

COPY



STATE OF NEW MEXICO
BEFORE THE WATER QUALITY CONTROL COMMISSION

In the matter of:)
)
PROPOSED AMENDMENT TO)
PART 20.6.2 NMAC (Copper Rule))
_____)

No. WQCC 12-01(R)

REPLY IN SUPPORT OF MOTION FOR STAY

The Gila Resources Information Project (GRIP), Amigos Bravos, and Turner Ranch Properties, L.P. (TRP) (“Appellants”) hereby file this joint reply to the responses that the Freeport-McMoRan entities (“Freeport”) and the New Mexico Environment Department (“NMED”) filed in opposition to the motion to stay implementation of the Copper Rule pending appeal.

It is undisputed that several substantive parts of the Copper Rule allow Freeport and other mining companies to pollute water above public health standards without regard to whether this pollution might impair “places of withdrawal of water for present or reasonably foreseeable use” (“Places of Withdrawal”). This statutory phrase does not occur in the Copper Rule and the Water Quality Control Commission’s (“WQCC”) *Order and Statement of Reasons* (“Statement of Reasons”) purports to nullify the criteria for determining how Places of Withdrawal are identified.

It is undisputed that Freeport and NMED are aligned in this proceeding. NMED allowed Freeport to author the parts of the Copper Rule that allow pollution of ground water, which codify the same poor practices that caused extensive pollution and permanent injury to public ground water supplies at Freeport’s mines in Grant County, New Mexico. Freeport also authored the 214-page Statement of Reasons that the WQCC adopted *in toto* to supposedly justify the pollution that the Copper Rule permits, although this Statement of Reasons was ostensibly

prepared and proposed by NMED. NMED now argues that no one has standing to challenge the Copper Rule or Statement of Reasons that Freeport wrote. Such strident support by a state agency of a private corporation that the agency supposedly regulates is wholly unprecedented in New Mexico.

In opposing Appellants' motion for stay, Freeport and NMED argue that Appellants cannot establish even one of the four factors set out in Tenneco Oil Company v. New Mexico Water Quality Control Commission, 1986-NMCA-033, 105 N.M. 708, 736 P.2d 986 for granting a stay. They argue that Appellants' attempt to show "likelihood of success on the merits" is futile, because the Statement of Reasons that Freeport wrote for the WQCC concludes that the Copper Rule is lawful and supported by substantial evidence. They also argue that Appellants cannot show "irreparable harm," because they cannot point to anyone who will actually drink polluted water as a result of the Copper Rule. Freeport then claims that it will be harmed if the Copper Rule is stayed pending appeal because of some "uncertainty" that a stay might allegedly cause. Freeport concludes that the public interest favors allowing Freeport to pollute ground water in accordance with the Copper Rule.

In several places Freeport's response includes a bizarre *ad hominem* argument¹ in which Freeport states that Appellants' "true intent" is to "attack" the copper mining industry in New Mexico. Freeport also continues its strategy of mischaracterizing Appellants' argument, claiming that Appellants want to protect "every drop of water." Thus, both Freeport and NMED clearly seek to avoid the actual issues posed by the Copper Rule—NMED by attacking Appellants' standing; Freeport by attacking Appellants' motives and setting up paper tigers.

Freeport and NMED's rigid interpretation of Tenneco is incorrect and their exclusive reliance on this one case is misplaced. As shown below, a stay of the Copper Rule is proper in

¹ An *ad hominem* argument attacks the person rather than addressing the actual issues.

this case because it will prevent irreparable harm, preserve the status quo, protect the public interest, and harm neither Freeport nor NMED in any way. Moreover, if the WQCC agrees to stay the Copper Rule pending appeal, it is not conceding that Appellants will prevail on the merits, nor will the WQCC's ability to defend the Rule on appeal be prejudiced by staying the Rule.

Freeport's wild speculation about Appellants' "true intent" is untrue, irrelevant, and contradicts express findings in the Statement of Reasons that *Freeport itself wrote* and that the WQCC adopted *in toto*. Appellants' concern for water quality and availability is not a *de facto* attack on the mining industry. Appellants also do not desire to protect "every drop of water" from pollution, as Freeport claims. Appellants seek to protect their interests in water, water rights, property, wildlife, agriculture, recreation, and the environment. They will accomplish this goal on appeal by showing that the Copper Rule threatens to irreparably injure these interests, all of which the Legislature intended to protect by enacting the Water Quality Act.

NMED's attack on Appellants' standing to appeal the Copper Rule is inappropriate, because NMED is not a party to the pending appeal and because WQCC has no jurisdiction or competence to decide Appellants' standing in the Court of Appeals. However, Appellants clearly do have standing to Appeal the Copper Rule, as set out in detail below. Accordingly, in deciding whether to stay the Copper Rule, the WQCC should disregard NMED's meritless and inappropriate argument regarding Appellants' standing. For all the reasons set out herein, the WQCC should stay the Copper Rule pending appeal.

ARGUMENT

1. The Statutory Standard for Granting a Stay Pending Appeal is “Good Cause.”

A. Tenneco is useful as guidance but it is not the sole authority nor is it binding on the WQCC or the Court of Appeals.

Relying exclusively on Tenneco Oil Company v. New Mexico Water Quality Control Commission, 1986-NMCA-033, 105 N.M. 708, 736 P.2d 986, Freeport argues that there “is no dispute that Appellants ... must legally and factually establish four factors to demonstrate good cause for granting the stay.” *Freeport Response at 3*. Freeport’s rigid interpretation of Tenneco is incorrect and its exclusive reliance on this one case is misplaced. Tenneco was decided nearly thirty years ago before the Legislature amended the WQA in 1993 to, among other things, give the WQCC and the Court of Appeals express statutory authority to grant stays pending appeal. NMSA 1978, § 74-6-7(C) (1993). Although the amendment incorporated the exhaustion requirement of Tenneco, it did not limit “good cause” to the four Tenneco factors cited by Freeport. “The law of statutory construction presumes that when the Legislature amends a statute, it intends to change the existing law.” N.M. Cattle Growers' Ass'n v. N.M. Water Quality Control Comm'n, 2013-NMCA-046, ¶8, 299 P.3d 436. Accordingly, the Tenneco factors may provide useful guidance, and Appellants will organize their argument and evidence around them, but they do not prohibit the WQCC from finding other “good cause” to stay regulations pending appeal.²

B. The standard for granting stays pending appeal is similar to that for granting preliminary injunctions in district court, and the purpose of both is to preserve the status quo pending a determination on the merits.

The standard for granting a stay pending appeal is virtually identical to that for granting a preliminary injunction. Labelbo v. Hymes, 1993-NMCA-010, ¶11, 115 N.M. 314, 850 P.2d 1017

² The same is true of the 1993 WQCC “Guidelines,” which in any case are out of date and have largely been ignored by WQCC and the parties throughout this proceeding and many others for years.

(setting out four factors for granting a preliminary injunction that mimic the Tenneco factors); Lopez v. Heckler, 713 F.2d 1432, 1435 (9th Cir. Cal. 1983) (“The standard for evaluating stays pending appeal is similar to that employed by district courts in deciding whether to grant a preliminary injunction”); Freeport Response at 4-5. The purpose of a preliminary injunction is not to determine the merits of a case, but to preserve the *status quo* pending a determination on the merits.

The object of the preliminary injunction is to preserve the *status quo* pending the litigation of the merits. This is quite different from finally determining the cause itself. ... A preliminary injunction does not determine the merits of the case, nor does it determine controverted facts.

Insure N.M., LLC v. McGonigle, 2000-NMCA-018, ¶9, 128 N.M. 611, 995 P.2d 1053; see also, e.g., AFSCME v. City of Albuquerque, 2013-NMCA-049, ¶29, 299 P.3d 441 (“Other courts have permitted a party to seek injunctive relief while preserving the right to arbitrate in unique circumstances, when failing to preserve the *status quo* would erode the arbitration process or render it meaningless”); Sierra Club v. Marsh, 714 F. Supp. 539, 593 (D. Me. 1989) (“The public interest is better served by a preliminary injunction that ensures maintenance of the *status quo*”). In this case, the WQCC should stay implementation of the Copper Rule, and thus preserve the *status quo*, until the serious legal questions raised by Appellants, the Attorney General, and Mr. Olson are resolved on appeal.³

Under the *status quo* that existed before WQCC adopted the Copper Rule, NMED could not approve any discharge permit application that would cause an exceedance of water quality standards in ground water having a total dissolved solids (“TDS”) concentration of 10,000

³ The numerous legal issues implicated by the Copper Rule have been raised by the Appellants, Mr. Olson, and the Attorney General in their written closing and oral arguments to the WQCC, which are incorporated herein by reference. In addition, Appellants, the Attorney General, and Mr. Olson filed docketing statements in the Court of Appeals raising the same and additional legal issues. The docketing statements were served on all parties and WQCC’s counsel and are also incorporated herein by reference.

milligrams per liter or less. See, e.g., § 20.6.2.3101 NMAC. Only two possible exceptions to the “no pollution” requirement are possible under the *status quo*: (1) the discharge permit applicant demonstrates that no Places of Withdrawal will be impaired by the proposed discharge; or (2) the applicant obtains a variance from the WQCC. In addition, NMED and WQCC would identify Places of Withdrawal using the seven criteria set out in the WQCC’s *Decision and Order on Remand* (“Tyrone Order on Remand”), In the Matter of: Appeal of Supplemental Discharge Permit for Closure (DP-1341) for Phelps Dodge Tyrone, Inc.⁴ (Doc. No. 51, NMAG Exhibit 1). By staying the Copper Rule the WQCC would preserve this *status quo* until the serious legal issues regarding the Rule are resolved on appeal.

C. The WQCC need not reverse itself on the merits in order to stay the Copper Rule.

Appellants are confident that they will prevail on appeal. However, in staying the Copper Rule pending appeal, the WQCC does not have to agree with Appellants or effectively reverse itself on the merits.

Although the Court cannot determine, at this time, if plaintiff is likely to prevail on the merits, it has determined on a sliding scale analysis of the criteria to be considered in whether or not to grant a preliminary injunction, and in particular, the criterion of irreparable injury, the equities overwhelmingly favor plaintiff’s application.

OKI Elec. Indus. Co. v. United States, 669 F. Supp. 480, 486-487 (Ct. Int’l Trade 1987). The “sliding scale analysis” referred to above is a variation of the Tenneco factors, described as follows:

In ruling on a motion for a stay pending appeal, we employ two interrelated legal tests that represent the outer reaches of a single continuum. ... At one end of the continuum, the moving party is required to show both a probability of success on the merits and the possibility of irreparable injury. ... At the other end of the continuum, the moving party must demonstrate that serious legal questions are

⁴ Phelps Dodge is now Freeport.

raised and that the balance of hardships tips sharply in its favor. These two formulations represent two points on a sliding scale in which the required degree of irreparable harm increases as the probability of success decreases. Further, we consider where the public interest lies separately from and in addition to whether the applicant [for stay] will be irreparably injured absent a stay.

Golden Gate Rest. Ass'n v. City of San Francisco, 512 F.3d 1112, 1115-1116 (9th Cir. Cal. 2008)

(internal citations and quotes omitted). The Tenth Circuit has developed a similar “modified” analysis in considering motions for preliminary injunction:

In order to receive a preliminary injunction, a plaintiff must establish the following four factors: (1) a substantial likelihood of success on the merits of the case; (2) irreparable injury to the movant if the preliminary injunction is denied; (3) the threatened injury to the movant outweighs the injury to the other party under the preliminary injunction; and (4) the injunction is not adverse to the public interest. ... If a plaintiff establishes that the latter three factors “tip strongly” in his or her favor, the likelihood of success inquiry is modified somewhat, and the plaintiff may establish likelihood of success “by showing that questions going to the merits are so serious, substantial, difficult, and doubtful as to make the issue ripe for litigation and deserving of more deliberate investigation.”

Valley Cmty. Pres. Comm'n v. Mineta, 373 F.3d 1078, 1083-1084 (10th Cir. N.M. 2004).

Neither Tenneco nor the WQCC Guidelines precludes WQCC from adopting the “sliding scale analysis” or “modified analysis” of the Ninth and Tenth Circuits, respectively, which are especially appropriate where an agency is being asked to stay its own decision. By granting a stay under these standards, the WQCC does not have to reverse itself on the merits or concede that Appellants are likely to prevail on appeal. It simply acknowledges the fact that Appellants have raised “serious legal questions.”

As evidenced in their closing arguments and docketing statement, Appellants have indeed “demonstrate[d] that serious legal questions are raised.” Id. At hearing and as outlined below, Appellants will further demonstrate that they and the public will suffer irreparable harm absent a stay and that the “balance of hardships tips sharply in [their] favor.” Id. Although permissible

under Golden Gate, Appellants are not relying on the mere possibility of irreparable harm but will show that such harm will certainly result if the Rule is not stayed pending appeal. Therefore, in order to preserve the *status quo* and avoid irreparable harm, the WQCC should grant the stay until the legal validity of the Copper Rule is resolved on appeal.

2. Appellants and the Public will Suffer Irreparable Harm if the Copper Rule is not Stayed Pending Appeal.

A. The Copper Rule threatens Appellants with irreparable harm in the form of environmental injury.

To be entitled to a stay, Appellants need only show the *threat* of irreparable harm.

Where injury is threatened, there need be no showing of the precise measured amount of actual harm. A showing of a serious threat of imminent harm is sufficient where such harm will result in irreparable injury.

Winrock Enters. v. House of Fabrics of N.M., Inc., 1978-NMSC-038, 16, 91 N.M. 661, 579 P.2d 787 (1978). Appellants and the public are threatened with several forms of imminent irreparable harm if the Copper Rule is not stayed pending appeal. The most obvious form of harm is environmental:

Environmental injury, by its nature, can seldom be adequately remedied by money damages and is often permanent or at least of long duration, i. e., irreparable. If such injury is sufficiently likely, therefore, the balance of harms will usually favor the issuance of an injunction to protect the environment.

Amoco Prod. Co. v. Vill. of Gambell, 480 U.S. 531, 545 (1987); see also, e.g., Nat'l Post Office Collaborative v. Donahoe, 2013 U.S. Dist. LEXIS 154679 (D. Conn. Oct. 28, 2013) (“courts have found irreparable harm and granted preliminary injunctions to prevent a wide array of environmental injuries, including those resulting from construction and development”) (citing Amoco and other cases); Friends of Sakonnet v. Dutra, 738 F. Supp. 623, 637 (D.R.I. 1990) (“If the pollution is allowed to resume flowing until a permanent solution is found and constructed, irreparable harm will result to the plaintiffs and the public”); Department of Environmental

Regulation v. Montco Research Products, Inc., 489 So. 2d 771, 774 (Fla. Dist. Ct. App. 5th Dist. 1986) (“When the express purpose of a statute is the protection of the public health, safety and welfare, irreparable harm is presumed”); California ex rel. State Air Resources Bd. v. Department of Navy, 431 F. Supp. 1271, 1294 (N.D. Cal. 1977) (“Clearly, however, pollution which violates standards approved by the EPA pursuant to its authority under the Act is, by definition, presumptively significant and irreparably harmful to health and welfare.”)

That the Copper Rule will cause environmental injury by permitting pollution of ground water cannot reasonably be contested. It is undisputed that: (1) the pollution and the sources of pollution at copper mines are “often permanent or at least of long duration”; (2) extensive ground water pollution exists at all three of Freeport’s mines in Grant County, New Mexico, and (3) the cause of the pollution at Freeport’s mines are discharges of acid mine drainage and other water contaminants from massive unlined stockpiles of ore, tailings and waste rock and open pits. It is further undisputed that the Copper Rule codifies the practice at Freeport’s mines of placing massive acid-generating stockpiles of ore, tailings and waste rock on the ground without an impermeable liner. The Copper Rule accommodates this practice, which caused pollution in the past and will inevitably cause more pollution in the future, by expressly allowing discharges of water contaminants from piles of unlined ore, tailings and waste rock and open pits to pollute ground water above standards. Once in place, these stockpiles cannot be removed or retrofitted with a liner, and therefore, their existence and the pollution they cause is irreparable. Nat’l Post Office Collaborative, 2013 U.S. Dist. LEXIS 154679 (“The environmental impacts that would result ... are certainly irreparable in that they cannot be undone.”)

The Copper Rule allows pollution on the condition that the polluted ground water is hydraulically contained through pit dewatering and interceptor wells. This gives rise to another

form of permanent environmental injury. It is uncontested fact that aquifers are continuous across property lines and that ground water is interconnected with surface water. As a result, the “pollution containment” pumping at copper mines, which is allowed to continue *in perpetuity* under the Rule, will deplete ground water supplies and base flow in streams. Mr. Kuipers will address this issue in his testimony at hearing concerning Copper Flat.⁵

B. The Copper Rule also threatens Appellants with irreparable harm in the form of non-environmental injuries.

Appellants and the public will suffer other forms of irreparable harm besides environmental injury. As conceded by Freeport and NMED, the only possible way that mining companies could lawfully pollute ground water prior to the Copper Rule was by (1) demonstrating that no Place of Withdrawal would be affected or by (2) obtaining a variance from the WQCC after a public hearing.⁶ On its face, the Copper Rule allows NMED to issue discharge permits that would cause ground water pollution without regard to Places of Withdrawal and without requiring dischargers to obtain variances. The Rule and Statement of Reasons also purport to overrule the WQCC’s Tyrone Order on Remand, which is currently on appeal and which established seven criteria for determining Places of Withdrawal pursuant to the Court of Appeals’ mandate in Phelps Dodge Tyrone, Inc. v. N.M. Water Quality Control Commission, 2006 NMCA 115. No prior notice of this potential impact of the Copper Rule was published.

First, by granting mining companies the right to pollute public ground water without a variance, the Copper Rule irreparably harms Appellants and the public by negating their

⁵ Freeport’s attack on Mr. Kuipers’ expertise is surprising. *Freeport Response at 16-17*. Mr. Kuipers is a professional engineer with extensive experience regarding all aspects of hardrock mining, including hydrological aspects. He has qualified as an expert to testify on hydrological issues before the WQCC and before other tribunals. Significantly, NMED’s lead witness, Adrian Brown also is not a hydrologist. Neither are Freeport’s two witnesses in the instant proceeding. Mr. Brown is an engineer like Mr. Kuipers, yet Freeport did not object to his extensive testimony on hydrological issues, presumably because Mr. Brown’s testimony was highly supportive of Freeport’s position that it has the right to pollute public ground water.

⁶ Despite its express agreement in the Tyrone Settlement to obtain variances for its numerous polluting facilities, Freeport now questions whether “pollution by variance” is lawful under the WQA.

statutory right to participate in site-specific variance proceedings in which the applicant bears the burden of showing that compliance with standards imposes an unreasonable burden. Wyland v. West Shore Sch. Dist., 52 A.3d 572, 583 (Pa. Commw. Ct. 2012) (“deprivation of a statutory right constitutes irreparable harm”). Second, the Rule and Statement of Reasons, without prior notice, purport to undermine the victory achieved by GRIP as a party in the WQCC Proceeding on Remand in the Tyrone Appeal, because they allow Freeport to pollute ground water without regard to Places of Withdrawal or the criteria devised by the WQCC for identifying Places of Withdrawal. Cf. New Energy Econ., Inc. v. Vanzi, 2012-NMSC-005, ¶27, 274 P.3d 53 (denying a litigant the right to defend its victory in an administrative proceeding constitutes irreparable harm); Martinez v. Maggiore (In re Northeastern N.M. Reg'l Landfill), 2003-NMCA-043, ¶¶10-13, 133 N.M. 472, 64 P.3d 499 (failure to comply with statutory notice requirements voids subsequent administrative actions). The Rule effectively elevates the use of water for mining over all other uses and allows companies like Freeport to preempt all other present and future uses of ground water.

A third type of non-environmental irreparable harm results from the undisputed fact that nearly twenty permit applications are currently pending before NMED. If Appellants and the public are forced to challenge the Copper Rule in multiple separate permitting actions during the pendency of the appeal, then they will suffer further irreparable harm:

Where the imminent harm or conduct is or will be of a continuous nature, the constant recurrence of which renders a remedy at law inadequate, except by a multiplicity of suits, then the injury is irreparable at law and relief by injunction is therefore appropriate.

Winrock Enters. v. House of Fabrics of N.M., Inc., 1978-NMSC-038, ¶16, 91 N.M. 661, 579 P.2d 787. To avoid the irreparable harm that will result if Appellants and the public are forced to

challenge the Copper Rule in multiple separate permitting actions, the WQCC should stay the Rule until its legality is finally determined in this single proceeding on appeal.

C. The irreparable harm threatened by the Copper Rule is certain and imminent.

Irreparable harm from the Copper Rule is both certain and imminent. On its face the Rule allows NMED to permit discharges that will cause ground water pollution above standards, and NMED and Freeport admit that processing under the Rule will commence immediately on nearly twenty permit applications unless the Rule is stayed pending appeal:

[The] Department ... staff has spent considerable time reviewing, commenting and preparing to issue draft permits pursuant to the Copper Rule effective December 1, 2013. Here, [NMED] has been prevented from issuing expired copper mine permits for approximately ten years due to litigation, legislation and rulemaking. If the rule is stayed, the pendency of the appeal before the Court of Appeals is such that the [NMED] will be further unable to renew expired permits at the Tyrone and Chino Copper Mines. *NMED Response at 10.*

The three Freeport companies operate three New Mexico copper mines, Chino, Tyrone and Cobre, which hold 20 separate ground water discharge permits issued under the [WQCC] ground water discharge permit regulations, 20.6.2.3101-3115 NMAC [referred to as the "general permitting rules"]. ... Seventeen of these discharge permits currently have applications for renewal and/or modification pending before the [NMED]. *Freeport Response at 2.*

Thus, unless the Rule is stayed, NMED intends immediately to begin processing multiple permits under the Copper Rule, which will cause the irreparable harm to Appellants and the public described herein.⁷

NMED and Freeport nevertheless argue that the Copper Rule might not cause any harm during the pendency of the appeal. They claim that permits might not be issued during the pendency of the appeal and that, if permits are issued, the resulting discharges might not pollute ground water above standards even though the Rule expressly allows standards in ground water to be exceeded. *Freeport Response at 18-19; NMED Response at 9-10.* In making these

⁷ The permit application for Copper Flat Mine, which is directly adjacent to Ladder Ranch, is also pending.

arguments, NMED and Freeport contradict themselves and the plain language of the Rule. As described above, it is undisputed that there are nearly twenty permit applications currently pending, and that NMED “has spent considerable time reviewing, commenting and preparing to issue draft permits pursuant to the Copper Rule effective December 1, 2013.” *NMED Response at 10* (emphasis added). It defies common sense to believe that these permits will not lead to ground water pollution, because it is undisputed that open pit copper mines cause pollution and the Rule expressly allows pollution.

3. **Staying the Copper Rule Pending Appeal will not Harm Freeport or NMED.**

If WQCC stays the Copper Rule pending appeal, neither Freeport nor NMED will suffer any harm whatsoever. Freeport is already operating under the general permitting rules and has been for decades. Indeed, NMED has allowed Freeport to operate for “ten years” on “expired permits” and it provides no reason why it could not continue doing so during the appeal. NMED concedes that it “could proceed with issuing permits under the general permitting rules,” although it “anticipate[s] challenges to the draft permit language will result in hearings, appeals and further litigation.” *NMED Response at 10-11*. Similarly, Freeport anticipates that “uncertainty” and “litigation” will result if the Copper Rule is stayed pending appeal. *Freeport Response at 24-25*. In both cases, however, the “anticipation” of future litigation is speculative and, as such, does not constitute cognizable harm. *Cattle Growers*, 2013-NMCA-046, ¶13 (“The fear of future lawsuits ... is hypothetical harm and does not establish that the Cattle Growers’ Association will be adversely affected.”)

Rather than provide evidence of some real harm, Freeport lashes out at Appellants with false, speculative and paranoid accusations. For example--

[The] true desires of Appellants [are] to gain new opportunities to oppose copper mines. Their desire is not to maintain the status quo, but to advance their

opportunities to block copper mining in New Mexico through the open ended variance hearing process. *Freeport Response at 22-23.*

[The] true intent of the Appellants [is] to attack copper mining in New Mexico
Freeport Response at 21

[Appellants'] obvious effort to force Freeport, other copper miners, the Department and the Commission into more litigation regarding permit actions.
Freeport Response at 25.

These baseless emotional statements are not relevant to any issue at hand. And they are also flatly contradicted by the WQCC's Order and Statement of Reasons ("SOR") in this case, *which Freeport itself wrote:*

All Parties agree that copper mining is a necessary activity and that it is important to the State of New Mexico to allow copper mining. Throughout the hearing there was a collective agreement by the Parties that open pit copper mining should not be prohibited in New Mexico.

SOR at 17 ¶77. Freeport's accusation about litigation is baseless. The record shows that Freeport has obtained two variances from WQCC and that no one—not Appellants or anyone else—opposed those variances. Moreover, it is Freeport and the mining industry that have been the chief proponents of litigation, not Appellants. See, e.g., N.M. Mining Ass'n v. Water Quality Control Comm'n, 2007-NMCA-084; N.M. Mining Ass'n v. N.M. Water Quality Control Comm'n, 2007-NMCA-010; Phelps Dodge Tyrone, Inc. v. N.M. Water Quality Control Comm'n, 2006-NMCA-115. Accordingly, the WQCC should disregard Freeport's *ad hominem* attacks on Appellants and simply decide the issue before it on the merits.

Finally, staying the Copper Rule pending appeal will not harm NMED's permitting process. The general permitting regulations NMED uses for all industries except dairies are quite general and allow NMED to request whatever relevant information it may need from discharge permit applicants. Therefore, even if the Copper Rule is stayed during the pending appeal, the parts of the Rule that do not allow water pollution could still be used by NMED and

applicants as guidance. For example, NMED could follow the timelines in the Rule and require applicants to comply with the submittal requirements of the Rule. These and other procedural aspects of the Rule do not in themselves cause water pollution because they basically codify NMED's prior practices.

4. The Public Interest in Clean Water Overwhelmingly Tips the Balance in Favor of Staying the Copper Rule Pending Appeal.

"There is substantial authority that when a case is brought pursuant to an environmental or public health statute ..., the primary focus shifts from irreparable harm to concern for the general public interest." Wilson v. Amoco Corp., 989 F. Supp. 1159, 1171 (D. Wyo. 1998).

Thus, although it is not appropriate to dispense with the required showing of irreparable harm, it is permissible as part of the traditional balancing process to lessen the weight attributable to that usually dispositive factor.

Id.; see also id. at 1179 ("citizens have a right to expect contamination-free groundwater").

In New Mexico it is difficult to overstate the profound interest that the public has in conserving and protecting water. The New Mexico Constitution declares that all water in New Mexico "belong[s] to the public and [is] subject to appropriation for beneficial use" N.M. Const. Art. XVI, § 2; NMSA 1978, §72-12-1 (declaring groundwater "to belong to the public and is subject to appropriation for beneficial use"); NMSA 1978, §72-12-18 (same). The Constitution also declares that "water and other natural resources of this state" are "of fundamental importance to the public interest, health, safety and the general welfare." N.M. Const. Art. XX, § 21. Public water in New Mexico is held in trust by the State for the benefit of the public. See, e.g., New Mexico v. GE, 467 F.3d 1223, 1243 (10th Cir. 2006) (holding that New Mexico has codified "the public trust doctrine as to groundwaters"). The pollution of public water in New Mexico is a criminal public nuisance, NMSA 1978, §30-8-2, and the Legislature has enacted numerous statutes to protect New Mexico's water from pollution. See, e.g., NMSA 1978, §§ 74-1-1

through 74-1-17 (Environmental Improvement Act); NMSA 1978, §§ 74-4-1 through 74-4-14 (Hazardous Waste Act); NMSA 1978, §§ 74-6-1 through 74-6-17 (Water Quality Act); NMSA 1978, §§ 74-9-1 through 74-9-100 (Solid Waste Act).

Because of the great importance placed on water in New Mexico, the Court of Appeals declared:

Water has constitutional significance in New Mexico. ... Its scarcity and overall importance in our semiarid state precludes our taking ... a casual view of water.

Bybee v. City of Albuquerque, 120 N.M. 17, 20 (Ct. App. 1995). In Kaiser Steel Corp. v. W. S. Ranch Co., the New Mexico Supreme Court declared:

Our entire state has only enough water to supply its most urgent needs. Water conservation and preservation is of utmost importance. Its utilization for maximum benefits is a requirement second to none, not only for progress, but for survival.

81 N.M. 414, 417, 467 P.2d 986, 989 (1970); see also, e.g., NMSA 1978, §74-1-12(A) (describing water as “the state’s most precious resource.”)

The public’s profound interest in protecting and conserving water substantially outweighs whatever interest Freeport and NMED have polluting water. Both NMED and Freeport will continue to operate as they have for decades, and neither claims that any jobs will be lost or other economic harm will ensue if the Copper Rule is stayed pending appeal. Accordingly, the WQCC should stay the Rule until the serious legal questions concerning the Rule are resolved on appeal.

5. Appellants’ Standing to Appeal the Copper Rule is Not Relevant to Appellants’ Motion to Stay the Copper Rule.

NMED devotes considerable effort arguing that Appellants lack standing to appeal the WQCC’s adoption of the Copper Rule. *NMED Response at 2-6*. This argument is frivolous.

The WQCC has no authority to decide Appellants’ standing in the Court of Appeals, and NMED has no legal right to question Appellants’ standing because it is not a party to any

pending appeal of the Copper Rule. If NMED wants to attack Appellants' standing, then it should do so in the proper forum by seeking to intervene in the appeals pending before the Court of Appeals and then filing an opposed motion to dismiss. As it stands, however, NMED is wasting the WQCC's and the parties' time and using WQCC as a mock court. Accordingly, WQCC must disregard NMED's misplaced attack on Appellants' standing.

6. Appellants have Standing to Appeal the Copper Rule.

Although the WQCC lacks jurisdiction to decide the issue, Appellants will nevertheless address the issue of standing since NMED has raised it. Furthermore, although it is not required for purposes of standing, Appellants can and hereby offer to provide evidence of the truth of the allegations below by live testimony at hearing or by affidavit.

A. Standing is established by allegations of present or future injury, which the WQCC must accept as true.

The purpose of requiring a plaintiff to show standing is to "insure that only those with a genuine and legitimate interest can participate in a proceeding." De Vargas Sav. & Loan Ass'n of Santa Fe v. Campbell, 1975-NMSC-026, ¶8, 87 N.M. 469, 535 P.2d 1320. In order "to attain standing in a suit arguing the unlawfulness of governmental action, the complainant must allege that he is injured in fact or is imminently threatened with injury, economically or otherwise." Id. at ¶15.

[S]tanding is not confined to those who show economic harm, as "aesthetic and environmental well-being, like economic well-being, are important ingredients of the quality of life in our society, and the fact that particular environmental interests are shared by the many rather than the few does not make them less deserving of legal protection through the judicial process." ... Also, once the party seeking review alleges he himself is among the injured, the extent of injury can be very slight.

Id. at ¶12; see also Ramirez v. City of Santa Fe, 1993-NMCA-049, ¶9, 115 N.M. 417, 852 P.2d 690 ("[a]n identifiable trifle is enough for standing to fight out a question of principle; the trifle

is the basis for standing and the principle supplies the motivation”). Appellants “need not be experts in hydrology nor have a sophisticated legal understanding ... in order to demonstrate ... injuries for purposes of standing, because [Appellants] need not prove the merits of their case in order to establish standing.” Johnson, 541 F. Supp. 2d at 174-175.

Indeed, a litigant can demonstrate standing merely by alleging “that he is faced with a real risk of future injury ... as a result of the challenged action or statute.” ACLU of N.M. v. City of Albuquerque, 2008-NMSC-045, 11, 144 N.M. 471, 188 P.3d 1222; De Vargas, 1975-NMSC-026, ¶12 (“New Mexico has always required allegations of direct injury to the complainant to confer standing”) (emphasis added); *id.* at ¶ 15 (“We hold that to attain standing in a suit arguing the unlawfulness of governmental action, the complainant must allege that he is injured in fact or is imminently threatened with injury, economically or otherwise”) (emphasis added). For purposes of standing, each of the litigant’s allegations of injury must be accepted as true. See, e.g., Chatterjee v. King, 2012-NMSC-019, 52, 280 P.3d 283. Thus, in an appeal in which Phelps Dodge and others launched a facial challenge to WQCC’s definition of “surface waters of the state,” general assertions of injury were sufficient to give industry appellants’ standing:

Appellants, New Mexico Mining Association, New Mexico Home Builders Association, New Mexico Oil & Gas Association, New Mexico Wool Growers, Inc., Chino Mines Company, and Phelps Dodge assert that they are ‘entities that have been adversely affected or represent persons that have been adversely affected’ by the WQCC’s adoption of the 2005 definition of surface waters of the State because they and their members ‘own and operate facilities and properties . . . where [there] exist various types of ponds, lagoons, ditches, channels, impoundments, and other areas where water sometimes accumulates or flows on the surface of the earth.’

N.M. Mining Ass’n v. Water Quality Control Comm’n, 2007-NMCA-084, 11, 142 N.M. 200, 164 P.3d 81. After accepting the appellants’ assertions of possible future injury, the Court of Appeals went on to decide the merits of their appeal. *Id.* The Equal Protection Clause of the Constitution

prohibits the imposition of a different standard on Appellants than that imposed on industry appellants.

B. The interests that Appellants seek to protect are within the “zone of interests” protected by the Water Quality Act.

NMED argues that Appellants’ interest in protecting water supplies and water rights from harm are not within the “zone of interests” protected under the Water Quality Act. This is not correct. *NMED Response at 5-6.*

First, the “zone of interests” test is not appropriate to determine standing to appeal a regulation, because a common basis for invalidating regulations is that the agency exceeded its statutory authority. *See, e.g., Public Serv. Co. v. N.M. Envtl. Improvement Bd., 1976-NMCA-039, ¶10, 89 N.M. 223, 549 P.2d 638* (“an administrative agency [cannot] amend or enlarge its authority under the guise of making rules and regulations.”) An *ultra vires* regulation can potentially affect a wide range of interests. For example, under the Water Quality Act, WQCC has no authority to “take away or modify the property rights in water,” NMSA 1978, § 74-6-12(A), yet the Copper Rule does just that by granting copper mining companies the right to maintain open pits in a dewatered state, *in perpetuity*. Because open pits at copper mines can be hundreds and even thousands of feet below the water table, the Copper Rule will effectively “take away” water rights that depend on the same source that is being drained by a perpetually dewatered open pit. Indeed, the dewatering of open pits at Freeport’s mines has drastically lowered the water table such that GRIP’s members who live adjacent to the mines have lost their domestic water supply. Perpetual dewatering of the open pit at Copper Flat similarly threatens to destroy the surface and ground water supplies at Ladder Ranch. Accordingly, Appellants have standing to appeal the *ultra vires* Copper Rule in order to protect the water and water rights on which they depend.

Second, the Water Quality Act protects a wide range of interests, including interests in public health, safety and welfare, property, water and water rights, domestic animals, wildlife, and the environment generally. Accordingly, the interests that Appellants seek to protect on appeal fall squarely “within the zone of interests to be protected or regulated by the statute ... in question.” De Vargas, 1975-NMSC-026, ¶10 (emphasis added).

In *De Vargas*, the “New Mexico Department of Banking (Supervisor) granted authority to the Los Alamos Building and Loan Association (LABL) to operate a branch office in the City and County of Santa Fe, New Mexico.” Id. at ¶ 1. “Four savings and loan associations (appellants) located in Santa Fe” appealed the Supervisor’s decision under a statute that gave a right to appeal to “any association or person aggrieved and directly affected by a decision.” Id. The appellants claimed to be “aggrieved” by the Supervisor’s decision because they would “suffer from undue competitive injury.” Id. at ¶16. Based on the statutory criteria that the Legislature made applicable to the Supervisor’s decision, the Court held that “competitive injury” was clearly within the zone to interests protected by the applicable statute. The Court so held because, among other things, the Supervisor had to consider “the probable volume of business and reasonable public demand in the community ... and the existing association or associations in the community.” Id. at ¶16.

Appellants’ are appealing the Copper Rule to protect their interests in health, safety, welfare, property, water, water rights, wildlife, and the environment, all of which are interests expressly protected by the Water Quality Act. For example, in “making standards” under the Act, the WQCC is required to consider “the use and value of the water for water supplies, propagation of fish and wildlife, recreational purposes and agricultural, industrial and other purposes.” NMSA 1978, 74-6-4(D). In adopting regulations, the WQCC is similarly required to

consider, among other things, the “character and degree of injury to or interference with ... [the] environment and property,” “successive uses [of water], including but not limited to domestic, commercial, industrial, pastoral, agricultural, wildlife and recreational uses,” and “property rights and accustomed uses.” NMSA 1978, 74-6-4(E). The Water Quality Act thus protects a wide range of interests, including public health, safety and welfare, property, water and water rights, domestic animals, wildlife, and the environment generally. See also NMSA 1978, 74-6-5(E) (protecting Places of Withdrawal); NMSA 1978, § 74-6-2(C) (defining “water pollution” as pollution that “may with reasonable probability injure human health, animal or plant life or property, or to unreasonably interfere with the public welfare or the use of property”) (emphasis added). The Act specifically protects the interests of those who, like TRP and members of the Appellant organizations, own property near discharging facilities. 20.6.2.3108 NMAC (requiring “written notice of the discharge ... to owners of record of all properties within a 1/3 mile distance from the boundary of the property where the discharge site is located”); see also 20.6.2.3109 NMAC (requiring denial of a permit application where the discharge would create “a hazard to public health [or] undue risk to property”).

C. Amigos Bravos and GRIP have standing to Appeal the Copper Rule.

Amigos Bravos and GRIP have standing to appeal the Copper Rule, both in their own right and as representatives of their members, because the Copper Rule threatens direct injury to both the organizations and their members. Forest Guardians v. Powell, 2001-NMCA-028, ¶¶17-21, 130 N.M. 368, 24 P.3d 803 (analyzing whether environmental group had direct or representational standing).

1. Amigos Bravos and GRIP have direct standing to appeal the Copper Rule.

Amigos Bravos and GRIP have existed for twenty-five and fifteen years, respectively. Both organizations were formed for the purpose of protecting the integrity and water quality of New Mexico's aquifers and rivers, and throughout their existence both have worked to do just that. Both Amigos Bravos and GRIP have participated in numerous permitting and abatement proceedings to protect water quality in New Mexico. Amigos Bravos has been a party to twenty-three published cases. GRIP was a party to two published cases and *amicus* in a third, and it is currently a party in the Tyrone Appeal, which the Copper Rule purports to "supersede." The great majority of GRIP's work centers on Freeport's mines in Grant County, New Mexico. Both Amigos Bravos and GRIP served on the Copper Rule Advisory Committee, and both advocated, developed and proposed an alternative rule that both complied with law and actually protected ground water from pollution by copper mines.

For the first time in New Mexico history, a state agency is purporting to legalize pollution of public ground water above public health standards. On its face the Copper Rule gives companies like Freeport the right to use and pollute public ground water, across the board, without requiring a site-specific variance and without any determination as to whether Places of Withdrawal may be impacted. Because surface water and ground water are interconnected, the Copper Rule also threatens surface waters with pollution. For example, ground water flowing from Copper Flat discharges into the Rio Grande.

Because it permits pollution of water supplies, the Copper Rule is directly contrary to the mission and work of Amigos Bravos and GRIP. If the Copper Rule is allowed to stand, the organizations' mission of protecting water quality from pollution and their decades of work to accomplish that mission will be destroyed. That other industries will seek the same right to

pollute New Mexico's water based on the precedent set by the Copper Rule is not some abstract possibility; it is an undisputed fact. The dairy industry, represented by the same attorneys who represent Freeport, have petitioned WQCC to adopt regulations that give dairies the same privilege of polluting New Mexico's limited public water supplies as is now enjoyed by the copper mining industry under the Copper Rule. Amigos Bravos was a party to the rulemaking in which WQCC adopted the existing dairy regulations, and the Copper Rule precedent threatens to render meaningless Amigos Bravos' successful efforts in that rulemaking. There is also a real threat that the current WQCC may extend the Copper Rule precedent to the Molycorp Mine in Questa, New Mexico, where Amigos Bravos has for years worked to prevent and abate water pollution.

These injuries and irreparable harm described above are more than sufficient to give Amigos Bravos and GRIP standing to challenge the legality of the Copper Rule in their own right. De Vargas, 1975-NMSC-026, ¶8 ("It seems fundamental that a plaintiff has standing to protect himself against injury as a result of unlawful governmental action, even in the absence of a controlling statute or constitutional provision.")

2. Amigos Bravos and GRIP have organizational standing to represent their members in the Copper Rule appeal.

Amigos Bravos and GRIP also have standing to represent their members.

An association has standing to bring suit on behalf of its members when: (a) its members would otherwise have standing to sue in their own right; (b) the interests it seeks to protect are germane to the organization's purpose; and (c) neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit.

Forest Guardians, 2001-NMCA-028, ¶21. Amigos Bravos and GRIP seek to protect public water supplies in New Mexico, which is central to both organizations' purpose. Neither the pending appeals nor the requested relief (*i.e.*, invalidation of the Copper Rule on appeal) requires

the participation of Amigos Bravos' or GRIP's members. Thus, elements (b) and (c) of the test for organizational standing are satisfied.

Both organizations also satisfy element (a). Amigos Bravos and GRIP have members who reside in Grant County, where Freeport's mines are located, and who depend on ground water supplies. Amigos Bravos has members in Sierra County, where the Copper Flat Mine is located, and who similarly depend on ground water. Some of Amigos Bravos' members also boat and raft in the Rio Grande downstream of Copper Flat Mine, which is directly upgradient from the Rio Grande and Caballo Reservoir. *NMED Response (Exhibit A)*.

It is undisputed that Freeport's mines generate acid mine drainage and other contaminants that have polluted the regional aquifer in Grant County, New Mexico, and that Copper Flat Mine has similar acid-generating potential. It is also undisputed that the Copper Rule depends on continual open pit dewatering and ground water pumping to "contain" polluted ground water in perpetuity, and substantial evidence in the record shows that open pit dewatering and ground-water pumping lowers the water table. And finally, it is undisputed that the Copper Rule allows construction of new water-polluting facilities at all copper mines, such as unlined waste rock stockpiles and tailings.

Both pollution and the lowering of the water table are key components of the Copper Rule and both pose an imminent threat to public water supplies in Grant County and Sierra County where permit applications are currently pending for Freeport's mines and Copper Flat. On its face the Rule does not limit either the duration or extent of pollution at copper mines, and the record contains substantial evidence showing that perfect "containment" of ground water pollution is impossible. Accordingly, the Copper Rule poses an imminent threat to the water

supplies used and enjoyed by GRIP's and Amigos Bravos' members. Thus, both organizations have standing to challenge the Copper Rule on appeal on behalf of their members.

D. TRP has standing to Appeal the Copper Rule.

TRP also has standing to appeal the Copper Rule. TRP owns Ladder Ranch, which is directly adjacent and to the north of Copper Flat Mine. On its face, the Copper Rule would allow pollution of ground water above public health standards, *in perpetuity*, at Copper Flat Mine. This pollution would occur in the same aquifer that serves as Ladder Ranch's water supply and on which numerous projects to raise and conserve bison, fish, wildlife, endangered species, and crops depend. The Copper Rule's reliance on ground water pumping to "contain" pollution, *in perpetuity*, poses an independent and direct threat to Ladder Ranch's ground and surface water supplies.

Based on one figure in a report that Shomaker and Associates, Inc. prepared on behalf of New Mexico Copper Corporation and entitled *Model of Groundwater Flow in the Animas Uplift and Palomas Basin, Copper Flat Project, Sierra County, New Mexico*, dated August 2013 (Groundwater Report), NMED's lawyers argues that "the Copper Flat mine is cross-gradient and down gradient to" Ladder Ranch. *NMED Response at 5*. NMED's lawyers appear to argue that pollution can never migrate "cross-gradient," which is clearly beyond their expertise. This argument is also contradicted by the record. First, Ladder Ranch includes land that is down-gradient from the Copper Flat Mine, and any migration of pollution onto any portion of Ladder Ranch would constitute a trespass. Snyder Ranches, Inc. v. Oil Conservation Comm'n of N.M., 1990-NMSC-090, 110 N.M. 637, 798 P.2d 587. Second, substantial and undisputed evidence in the record shows that anisotropy in hydraulic conductivity causes contaminant plumes to migrate cross-gradient. TR at 1559-1560. According to Adrian Brown Consultants, Inc. ("ABC"), the

Santa Fe Alluvium at Copper Flat Mine is ten times more conductive in the north-south direction than in the east-west direction. *Groundwater Impact Evaluation (September 9, 1996) at 17*; Exhibit A. Third, the Groundwater Report by Shomaker indicates that north-south trending faults act as barriers to eastwardly flow, and that a substantial ground water mound exists below the existing tailing pile at Copper Flat. *Groundwater Report at 18-21, 44-49*; Exhibit B. Both of these features and the anisotropy inferred by Mr. Brown's consulting firm can cause pollution from Copper Flat Mine to migrate "cross-gradient" to Ladder Ranch. Accordingly, TRP is adversely affected by the Copper Rule, because the Rule allows pollution above water quality standards, *in perpetuity*, at Copper Flat Mine.

As Mr. Kuipers will testify, the dewatering of the open pit at Copper Flat Mine poses a direct threat to wells and springs on Ladder Ranch, including Warm Springs. This same threat was recognized by Daniel B. Stephens and Associates (DBS):

Potential impacts to Warm Springs North and the Percha Box area in response to pit dewatering, as well as pit refilling rates, are of primary concern in evaluating likely consequences of the proposed operations.

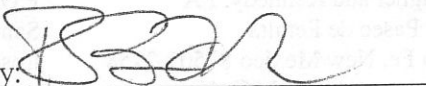
Environmental Evaluation Report, Copper Flat Project (February 6, 1998) at 7-5; Exhibit C. On its face, the Copper Rule permits ground water pollution in the "area of open pit hydrologic containment," and it is undisputed that the deposit at Copper Flat Mine has the potential to produce acid mine drainage ("AMD"). Under the Copper Rule, the "area of open pit hydrologic containment" can be induced by dewatering of the open pit and the combination of pollution and containment is allowed to exist *in perpetuity*. This "pollution and containment" aspect of the Copper Rule threatens to permanently destroy the springs and ground water supplies at Ladder Ranch, and therefore, the Copper Rule adversely affects TRP.

CONCLUSION

For the foregoing reasons, Appellants request WQCC to stay the Copper Rule pending appeal.

Respectfully submitted:

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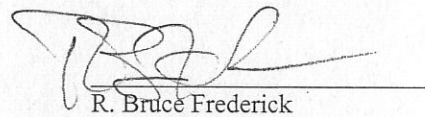
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situation remains saturated in the lower reaches; in this reach Las Animas Creek is a gaining stream (Davies and Spiegel, 1987).

The horizontal hydraulic conductivity has been measured in most of the critical areas for this model. However, calibration to the flow heads required some modification of these heads, and calibration required some setting of hydraulic conductivity in areas where no data existed, in particular west of the Animas Hills. The actions taken and the results of them are described below.

2. Santa Fe alluvium (east): The Santa Fe alluvium in the west section appears to have been reworked by the Rio Grande. Accordingly some preferential conductivity parallel to the river is expected on an areal basis. Calibration of the model required a reduction in the east-west hydraulic conductivity to 40% of one tenth the north-south conductivity, to achieve the head gradients observed in the area.

APPENDIX D

GROUNDWATER IMPACT EVALUATION

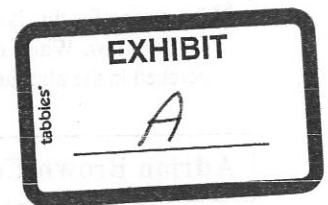
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September 9, 1996
Report 1356A/960909



alluvium remains saturated in the lower reaches; in this reach Las Animas Creek is a gaining stream (Davie and Spiegel, 1967).

D.5.3.3 Horizontal hydraulic conductivity

The horizontal hydraulic conductivity has been measured in most of the critical areas for this model. However, calibration to the known heads required some modification of these heads, and calibration required some setting of hydraulic conductivity in areas where no data existed, in particular west of the Animas Hills. The actions taken, and the results of them, are described below.

1. Santa Fe alluvium (east). The Santa Fe alluvium in the west section appears to have been reworked by the Rio Grande. Accordingly some preferential conductivity parallel to the river is expected on an areal basis⁵. Calibration of the model required a reduction in the east-west hydraulic conductivity to 448 ft/yr, or one tenth the north-south conductivity, to achieve the head gradients observed in this area.
2. Santa Fe alluvium (central, west, and tailings dam areas). In these areas, the east-west horizontal hydraulic conductivities also had to be reduced by a factor of ten from the measured values in order to simulate the observed head gradients; the north-south conductivities were left unchanged. The apparent explanation for the reduced east-west conductivity in this area is that there is known deep-seated north-south faulting in the basin bedrock. This faulting appears to have had the effect of dislocating the ancestral east-west gravel layers were probably emplaced by the fan deposition from the Black Range. Accordingly, the effective areal hydraulic conductivity in the east-west direction is actually lower than the north-south conductivity. It is also possible that these materials were reworked by the Rio Grande; this is considered less likely in this location.
3. Santa Fe alluvium (west of Animas Hills). No data exists for the conductivity of this material. Accordingly a value which allowed calibration of water levels such as to produce the northern Warm Spring was selected during calibration. The value was assumed to be isotropic.
4. Animas Creek Alluvium. The Animas Creek alluvium is highly permeable, and highly variable. Accordingly the conductivity is difficult to measure. A value was selected at calibration time which allowed this alluvium to remain saturated; variation of the conductivity of this material did not affect any of the modeled impact outcomes⁶.
5. Black Range bedrock. No data exists for the hydraulic conductivity of the bedrock in the Black Range, mainly Tertiary volcanics and Paleozoic sediments (Hedlund, 1977). The

⁵ The local hydraulic conductivity of this unit is expected to be isotropic. However, on the scale of the model elements, the effects of preferential ancestral stream channels in a north-south direction are most readily modeled by introducing anisotropy in the hydraulic conductivity for that element (rather than specifically modeling each ancestral channel). The model code allows this to be introduced in any direction, by requiring a major horizontal conductivity, a minor horizontal conductivity, and a direction for the major conductivity to be input. Isotropic materials have the major and minor conductivity set equal.

⁶ The reason for this is that any water which does not flow in the alluvium flows across the top of the alluvium in the model, as surface flow. While the model distinguishes between the two flow streams, whether water flows in the stream or essentially perched in the alluvium makes no difference to the impacts.

MODEL OF GROUNDWATER FLOW
IN THE ANIMAS UPLIFT AND PALOMAS BASIN,
COPPER FLAT PROJECT,
SIERRA COUNTY, NEW MEXICO

prepared by

Michael A. Jones

John W. Shomaker, PhD, CPG

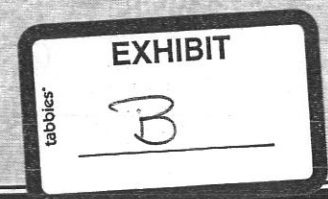
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August 22, 2013



North-south extensional faulting followed the formation of the Palomas Basin and deposition of the majority of the Santa Fe Group sediments. North-south faults within the Santa Fe Group Sediments have been mapped by Kelley et al. (unpublished, 1979), Seager et al. (1982), Harrison et al. (1993), and Hawley (unpublished, 2012).

North-south extensional faulting formed a mini-graben that filled with sediments that are coarser-grained than the Santa Fe Group sediments on either side; this mini graben is referred to here as the Palomas Graben. The Palomas Graben was identified as a productive aquifer, and the Copper Flat well field was completed within it in the mid-1970s (Figs. 4.2 and 4.3).

The faults forming the Palomas Graben are mapped from Percha Creek north to about Palomas Creek. However, similar north-south trending faults mapped by Harrison et al. (1993) suggest the Palomas Graben may continue as far north as the San Mateo Mountains (Hawley, personal communication, 2012).

A summary of faults shown on Figure 4.3, from west to east, follows:

1. West Animas Fault Trend – north-south fault that forms boundary between Animas half-graben and west side of Animas Uplift. Normal fault downthrown on the west side. Primary references Murray (1959); Hedlund (1975).
2. Animas Volcano Fault System – faults formed around andesite volcano, downthrown on exterior side of volcano. Primary references Harley (1934); Hedlund (1975); Dunn (1982).
3. East Animas Fault Trend – north-south normal fault that forms boundary between Animas Uplift and Palomas Basin. Downthrown on east side. Mapped as inferred fault at slightly different longitude by Seager et al. (1982) than by Hawley (2012). Key references include Harrison et al. (1993), Beaumont (2011), JSAI (2011a), and Hawley (2012). Work performed by JSAI (2011a) and Beaumont (2011) is based on analysis of well logs and lineaments identified from aerial photographs.
4. Saladone Tank Fault Trend – north-south normal fault down thrown on the east side. Mapped by Kelley et al. (1979), Seager et al. (1982), Harrison et al. (1993), and Hawley (2012).
5. West Palomas Graben Fault Trends – north-south normal faults downthrown on the east side. Forms western boundary of the Palomas Graben. Faults mapped by Kelley et al. (1979), Seager et al. (1982), Harrison et al. (1993), and Hawley (2012).
6. East Palomas Graben Fault Trends – north-south normal faults downthrown on the west side. Forms eastern boundary of the Palomas Graben. Faults mapped by Kelley et al. (1979), Seager et al. (1982), Harrison et al. (1993), and Hawley (2012).

4.2 Hydrogeology

Hydrogeologic units, aquifer characteristics, and recharge and discharge locations are discussed below for the three geologic subdivisions of the study area. A hydrogeologic map of the study area is shown with surface water features and mapped springs on Figure 4.4.

Some of the mapped springs, such as “Las Animas Creek Community Spring” (Murray, 1959) and “LA-52” (Davie and Spiegel, 1967), were identified long ago and may no longer flow. However, the locations identified within the Santa Fe Group lie along the main faults, demonstrating the structural controls on groundwater flow.

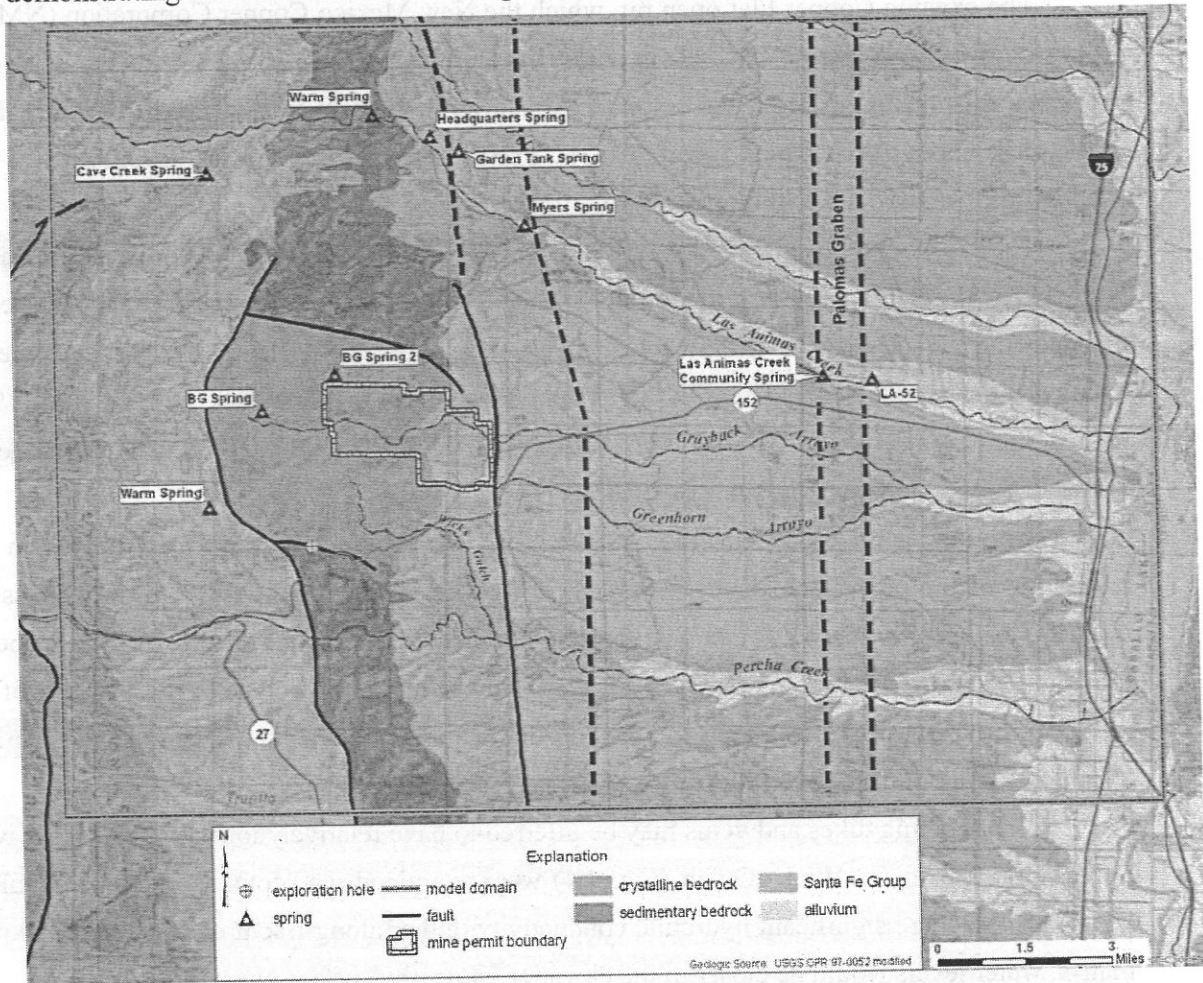


Figure 4.4. Hydrogeologic units and mapped spring locations.

4.2.1 Animas Uplift

Hydrogeologic units in the Animas Uplift include the relatively impermeable andesite and monzonite of the Copper Flat area and the relatively permeable carbonate rocks and other sedimentary rocks to the north and south of Copper Flat.

Groundwater recharge from local precipitation to the quartz monzonite and andesite is limited by low hydraulic conductivity. Recharge to the limestone outcrop areas north and south of the andesite is greater. Recharge to the limestone also includes infiltration of runoff generated at higher elevation, from the Las Animas Creek and Percha Creek watersheds.

Groundwater discharges from the limestone at the foot of the uplift, as spring flow (Fig. 4.4) and base flow to Percha and Las Animas Creeks. Groundwater discharges from the andesite as subsurface flow across the fault contacts with the Palomas Basin, and as evaporation from the open pit.

The existing Copper Flat open pit, which the New Mexico Copper Corporation (NMCC) proposes to expand, was excavated in 1982 by Quintana Minerals. The Quintana pit was excavated to a maximum depth corresponding to elevation 5,400 ft amsl. The current water level in the pit is about 5,439 ft amsl (April 2013). The pre-mining groundwater level (without lake evaporation) was about 5,450 ft amsl (JSAI, 2011b).

The low hydraulic conductivity of the quartz monzonite and andesite is reflected in the low pumping rates required in 1982 to dewater the Quintana pit. The dewatering rate required to maintain the greater-than 45-ft drawdown, in an excavation about 100 ft by 200 ft in area at maximum depth, was estimated at 22 gallons per minute (gpm) (Shomaker, 1993). SRK (1997) reports pumping rates up to 50 gpm. The range in reported dewatering rates was likely due to the variability of precipitation and runoff to the pit.

The low conductivity of the andesite and monzonite are confirmed below in the evaluation of the pit water balance (Sec. 5.4) and in the results of the 2011 pit-area pressure-injection testing (Sec. 5.4.1). It can be expected that the hydraulic conductivity of rock deeper in the andesite and quartz monzonite will have still lower hydraulic conductivity, because of the decrease in weathering effects and the closing of fractures with depth. The andesite acts as a hydrologic containment vessel for the existing and proposed open pits.

The radiating dikes and veins may be inferred to have relatively low conductivity as well. Several mine shafts in Wicks Gulch (Fig. 4.4) were examined, and found to be almost full of water; if there were significant hydraulic conductivity, either along fractures or through the rock matrix, water levels would be closer to the elevation of nearby surface channels.

Away from the andesite body, where the Animas Uplift consists of fractured, predominantly limestone and dolomite bedrock, it is likely that significant permeability has developed by the combination of fracturing and enlargement of fracture-openings by dissolution of carbonate minerals. This hypothesis is supported by the account of an air-drilled exploration hole (Fig. 4.4) in SW/4 SE/4 Sec. 3, T. 16 S., R. 7 W, which was abandoned because large water

production overcame the capacity of the compressor to continue circulation (Sonny Hale, personal communication). The well is close to the fault which offsets the andesite against the predominantly limestone Paleozoic-age section.

4.2.2 Graben West of Animas Uplift

Local precipitation, and runoff from the Black Range, provide groundwater recharge to the graben. Discharge occurs mainly as spring flow and possibly also as subsurface discharge to the Animas Uplift. Spring flow in the Warm Springs drainage discharges as base flow to Percha Creek. The emergence of water at Warm Springs (Fig. 4.4) at the eastern edge of the graben demonstrates that the andesite of the Animas Uplift acts at depth as a barrier to flow from the graben. Groundwater in the graben flows west to east across the Animas Uplift, south toward Percha Creek and north toward Las Animas Creek, flowing around the body of low-permeability andesite (Fig. 4.4).

The contrast between the chemical makeup of water from Warm Springs, as compared with water from wells and springs within the Animas Uplift (Newcomer and Finch, 1993), indicates that the source of Warm Springs water is not within the uplift, as might otherwise be inferred from the relative heads at the spring and at wells and springs within the uplift (Fig. 4.4).

4.2.3 Palomas Basin

Water recharges the Palomas Basin at its western edge, through alluvial fans at the edge of the Animas Uplift, including infiltration of runoff from Greenhorn and Grayback Arroyos and as infiltration of base flow and runoff from the upper catchments of Las Animas and Percha Creeks. Groundwater flows east toward the Rio Grande and Caballo Lake. Besides discharging to the Rio Grande and Caballo, groundwater discharges by pumping, from flowing wells, and as evapotranspiration from irrigated and riparian vegetated areas along Las Animas and Percha Creeks.

The principal water-bearing sediments of the Palomas Basin are (1) alluvial-fan deposits, and fluvial sands and gravels of the Santa Fe Group, and (2) alluvium in the inner valleys of the Rio Grande and principal tributaries (Hawley and Kennedy, 2004).

Davie and Spiegel (1967, p. 9) describe the Santa Fe Group in Las Animas Creek area as consisting of (a) an alluvial fan facies, interfingering eastward with (b) a clay facies, possibly representing the distal or deltaic beds of the alluvial fan facies, which in turn interfingers with (c) an axial river facies consisting of well-sorted sand and gravel containing well-rounded quartzite pebbles. The sediments are stratified and in general dip to the east.

Geologic logs from wells along Las Animas Creek provide evidence that the coarse-grained sediments in the Palomas Graben are overlain by a clay layer that creates perched groundwater conditions in the alluvium along Animas Creek.

6.2 Aquifer Parameters

Hydrogeologic units and fault barriers represented in each model layer are shown for layers 1 and 2 on Figures 6.2 and 6.3, and for layers 3 and 4 Figures 6.4 and 6.5. Modeled aquifer parameters for each unit are shown on Table 6.1. Conductances of modeled fault barriers are shown on Table 6.2.

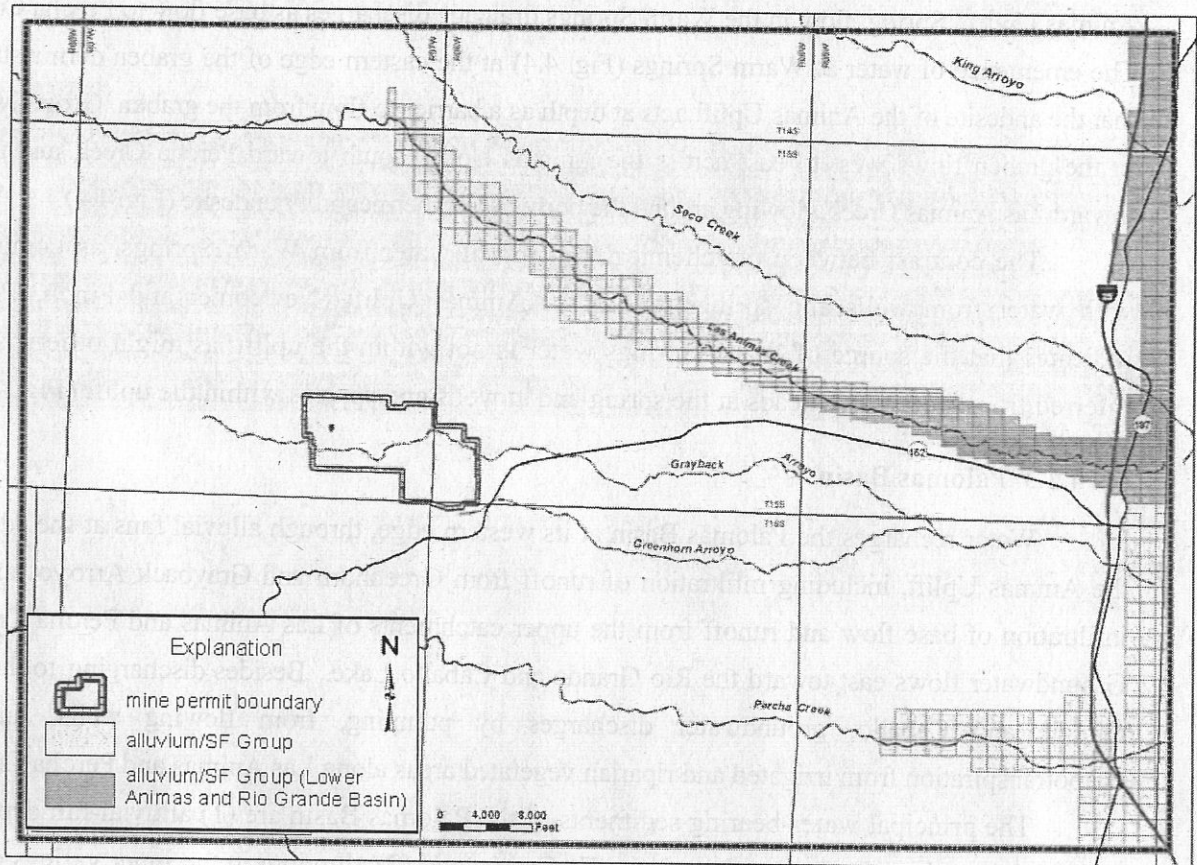


Figure 6.2. Layer 1 hydrogeologic zones

The layer 1 zones shown on Figure 6.2 include the shallow aquifer alluvium-SFG package along Las Animas Creek and a second, thicker zone along lower Animas, lower Percha and the Rio Grande Valley. Modeled aquifer parameters are shown on Table 6.1.

The modeled aquifer parameters (Table 6.1) include a high-transmissivity zone representing the Palomas Graben (Figs. 6.3, 4, and 5). The 2012 aquifer test results and subsequent model calibration further support the existence of the feature.

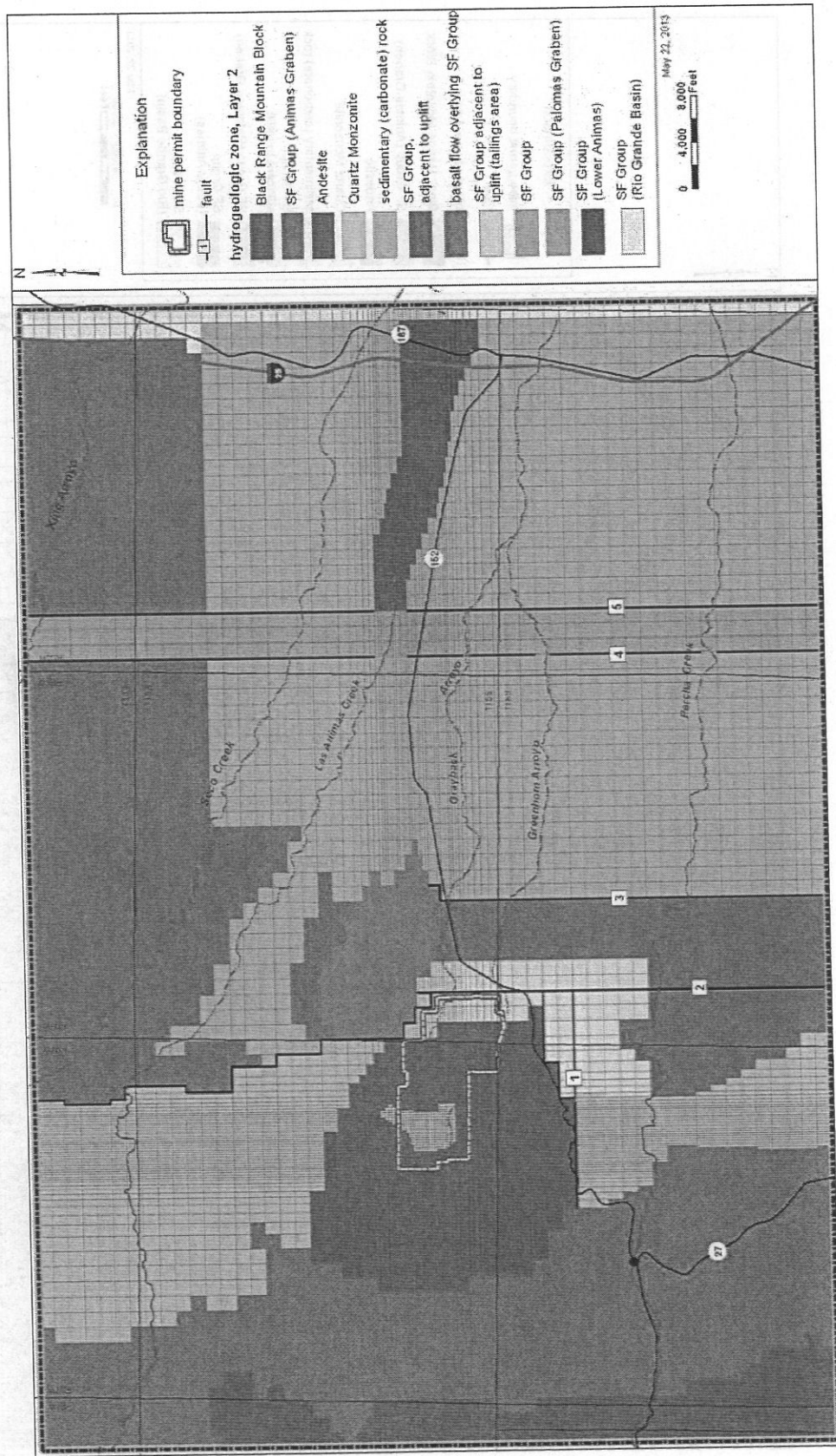
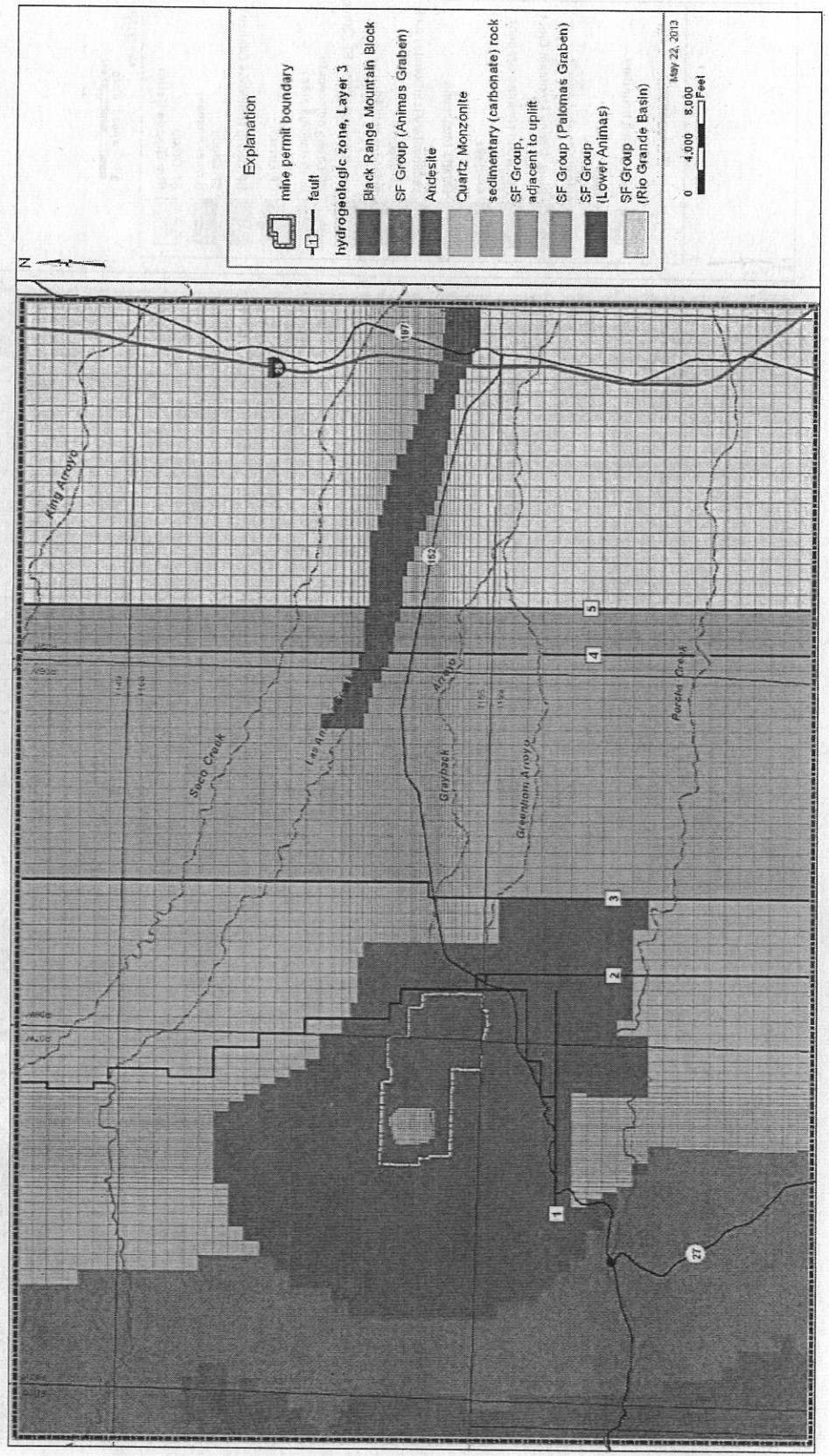


Figure 6.3. Layer 2 hydrogeologic zones.



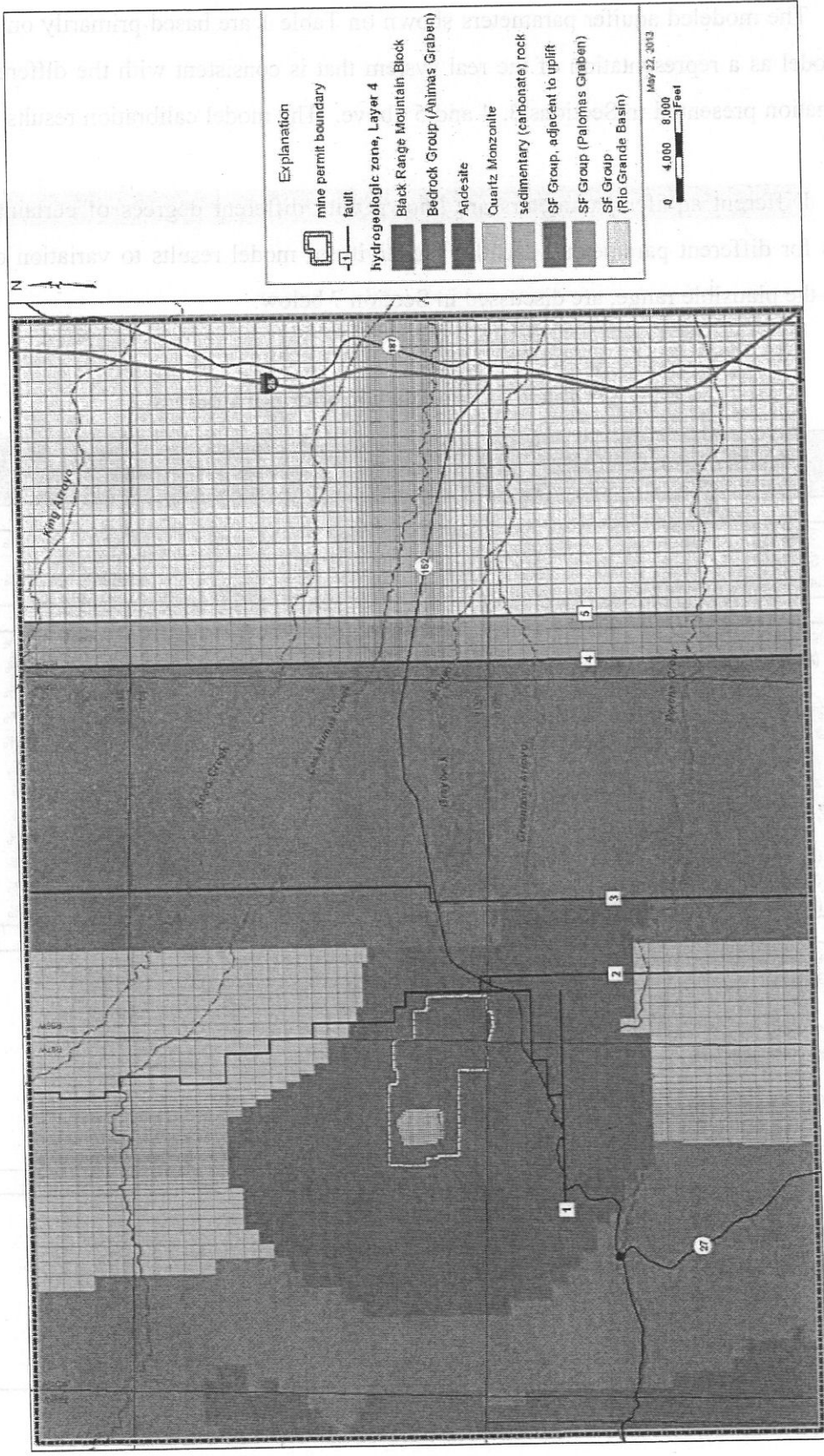


Figure 6.5. Layer 4 hydrogeologic zones.

The modeled aquifer parameters shown on Table 1 are based primarily on calibration of the model as a representation of the real system that is consistent with the different sources of information presented in Sections 3, 4 and 5 above. The model calibration results are presented below.

Different aquifer parameters are known with different degrees of certainty. Plausible ranges for different parameters, and the sensitivity of model results to variation of parameters within the plausible range, are discussed in Section 7 below.

Table 6.1. Modeled aquifer parameters

Hydrogeologic Unit	Transmissivity (ft ² /dy)	Saturated Thickness (ft)	Hydraulic Conductivity (ft/dy)	Vertical Anisotropy (ratio)	Specific Yield (%)	Storage Coefficient (%)
Layer 1						
Alluvium / SF Group	2,400	100	24,000	2.50E-04	10%	
Alluvium / SF Group (Lower Animas and Rio Grande Basin)	10,000	200	50,000	1.60E-04	10%	
Layer 2						
Black Range Mountain Block	2	1,000	0.002	0.01	0.1%	0.1%
SF Group (Animas Graben)	500	500	1,000	0.01	10%	10%
Andesite	2	1,000	0.002	0.01	0.1%	0.1%
Quartz Monzonite	2	1,000	0.002	0.01	0.1%	0.1%
Sedimentary (carbonate) rock	80	1,000	0.080	0.01	0.5%	0.5%
SF Group adjacent to uplift, edge of basin	200	1,000	0.200	1.0	5%	5%
SF Group adjacent to uplift (Upper Animas)	40	200	0.200	0.01	5%	5%
Basalt flow overlying SF Group	0.2	200	0.001	0.01	1%	1%
SF Group	900	1,000	0.900	0.01	10%	0.1%
SF Group (Palomas Graben)	10,000	1000	10,000	1.0	10%	0.2%
SF Group (Lower Animas)	20,000	1,000	20,000	0.01	10%	0.1%
SF Group (Rio Grande Basin)	20,000	1000	20,000	1.0	10%	0.1%
Layer 3						
Black Range Mountain Block	2	2,000	0.001	0.01		0.01%
Bedrock (Graben)	700	1,000	0.700	0.01		0.01%
Andesite	2	2,000	0.001	0.01		0.01%
Quartz Monzonite	2	2,000	0.001	0.01		0.01%
Sedimentary (carbonate) rock	100	2,000	0.050	0.01		0.01%
SF Group, adjacent to uplift	400	2,000	0.200	0.01		0.4%
SF Group (Palomas Graben))	8,000	2,000	4,000	1.0		0.4%
SF Group, lower Animas	10,000	1,000	10,000	0.01		0.1%
SF Group (Rio Grande Basin)	800	2,000	0.400	0.01		0.4%
Layer 4						
Black Range Mountain Block	3	3,000	0.001	0.01		0.01%
Bedrock (Graben)	100	2,000	0.050	0.01		0.01%
Andesite	3	3,000	0.001	0.01		0.01%
Quartz Monzonite	3	3,000	0.001	0.01		0.01%
Sedimentary (carbonate) rock	150	3,000	0.050	0.01		0.01%
SF Group adjacent to uplift	100	2,000	0.050	0.01		0.01%
SF Group (Palomas Graben)	2,000	3,000	0.667	0.01		1%
SF Group (Rio Grande Basin)	2,000	3,000	0.667	0.01		0.6%

The modeled fault barriers are based on geologic interpretation, on model calibration and on results of the 2012 aquifer test. The barriers mainly represent a series of parallel north-south trending faults (Hawley, personal communication, 2012). The barriers shown on Figures 6.3 through 6.5 are simulated with conductance (transmissivity / fault thickness) shown on Table 6.2.

The fault barriers include (Fig. 6.3):

1. A fault along the south side of the andesite cone, separating andesite from carbonate rock (Animas volcano fault system).
2. The mountain front fault (East Animas fault trend), generally following the bedrock / SFG contact, but running east of an embayment of SFG in the area of the 1982 tailings impoundment.
3. A parallel fault, east of the mountain front (Saladone Tank fault trend).
4. The west boundary of the Palomas Graben (West Palomas Graben Fault trend).
5. The east boundary of the Palomas Graben (East Palomas Graben Fault trend).

Table 6.2. Modeled fault barrier conductance

	fault	section	layer 2 conductance (ft/day)	layers 3-4 conductance (ft/day)
1.	andesite south boundary		1.0E-04	2.0E-05
2.	mountain-front fault	north	8.0E-02	1.2E-01
		mountain front center: andesite, TSF embayment	5.0E-03	1.0E-10
		south	5.0E-08	2.0E-07
3.	east of mountain front		1.0E-03	1.0E-03
4.	Palomas Graben west		1.0E-08	1.0E-08
5.	Palomas Graben east		1.0E+00	1.0E+00

Environmental Evaluation Report Copper Flat Project

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- The hydraulic conductivity of the alluvium applied by ABC in the model is 110,000 ft/yr (301 ft/d), which appears low relative to aquifer tests conducted at the Saladone Well and Shipping Pen Well on the Ladder Ranch, where hydraulic conductivities as high as 476,000 ft/yr (1,300 ft/d) were calculated.
- Although the Las Animas Creek aquifer test provides useful data concerning the groundwater flow system north of the production well field, the test does not provide conclusive evidence that the Las Animas Creek aquifer will not be impacted by long-term withdrawals for mining purposes.

In summary, ABC has not provided sufficient information for DBS&A to make a sound determination concerning simulated impacts to Las Animas Creek, and we believe that simulated impacts to the Rio Grande are likely in error.

7.1.2 Recommendations for Future Estimates

In light of the above summary and the detailed comments presented in Section 2, the following recommendations are provided with regard to estimating the effects of the pit and the production well field on surface water and groundwater.

7.1.2.1 Pit Dewatering and Refilling

Potential impacts to Warm Springs North and the Percha Box area in response to pit dewatering, as well as pit refilling rates, are of primary concern in evaluating likely consequences of the proposed operations. Accordingly, DBS&A recommends that two additional, more conservative simulations using the ABC model be performed to assess (1) the potential extent of the cone of depression caused by pit dewatering during mining operations and (2) the rate of pit refilling once operations cease. In both runs, three changes to input parameters should be made concurrently, as described in the following paragraphs.

In the first run, to reflect the middle range of observed values, the hydraulic conductivity of the andesite/monzonite should be changed from 1 to 25 ft/yr, and the specific storage for the andesite/monzonite in model layer one should be changed from 1.45×10^{-4} to 4.83×10^{-5} /ft,

The hydraulic conductivity of the alluvium reported by AEC in the model is 100,000 gpd/ft, which appears low relative to typical values computed at the Saylor's Well and Shipping Run Well on the Ladder Ranch, where hydraulic conductivities as high as 478,000 gpd/ft (300 ft/d) were calculated.

Although the Las Animas Creek aquifer test provides useful data concerning the groundwater flow system north of the proposed well field, the test does not provide conclusive evidence that the Las Animas Creek aquifer will not be impacted by long-term well fields for mining purposes.

In summary, AEC has not provided sufficient information for DSSA to make a sound determination concerning potential impacts to Las Animas Creek, and we believe that potential impacts to the Rio Grande are likely in error.

2.1.2. Recommendations for Future Estimates

In part 6, we leave summary and the detailed comments presented in Section 2.1.2. The following recommendations are provided with regard to estimating the effects of the PL and the production well field on surface water and groundwater:

2.1.2.1. PL Development and Permitting

Potential impacts to Warm Springs from the Fitch's Box area responses to PL development, as well as PL timing, size, and placement, should be evaluated in the context of the proposed operations. Additionally, DSSA recommends that two additional more conservative simulations using the AEC model be performed to assess (1) the potential extent of the depletion caused by PL operation during mining operations and (2) the rate of PL depletion once operations cease. In both cases, these changes to input parameters should be made conservatively as described in the following paragraphs:

First, to limit the effect of the PL on the range of observed values, the hydraulic conductivity of the PL should be estimated as a range from 1 to 25 ft/d, and the specific storage for the PL should be estimated in the model from 1×10^{-4} to 4×10^{-4} .