implementation of the plan.

**J. Water management and water treatment system failure.** Within 24 hours of discovery, a permittee shall report to the department any significant failure of a water management or water treatment system constructed and operated pursuant to 20.6.7.33 NMAC or any condition that may cause a significant failure of the water treatment system. Within 15 days of the reported discovery, the permittee shall submit to the department a corrective action plan describing any actions taken or proposed to be taken to repair the damage or condition. Within 30 days of receipt, the department shall respond to the proposed corrective action plan. Repairs to the water treatment system shall be completed consistent with the applicable requirements of 20.6.7.33 NMAC. The corrective action plan shall include a schedule for implementation. Within 30 days of the date of postal notice of the department's approval of the corrective action plan, the permittee shall initiate implementation of the plan.

**K. Interim Emergency Water Management:** An applicant or permittee shall develop and submit to the department an interim emergency fluid management plan. The purpose of the interim emergency water management plan is to provide information to the department on how process water systems, interceptor wells, seepage collection systems and storm water management systems are operated and maintained to prevent discharges in the event the department assumes management of the copper mine facility. An applicant or permittee shall include in the plan process water flow charts showing electrical system requirements, pump operations, seepage collection and interceptor well operations and applicable operation and maintenance requirements. The interim process water management plan shall be updated as major process water system changes occur that would affect the interim emergency water management plan. The interim emergency water management plan shall be maintained on site and be available for department review. The plan shall be submitted within 180 days of discharge permit

renewal for an existing copper mine facility and no less than 60 days prior to discharge at a new copper mine facility.

**20.6.7.31            RESERVED**

**20.6.7.32            RESERVED**

**20.6.7.33            CLOSURE REQUIREMENTS FOR COPPER MINE FACILITIES:** An applicant or permittee shall submit a closure plan for all portions of a copper mine facility covered by a discharge permit that addresses the following requirements.

**A.        Design storm event.** Permanent storm water conveyances, ditches, channels and diversions required for closure of a discharging unit at a copper mine facility shall be designed to convey the peak flow generated by the 100 year return interval storm event. The appropriate design storm duration shall be selected based on the maximum peak flow generated using generally accepted flood routing methods. Sediment traps or small basins intended as best management practices may not be subject to this requirement, based on department approval.

**B.        Slope stability.** At closure, tailing impoundment(s) not regulated by the office of the state engineer, leach stockpile(s) or waste rock stockpile(s) shall be constructed to promote the long-term stability of the structure. Closure of all critical structures at a copper mine facility shall be designed for a long-term static factor of safety of 1.5 or greater and non-critical structures shall be designed for a long-term static factor of safety of 1.3 or greater. The units being closed shall also be designed for a factor of safety of 1.1 or greater under pseudostatic analysis. A stability analysis shall be conducted for the unit and shall include evaluation for static and seismic induced liquefaction.

**C.        Surface re-grading:** During closure of any tailing impoundment, waste rock pile or leach stockpile at a copper mine facility, the surface shall be re-graded to a stable configuration that minimizes ponding and promotes the conveyance of surface water off the unit. The operator may propose for department approval a grading plan that allows ponding as an appropriate part of closure provided additional ground water protection measures, such as synthetic liner systems, are included as part of the design.

(1) The top surfaces of all tailing impoundments at a copper mine facility shall be constructed to a minimum final grade of one-half of one percent (0.5%) after accounting for the estimated magnitude and location of large-scale settlement due to totaling consolidation or differential settlement. Prior to final re-grading activities, the permittee shall ensure that adequate drainage of the tailing impoundment has occurred to ensure that large-scale settlement following grading is minimized. The CQC and CQA plan shall provide the methods and procedures to ensure that the design and construction activities will be completed according to the approved final design and specifications, including design aspects related to potential future settlement.

(2) The top surfaces of all waste rock and leach stockpiles at a copper mine facility shall be constructed to a minimum final grade of one percent (1%).

(3) The outslopes of all tailing impoundments, waste rock and leach stockpiles at a copper mine facility shall be constructed to an interbench slope no steeper than three (3) horizontal to one (1) vertical (3H:1V). Alternative slope gradients may be allowed within an open pit surface drainage area, or if the permittee provides information showing that the cover performance objectives in Subsection F of this Section are met and the exception is approved by the department.

(a) At existing copper mine facilities, where re-grading of individual outslopes would intersect a highway, cultural resource, physical infrastructure or a surface water of the state, outslopes may be re-graded no steeper than 2.5:1 or as otherwise approved by the department in Paragraph (3) of this Subsection.

(b) At existing copper mine facilities, the waste rock and leach stockpile outslopes within an open pit surface drainage area are not required to be graded and covered.

(4) For design purposes, allowable uninterrupted slope lengths shall be calculated using a generally accepted erosion estimation method and shall be based on the final slope angle and cover material characteristics representative of the cover materials proposed for use at the site. The maximum uninterrupted slope lengths shall be no greater than 300 feet for 4.0:1, 200 feet for 3:1 slopes and 175 feet for 2.5:1 slopes. Alternative slope lengths may be allowed if the permittee provides information showing that the cover performance objectives specified in Subsection F of this Section will be achieved and the exception is approved by the department.

**D.        Open pits.** The applicant or permittee shall provide detailed information and a closure plan for open pits that demonstrates how the following criteria will be addressed through water management and/or other activities at open pits to minimize the potential to cause an exceedance of applicable water quality standards:

(1) Open pits in which the evaporation from the surface of an open pit water body is predicted to exceed the water inflow shall be considered to be a hydrologic evaporative sink. If an open pit is determined to be a hydrologic evaporative sink, the standards of 20.6.2.3103 NMAC do not apply within the area of open pit hydrologic containment. This is limited to contaminants associated with standard copper mining practices and found to be present within the open pit, or that can be generated from the natural materials present in the open pit through degradation, oxidation, decay or other expected process.

(2) After closure, if water within an open pit is predicted to flow from the open pit into ground water and the discharge from an open pit may cause an exceedance of applicable standards at monitoring well locations specified by 20.6.7.28 NMAC, then the open pit shall be considered a flow-through pit. In a flow-through pit system the open pit water quality must meet ground water standards of 20.6.2.3103 NMAC or the open pit must be pumped in order to maintain an area of open pit hydrologic containment.

**E. Surface water management:** The permittee of a copper mine facility shall maintain and implement a plan for the management of all stormwater and sediment generated from the copper mine facility during reclamation and following closure.

**F. Cover system:** At closure, a permittee shall install a cover system on waste rock piles, leach stockpiles, tailing impoundments and other units that have the potential to generate leachate and cause an exceedance of applicable standards at monitoring well locations specified by 20.6.7.28 NMAC using the following criteria, as appropriate. Any soil cover systems installed before the effective date of the copper mine rule are not subject to the requirements of the copper mine rule unless the department determines that an exceedance of applicable standards has occurred or is likely to occur as a result of the existing installed cover system, and that modification of the cover will prevent further impacts to ground water. Any cover system installed at an existing copper mine facility after the effective date of the copper mine rule shall be a store and release earthen cover system with a thickness of 36 inches and shall be constructed in accordance with the applicable requirements of Paragraphs 1 through 3 of this Subsection. For leach and waste rock stockpiles inside the open pit surface drainage area, a 36-inch cover is only required on the top surfaces.

(1) The cover system shall be constructed of 36 inches of earthen materials that are capable of sustaining plant growth without continuous augmentation and have erosion resistant characteristics. Erosion rates shall be equal to or less than stable slopes in the surrounding environment after the vegetation has reached near-equilibrium cover levels. Erosion will be estimated using generally acceptable methods.

(2) Soil cover systems shall be designed to limit net-percolation by having the capacity to store within the fine fraction at least 95 percent of the long-term average winter (December, January and February) precipitation or at least 35 percent of the long-term average summer (June, July and August) precipitation, whichever is greater. The water holding capacity of the cover system will be determined by multiplying the thickness of the cover times the incremental water holding capacity of the approved cover materials. Appropriate field or laboratory test results or published estimates of available water capacity shall be provided by the permittee to show that the proposed cover material meets this performance standard.

(3) Cover thickness or other design criteria may be reduced or modified if:

(a) the cover system is installed over a lined unit and the design and function of the liner system will complement the cover system, or the permittee proposes a composite, layered or an alternate cover system with an equal or greater level of ground water protection described in Paragraphs (1) and (2) of this Section, or

(b) a demonstration is made that an alternate proposed cover system will ensure that an exceedance of applicable standards will not occur in ground water. Such a demonstration shall include:

(i) a comprehensive modeling study to estimate the quantity of net-percolation through a cover system that will not result in an exceedance of applicable standards in ground water;

(ii) a plan for performance monitoring of the cover system, including ground water monitoring; and

(iii) an agreement by the permittee to pay for the cost of a third party review of the modeling study and performance monitoring plan.

(4) A CQA/CQC plan shall be submitted for department review as part of the final cover design. The plan shall identify a licensed New Mexico professional engineer as the designated CQA officer and include his or her supervision of the CQA plan and shall identify the methods proposed to ensure that the closure construction will be completed in accordance with the design and specifications. Following the completion of the work, the CQA officer shall prepare a final CQA report. The final CQA report shall provide a detailed description of the installation methods and procedures and document that the work was conducted as designed.

**G. Process solution reduction plans:** The closure plan shall include a process solution reduction plan for the copper mine facility. The process solution reduction plan shall be a conceptual engineering document

that describes the processes and methods that are expected to be used at a copper mine facility to reduce the quantities of process water in storage and circulation inventory at the end of copper production in preparation for long-term water management and/or treatment. The plan shall describe and list the current or proposed process water management units and inventories of process water. The plan shall describe the modifications to the process water management system required to create an efficient process water reduction system and the operation and maintenance requirements for the system with material take-offs of sufficient detail to prepare an engineering-level cost estimate equivalent to the cost estimate to be provided with the closure plan. The plan shall provide an estimate of the required water reduction period based on the water reduction calculations provided in the plan to be used for planning and operation and maintenance cost calculations.

**H. Closure water management and water treatment plan:** The applicant or permittee shall submit a closure water management and water treatment plan. The closure water management and water treatment plan shall consist of a conceptual engineering document that describes the processes and methods that are expected to be used at a copper mine facility for long-term management and/or treatment of process water. The plan shall include an analysis of the expected operational life of each long-term water management and/or water treatment system, including interceptor systems, until each system is no longer needed to protect ground water quality and applicable standards are met. The plan shall describe the long-term water management and water treatment systems with sufficient detail, including locations of key components, expected operational life, material take-offs, and capital, operational and maintenance costs to prepare an engineering-level cost estimate. The plans shall provide sufficient detail to estimate capital and operating costs to provide the basis for financial assurance for these activities.

**I. Impoundments:** The permittee shall close all reservoirs and impoundments in a manner that ensures that the requirements of the Water Quality Act, commission rules and the discharge permit are met. Closure activities shall meet the following requirements:

- (1) Fluids from reservoirs and impoundments shall be drained and appropriately disposed of.
- (2) Sediments in the reservoir or impoundment shall be characterized and abated or appropriately disposed of in a manner that will not cause an exceedance of applicable standards.
- (3) Materials underlying the reservoir or impoundment shall be characterized to determine if releases of water contaminants have occurred.
- (4) Where characterization results show materials remaining within or beneath any reservoir or other impoundment that are not naturally occurring to be a source or potential source of ground water contamination outside the open pit surface drainage area, the reservoir or impoundment, shall be covered and re-vegetated pursuant to this Section.

(5) Based on the characterization conducted pursuant to Paragraph (4) of this Subsection, further characterization of ground water beneath and adjacent to the reservoir or impoundment may be required to determine if abatement is necessary.

(6) Reservoirs and impoundments located outside the open pit surface drainage area shall be closed in a manner that creates positive drainage away from the impoundments, unless needed during closure and post closure for storm water retention or seepage interception, post-closure water management and treatment, or unless otherwise approved by the department. Post-closure reservoirs or impoundments to be used for the collection of non-impacted storm water and located over areas where residual wastes, vadose zone contamination or ground water contamination remains shall be synthetically lined pursuant to the design and construction criteria of Paragraph (4) of Subsection D of 20.6.7.17 NMAC.

(7) The department may approve alternative plans for closure of impoundments based on site-specific conditions when the alternative closure method will provide the same level of ground water protection as the methods specified in Paragraphs (1) through (6) of this Subsection.

**J. Pipelines, tanks and sumps:** The permittee shall remove and/or properly dispose of the tailing, process water, or other materials contained in pipelines, tanks or sumps as soon as they are no longer needed for site operations, water treatment, or other post-closure water management. Any residual tailing, process water, sediments or contaminated water shall be removed from the pipelines, tanks or sumps prior to closure and dispose of the material in a department approved manner. Pipelines may be removed for appropriate disposal or cleaned and buried in place. Sumps may be removed for disposal or cleaned and broken up and buried in place. During pipeline, tank or sump closure, the permittee shall inspect the entire pipeline, tank or sump area for evidence of past spills and characterize the impacts and potential impacts of such spills. The permittee shall document all areas where there is evidence of spills and propose to the department appropriate corrective actions pursuant to 20.6.2.1203 NMAC. Following pipeline, tank or sump removal, the permittee shall remove for disposal or reclaim in place all acid generating pipeline, tank or sump bedding material that has the potential to impact water quality in excess of the applicable standards.

**K. Crushing, milling, concentrating and smelting:** The permittee shall close all crushing, milling, concentrating or smelting areas in a manner that ensures that the requirements of the Water Quality Act, commission rules and the discharge permit are met. Any remaining materials containing water contaminants that may cause an exceedance of the applicable standards shall be removed or disposed of in a department approved manner or covered pursuant to this Section. The permittee shall characterize the crushing, milling, concentrating or smelting area for the presence of any remaining potential water contaminants. If water contaminants are present that may with reasonable probability move directly or indirectly into ground water and cause an exceedance of the applicable standards, the area shall be covered pursuant to this Section.

**L. Closure monitoring and maintenance:** During closure the permittee shall continue monitoring pursuant to 20.6.7.28 NMAC and 20.6.7.29 NMAC. The permittee may propose and the department may approve modifications to the required monitoring to reflect changes in conditions during closure, including abandonment of monitoring wells.

**M. Exceptions to design criteria:** The closure design criteria of this Section may be modified if approved by the department. Design criteria required by the office of the state engineer dam safety bureau for regulated units, such as jurisdictional impoundments (including tailing impoundments), shall supersede the criteria in this Section.

#### **20.6.7.34 IMPLEMENTATION OF CLOSURE**

**A. Notification of intent to close.** A permittee shall notify the department in writing of its intent to implement the closure plan for a copper mine facility or an individual unit of a copper mine facility. Notification shall be given at least 30 days prior to implementation of closure construction activities.

**B. Initiation of closure.** Upon notice of intent to implement a closure plan, a permittee shall commence closure in accordance with the approved closure plan. Implementation of closure includes preparation and submittal of a final design and CQA/CQC plan. The permittee shall submit the final design and CQA/CQC plan to the department for approval within 180 days of submission of a notice of intent to implement the closure plan. The permittee shall commence final closure construction of the copper mine facility or unit within 180 days of receipt of written approval of the final design and CQA/CQC plan. These timelines may be modified by the department upon request by the permittee for good cause shown, including allowance for time for procurement and mobilization of construction services and materials prior to actual closure construction.

**C. Notification of change in operational status.** Whenever operation of a copper mine facility subject to closure requirements under the copper mine rule is suspended or resumed, the permittee shall provide the department written notification within thirty days of the date operation is suspended or resumed. Each subsequent semi-annual report submitted during suspension of operation of a copper mine facility shall state whether the permittee intends to resume operations and the anticipated date of resumption of operations or the conditions under which operations will resume.

**D. Department notice regarding suspended operations and enforcement action.** If leaching operations or milling operations at a copper mine facility are suspended for more than one year, the department may issue a written notice to the permittee requesting that the permittee provide evidence that the permittee is capable of and intends to resume operation of the unit. If the permittee does not respond within 30 days of postal notice of the department's written notice, or if the permittee does not provide evidence that the copper mine facility or unit is capable of resuming operation, that the permittee intends to resume operation of the copper mine facility or unit, and that the copper mine facility or unit does not pose a threat to public health or cause undue damage to property, the department may determine that the permittee is in violation of the copper mine rule for failure to implement closure of the copper mine facility or unit in a timely manner and may take appropriate enforcement action pursuant to Section 74-6-10 NMSA 1978, including requiring implementation of closure in accordance with 20.6.7.33 NMAC and this Section.

**E. Deferral of closure.** A permittee may request deferral of closure of a unit at a copper mine facility that has reached the end of its useful life with no intent by the permittee to resume operations if the proximity of active operations at the copper mine facility could result in ongoing contamination of the unit, closure would require relocation or replacement of infrastructure that supports ongoing operations, or for other good cause shown. The department may approve a deferral of closure if the permittee demonstrates that adequate water management measures are being implemented and maintained to protect ground water quality during the period of deferral.

**F. Final design.** The permittee shall submit a final design and CQA/CQC plan to the department for approval at least 60 days prior to construction, including commencement of surface shaping activities, of any area subject to a closure plan pursuant to the copper mine rule including, but not limited to, tailing impoundments, waste



rock piles, leach stockpiles, and any other area where cover is required under the approved closure plan. The CQA/CQC plan must include detailed engineering designs for storm water management structures and associated conveyance systems, cover design specifications, a cover material suitability assessment, a borrow source location, a rip rap suitability assessment, a rip rap source location, a post reclamation storm water management plan, and a schedule for completion. In addition, the final design and CQA/CQC plan shall include best management practices that will be employed during reclamation to address erosion and storm water management in a manner that meets the requirements of the Water Quality Act and commission regulations. The final design and CQA/CQC plan shall bear the signature and seal of a licensed professional engineer in accordance with Subsection A of 20.6.7.17 NMAC.

**G. CQA/CQC report.** Within 180 days after project completion, the permittee shall submit a final CQA/CQC report to the department. The CQA/CQC report shall include, at a minimum, as-built drawings of the entire reclaimed area including test pit locations and cover thickness data, a final survey report and topographic map following cover placement, a summary of work conducted, construction photographs, the location of reclaimed borrow areas, soil testing results, and laboratory analytical reports. The contour intervals on topographic maps shall be no greater than two feet for the top surfaces and no greater than ten feet for the out slopes for closure of tailing impoundments, leach stockpiles or waste rock stockpiles. The CQA/CQC report shall provide summaries of the quality assurance data, documenting that the project was completed according to the approved final design and CQA/CQC plan with significant exceptions explained. The CQA/CQC report shall bear the signature and seal of a licensed professional engineer in accordance with Subsection A of 20.6.7.17 NMAC.

**20.6.7.35 POST-CLOSURE REQUIREMENTS:** For each unit closed at a copper mine facility, the closure period shall cease, and the post-closure period shall commence, following the permittee's submission and department approval of a final CQA/CQC report that includes as-built drawings and a closure report documenting completion of regrading, covering, seeding, and construction of any other elements required for closure of a unit. The post-closure period for a copper mine facility or unit shall begin when the final CQA report is approved and only monitoring, inspections, maintenance, and/or operation of a closure water treatment and management plan remain to be conducted. During the post-closure period, a permittee shall conduct post-closure monitoring, inspection, reporting, maintenance, and implementation of contingency actions as specified by this Section. The post-closure period shall end for a unit of a copper mine facility upon the completion of post-closure monitoring, inspection and maintenance for the unit as required by this Section. The post-closure period shall cease when all monitoring, inspections, maintenance, and operation of the water management and treatment plan required under this Section may cease. For units of a copper mine facility subject to an abatement plan, monitoring, inspection, reporting, and operation of abatement systems shall be conducted in accordance with the approved abatement plan rather than this Section.

**A. Interceptor system inspections.** A permittee shall perform quarterly inspections and annual evaluations of all interceptor systems and perform maintenance as necessary to ensure that the systems are performing as designed and are functioning in a manner that is protective of ground water quality. The inspection results and any maintenance performed by the permittee on interception systems shall be reported pursuant to Subsection D of this Section.

**B. Water quality monitoring and reporting.** A permittee shall perform water quality monitoring and reporting during the post-closure period pursuant to 20.6.7.28 NMAC and 20.6.7.29 NMAC, as applicable and modified by this Section. Ground water elevation contour maps required pursuant to Subsection L of 20.6.27 NMAC shall be submitted annually during the post-closure period. A permittee may request to reduce the frequency of or cease sampling a water quality monitoring location if the water contaminants in a monitoring well have been below the applicable standards for eight consecutive quarters, provided an adequate monitoring well network remains. If sampling of a monitoring well ceases in accordance with this Subsection, the monitoring well shall be abandoned in accordance with applicable requirements unless the permittee requests and the department approves the monitoring well to remain in place for an alternative use or future monitoring.

**C. Reclamation monitoring, maintenance, and inspections.**

(1) **Vegetation.** To ensure that vegetated covers required by the copper mine rule or the approved discharge permit are protective of water quality, a permittee shall perform post-closure monitoring of vegetation pursuant to schedules and monitoring requirements approved by the mining and minerals division. Any proposed changes to the closure or post-closure vegetation monitoring plan to meet Mining Act requirements shall be submitted to the department to ensure monitoring is protective of water quality. The permittee shall provide the department with a copy of monitoring results for vegetated covers, including photographic documentation as required by the mining and minerals division. At such time as the mining and minerals division vegetation success requirements under the Mining Act have been met, the permittee shall provide a final report to the department and

vegetation monitoring may cease.

(2) **Erosion, subsidence, slope instability, ponding, and other features.** The permittee shall visually inspect closed discharge permit areas where a cover was installed for signs of excessive erosion, subsidence features, slope instability, ponding, development of fissures, or any other feature that may compromise the functional integrity of the cover system or drainage channels. Drainage channels, diversion structures, retention ponds, and auxiliary erosion control features shall be inspected in accordance with professionally recognized standards (e.g., U.S. department of agriculture natural resources conservation service standards). The inspections shall be conducted monthly for the first year following submission of the final CQA/CQC report for the unit, and quarterly thereafter until the end of post-closure monitoring, provided the department may approve a schedule allowing less-frequent monitoring. Discharge permit areas where covers were installed shall also be inspected for evidence of excessive erosion within 24 hours, or the next business day, following storm events of one inch or greater as measured at the nearest rain gauge on the copper mine facility. The permittee shall report and take corrective action pursuant to 20.6.2.7.30 NMAC regarding signs of excessive erosion, subsidence features, slope instability, ponding, development of fissures, or any other feature that may compromise the functional integrity of the cover system or drainage channels. Monitoring and inspection results shall be reported as required by Subsection D of this Section.

(3) **Entry.** A permittee shall inspect and maintain the fencing or other management systems required by the discharge permit to prevent access by wildlife and unauthorized members of the public to an open pit, reservoir, impoundment or any sump that contains water that may present a hazard to public health or wildlife.

(4) **Cover maintenance.** A permittee shall perform maintenance on all areas where a cover system was installed as required by the copper mine rule, including associated drainage channels and diversion structures if their performance may affect cover system function. Based on monitoring of vegetation and erosion required by Paragraphs (1) and (2) of this Subsection, a permittee shall provide recommendations for maintenance work in semiannual monitoring reports described in Subsection D of this Section, including a schedule for completion of work.

(5) **Other inspection and maintenance.** A permittee shall routinely inspect and maintain all structures, units, and equipment the failure of which may impact ground water quality. Water collected that exceeds the ground water quality standards in Section 20.6.2.3103 NMAC shall be stored, conveyed, treated and discharged in a manner that is consistent with the closure water treatment and management plan any other applicable regulatory requirements. The inspection results shall be reported as required in Subsection D of this Section. Inspections and maintenance shall include but are not limited to:

- i) storm water retention reservoir(s);
- ii) water treatment plant(s);
- iii) pumps and pipelines to deliver water to water treatment plant(s); and
- iv) seepage collection ponds.

(6) **Implementation of water management and treatment plan.** The permittee shall continue to implement the water management and treatment plan required by Subsection H of 20.6.7.33 NMAC during the post-closure period. The water management and treatment plan may be modified in accordance with its terms or by approval of the department to reflect changes in site conditions.

**D. Reporting.** A permittee shall submit to department semi-annual reports pursuant to the schedule in Subsection A of 20.6.7.29 NMAC until the post-closure period ends for the copper mine facility. The reports shall contain:

- (1) a description and the results of all post-closure monitoring conducted pursuant to this section.
- (2) a description of any work completed during the preceding semi-annual period including but not limited to:
  - (i) the status of post-closure activities for the copper mine facility; and
  - (ii) any maintenance and repair work conducted for any closure unit.
- (3) semi-annual potentiometric maps including data from all monitoring wells, extraction wells, piezometers, seeps and springs appropriate to the water table being mapped.

**E.** The contingency requirements of 20.6.7.30 NMAC apply to any deficiencies in the implemented closure systems discovered during the post-closure monitoring and inspections required pursuant to this section.

#### **20.6.7.36 RESERVED**

#### **20.6.7.37 RECORD RETENTION REQUIREMENTS FOR ALL COPPER MINE FACILITIES:**

- A.** A permittee shall retain a written record at the copper mine facility of all data and information

related to field measurements, sampling, and analysis conducted pursuant to the copper mine rule and the discharge permit. The following information shall be recorded and shall be made available to the department upon request.

- (1) The dates, exact location and times of sampling or field measurements.
- (2) The name and title of the individuals who performed each sample collection or field measurement.
- (3) The date of the analysis of each sample.
- (4) The name and address of the laboratory and the name and title of the person that performed the analysis of each sample.
- (5) The analytical technique or method used to analyze each sample or take each field measurement.
- (6) The results of each analysis or field measurement, including raw data.
- (7) The results of any split, spiked, duplicate or repeat sample.
- (8) A description of the quality assurance and quality control procedures used.

**B.** A permittee shall retain a written record at the copper mine facility of any spills, seeps, or leaks of effluent, and of leachate or process fluids not authorized by the discharge permit. Records shall be made available to the department upon request.

**C.** A permittee shall retain a written record at the copper mine facility of the operation, maintenance, and repair of all features/equipment used as required by the copper mine rule or the approved discharge permit to treat, store or dispose of process water, tailings, and impacted stormwater, measure flow rates, monitor water quality, or collect other data. Records shall include repair, replacement or calibration of any monitoring equipment and repair or replacement of any equipment used in the process water, tailings or impacted stormwater discharge system required by the copper mine rule or the approved discharge permit. Records shall be made available to the department upon request.

**D.** A permittee shall retain records of all monitoring information at the copper mine facility required by the copper mine rule, including all sampling results and other monitoring, calibration and maintenance records, copies of all reports, and the application for the discharge permit. Records shall be retained for a period of at least ten years from the date of the sample collection, measurement, report or application.

#### **20.6.7.38 TRANSFER OF COPPER MINE DISCHARGE PERMITS:**

**A.** Transfer of discharge permits for copper mine facilities shall be made pursuant to 20.6.2.3111 NMAC and this Section.

**B.** The transferor(s) shall notify the department, in writing, of the date of transfer of ownership, control or possession and provide contact information for the transferee(s) pursuant to Subsection B of 20.6.7.11 NMAC and Subsection B of 20.6.7.12 NMAC. Notification shall be submitted to the department of the transfer within 30 days of the ownership transfer.

#### **20.6.7.39 CONTINUING EFFECT OF PRIOR ACTIONS DURING TRANSITION:**

**A.** A discharge permit issued pursuant to 20.6.2.3109 NMAC that has not expired on or before the effective date of the copper mine rule shall remain in effect and enforceable pursuant to the conditions of the discharge permit and for its term as designated by the permit. If an effective discharge permit contains a permit condition with a time period for submittal of a renewal application that is different from the time period contained in Subsection C of 20.6.7.10 NMAC that condition will remain in effect for two years following the effective date of the copper mine rule.

**B.** An application for a new discharge permit or an application for a renewed or modified discharge permit for an existing copper mine facility submitted to the department before the effective date of the copper mine rule and for which a draft permit has not been provided to the applicant shall be processed by the department pursuant to the copper mine rule. The applicant shall submit applicable permit fees to the department pursuant to 20.6.7.9 NMAC within 90 days of the effective date of the copper mine rule.

**C.** An application for a new discharge permit or an application for a renewed or modified discharge permit for an existing copper mine facility submitted to the department before the effective date of the copper mine rule and for which a draft permit has been provided to the applicant shall be processed by the department pursuant to 20.6.2.3000 NMAC through 20.6.2.3113 NMAC. The applicant shall submit applicable permit fees to the department pursuant to 20.6.7.9 NMAC within 90 days of the effective date of the copper mine rule.

**D.** If a discharge permit for a copper mine facility is expired on the effective date of the copper mine rule and an application for renewal has not been received by the department, the permittee or owner of the copper mine facility:

- (1) shall within 90 days of the effective date of the copper mine rule submit to the department an

application for a discharge permit renewal, renewal and modification or closure pursuant to 20.6.7.10 NMAC and applicable permit fees pursuant to 20.6.7.9 NMAC; or

(2) if the copper mine facility has not been constructed or operated, the permittee or the owner of record of the copper mine facility may submit a statement to the department instead of an application for renewal certifying that the copper mine facility has not been constructed or operated and that no discharges have occurred. Upon the department's verification of the certification, the department shall retire the discharge permit number from use.

**E.** The permittee or owner of record of any copper mine facility discharging, capable of recommencing discharging, or that has ceased discharging within the term of its most recent discharge permit shall continue all monitoring and submittal of monitoring reports as prescribed in the most recent discharge permit until the department issues a renewed or renewed and modified discharge permit.