

**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 placed 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 un rebutted 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.