

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

In the Matter of:)	
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PROPOSED AMENDMENT TO 20.6.2 NMAC (Copper Rule))	No. WQCC 12-01(R)
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WRITTEN REBUTTAL TESTIMONY OF THOMAS L. SHELLEY

My name is Thomas L. Shelley, and I am the Reclamation Manager for Freeport-McMoRan Chino Mines Company and Freeport-McMoRan Tyrone Inc. (collectively, “Freeport” or “FCX”) I am presenting this written rebuttal testimony on behalf of Freeport regarding the Petition to Adopt 20.6.7 NMAC and Request for Hearing filed by the New Mexico Environment Department (“Department” or “NMED”) on October 30, 2012 and the Amended Petition filed by the Department on February 18, 2013, which propose new rules for copper mines (“Proposed Rule”). My experience and qualifications are presented in my written direct testimony previously filed in this matter.

**I. REBUTTAL TO THE DEPARTMENT’S AMENDED PETITION FILED
FEBRUARY 18, 2013**

I have the following comments and testimony on NMED’s proposed changes to the Proposed Rule. The first is the change to the language of Subsection B(1)(d) of Section 20.6.7.21 pertaining to stockpiles at a copper mine. My only comment here is that the department must have inadvertently reverted back to language from a previous version and the only change I see that is needed is to remove the word “qualified” from the adjectives describing an engineer that must sign and seal the design report. This will make the language consistent

with other sections of the Proposed Rule and also consistent with Subsection A(4)(d) of Section 20.6.7.22 pertaining to tailings impoundments. The rationale supporting this change is provided below in the body of my other rebuttal testimony.

The change to the language of Subsection D(5) of Section 20.6.7.17 pertains to requiring synthetic liners for non-impacted stormwater impoundments overlying contaminated areas that “may” leach and cause an exceedance of applicable standards. The language proposed herein could be applied to a myriad of scenarios requiring liners only because the conditions have a potential to cause an exceedance and perhaps in scenarios where other appropriate controls are already in place outside of an open pit surface drainage area. This language could simply apply to scenarios that are un-necessary to use a synthetic liner or where it would be a bad design to do so, but this language leaves no alternative. Paragraph 4 does allow for alternative designs, but sometimes a better design won’t include the same performance as a synthetic liner (a criterion of Paragraph 4), but it would be a more appropriate design based on other site-specific considerations. This language will have broad application and should be modified to allow engineers to propose alternatives to synthetic liners or the changes should be rejected.

II. REBUTTAL TESTIMONY IN RESPONSE TO WRITTEN DIRECT TESTIMONY OF MS. SALLY SMITH

On the top of page 2 of her testimony, Ms. Smith states that copper mines can impact groundwater above standards. As discussed in Ms. Lande’s and my direct testimony, some impacts to ground water from copper mining is unavoidable and does occur, which is why copper mines have been regulated under the Water Quality Act and why updated rules are needed. What I appreciate most about the Proposed Rule is that it acknowledges the reality of these unavoidable impacts and deals with them in an open honest fashion rather than pretending that by the use of liners or other technologies they can be avoided completely. At the same time,

the Proposed Rule specifies pollution control measures where they have been implemented and shown to be feasible and effective.

Ms. Smith correctly states that an Administrative Order on Consent (AOC) study was instituted to evaluate potential impacts to the environment from historic mine operations around the Chino Mine about 18 years ago. As discussed in Freeport's direct testimony, the Chino Mine started open pit mining in 1910 in an historic mining district where there are numerous mines. I was tasked with initiating this cooperative process with the State and EPA those many years ago. As Ms. Smith mentioned, the AOC is designed to evaluate historic mining impacts that occurred before environmental permits were required, not modern mining impacts that are addressed under the discharge permit program. Although the area of study encompasses 55 square miles, in order to address the entire area where there was a potential for adverse impacts from historic mining and smelting operations, that number is misleading because only a few portions of that area have been found to be impacted to the extent that any cleanup is necessary. That number also includes the area of active mine operations which is not included in the AOC studies because active mine operations are addressed by modern environmental permits.

At the bottom of page 2 and top of page 3 of her testimony, Ms. Smith summarizes the "significant groundwater damages" that have occurred at the mine sites as reported in the New Mexico Natural Resources Trustee's Final Groundwater Restoration Plan for the three mines Chino, Cobre and Tyrone. I served as the primary technical mine representative in the cooperative assessment between FCX and the State Natural Resources Trustee for this settlement of a natural resources damage claim. This was a settlement process to address ground water injuries alleged by the Natural Resources Trustee and the Attorney General, and there were numerous technical and legal issues on which there was no agreement or resolution by the

settlement. Importantly, the settlement covers all of the impacts to ground water from all sources at all three mines originating from historical and continuing mining operations, and accounts for the entire volume of ground water impacts, including impacts that may persist into the future. As a result of the settlement, as long as there are no unforeseen new releases (which the existing discharge permits and the Proposed Rule are designed to prevent) that expand the area currently impacted, the State of New Mexico has released all claims for past and future impacts to ground water for the settlement amount of \$13 million. Indeed, while Ms. Smith indicates that the settlement assumes 100 years of ground water impacts, the mines are subject to ongoing discharge permit requirements, including future closure and water treatment requirements, as well as abatement requirements, that are expected to reduce the area of ground water impacts over time. At Tyrone, there is ample evidence that after completion of reclamation, the groundwater quality is showing marked improvement in real, actively monitored wells around the reclaimed surfaces.

III. REBUTTAL TESTIMONY IN RESPONSE TO WRITTEN DIRECT TESTIMONY OF DR. BRUCE THOMSON

I would also like to comment on Dr. Bruce Thomson's and other witnesses comments about the critical value of water in New Mexico and criticism of water use by copper mines. As discussed in Ms. Lande's testimony, copper mines use the ground water underlying their operations and recycle process water many times over, reducing the volume of water that must be imported from other wells or surface water. Of course, when a mine withdraws ground water, it must account for that withdrawal against its water rights regardless of whether the water has previously been used.

Water use is not covered by the Proposed Rule, but I would be remiss if I did not respond to Dr. Thomson's criticism of water use for copper mining. When you have the good fortune of

an economic copper resource that exists in your state, in my opinion, the highest and best use of water appurtenant to the mine will be for the development of a copper mine which will yield maximum benefits for the use of the water and produce much greater economic returns than other uses. I have managed water rights and agricultural land leases for a number of years and I know the returns on the use of water for agriculture versus mining and other uses. Industrial use will usually exceed the economic return on the use of the water as compared to any other beneficial use. That is certainly factual for all existing copper mines in New Mexico and it is safe to assume that would be the case for any new copper mine facility in New Mexico.

Development of water for copper mines often produces other benefits that are overlooked. In order to develop a mine, an incredible amount of infrastructure must be developed. For example, Tyrone built a diversion from the Gila River and created Bill Evan's Lake as a reservoir in order to supply water to the mine. Bill Evans Lake has provided many benefits to wildlife and recreational benefits to the community. I am also a rancher and in drought years many birds perish due to lack of water in stock ponds and other water sources that dry up during droughts in our area. Bill Evans is a constant habitat resource that Tyrone created as part of mining activity. Many waterfowl and other creatures have undoubtedly been born and nurtured because of its existence. Indeed, Tyrone donated Bill Evans Lake to the State Game and Fish Department shortly after its commissioning so they could manage it as a fishery and recreational site. This has taken enormous recreational use pressure off of the Gila River itself. These benefits often are overlooked by those critical of mining and its water use.

Dr. Thomson states at the top of page 3 of his testimony that about 4,000 acre feet of water will be pumped from the Tyrone mine area and that therefore, the Tyrone Mine is a "place of withdrawal." Obviously, however, the Tyrone Mine will be pumped as part of the post-

closure requirements for the mine, particularly in order to maintain hydraulic control of water collected in the pit. Closure and post-closure activities will be subject to a discharge permit and will be closely monitored, as will be required by the Proposed Rule. The continued pumping of water from the open pit does not mean that it will be a place where others will look to withdraw water for a future water supply. In my opinion, it is highly unlikely, as discussed in more detail in Mr. Blandford's testimony. Under Tyrone's existing discharge permits, the pumped water will be treated to meet applicable standards so that it is fit for discharge back into the environment or for some beneficial use. Tyrone also is required to maintain financial assurance for as long as this is required.

In effect, Dr. Thomson appears to argue that, as a matter of law and policy, the "place of withdrawal" language should be interpreted so that no future mines like Tyrone should be allowed. From my viewpoint, as a matter of policy, it is not a bad thing to have a developed source of water for other uses as the end result of a closed copper mine. Moreover, Dr. Thomson's testimony appears to be designed to leave the Commission with the impression that there are no future locations other than the Tyrone Mine that could be utilized as a future municipal water sources in Grant County. In my experience, new sources of water in Grant County tend to be limited more by access to water rights, which are fully allocated in this area, than access to locations where wells can be drilled.

Dr. Thomson summarizes data from the Office of the State Engineer at the bottom of page 4 and top of page 5 of his testimony that emphasize the high dependence on groundwater for most uses in the state and county. The high cost of acquiring surface water rights and actual or perceived environmental obstacles to developing surface water from the Gila River have discouraged development of surface water for use in the area, resulting in a focus on ground

water withdrawals for water supplies. Groundwater also is preferred as a domestic water supply because it usually requires less treatment costs.

At the bottom of page 9, Mr. Thomson states that this dependence on groundwater underscores the need to protect it as a water supply for reasonably foreseeable future use. Freeport agrees and recognizes that it is important to protect groundwater resources and that is why Freeport supports the clear and specific requirements for ground water protection specified in the Proposed Rule. As discussed in other testimony, the Proposed Rule codifies pollution prevention measures that have been developed and implemented through existing discharge permits for New Mexico copper mines and adds many new requirements.

In his testimony on pages 10 and 11, Dr. Thomson concludes that “It is clear to me that measures taken today to minimize leachate from copper operations will, in the long run, be far more cost effective and more protective of the environment than allowing contamination today and future treatment in the future.” Dr. Thomson’s testimony, however, is lacking on any specifics regarding any feasible pollution prevention measures that he claims are missing from the Proposed Rule or any actual cost benefit analysis. To the contrary, Freeport’s witnesses, as well as the Department’s, have presented detailed testimony on the feasibility and effectiveness of liner systems and other pollution prevention measures specified in the Proposed Rule, as well as why liner systems are not feasible, effective, or necessary in certain applications, such as waste rock stockpiles, tailings impoundments, and for certain facilities located within the open pit surface drainage area.

Dr. Thomson recites (see his testimony on pages 10 and 11) his knowledge about mining water quality impacts and states that the technology for treating water is too expensive to implement at large mine sites and instead it would be better to build liners under every leachate

generating facility than to use these water treatment technologies. I believe that Dr. Thomson seriously misses the point and the mark in this whole dialogue. First, putting a liner under every facility won't eliminate the need for long-term water treatment at these vast mine sites. It is a fantasy to think otherwise. Liners will collect the leachate, but they will not eliminate it. So what do you do with the leachate when it is collected post-closure? You still have water treatment. Second, New Mexico existing copper mines have designed and obtained agency approval of two major water treatment systems. New Mexico copper mines have also put financial assurance in place so they can be constructed and operated. So it is in fact possible, feasible and economical to take this approach.

IV. REBUTTAL TESTIMONY IN RESPONSE TO WRITTEN DIRECT TESTIMONY OF MR. JAMES KUIPERS AND WILLIAM OLSON

Mr. Kuiper's statement that the copper rule "allows pollution by rule" and will not encourage development of new technology is a very disingenuous characterization of what the department has actually proposed. Large copper mines have substantial investments to protect and face major costs for closure under the Proposed Rule, as well as financial assurance. Consequently, there will always be economic incentives to develop new technologies. A good example is that Tyrone and Chino already have a vast financial assurance commitment to treat water at the mine sites. This is a great incentive to become the very best at mine water treatment.

Mr. Kuipers states that "as-built drawings are customarily required to be signed by a professional engineer" and proposes a definitional change. As acknowledged in the Proposed Rule, section 20.6.17.A and .B, the practice of engineering in New Mexico is governed by the New Mexico Engineering and Surveying Practice Act. These subsections clearly defer to existing law to define when engineering documents must be signed and sealed. Because the existing law allows exceptions to providing stamped documents within plants and facilities, and

it is not possible to address these requirements in the definitions, I urge the Commission to leave this issue as addressed in the Proposed Rule in section 20.6.17.A and .B and leave the definition as stated in the Proposed Rule.

Mr. Kuipers states that language was removed that would have required important supporting information for the agencies to evaluate engineering projects or to address issues in the event of bankruptcy or default. However, in Kuipers Attachment 2, he does not propose any changes to the required documentation in 20.6.7.17 A. and C.(1)(b) or 20.6.7.18 B. (2). In fact, I see no difference in the information or reports required to be supplied to the agency between the August 17 draft Rule and the current draft Rule in Section 20.6.7.18 B (2). So his statement in 11 is not supported or stated in any way that can be understood or tied to specifics.

Mr. Kuipers proposes to add engineer experience requirements to the rule. In order to avoid duplicative and contradictory regulations in the State, the Copper Rules cite back to the New Mexico Engineering and Surveying Practice Act, and associated rules so that engineering and survey requirements are consistent with those important regulations. These matters are appropriately left to the New Mexico statutes and administrative rules that were intended to regulate the practice of engineering and surveying (i.e., the New Mexico Engineering and Surveying Practice Act, and associated rules). There was never a “proposal” by the technical working group to dictate certain experience to certify a professional engineer within the copper rules. This would be completely inappropriate and out of scope for the copper rule process to institute different criteria for the certification of an engineer. The referenced section does add a qualifier to state that for certain activities – construction/installation quality assurance for liner systems – that the engineer certifying this work has actual experience in liner system construction and installation. This language is slightly redundant because the NM Engineering

and Surveying Practice Act already requires that individuals only practice in the area that they are licensed through training and experience. I support the language in the Proposed Rule as is because the agency has appropriately not “over-specified” this language. Their goal was to emphasize this part of the rule as an area of priority. To go beyond and begin to dictate the number of years of experience would be potentially contradictory to other regulations and would also be arbitrary.

The difference between Section 20.6.7.18 B (2) in the August 17 draft rule and the current draft rule is negligible. The word “qualified” was removed as a modifier of the phrase “licensed engineer” because it is redundant. New Mexico regulations already specify the qualifications for licensing in each discipline of engineering and the statute and regulations state that an engineer may only practice in a discipline in which he or she is qualified. To leave the word “qualified” in the Copper Rule may imply that now NMED should start to somehow play the role of the board set up to certify engineers in the State of New Mexico and add their own filters for what constitutes qualification. NMED made this change throughout the draft rules and removed the word qualified. The change is appropriate. NMED has the same remedy already as any citizen, corporation or agency in New Mexico. If they feel that an engineer is practicing in an area that they are not qualified to be practicing in, there is recourse under the New Mexico Engineering and Surveying Practice Act to address this situation with the board of registration.

In his testimony, Mr. Kuipers makes the following three statements: 1) GRIP’s proposed changes to the Copper Rules (20.6.7.22 A (4) and 20.6.7.21 B) represent a consensus of the technical committee; 2) That modern copper mining practice utilizes impermeable liners under tailing and waste rock facilities and 3) The GARD guide (Section 6.6.6) recommends the use of such liners under tailing or waste rock facilities. Based on this testimony, Mr. Kuipers’ proposes

changes to the Copper Rules (20.6.7.22 A (4) and 20.6.7.21 B) would require that new tailings and new waste rock facilities be required to have the same essential impermeable liner system as would be required under a new leach stockpile outside the area of hydrologic containment.

I will first discuss the statement that the August 17 version of the copper rules was a “consensus or exemplary product of collaboration”. If the August 17 draft would have reflected the technical presentations and discussions, perhaps Freeport would have supported it. However, the opposite was true. The technical presentations on tailings dam design and construction and waste rock stockpile design and construction provided by experts that attended the technical and advisory committee meetings were largely ignored in the drafting of the August 17 draft. Freeport voiced clearly that this was objectionable on numerous occasions. Nothing was presented to the technical committee that established any different technical basis for the approach taken in the August 17 draft, particularly any valid technical information indicating that liner systems were feasible or consistent with current New Mexico State Engineer requirements for tailing impoundments. I heard only arguments that legal interpretations of the Water Quality Act were the basis for requiring the liner requirement.

I will now address Messrs. Kuipers’ and Olson’s claim that current modern copper mining practice includes the use of synthetic liners under copper tailings impoundments. Mr. Bill Olson cites to a technical presentation by a Golder engineer on behalf of THEMAC as the basis for supporting the problematic drafting of the August 17 draft of the Copper Rules. There are several flaws for his accepting that presentation as a basis for writing the rules as he did. That was a presentation based on a conceptual design that has not been presented in a permit application and that has not been implemented. Based on the technical information presented regarding the proposed mine site, from the perspective of a professional engineer who has

participated in the design of tailings impoundments, I have serious doubts whether this conceptual design could be implemented at this site. For example, the information presented did not indicate to me that the conceptual design would meet the requirements of the New Mexico State Engineer.

The fact of the matter is, there is no lined copper tailings impoundment in the United States that anyone, even Mr. Kuipers, could reference during the copper rules committee process. There are proposed mines that have not been constructed, but no existing copper tailings dams that have been constructed in this manner. There may well be an engineering reason for Copper Flats to propose an impermeable liner under their tailings impoundment at that particular site; however, that is flimsy rationale to mandate that all new copper tailing dams in New Mexico be synthetically lined similar to a leach facility. The technical committee discussions lead me to believe that the lined tailing impoundment was identified by the Department as a mandatory requirement to obtain a discharge permit for Copper Flats. I also am aware that other alternatives, such as dry stack tailing, may be considered to address the conditions at this site.

Liner technology has been around for decades. But there are no liners built for copper tailings dams for both economic and science/engineering reasons. Proponents of liners claim it is all about money. That is not true and this was discussed at length in the technical and advisory committee meetings but disregarded in the drafting of the rules through August 17. In fact, for a tailing dam, the proponents of this kind of the mandate to line a tailings dam make at least three assumptions that are also simply unfounded: 1) It is necessary to line all tailing impoundments to protect ground water quality. Mr. Blandford gave a presentation to the technical committee showing that deposition of tailing into the series of impoundments at Tyrone did not result in ground water quality exceedances at any monitoring wells. 2) A stable tailing dam can be

designed and constructed with an impermeable foundation liner. Mr. Scott's testimony discusses the State Engineer requirements to maintain a stable tailing dam and the serious risk of instability if a liner is required. 3) Materials are available at all possible tailing sites to build such a dam. If a liner system were to be designed, the most important component is a drainage layer on top of the liner. This requires that you can find, near the site, a plentiful source of rock to crush and make permeable gravel and sand that will be filter compatible with an ever changing tailing grind and under tremendous pressures. This is one example of the specific engineering challenges to this approach.

Mr. Kuipers claims that the GARD Guide proposes and supports impermeable liners underneath tailings and waste rock stockpiles. I disagree. The authors of the GARD Guide understood the issues I just explained above and therefore the document repeatedly states that site specific economic and technical feasibility should be the drivers for such decisions. Mr. Kuipers reference to Section 6.6.6 of the GARD Guide takes the only sentence in the entire Chapter 6.6 that mentions low permeable liners as a possibility under waste materials out of context and implies that the GARD Guide is a proponent of this application of liners. Chapter 6.6 (Overview of Best Practice Methods) of the GARD Guide is about 50 pages long and only mentions liners in this context once. Here is the sentence: "Low permeability liners may be required to maintain saturated conditions in the overlying waste or to protect underlying groundwater resources." In another section of the GARD Guide – Table 6.4 lists, in a simplified way, the practical options for the prevention and mitigation of ARD. Impermeable liners under waste and tailings are not even mentioned in the table, but covering them with a soil cover is, and the Proposed Rule requires closure covers.

Mr. Kuipers' testimony proposes to delete section 20.6.7.33.C(3)(b) which excludes the requirement to regrade and cover waste and leach stockpile outcrops within an open pit surface drainage area. The language proposed by the Department is consistent with concepts developed and agreed to in the Tyrone Settlement Agreement because within areas of hydrologic containment (like the open pit surface drainage area), impacts to groundwater are completely contained and controlled. Consequently, the Department and Freeport agreed that waste and leach stockpiles within an open pit surface drainage area would not require regrading and cover. The Department previously issued DP-1340 to Chino, which also does not require regrading and covers of stockpiles within a broader area of hydrologic ground water containment around the open pit. If paragraph 20.6.7.33C (3)(b) of the copper rule is deleted, this would undermine a principal agreement that led to the Tyrone Settlement Agreement.

Mr. Kuipers' testimony in paragraph 28 is contradictory to his actual edits to the copper rule. In his testimony he states that the phrase "a designated well location" should be replaced with "any" well location. However, in Kuipers Attachment 2, GRIP proposes to strike the entire phrase altogether rather than substituting "any" for "designated". The Department has proposed modified language for this provision, which is addressed in Ms. Lande's rebuttal testimony.

Furthermore, Mr. Kuipers' testimony does not explain or address why he struck the last sentence of 20.6.7.33 F which is an important clarification to copper mines on where covers are required and where they are not required. In response to GRIPS edit of Subsection F, the phrase that they struck should remain so that it is clear that facilities must be covered if they will cause an exceedance of standards at a well location where the copper mine and department agree to measure.

It is important to note (particularly with respect to GRIPs other edit to this subsection), that the open pit surface drainage area, as defined in the Proposed Rule, is a zone where there is complete effective hydrologic control. Consequently, the Department and Freeport recognized that these locations are preferred locations to place waste and leach stockpile facilities when feasible because there is excellent containment to protect surrounding ground water. It is also recognized that there is limited or no benefit to placing covers in these areas; however, there are large benefits to encouraging mining activities that will have impacts to groundwater within these areas.

Mr. Kuipers' testimony that there should be a minimum of five years of groundwater monitoring would arbitrarily make the current regulations inconsistent with the abatement regulations (20.6.2.4103 D). Those regulations provide that abatement can be determined to be complete "after a minimum of eight (8) consecutive quarterly samples" to show that standards have been met.

Mr. Kuipers' testimony does not explain or provide any technical support for another major language change shown in in Kuipers Attachment 2, to 20.6.7.33 D. This change is an extreme and significant edit. The edit strikes out most of Section D which contains essential language providing requirements for managing pit water post closure and replaces it with a sentence that contains confusing and inconsistent language. This section as proposed by the Department was meant to provide essential guidance for open pits at closure. Mr. Kuipers has turned it into a sentence that deals with new pits with no explanation in his testimony what the purpose and intent is. The first part of the sentence retains language addressing a closure plan for open pits and then the rest of the sentence that Mr. Kuipers added is all about demonstrating that new pits will not cause an exceedance of standards or they must receive a variance. Here is

the confusing sentence: “The applicant or permittee shall provide detailed information and a closure plan for open pits that demonstrates [that new pits will not contaminate ground water above applicable standards or shall obtain a variance].” The language in the brackets was added. This sentence is very confusing because it addresses closure and new pits. It seems that the concept he must be communicating really belongs in an operational section about open pits. It also then makes the rule silent on a major issue facing existing copper mines and that is “what is required at existing open pits at closure?”

More specifically with regard to Mr. Olson’s testimony, I do not believe that the rigid and extreme interpretation of the Water Quality Act as expressed in his testimony is either consistent with the Department’s past administration of the Water Quality Act or that it would realistically allow for future copper mining in New Mexico. As discussed in Freeport’s direct testimony, some ground water impacts from copper mining are unavoidable, particularly impacts from excavating an open pit. According to Mr. Olson’s testimony, the Water Quality Act would not allow such impacts at any location that is a “place of withdrawal.” Moreover, while Mr. Olson asserts that a permit applicant could try to show, using the criteria stated in the Commission’s 2009 Decision and Order in the Tyrone case, those criteria are very general, and it is apparent from Mr. Olson’s testimony that he believes that, in most instances, it would be futile to attempt such a demonstration.

Consequently, Mr. Olson proposes that variances are the only solution and should be required, essentially, for all existing and future copper mines. As discussed in Mr. Eastep’s testimony, this is a very new position and is not reflected in the Department’s numerous discharge permit actions for existing copper mines. Moreover, if all copper mines must be permitted by variance, what is the point of having detailed and specific rules for copper mines?

Just to set a bar for an applicant to have to make the subjective demonstration that the rules pose an “unreasonable burden”? At the end of the day, the variance approach simply adds a new procedural hurdle for permitting with a very uncertain and subjective outcome. This would discourage future copper mining in New Mexico, as discussed in Freeport’s direct testimony.

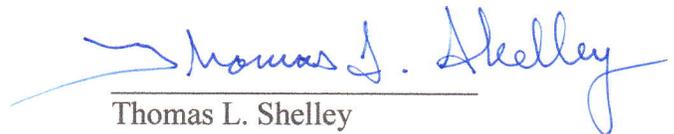
Furthermore, based on the policy implications behind Mr. Olson’s testimony, a variance process hardly would be a good solution for the future of copper mining. It is hard to imagine, based on Mr. Olson’s testimony, that he or like-minded thinkers would support variances for new copper mines. Moreover, Mr. Olson’s testimony suggests that he equates ground water protection with liner systems, and no other measures will do. His testimony provides no technical analysis of liners compared with other pollution prevention measures, as is contained in the direct testimony of the Freeport witnesses and the Department’s technical expert.

A far better approach would be the adoption of the Proposed Rule, which establishes clear and transparent design, construction, operational and closure requirements for copper mines. The Proposed Rule provides clear guidance to an engineer engaged to design a new copper mine on the expectations for protection of ground water quality and to obtain a permit. The Proposed Rule allows reasonable flexibility for an engineer to develop alternative designs, but requires those designs to achieve the same level of performance to contain water contaminants as prescriptive designs, thus providing at least the same level of ground water protection. Such an approach provides for a transparent permitting process and will encourage investment in copper exploration and copper mine development in New Mexico. For existing copper mines, it will encourage investment in new equipment and new technologies by providing certainty that these investments will pay off because the requirements for future mine expansion are clear.

For the reasons discussed above and in Freeport's other direct and rebuttal testimony, I oppose all of the changes recommended in Mr. Kuipers' and Mr. Olson's testimony and exhibits.

V. CONCLUSION

In conclusion, I urge the Commission to reject the changes to the Proposed Rule advocated by Ms. Smith, Dr. Thomson, Mr. Kuipers and Mr. Olson and that the Commission adopt the Proposed Rule as set forth in the Amended Petition, with the few changes suggested by Freeport's witnesses. This concludes my written rebuttal testimony.


Thomas L. Shelley