STATE OF NEW MEXICO
BEFORE THE WATER QUALITY CONTROL COMMISSION

IN THE MATTER OF:	)	
THE PETITION FOR A HEARING ON	)	**Docket No.**
DISCHARGE PERMIT NO. DP-1840	)	**WQCC-19-02(A)**
FOR THE COPPER FLAT MINE,	)	
	)	
TURNER RANCH PROPERTIES, L.P.,	)	
HILLSBORO PITCHFORK RANCH, LLC,	)	
AND GILA RESOURCES INFORMATION	)	
PROJECT,	)	
	)	
Petitioners.	)	
	)	

JOINT OPENING BRIEF OF PETITIONERS
TURNER RANCH PROPERTIES, L.P., HILLSBORO PITCHFORK RANCH, LLC,
AND GILA RESOURCES INFORMATION PROJECT

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The Petitioners submitting this Opening Brief are Turner Ranch Properties, L.P., owner of the Ladder Ranch; Hillsboro Pitchfork Ranch, LLC, owner of the Hillsboro Pitchfork Ranch; and the Gila Resources Information Project (respectively, the "Ranches" and "GRIP"). These Petitioners seek review of the groundwater discharge permit, DP-1840, that the New Mexico Environment Department ("Department") Secretary issued on December 19, 2018 to New Mexico Copper Corporation ("N.M. Copper Corp."), which authorizes the discharge into groundwater of pollutants from various proposed facilities at the Copper Flat Mine located near Hillsboro, in Sierra County, New Mexico. The Department issued the permit under the New Mexico Water Quality Act ("WQA"), NMSA 1978, §§ 74-6-1 to 74-6-17 (1993), and the Water Quality Regulations, 20.6.2 NMAC, and the Copper Mine Regulations, 20.6.7 NMAC, both adopted under the WQA. The Ranches and GRIP submit this brief under the Water Quality Control Commission's Adjudicatory Procedures, 20.1.3.16.A(4)(a) NMAC, and the Hearing Officer's Scheduling Order dated May 17, 2019, as well as the WQA and regulations.

The permit authorizes the discharge of up to 25,264,000 gallons per day of mine tailings, process water, impacted stormwater, and domestic wastewater to a lined tailing impoundment. It also authorizes an indeterminate quantity of mine influenced water from a large open pit, waste rock piles, ore stockpiles, mineral processing units, process water impoundments, tanks, pipelines, ditches, sumps, and other mine facilities. The permit establishes a closure plan intended to prevent and abate pollution of ground water at the Copper Flat Mine during and after closure. The permit also establishes financial assurance for closure, although the amount of financial assurance and the form of financial assurance has not yet been determined.

As described in greater detail in the Summary of Proceedings section below, the Department held a hearing on the proposed permit from September 24 through September 28, 2018, in Truth or Consequences, New Mexico. The Hearing Officer issued her report on December 3, 2018. Although she recommended that the permit be issued, she expressed reservations about whether the permit would cause an "undue risk to property," which is grounds for denying the permit. She made no recommendation on this issue, leaving it up to the Secretary to decide. The (former) Secretary issued the discharge permit, with a brief order, on December 19, 2018. The Ranches and GRIP filed with the Commission a petition for review of the discharge permit on January 18, 2019. We object to the permit as issued for five reasons: 1) the Department erroneously concluded that the pit lake that will form at the mine will not be a surface water of the State; 2) approval of the permit is based on the assumption that the andesite bedrock that underlies a large portion of the mine is unfractured and has a very low hydraulic conductivity, although the andesite has been poorly characterized; 3) the permit would pose an "undue risk to property"; 4) the groundwater monitoring system under the permit is inadequate to detect potential contamination; and 5) the permit does not require adequate financial assurance. We respectfully urge the Commission to reverse the Secretary's decision approving the permit and remand the matter to the Secretary with instructions to deny the permit or, at a minimum, to revise some of the permit conditions.

I. THE WATER QUALITY ACT AND THE REGULATIONS

A. THE WATER QUALITY ACT

The New Mexico Legislature enacted the WQA in 1967. The purpose of the WQA is "to abate and prevent water pollution." *Bokum Res. Corp. v. N.M. Water Quality Control Comm'n*, 1979-NMSC-090, ¶ 59, 93 N.M. 546, 555, 603 P.2d 285, 294. The WQA created the Commission. NMSA 1978, § 74-6-3. The WQA authorizes the Commission to "adopt water quality standards for

surface and ground waters of the state." NMSA 1978, § 74-6-4(D). The standards, at a minimum, must "protect the public health or welfare, enhance the quality of water, and serve the purposes of the [WQA]." *Id.* The WQA also authorizes the Commission to adopt regulations "to prevent or abate water pollution in the state." NMSA 1978, § 74-6-4(E).

The WQA authorizes the Commission to adopt regulations requiring persons "to obtain from [the Department] a permit for the discharge of any water contaminant." NMSA 1978, § 74-6-5(A). The WQA further authorizes the Commission to adopt regulations "for the operation and maintenance of the permitted facility, including requirements, as may be necessary or desirable, that relate to continuity of operation, personnel training, and financial responsibility, including financial responsibility for corrective action." NMSA 1978, § 74-6-5(H). The WQA authorizes the Commission to adopt regulations that "impose reasonable conditions on permits" requiring permittees to conduct monitoring and sampling, to keep records, to provide information to the Department, and to notify the Department of changes in the discharge. NMSA 1978, § 74-6-5(J). As amended in 2009, the WQA requires the Commission to adopt regulations specific to the copper industry. NMSA 1978, § 74-6-4(K).

The WQA also requires public participation in permitting decisions. It requires the Commission to adopt regulations requiring notice to the public of permit applications. NMSA 1978, § 74-6-5(F). The WQA provides that "[n]o ruling shall be made on any application for a permit without opportunity for a public hearing at which all interested persons shall be given a reasonable chance to submit evidence, data, views, or arguments orally or in writing and to examine witnesses testifying at the hearing." NMSA 1978, § 74-6-5(G).

B. The Water Quality Regulations

In accordance with the WQA, the Commission has adopted water quality standards and regulations to protect groundwater and surface water. 20.6.2 NMAC. The express purpose of the groundwater regulations is "to protect all ground water of the state of New Mexico which has an existing concentration of 10,000 milligrams per liter or less [total dissolved solids ("TDS")], for present and potential future use as domestic and agricultural water supply." 20.6.2.3101.A NMAC.

The Commission has adopted regulations for groundwater discharge permits. 20.6.2.3101-3114 NMAC. The regulations provide that "no person shall cause or allow effluent or leachate to discharge so that it may move directly or indirectly into ground water unless he is discharging pursuant to a discharge plan approved by the [Department] secretary." 20.6.2.3104 NMAC. In the case of copper mine facilities, however, the general permit requirements are partially eclipsed by the permit requirements of the Copper Mine Regulations, discussed below.

The Commission has also adopted water quality standards for ground water with concentrations of 10,000 milligrams per liter or less of TDS. The regulations set maximum numerical standards for 46 contaminants for protection of human health; maximum numerical standards for 9 contaminants and a range for pH for protection of domestic water supplies; and maximum numerical standards for five contaminants for protection of water for irrigation use. 20.6.2.3103.A(1), B, C NMAC. The regulations also set a narrative standard for some 99 contaminants that are designated as "toxic pollutants." 20.6.2.7.T(2) NMAC; 20.6.2.3103.A(2) NMAC.

The Commission has adopted regulations requiring abatement of contaminated groundwater and surface water. 20.6.2.4101-4115 NMAC. The purpose of the abatement regulations is to "[a]bate pollution of subsurface water so that all ground water of the state of New Mexico which has

a background concentration of 10,000 mg/L or less TDS, is either remediated or protected for use as domestic and agricultural water supply." 20.6.2.4101.A(1) NMAC.

Finally, the Commission has adopted regulations for public participation in discharge permit proceedings. 20.6.2.3108 NMAC. The regulations require public notice of an initial permit application within 30 days after the application is administratively complete (sometimes referred to as "PN 1"). 20.6.2.3108.B NMAC. They require a second public notice of the proposed approval or disapproval of the permit within 60 days after the application is administratively complete and all required technical information is available (sometimes referred to as "PN 2"). 20.6.2.3108.H NMAC. The regulations require a period of at least 30 days during which members of the public can submit comments and request a hearing. 20.6.2.3108.M NMAC. The Department must hold a hearing if there is "substantial public interest." *Id.* The regulations also specify procedures for a public hearing. 20.6.2.3110 NMAC.

C. The Copper Mine Regulations

In accordance with the 2009 amendments to the WQA, the Commission adopted the Copper Mine Regulations in 2013. 20.6.7 NMAC. The purpose of the Copper Mine Regulations is to supplement the water quality regulations "to control discharges of water contaminants specific to copper mine facilities and their operations *to prevent water pollution.*" 20.6.7.6 NMAC (emphasis added). In simple terms, the Copper Mine Regulations establish the groundwater discharge permit requirements for copper mines.

The Copper Mine Regulations have been very controversial, particularly the provisions that allow, rather dubiously, groundwater to be contaminated in excess of standards within an "area of open pit hydrologic containment." 20.6.7.7.B(5) NMAC. Nevertheless, the Copper Mine

Regulations were upheld by the New Mexico Supreme Court. *Gila Res. Info. Project v. N.M. Water Quality Control Comm'n*, 2018-NMSC-025, 417 P.3d 369 (*GRIP*).

Mirroring the Water Quality Regulations, the Copper Mine Regulations provide that "no person shall discharge effluent or leachate from a copper mine facility so that it may move directly or indirectly into ground water without a discharging permit approved by the [D]epartment." 20.6.2.7.8.A NMAC. The regulations specify in some detail the procedures for a copper mine facility to submit to the Department an application for a discharge permit. 20.6.7.10 NMAC. The regulations also specify the technical information that must be included in a permit application. 20.6.7.11 NMAC. Within 90 days after determining that an application is technically complete, the Department is required to publish a public notice proposing either to approve or to deny the permit. 20.6.7.10.H NMAC. Members of the public may comment on the proposed approval or denial, and may request a hearing. *Id.* The regulations provide that the Department must approve the discharge permit if "it poses neither a hazard to public health nor undue risk to property," and if it meets the requirements of the Copper Mine Regulations. 20.6.7.10.J NMAC.

The Copper Mine Regulations include technical requirements for all major facilities at copper mines, including waste rock piles, 20.6.7.21 NMAC; copper ore crushing and milling facilities and tailings impoundments, 20.6.7.22 NMAC; pipelines and tanks, 20.6.7.23 NMAC; open pits, 20.6.7.24 NMAC; and truck and equipment washing facilities, 20.6.7.26 NMAC. The regulations also include detailed requirements for groundwater and surface water monitoring. 20.6.7.28 NMAC. The regulations include contingency requirements in the event that groundwater quality standards are exceeded, a spill or other unauthorized discharge of contaminants occurs, a tailings impoundment structure is compromised, or any of a variety of other things goes wrong. 20.6.7.30 NMAC. The

regulations include requirements for a closure plan. 20.6.7.33 NMAC. Finally, the regulations require the operator to obtain financial assurance for closure. 20.6.7.11.U NMAC.

The Copper Mine Regulations authorize the Department to impose conditions on discharge permits according to the applicable substantive requirements of the regulations. 20.6.7.10.H NMAC. Moreover, the regulations authorize the Department to impose additional conditions on permits that go beyond the substantive requirements of the regulations. If it imposes any such additional conditions, the Department must prepare a written explanation of the reasons for the condition. The Department must make the statement available for public review and comment when it proposes to approve the permit. 20.6.7.10.I NMAC.

D. The Surface Water Standards

Also under the authority of the WQA, the Commission has adopted Standards for Interstate and Intrastate Surface Waters. 20.6.4 NMAC. The Surface Water Standards consist of the designated uses of surface waters of the State, the water quality criteria necessary to protect those uses, and an antidegradation policy. 20.6.4.6.A NMAC. Water quality "criteria" are expressed as a constituent concentrations or narrative standards. 20.6.4.7.C(8) NMAC. The standards apply to all "surface waters of the State," as broadly defined. 20.6.4.2 NMAC; 20.6.4.7.S(5) NMAC.

II. HISTORICAL BACKGROUND

A. History of the Mine

Over the past fifty years, several mining companies have endeavored to operate the Copper Flat Mine profitably, with little success. Inspiration Development, a mining company based in Arizona, acquired the mine in 1967 and conducted a feasibility study and developed a plan for an open pit mine. *New Mexico ex rel Office of the State Eng'r v. Elephant Butte Irrigation Dist.*, slip op. at 11 (3d Jud. D. Dec. 28, 2017) (AR-17747); Kuipers Test. Tr. vol. 3, p. 925, lines 9-11.

However, Inspiration leased the mine out to other parties to develop because it was not a project Inspiration had confidence would make money. Kuipers Test. Tr. vol. 3, p. 925, lines 20-22.

On July 15, 1974, Quintana Minerals Corporation ("Quintana") leased the Copper Flat Mine from Inspiration and undertook an exploration program to estimate its ore reserves. Quintana's investigation continued through 1976. Quintana suspended its work at the mine in 1976 largely due to the low price of copper. AR-17748. In 1980, Quintana and Phibro, Inc., a Delaware corporation, formed Copper Flat Partnership to develop a mining operation at Copper Flat. *Id.* Copper Flat Partnership then leased the mine from Inspiration. *Id.*

In March 1982, Copper Flat Partnership began producing copper concentrate. AR-17753; Kuipers Test. Tr. vol. 3, p. 926, lines 4-5. The 1982 Copper Flat Mine operation included several waste rock stockpiles, an open pit, a tailings storage facility, mineral processing facilities, impoundments, and associated infrastructure. Ranches Ex. 1 at p. 3. The 1982 operation excavated approximately three million tons of overburden and 1.2 million tons of metal ore. *Id.* In April, May, and June 1982, Copper Flat Partnership processed an average of 14,908, 15,981, and 14,014 tons per day, respectively, of copper ore. AR-17753. The 1982 operation disturbed approximately 689 acres of land; it created an open pit, which is partially filled by a pit lake having a surface area of 12.8 acres and a depth of 40 feet; it produced waste rock piles around the open pit; and it created a tailings impoundment containing approximately 1.2 million tons of mill tailings and covering 60 acres. AR-00042. In July 1982, after only three months of operation, Copper Flat Partnership ceased mining at the Copper Flat Mine. AR-17753; Kuipers Test. Tr. vol. 3, p. 926, lines 5-8. It ceased mining due to the combination of a fall in the price of copper and the partnership having a heavy debt load from constructing the mine facilities. AR-17753; Kuipers Test. Tr. vol. 3, p. 926, lines 15-20.

After it ceased mining operations, Copper Flat Partnership removed the surface facilities and

equipment. It sold the equipment to pay back some of the debt from the capital loan. Kuipers Test. Tr. vol. 3, p. 926, lines 22-25. On December 31, 1986, Copper Flat Partnership cancelled its lease interest in the mine property, and the property reverted to Inspiration Development. AR-17765. Copper Flat Partnership abandoned its operations at the mine in 1987. AR-17768; Kuipers Test. Tr. vol. 3, p. 927, lines 1-2.

For several years after 1987, the mine remained inactive. Several successive companies owned the mine property, but no mining or other activities occurred at the mine site. Kuipers Test. Tr. vol. 3, p. 927, lines 3-7. On November 16, 1989, Inspiration Development sold the mine to Hydro Resources. AR-17773. On July 25, 1989, Cobb Resources, Inc., which controlled Hydro Resources, sold the mine property to the Copper Flat Mining Company, based in Denver, Colorado. On April 11, 1990, Copper Flat Mining Co. sold the Copper Flat Mine property to Gold Express Corporation. AR-17775. On January 31, 1991, Gold Express Corp. submitted to the U.S. Bureau of Land Management (BLM) a proposed plan of operations for the mine. Gold Express Corp. proposed to "rebuild the entire Copper Flat mining facility as it existed in 1986." Gold Express Corp. did not implement the plan. AR-17776; Kuipers Test. Tr. vol. 3, p. 927, lines 3-7.

In 1994, Alta Gold Corporation purchased the mine from Gold Express Corp. AR-17776; Kuipers Test. Tr. vol. 3, p. 927, line 8. Alta Gold Corp. planned to reopen the mine for a cost of $35 million. Alta Gold Corp.'s proposed operations at the mine were very similar to those of Copper Flat Partnership, and Alta Gold Corp. planned to recover and reuse the salvageable infrastructure remaining from Copper Flat Partnership's operations. Ultimately, however, Alta Gold Corp. never reopened the mine. AR-17777 to AR-17778.

In 1999, Alta Gold Corp. filed for bankruptcy in the United States Bankruptcy Court for the District of Nevada. AR-17778; Kuipers Test. Tr. vol. 3, p. 927, lines 17-18. Alta Gold's assets,

including those associated with the Copper Flat Mine, were liquidated in an auction ordered by the bankruptcy court. AR-17778. After the bankruptcy liquidation, the mine property was again abandoned. Kuipers Test. Tr. vol. 3, p. 927, lines 24-25.

On July 23, 2009, Hydro Resources entered into an agreement with N.M. Copper Corp. extending to N.M. Copper Corp. an option to purchase the Copper Flat Mine and the associated mineral claims. AR-17781. N.M. Copper Corp. acquired the Copper Flat Mine in 2011.

Despite the reclamation efforts conducted at the mine, previous mining operations have left a legacy of environmental pollution. A pit lake has formed in the existing open pit. Baseline sampling of the pit lake conducted in 2011 and 2012 showed that it exceeded surface water standards for aluminum, cadmium, copper, lead, manganese, selenium, and zinc. Myers Test. Tr. vol. 3, p. 954, lines 10-20. The existing tailings impoundment has contributed to groundwater contamination. The Department required N.M. Copper Corp. to begin abatement of the contamination under the abatement regulations, 20.6.2.4101 to 4115 NMAC, but that action has been stalled for years pending the permit application proceeding. As of the date of the hearing, N.M. Copper Corp. had not submitted to the Department a final Stage 1 Abatement investigation report as required by the regulations, 20.6.2.4106.C(6) NMAC. Reid Test. Tr. vol. 3, p. 694, line 8 to p. 697, line 13.

B. SUMMARY OF PROCEEDINGS

On March 31, 2011, N.M. Copper Corp. submitted to the Department an application for a modification of the existing groundwater discharge permit (DP-001) for the Copper Flat Mine. Smith Test. Tr. vol. 1, p. 47, lines 16-17; AR-00299 to AR-01709. On May 13, 2011, the Department notified N.M. Copper Corp. that the permit application was administratively complete. AR-01711 to AR-01714.

The original permit application became obsolete, however, when the Commission adopted

the Copper Mine Regulations on December 1, 2013. Consequently, on December 9, 2015, N.M. Copper Corp. submitted an amended application, taking the Copper Mine Regulations into account. The amended application superseded the March 31, 2011 application. AR-12354 to AR-13547. On January 15, 2016, the Department notified N.M. Copper Corp. that the amended permit application was administratively complete. AR-13560 to AR-13561. On January 15, 2016, the Department published a public notice ("PN 1") under section 20.6.2.3108.E NMAC stating that the application had been received and was under review. AR-13567 to AR-13569. On March 10, 2016, N.M. Copper Corp. sent to the Department proof that it had published a public notice, as required under section 20.6.2.3108.D NMAC. AR-13631 to 13640.

On January 31, 2018, the Department formally announced its decision to propose approval of the discharge permit for the Copper Flat Mine. It published a public notice ("PN 2") under section 20.6.2.3108.H stating its proposed approval in the *Truth or Consequences Herald* and in the *Albuquerque Journal*. The notice also stated that the Department would receive public comment on the proposed discharge permit, and requests for a public hearing, for a period of thirty days. AR-17417 to AR-17420. On February 2, 2016 the Department notified N.M. Copper Corp. that it was proposing approval of the discharge permit under section 20.6.7.10.H NMAC. Smith Test. Tr. vol. 1, p. 52, lines 19-21; AR-17360. The Department also sent N.M. Copper Corp. a proposed discharge permit, as required under section 20.6.7.10.H NMAC. AR-17360 to AR-17407.

On or about March 3, 2018, in response to several requests, the Department extended the public comment period until May 5, 2018. AR-17486 to AR-17491. On May 4, 2018, the New Mexico Environmental Law Center, on behalf of Turner Ranch Properties and Hillsboro Pitchfork Ranch, submitted comments on the proposed discharge permit to the Department. AR-17682 to AR-18150. On May 5, 2018, GRIP submitted comments on the proposed discharge permit to the

Department. AR-18256 to AR-18257.

On June 7, 2018, the Department Secretary docketed the matter for hearing and appointed a Hearing Officer. AR-18661 to AR-18662. On August 10, 2018, the Department sent to N.M. Copper Corp., and other interested parties, a revised proposed discharge permit for the Copper Flat Mine. The revisions reflected some of the public comments that had been submitted to the Department. Ranches Ex. 1. The Department sent another revised version to the interested parties on or about November 16, 2018. AR-18734 to AR-18775.

On August 15, 2018, the Department published in the *Truth or Consequences Herald* a public notice that a public hearing would be held on the proposed discharge permit for the Copper Flat Mine beginning on September 24, 2018. (AR-181715 to AR-18722). From September 24, 2018 through September 28, 2018, the Department held a public hearing on the proposed discharge permit at the Ralph Edwards Auditorium in Truth or Consequences, New Mexico. Tr. vols. 1-5. At the hearing, N.M. Copper Corp. presented the testimony of 6 technical witnesses; the Department presented the testimony of 3 technical witnesses; the Ranches presented the testimony of 4 technical witnesses; and the Elephant Butte Irrigation District (EBID) presented the testimony of 4 technical witnesses. In addition, 48 members of the public made oral statements. Tr. vols. 1-5. GRIP submitted written comments to the Department on September 28, 2018. AR-18905 to AR-18906.

On November 19, 2018, the Ranches submitted written closing arguments and proposed findings of fact and conclusions of law. The Department, N.M. Copper Corp., and Elephant Butte Irrigation District also filed closing arguments and proposed findings and conclusions. The Department included the November 16, 2018 revision of the permit with its filing.

On December 3, 2018, the Hearing Officer issued her Report ("Report" or "Hearing Off'r Rep't" in citations) and proposed Findings of Fact and Conclusions of Law ("Hearing Off'r Find. &

Conc."). The Hearing Officer generally recommended that the proposed discharge permit be issued. In an unusual tack, the Hearing Officer did not make any recommendation on the Ranches' argument that the permit application should be denied because it poses an undue risk to property. *See* 20.6.7.10.J NMAC. The Hearing Officer left that decision to the Secretary. Hearing Off'r Rep't at 31. In another unusual move, the Hearing Officer suggested, though she did not recommend, that the Secretary might add conditions to the permit to address two of the issues that the Ranches had raised. The first condition would have been to require the Permittee to more fully characterize the andesite bedrock at the site. *Id.* at 9. The second condition would have been to require the Permittee to install additional groundwater monitoring wells. *Id.* at 14.

On December 13, 2018, the Ranches submitted comments on the Report in accordance with section 20.1.4.500.C(2) NMAC. The Ranches also requested oral argument under 20.1.4.500.C(3) NMAC. N.M. Copper Corp. and the Department also filed comments on the Report.

On December 19, 2018, the (former) Secretary issued the Final Order. In the Final Order, the Secretary "adopt[ed] the Hearing Officer's Report, and proposed Findings of Fact and Conclusions of Law," with three minor corrections and 17 additional findings and conclusions. Final Order at 2-4. The Secretary found that the discharge did not pose an undue risk to property. *Id.* at 4, ¶¶ 13, 14. He also declined to adopt permit conditions requiring further characterization of the andesite bedrock or requiring additional monitoring wells. *Id.* at 3, ¶¶ 7, 9. The Secretary also denied the Ranches' request for oral argument. *Id.* at 2. On December 20, 2018, the Secretary signed the final Discharge Permit for the Copper Flat Mine ("Final Permit").[1]

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1 The Final Permit is Attachment D to the Petition for Review that the Ranches and GRIP filed on January 18, 2019.

On January 18, 2019, the Ranches and GRIP filed with the Commission a Petition for Review of the Secretary's decision issuing the groundwater discharge permit under the WQA, NMSA 1978, § 74-6-5(O). EBID also filed a petition for review on the same date.

C. THE DISCHARGE PERMIT

The discharge permit (DP-1840) for the Copper Flat Mine authorizes N.M. Copper Corp. to discharge a maximum of 25,264,000 gallons per day of tailings slurry which includes mine tailings, process water, mine impacted stormwater, and domestic wastewater, to a lined tailing impoundment, the Tailings Storage Facility. Final Permit at 1. The permit also authorizes an indeterminate volume of discharges from other mine units including waste rock stockpiles, ore stockpiles, mineral processing units, process water impoundments, open pit, sumps, tanks, pipelines, and other areas within the Mine Permit Area. *Id.*

The permit includes provisions describing and addressing most of the primary mine facilities. The permit first addresses the open pit. At full build out, the open pit will encompass approximately 161 acres, with a diameter of approximately 2,800 feet, and a depth of approximately 850 to 900 feet below the original pre-mining surface. *Id.* at 5. During mining operations, water flowing into the pit will be removed and used as process water or for dust control. *Id.* The permit also addresses three new waste rock piles, designated WRSP-1. WRSP-2, and WRSP-3. Combined, the three waste rock piles will contain approximately 45 million tons of rock, and they will cover approximately 210 acres. *Id.* at 5-6. The permit addresses the mill and associated facilities. These units include a primary ore crusher, a course ore stockpile, a concentrator, and a mill. *Id.* at 7-8. The permit also addresses the Tailings Storage Facility, a lined tailings impoundment. The Tailings Storage Facility is designed to hold the total volume of tailings generated at the Copper Flat Mine during the life of the mine. Upon completion of mining operations, it will cover 564 acres. AR-18744. Next, the

permit covers several surface impoundments: the Process Water Reservoir, the Tailings Underdrain Collection Pond, the Surge Pond, and three Impacted Stormwater Impoundments. *Id.* at 9-11.

The proposed permit includes detailed requirements on groundwater monitoring. *Id.* at 20-22. The permit provides for a contingency plan to address emergencies and system failures. *Id.* at 24. It also provides for a closure plan for the closure and reclamation of the mine after mining operations cease. *Id.* at 25-26. Finally, the proposed permit includes a very brief, general requirement for financial assurance. *Id.* at 28.

III. STANDING OF PETITIONER

The petitioners in this case, the Ranches and GRIP, all have standing. Under the WQA, a person who participated in a permitting action before the Department, and who is adversely affected by the permitting action, has standing to seek review before the Commission. NMSA 1978, § 74-6-5(O); *N.M. Cattle Growers' Ass'n v. N.M. Water Quality Control Comm'n*, 2013-NMCA-046, ¶¶ 7, 8, 299 P.3d 436, 439.

Both of the Ranches participated as parties and presented technical testimony in the permitting proceeding before the Department. Both Ranches are adversely affected by the Secretary's decision. Turner Ranch Properties owns the Ladder Ranch, which is adjacent to the Copper Flat Mine to the north and east. Ranches Ex. 4 (slide 12). Turner Ranch Properties operates bison ranching, hunting expedition, and ecotourism businesses, and species recovery programs at the Ladder Ranch. Hearing Off'r Find. & Concl. at 5-11. Contamination or depletion of groundwater or surface water by mining operations would adversely affect the Ladder Ranch, with very serious consequences. Dobrott Test. Tr. vol. 3, p. 803, line 19 to p. 804, line 21. The Hillsboro Pitchfork Ranch is adjacent to the Copper Flat Mine to the west. Ranches Ex. 6 (slide 4). It operates cattle ranching and hunting businesses, as well as habitat recovery programs on its property. Hearing Off'r

Find. & Concl. at 11-14. Depletion of groundwater or surface water would adversely affect the Pitchfork Ranch, again with very serious consequences. Cunningham Test. Tr. vol. 3, p. 883, lines 6-24. The Ranches therefore have standing to seek review of the permit under the WQA, NMSA 1978, § 74-6-5(O).

GRIP submitted written comments to the Department on the proposed permit on May 5, 2018, AR-18256 to AR-18257, and on September 28, 2018, AR-18905 to AR-18906. GRIP is a nonprofit environmental advocacy organization, based in Silver City, New Mexico, that draws on local support and private foundations to promote community health through protection of the environment. Affidavit of Allyson Siwik (attached hereto as Exhibit A) at 1. Among other things, GRIP has advocated for protection of groundwater and surface water. *Id.* at 1-2. GRIP has participated in permit proceedings involving copper mines in Grant County and Sierra County, including the Copper Flat Mine. *Id.* at 2. GRIP members use and enjoy the natural resources of southwest New Mexico, including the areas in the vicinity of the Copper Flat Mine, such as the Ladder Ranch. *Id.* at 3. They use these areas for various forms of recreation, including hunting, fishing, birding, hiking, mountain biking, and photography. *Id.*; Affidavit of Michael P. Berman (attached hereto as Exhibit B). GRIP members will be adversely affected by the contamination or depletion of groundwater or surface water near the Copper Flat Mine. GRIP therefore has standing to seek review of the permit under the WQA, NMSA 1978, § 74-6-5(O).

IV. STANDARD OF REVIEW

In reviewing the Department's decision on a discharge permit, the WQA provides that the Commission must "review the record compiled before the [Department], including the transcript of any public hearing held on the application or draft permit," and "allow any party to submit arguments." NMSA 1978, § 74-6-5(Q). The Commission must "consider and weigh only the

evidence contained in the record before the [Department] and the recommended decision of the hearing officer." *Id.* The Commission is not bound by the factual findings or legal conclusions of the Department. *Id.* Thus, "[b]ased on the review of the evidence, the arguments of the parties, and the recommendation of the hearing officer," the Commission must "sustain, modify, or reverse" the action of the Department. *Id.*

Beyond these instructions, the WQA does not establish a specific standard for sustaining, modifying, or reversing a Department decision. Nevertheless, the WQA, together with the Water Quality Regulations and the Copper Mine Regulations, establish several criteria for the Department's approval or denial of a discharge permit. These criteria effectively establish the standards for the Commission's review of the Department's decision.

First, under the WQA, the Department Secretary must deny a discharge permit if the discharge would violate any state or federal effluent regulations, standards or limitations; would violate any provision of the WQA; or would cause or contribute to water contaminant levels in excess of any state or federal standard. NMSA 1978, § 74-6-5(E).

Second, under Water Quality Regulations, the Secretary must deny a discharge permit if the discharger has not proposed flow measurement and sampling; if the discharge would cause a stream standard to be violated; or if a discharge of any water contaminant might cause a hazard to public health. 20.6.2.3109.H(1), (2), (3) NMAC.

Third, under the Copper Mine Regulations, the Secretary can approve a discharge permit for a copper mine only if the permit poses neither a hazard to public health nor undue risk to property; only if it meets the requirements of the Copper Mine Regulations, 20.6.7 NMAC; only if the applicable provisions for Secretary approval under section 20.6.2.3109 NMAC are met; and only if denial is not required under the WQA, NMSA 1978, § 74-6-5(E). 20.6.7.10.J NMAC.

The WQA also establishes the standard for appellate review of the Commission's decision, which is analogous to the Commission's review of the Secretary's decision. The WQA provides that the Court of Appeals must "set aside the [C]ommission's action only if it is found to be: (1) arbitrary, capricious, or an abuse of discretion; (2) not supported by substantial evidence in the record; or (3) otherwise not in accordance with law." NMSA 1978, § 74-6-7(B).

The Department's permit regulations establish the burden of proof. First, the applicant has the burden of proving that the permit should be approved. Second, the Department has the burden of proving that a permit condition it has proposed, and that has been challenged, should be adopted. To meet this burden, the Department must show that the permit conditions are reasonable. *See* NMSA 1978, § 74-6-5(J). Third, any person who contests a permit condition has the burden of proving that the condition is inadequate, improper, or invalid; and any person who proposes a permit condition has the burden of proving that the condition should be adopted. 20.1.4.400.A(1) NMAC.

Finally, in construing the Solid Waste Act, our Supreme Court has ruled that the "Department has a duty to interpret the regulations liberally in order to realize the purposes of the Act." *Colonias Dev. Council v. Rhino Envtl. Servs.*, 2005-NMSC-024, ¶ 34, 138 N.M. 133, 142, 117 P.3d 939, 948.

V. ARGUMENT

A. THE FUTURE PIT LAKE WILL BE A SURFACE WATER OF THE STATE

After mining ceases at the Copper Flat Mine, dewatering of the open pit will also cease and the pit will fill with water. A pit lake will form, covering about 161 acres. Discharges from the Copper Flat Mine into the future pit lake will cause New Mexico surface water standards to be exceeded. N.M. Copper Corp.'s own modeling shows that the future pit lake will exceed the surface water standard for mercury for protection of wildlife, the surface water standard for selenium for protection of wildlife, and the surface water standard for vanadium for livestock watering. AR-

07969 to AR-07970, AR-07976. A Department witness also acknowledged during the hearing that State surface water standards for aquatic wildlife will be exceeded in the open pit lake. Vollbrecht Test. Tr. vol. 2, p. 564, lines 14-19. It is likely, moreover, that water quality in the pit lake will deteriorate over time as the result of evapoconcentration. *Id.* vol. 2, p. 564, lines 21-25. These facts are not disputed. Hearing Off'r Rep't at 18.

While the Department acknowledges that the open pit will exceed State surface water standards, the (former) Secretary found that those standards will not apply to the future pit lake because the lake will not be a "surface water of the State" as defined in the regulations. Final Order at 4. The Surface Water Standards define the term "surface water of the State" broadly to include "lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, reservoirs or natural ponds," as well as "all tributaries of such waters." 20.6.4.7.S(5) NMAC. While broadly defined, the term "surface waters of the state" contains an exception; the term "*does not include private waters that do not combine with other surface or subsurface water.*" *Id.* (emphasis added). This last phrase – the exception for "private waters" – derives from the statutory definition of "water" in the WQA, which is "all water, including water situated wholly or partly within or bordering on the state, whether surface or subsurface, public or private, except private waters that do not combine with other surface or subsurface water." NMSA 1978, § 74-6-2(H); *see N.M. Mining Ass'n v. N.M. Water Quality Control Comm'n*, 2007-NMCA-084, ¶ 30, 142 N.M. 200, 209, 164 P.3d 81, 90 (the Legislature decided "to regulate all water located within the borders of New Mexico (except purely private waters).").

The Secretary concluded that the future pit lake will fall within this exception for "private waters." Final Order at 4, ¶ 11; Hearing Off'r Rep't at 18-22; Hearing Off'r Find. & Conc. at 77, 93. We respectfully disagree with this conclusion; the Secretary was in error for several reasons.

First, the conclusion is contrary to the plain wording of the Surface Water Standards and the WQA. When construing a statute, the courts "begin with the plain language," and "assume that the ordinary meaning of the words expresses the legislative purpose." *N.M. Mining Ass'n v. N.M. Water Quality Control Comm'n*, 2007-NMCA-010, ¶ 12, 141 N.M. 41, 46, 150 P.3d 991, 996. Courts construe agency rules "in the same manner as statutes." *Id.* The "private waters" exception, by its plain wording, applies only if the surface water "does not combine with other . . . subsurface water." But the future pit lake will indeed combine with other subsurface water. The future pit lake will act as a hydraulic sink, drawing in groundwater from the surrounding areas, and that water will combine with the water in the pit lake. Indeed, the pit will draw in clean groundwater from outside the Mine Permit Area, from beneath the Hillsboro Pitchfork Ranch and beneath the Ladder Ranch.[2] AR-13543; AR-13811; Myers Test. Tr. vol. 4, p. 1235, lines 10-25; Vollbrecht Test. Tr. vol. 2, p. 566, lines 6-11. This fact is not disputed. *See* Hearing Off'r Rep't at 18-22.

The Secretary nevertheless found that the words "do not combine with other surface or subsurface water" refers only to water flowing out of a surface water body into surrounding water, but not to surrounding water flowing into a surface water body. Hearing Off'r Rep't at 21. But neither the regulatory definition, nor the statutory provisions from which the "private waters" exception derives, makes any such distinction or even implies one. *See* 20.6.4.7.S(5) NMAC; 1978 NMAC, § 74-6-2(G). In either case, water in the surface body is combining with other waters. The plain wording of the WQA and the surface water regulation contradicts the Secretary's conclusion.

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2 The Secretary made the puzzling finding that N.M. Copper Corp. "has conducted groundwater modeling that demonstrates that the open pit water body will constitute a hydrologic sink at closure, and therefore will not combine with subsurface water." Hearing Off'r Find. & Conc. at 76 (citations omitted). But this finding is internally inconsistent. If the open pit water body is a hydrologic sink, obviously it will combine with the water that flows into it.

Second, the Secretary's conclusion is contrary to the Department's past interpretation of the "private water" exception. In the October 2003 hearing on the discharge permit for the Phelps Dodge Tyrone Mine, Marcy Leavitt, then Chief of the Department's Surface Water Quality Bureau, testified under oath that the phrase applies when water flows "from areas where water is clean to areas where water is contaminated and vise-versa." Ranches Ex. 41, p. 867. Ms. Leavitt also stated that the "private waters" exception is a "very limited" one. *Id.* at 866. A Department witness conceded at the September 2018 hearing that Ms. Leavitt's statements were contrary to the Department's recent interpretation. Vollbrecht Test. Tr. vol. 2, p. 571, lines 6-18. He also agreed that he gives Ms. Leavitt's interpretation of New Mexico water quality regulations a high degree of respect. Vollbrecht Test. Tr. vol. 2, p. 570, line 23 to p. 571, line 1. Ms. Leavitt served in the Department for many years as Chief of the Ground Water Quality Bureau, Chief of the Surface Water Quality Bureau, and Director of the Water and Waste Management Division (now the Water Protection Division), which encompasses both those bureaus. Vollbrecht Test. Tr. vol. 2, p. 569, line 6 to p. 570, line 14.

Third, the Secretary's conclusion is based on an erroneous interpretation of what constitutes a "private" water. The Department has focused almost entirely on whether the pit lake will be confined to private property. Although the open pit itself will partially extend onto BLM property, N.M. Copper Corp. experts have confidently predicted that the shore of the future pit lake in the future open pit will be several feet from the property line. *See* Hearing Off'r Rep't at 20. We question the reliability of that prediction. But assuming for the sake of argument that the prediction is accurate, the fact that the pit lake will be entirely on private property does not mean that the water itself is private water. According to the New Mexico water code, "[t]he water of underground streams, channels, artesian basins, reservoirs or lakes, having reasonably ascertainable boundaries, is

declared to belong to the *public* and is subject to appropriation for beneficial use." NMSA 1978, § 72-12-1 (emphasis added). Whether the water underlies public or private property is irrelevant. In fact, N.M. Copper Corp. has claimed the open pit is a groundwater point of diversion with an attendant vested water right as declared by its predecessors. In a recent order, the New Mexico District Court, Third Judicial District, determined that N.M. Copper Corp. owns certain water rights in the Lower Rio Grande Underground Basin. According to the order, the rights have a point of diversion at the proposed open pit. Ranches Ex. 38. Although the validity of those rights has been appealed, N.M Copper Corp.'s claim in the water rights proceeding – and the water rights proceeding itself – indicate that the pit water is public water, not private water. The Hearing Officer and the Secretary completely failed to address this question.

Fourth, as a matter of public policy, the Secretary's conclusion sets a troubling precedent for protection of water quality under the WQA. As explained above, the open pit will draw in large volumes of clean water from the surrounding area – including from the adjoining Ranch properties – and cause that water to become contaminated. Construing the future pit lake as a "private water" allows that contamination to continue indefinitely into the future, without regulation.

Finally, the Secretary's conclusion is contrary to the Supreme Court's direction that the Department – and by logical extension, the Commission – has a duty to interpret a statute such as the WQA liberally to effectuate its purpose. *Colonias Dev. Council v. Rhino Envtl. Servs.*, 2005-NMSC-024, ¶ 34, 138 N.M. 133, 142, 117 P.3d 939, 948. The Secretary cites *Rhino* approvingly on this point. Hearing Off'r Rep't at 29; Hearing Off'r Find. & Conc. at 93, ¶ 64. The purpose of the WQA, as we have seen, is "to abate and prevent water pollution." *Bokum Res.* ¶ 59, 93 N.M. at 555, 603 P.2d at 294. The Secretary also cites *Bokum* on the purpose of the WQA. Hearing Off'r Find. & Conc. at 86, ¶ 1. Yet the Secretary seems unmindful of these holdings in interpreting the "private

water" exception. The Secretary expressly states that "the phrase 'does not combine with other surface and subsurface waters' within the definition of surface water of the state is viewed from a narrow lens in this instance." Hearing Off'r Rep't at 21. Thus, rather than interpreting the WQA liberally to effectuate its purpose, as *Rhino* instructs, the Secretary interprets the statute narrowly to defeat its purpose.

The Secretary cites no persuasive authority to support this constrained and improbable interpretation of the "private waters" exception. The Secretary states merely that the interpretation "is in alignment with the Copper Rule which effectively grants a variance by rule from groundwater standards within the area of open pit hydrologic containment." Hearing Off'r Rep't at 21. The Secretary also references the *GRIP* decision upholding the rule. *Id.* at 22. But the Copper Mine Regulations address only groundwater standards; they say nothing about surface water standards. The Copper Mine Regulations, strictly speaking, are inapplicable here. The Secretary is applying the principle of the Copper Mine Regulations – a principle which we believe should be construed and applied most narrowly – to surface water. The Secretary thus takes the first ominous step down the slippery slope of invoking the Copper Mine Regulations and the *GRIP* decision as precedent, applying the principle of the regulations to situations where the regulations do not strictly apply.

The Commission should reverse the Secretary's finding that New Mexico surface water standards do not apply to the future pit lake because it is not a "surface water of the State." The Secretary's finding is not in accordance with law, arbitrary, capricious, and not supported by substantial evidence in the record. *See* NMSA 1978, § 74-6-7(B)(1), (2), (3). The Commission should remand the discharge permit to the Department to be revised. As currently written, the permit will cause or contribute to water contaminant levels in the pit lake that are in excess of state surface water standards and should not have been approved. *See* NMSA 1978, § 74-6-5(E)(3).

B. The Evaluation of the Andesite Bedrock Underlying a Large Portion of the Mine Site Is Inadequate

Andesite bedrock underlies a large portion of the Copper Flat Mine, including areas where discharges of contaminants to groundwater are likely to occur. N.M. Copper Corp. maintains that the andesite has a very low hydraulic conductivity and thus is not capable of transporting contaminants. AR-12433. The (former) Secretary agreed with this conclusion. *See* Hearing Off'r Rep't at 6-9; Hearing Off'r Find. & Conc. at 31, 38-39, 43, 65, 68. Yet this conclusion is based on remarkably little data; the hydraulic conductivity of the andesite has been poorly and inadequately evaluated. Full evaluation of the andesite bedrock is required under the Copper Mine Regulations.

Andesite is an extrusive igneous or volcanic rock that forms when magma reaches the ground surface and quickly crystalizes. Myers Test. Tr. vol. 4, p. 1168, lines 11-13. As an igneous rock, it is often fractured. Fractures can form in rocks as a result of thermal cooling, lithostatic changes in the weight of overburden due to, for example, uplift and erosion, or volcanic activity.[3] Andesite bedrock underlies a large portion of the Mine Permit Area. The andesite underlies the area where N.M. Copper Corp. proposes to deposit three waste rock piles covering 210 acres. AR-12473. Andesite also underlies the area of the proposed mill facility. AR-15837-15841, Final Permit at 14. Full evaluation of the andesite is therefore critical. Undetected fractures in the andesite could provide conduits for the transport of contaminants off-site, such as leachate from the waste rock piles or chemicals from the mill site. But N.M. Copper Corp. has not adequately evaluated the andesite bedrock. The location and extent of fractures in the andesite at the mine site are virtually unknown.

The discharge permit application that N.M. Copper Corp. submitted to the Department adopts an extremely low estimate of the hydraulic conductivity of the andesite bedrock, less than 1×10^{-6}

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3 Nat'l Research Council, Rock Fractures and Fluid Flow: Contemporary Understanding and Applications 33 (1996).

centimeters per second. AR-12433. Yet there is remarkably little data to support this estimate and many reasons to question it.

The estimate of the hydraulic conductivity of the andesite is based on only three data points from two borings. The first data point is from well GWQ-5R, which was the subject of a pressure test. The second and third data points are from monitoring well GWQ96-22A and B (which are two screened intervals at different depths in the same well), which was the subject of a slug test. AR-02206; NMED Ex. 4, p. 5. None of the tests accounted for fractures. Ranches Ex. 23, pp. 6-7 (AR-17947 to AR-17948). Significantly, one of the N.M. Copper Corp. consultants, in a Stage 1 Abatement Plan document, states that the slug test analysis estimates an extremely low range of hydraulic conductivity for the "*un*fractured andesite . . . rocks." AR-02206 (emphasis added).

The two borings are deep in an unfractured and unweathered portion of the andesite bedrock, which is likely not representative of the entire andesite formation. Myers Test. Tr. vol. 4, p. 1173, line 23 to p. 1174, line 7. The pressure test performed on well GWQ-5R was conducted at a depth of between 64 and 100 feet below the ground surface. Monitoring well GWQ96-22 was completed at 174 to 244 (22A) and 340 to 380 (22B) feet below the ground surface. Myers Test. Tr. vol. 4, p. 1170, line 24 to p. 1171, line 1; AR-02201 (Table 2); AR-02206 (Table 4). But hydraulic conductivity closer to the surface is likely to be higher than it is at depth, due to weathering of surface rock and a greater likelihood for fracturing near the surface. Moreover, leachate from the waste rock pile would infiltrate at the surface. Myers Test. Tr. vol. 4, p. 1173, line 23 to p. 1174, line 7.

Other evidence in the record indicates that the hydraulic conductivity of the andesite is actually much higher than the N.M. Copper Corp.'s estimate of less than 1×10^{-6} centimeters per second. Groundwater monitoring well GWQ96-22, which is completed in andesite, shows

substantial variations in the concentrations of total dissolved solids and sulfate over time. These variations indicate that water is flowing freely through portions of the andesite material, and the overall conductivity of the andesite is higher than N.M. Copper Corp. has assumed. Myers Test. Tr. vol. 4, p. 1247, line 16 to p. 1249, line 6; AR-07479; AR-02868. Further, one of the Stage 1 Abatement Plan documents lists seven water supply wells that were completed in andesite. Ranches Ex. 40 (AR-02201). Of those wells, four were identified as wells that were dug by hand and are not actually supply wells. Finch Test. Tr. vol. 5, p. 1608, lines 15-25. The three remaining wells, however, were drilled. They are identified by the names GWQ-6(N) or 6(S), LRG-4156, and LRG-4159. *Id.* vol. 5, p. 1625, line 13 to p. 1627, line 1. Production wells could not be sustained in bedrock with a conductivity as low as 1×10^{-6} centimeters per second. Myers Test. Tr. vol. 4, p. 1249, lines 15-25.

Under the Copper Mine Regulations, an applicant for a discharge permit must submit a design report that includes "[a]n aquifer evaluation to determine the potential nature and extent of impacts to ground water from the waste rock stockpile." 20.6.7.21.B(1)(d)(vi) NMAC. The aquifer evaluation must include a "complete description of aquifer characteristics . . . based on actual field data." *Id.* Because N.M. Copper Corp. has inadequately evaluating the andesite formation, it has not met this requirement of the regulations. It did not meet its burden of showing that the permit should be approved. During the hearing, the Ranches proposed a new permit condition requiring additional evaluation of the andesite. Ranches Ex. 30. The Department witness, perhaps recognizing the inadequate data, stated that the Department did not object to such a permit condition. Vollbrecht Test. Tr. vol, 2, p. 555, line 17 to p. 556, line 21. Noting the Department staff's acquiescence, the Hearing Officer invited the Secretary to add a condition to the discharge permit. Hearing Off'r Rep't

at 9. Nevertheless, despite the lack of data, the Secretary found that the andesite bedrock had been "adequately evaluated." Final Order at 3, ¶ 7.

The Commission should reverse the Secretary's finding that the andesite bedrock beneath the Copper Flat Mine has been adequately evaluated. The Secretary's finding is not in accordance with the Copper Mine Regulations and not supported by substantial evidence in the record. *See* NMSA 1978, § 74-6-7(B)(2), (3). The Commission should remand the discharge permit to the Department to add a permit condition requiring full evaluation of the andesite, including an evaluation of fractures.

C. The Proposed Permit Poses an Undue Risk to Property

The Copper Flat Mine location is unusual in its proximity to private property encompassing unique and sensitive ecosystems, including plants, fish, and wildlife, that depend on a plentiful supply of clean water. That property is also host to an assortment of business enterprises that depend, in turn, on those sensitive ecosystems and the water that sustains them. The proposed discharges of water contaminants from the Copper Flat Mine, and the withdrawal of groundwater that will form part of the discharge, seriously threaten the water on and beneath nearby private property, and it threatens the businesses dependent on that water. The discharge permit thus poses an undue risk to property.

The discharge permit for the Copper Flat Mine places two neighboring properties and their associated businesses immediately at risk: the Ladder Ranch and the Hillsboro Pitchfork Ranch. The following description of each ranch summarizes the evidence presented at the hearing.

The first property, the Ladder Ranch is located immediately to the north, to the northeast, and, in part, to the east of the Mine Permit Area. Ranches Ex. 4. Parts of the Ladder Ranch,

particularly the Avant Pasture, are hydraulically downgradient of the Mine Permit Area. Myers Test. Tr. vol. 4, p. 1228, lines 4-11.

Stephen Dobrott, former manager of the Ladder Ranch, testified at the hearing. As he explained, the Ladder Ranch has excellent water resources, abundant wildlife, and a thriving ecosystem. Dobrott Test. Tr. vol. 3, p. 786, line 23 to p. 787, line 3. The Ladder Ranch is also conducting several projects to restore imperiled species. And the Ladder Ranch operates several business enterprises, including ranching, guided hunting expeditions, and ecotourism.

The Ladder Ranch property is incised by five semi-perennial creek systems that flow generally from west to east and drain into the Rio Grande Basin. The five creeks contribute to the biodiversity and biological richness of the ranch, but Las Animas Creek is the most notable for its biodiversity. *Id.* vol. 3, p. 789, lines 4-13, p. 791, lines 17-19. Las Animas Creek has been nominated as one of New Mexico's Scenic Waterways, and it has also been designated as an Important Bird Area by the Audubon Society. Several springs feed into Las Animas Creek. *Id.* vol. 3, 793, lines 11-24.

Las Animas Creek and its tributary, Cave Creek, are used by ranch livestock for drinking. *Id.* vol. 3, p. 791, line 21 to p. 792, line 1. They are also a source of drinking water for numerous types of wildlife. *Id.* vol. 3, p. 792, lines 5-9. The creeks provide riparian habitat and food used by waterfowl and migrating, breeding bird populations unique to New Mexico. *Id.* vol. 3, p. 792, lines 10-23. The creeks also support populations of native Rio Grande chub, native Rio Grande sucker, native Rio Grande cutthroat trout, and non-native longfin dace. *Id.* vol. 3, p. 792, line 25 to p. 793, line 9. Among the creeks' most unique features are the ancient Arizona sycamore trees that occur only on this creek within the entire Rio Grande Basin. *Id.* vol. 3, p. 789, line 22 to p. 790, line 8.

Several wells have been installed in the southern portion of the Ladder Ranch, including

livestock wells, irrigation wells, and domestic wells. *Id.* vol. 3, p. 795, lines 11-18. One well, the Feedlot Well, is located in the Avant Pasture at the Ladder Ranch, which is particularly vulnerable to groundwater contamination from the mine. *Id.* vol. 3, p. 795, line 20 to p. 796, line 6. The Feedlot Well, along with the Evans Well, is used to supply "drinkers" for quail and stock tanks used by bison and large game for drinking. It also provides water to two important conservation facilities, the endangered Bolson tortoise facility, where young tortoises are raised, and the Feedlot steel rim water storage tank that is used for maintaining the threatened Chiricahua leopard frog. *Id.* vol. 3, p. 796, lines 7-15.

Fifty-seven species of mammals have been recorded at the Ladder Ranch, including healthy populations of elk, mule deer, Coues' whitetail deer, pronghorn, javelina, black bear, and mountain lion. Ranches Ex. 4; Dobrott Test. Tr. vol. 3, p. 798, lines 20-24, p. 799, lines 4-5. Over 250 species of birds have been recorded at the Ladder Ranch, including wild turkey, three species of quail – Gimbel's, quail, scaled quail, and Mearn's quail – and threatened yellow-billed cuckoo. Ranches Ex. 4; Dobrott Test. Tr. vol. 3, p. 798, line 22 to p. 799, line 1, p. 799, lines 4-5. Over 400 species of plants have been recorded at the Ladder Ranch. Ranches Ex. 4; Dobrott Test. Tr. vol. 3, p. 798, lines 2-3. Wildlife, including elk, mule deer, pronghorn, javelina, mountain lion, turkey, and quail inhabit the Avant Pasture. Black bear pass through the Avant Pasture. Dobrott Test. Tr. vol. 3, p. 799, lines 13-18. The wildlife and plant life at the Ladder Ranch depend for their existence and survival on pristine water that flows in creeks and springs on the ranch. *Id.* vol. 3, p. 799, lines 20-23.

The Ladder Ranch is also home to several recovery projects for imperiled species. The non-profit Turner Endangered Species Fund is working with the United States Fish and Wildlife Service and the New Mexico Game and Fish Department in projects to benefit the listed Chiricahua leopard frog, the Mexican grey wolf, the Bolson tortoise, and the yellow billed cuckoo. *Id.* vol. 3, p. 800,

lines 7-12. The Turner Biodiversity Division is working to restore less imperiled species like the Rio Grande cutthroat trout and other native fish to Las Animas Creek. *Id.* vol. 3, p. 800, lines 15-18. These restoration projects also depend on pristine water. *Id.* vol. 3, p. 800, line 19 to p. 801, line 11.

The Ladder Ranch has several business enterprises. It operates a ranching business, raising bison and selling bison meat in markets and restaurants. The Ladder Ranch bison herd averages approximately 1,000 head. *Id.* vol. 3, p. 802, lines 2-4, p. 803, line 13-14. Turner Ranch Outfitting organizes big game hunts on the Ladder Ranch for elk and mule deer. *Id.* vol. 3, p. 802, lines 4-6. Ted Turner Expeditions, which is based in Truth or Consequences, conducts ecotourism trips at the Ladder Ranch, including game viewing, bird watching, and mountain biking. *Id.* vol. 3, p. 802, lines 7-11, p. 803, lines 3-5. The big game hunting and ecotourism trips pursue game in the Avant Pasture. *Id.* vol. 3, p. 802, line 22 to p. 803, line 5.

The Ladder Ranch employs between 15 and 20 people. The businesses of the Ladder Ranch contribute to the economy of Sierra County, through the payment of taxes and the purchase of goods and services. The businesses have been operated sustainably for 25 years. *Id.* vol. 3, p. 802, lines 16-20, p. 803, lines 15-18. The business enterprises at the Ladder Ranch depend on pristine water in the creeks, springs, and wells at the ranch. *Id.* vol. 3, p. 803, lines 7-11.

The second property, the Hillsboro Pitchfork Ranch, is located immediately to the west of and bordering the Mine Permit Area. Cunningham Test. Tr. vol. 3, p. 869, line 22 to p. 870, line 6. The Hillsboro Pitchfork Ranch is hydraulically upgradient of the Copper Flat Mine. The Hillsboro Pitchfork Ranch is located within 1,680 feet of the open pit at the Copper Flat Mine. The open pit can be seen from the ranch. *Id.* vol. 3, p. 871, lines 2-23.

Robert Cunningham, the co-owner and caretaker of the Hillsboro Pitchfork Ranch, testified at the hearing. He explained that the ranch has excellent water resources, a varied

natural ecosystem, and exceptional wildlife habitat. *Id.* vol. 3, p. 878, line 22 to p. 879, line 23. It also conducts several business enterprises.

Grayback Canyon has its headwaters on the Hillsboro Pitchfork Ranch, flows through the eastern portion of the ranch, and drains a large portion of the ranch property. *Id.* vol. 3, p. 875, line 24 to p. 877, line 18; Ranches Ex. 6. There are intermittent streams, springs, and seeps in Grayback Canyon that support a varied natural ecosystem, habitat for wildlife, and a forage area for livestock. Cunningham Test. Tr. vol. 3, p. 878, lines 12-25.

The Hillsboro Pitchfork Ranch owns and operates two groundwater wells near the eastern boundary, the Rodgers Well and the Grayback Well. *Id.* vol. 3, p. 873, lines 6-8. The Rodgers Well is located on the eastern side of the ranch, approximately 3,270 feet from the open pit at the Copper Flat Mine. *Id.* vol. 3, p. 873, lines 11-18, p. 875, lines 8-19. The Grayback Well is also located on the eastern side of the ranch, approximately 8,070 to 8,080 feet from the open pit at the mine. *Id.* vol. 3, p. 874, lines 2-5, p. 875, lines 8-15. The Rodgers Well and the Grayback Well are used for drinking by livestock and wildlife. *Id.* vol. 3, p. 873, lines 20-24, p. 874, lines 7-16.

Grayback Canyon has particularly good grasses, including side oats and black grama, and it has an abundance of forbes, including Gambel oak and thick concentrations of mountain mahogany. Wildlife feed on the forbes; mountain mahogany is a preferred feed for mule deer. Wildlife utilize the area year-round due to good forage, thermal cover, and access to water. Because the deep canyons make the area very secluded, and because the canyon has good feed and good water, the area has become premium mule deer habitat. *Id.* vol. 3, p. 878, line 23 to p. 879, line 19.

For the last 11 years, the Pitchfork Ranch has collaborated with the New Mexico Game and Fish Department in a program to improve mule deer habitat. Most of the habitat restoration has been conducted in Grayback Canyon. *Id.* vol. 3, p. 879, line 23 to p. 880, line 2.

Cattle ranching is the primary business of the Hillsboro Pitchfork Ranch. The ranch has about 210 head of cattle – all cows and calves. *Id.* vol. 3, p. 868, lines 8-19. Hunting is also a primary business of the ranch. Hunting species include mule deer, elk, dove, Gimbel's quail, and Mearn's quail. *Id.* vol. 3, p. 868, line 25 to p. 869, line 5. Beginning this year, the Hillsboro Pitchfork Ranch will host a Wounded Warrior hunt, donating a big game hunt to a service member who has suffered injury in the line of duty. *Id.* vol. 3, p. 869, lines 6-9. The ranching and hunting businesses of the ranch depend on fresh water. *Id.* vol. 3, p. 869, lines 20-21.

The discharge permit creates an undue risk to the Ladder Ranch property through water contamination. The permit also creates an undue risk to both the Ladder Ranch and the Hillsboro Pitchfork through water depletion.

First, there is a substantial likelihood that water contaminants from the Copper Flat Mine will reach the Ladder Ranch. The unique and sensitive ecosystems of the ranch, its water resources, its wildlife, its species restoration programs, and its businesses have been put at risk. As Mr. Kuipers testified, copper porphyry mines, such as the Copper Flat Mine, generally cause water pollution from acid rock drainage, leaching of heavy metals, and releases of toxic substances. Kuipers Test. Tr. vol. 3, p. 999, line 23 to p. 1000, line 3; Ranches Ex. 16, p. 4. For example, there have been multiple leaks and spills from the Freeport-McMoRan Chino mine in Grant County, New Mexico, including a spill of 3.25 million gallons of tailings into Whitewater Creek in 1999. *Id.* vol. 3, p. 1000, line 10 to p. 1002, line 16; Ranches Ex. 16, pp. 15-16. There have also been multiple leaks and spills from the Freeport-McMoRan Tyrone mine in Grant County, including a spill of 2.6 million cubic yards of tailings into the Mangas Valley. Kuipers Test. Tr. vol. 3, p. 1002, line 19 to p. 1006, line 22; Ranches Ex. 16, pp. 24-25. In addition to routine leaks and spills at copper mines, tailing

impoundments can be subject to catastrophic failure. Several such failures have occurred in the last few years. Kuipers Test. Tr. vol. 4, p. 1023, lines 20-24.

It is likely that leaks and spills from the facilities at the Copper Flat Mine – particularly the waste rock piles and the Tailings Storage Facility – will occur. *See id.* vol. 3, p. 1007, lines 5-7. Geomembrane liners typically leak. Ranches Ex. 9 at 15; Ranches Ex. 11. Consequently, leachate is likely to leak from the Tailings Storage Facility. The waste rock piles, which are unlined, will also release contaminants. The contaminants might then move through fractures in the underlying andesite bedrock, which has not been well evaluated. Unlined stormwater channels, which will convey mine influenced stormwater from around the waste rock piles to the Impacted Stormwater Impoundment during operations, would also be a potential source of leaks of mine influenced water. Myers Test. Tr. vol. 4, p. 1185, line 9 to p. 1186, line 9; Ranches Ex. 23, pp. 14-15 (AR-17955 to AR-17956).

Furthermore, groundwater contaminants that leak or spill from Copper Flat Mine facilities have the potential to migrate outside the Mine Permit Area to the adjacent private property. Ranches Ex. 4, p. 12; Myers Test. Tr. vol. 4, p. 1226, lines 12-14. Dr. Myers calculated the effects on groundwater of various leak scenarios from the waste rock piles and the Tailings Storage Facility. Ranches Ex. 24, pp. 12-25; Myers Test. Tr. vol. 4, p. 1200, line 13 to p. 1203, line 22, p. 1207, line 10 to p. 1212, line 16. His calculations show the potential for contaminants to move beneath the Ladder Ranch, particularly the Avant Pasture. He explained that dispersion of a groundwater plume causes the plume to expand in directions transverse to groundwater flow. Myers Test. Tr. vol. 4, p. 1208, line 24 to p. 1209, line 5. Dispersion could easily cause contaminants from the proposed waste rock piles to move north or northeast to the southern part of the Ladder Ranch, including the Avant Pasture. *Id.* vol. 4, p. 1228, lines 4-17. Mounding of groundwater resulting from leakage from mine

facilities, such as the waste rock piles, could also cause the groundwater gradient to flow to the north. *Id.* vol. 4, p.1284, line 12 to p. 1285, line 2. Although fracture flow was not incorporated into Dr. Myers' calculations, fractures in the andesite or monzonite bedrock could transport groundwater contaminants in unpredictable ways. A fracture zone that is transverse to the groundwater flow could intercept the groundwater and cause it to move along the fracture. *Id.* vol. 4, p. 1224, line 21 to p. 1225, line 11. Fracture zones are often associated with faults. Groundwater contaminants could move north or northeast through fractures along the north-south trending fault on the east side of the proposed Tailings Storage Facility. *Id.* vol. 4, p. 1225, line 12 to p. 1226, line 6.

Second, there is a substantial likelihood that the drawdown of the water table created by the open pit – which will lower the water table outside the Mine Permit Area – will deplete water resources on both the Ladder Ranch and the Hillsboro Pitchfork Ranch. Consequently, the water resources of these ranches, and the ecosystems, the wildlife, the species restoration programs, and the successful businesses that depend on this water, will be put at risk.

During proposed operation of the Copper Flat Mine, the open pit will be dewatered, expanded, and deepened. AR-12438. As Dr. Myers explained, the open pit will draw groundwater from surrounding areas to the north and southwest (and elsewhere). Myers Test. Tr. vol. 4, p. 1237, line 7 to p. 1238, line 1. Drawdown of the open pit will lower the water table in those areas. *Id.* vol. 4, p. 1237, line 7 to p. 1238, line 1. A Department witness agreed, acknowledging that the open pit will affect groundwater much like a huge well, creating a cone of depression and drawing water into it. Vollbrecht Test. Tr. vol. 2, p. 566, lines 6-11. After five years of mining operations, the groundwater table will have been lowered substantially for a distance around the open pit extending, beyond the Mine Permit Area, to property of both the Ladder Ranch and the Hillsboro Pitchfork Ranch. Myers Test. Tr. vol. 4, p. 1235, lines 10-12; AR-13543; AR-13811.

The pit drawdown could reduce the flow of water in Las Animas Creek and reduce the flow of the springs on the southern portion of the Ladder Ranch. Ranches Ex. 15, p. 22-23 and Exhibit A thereto, p. 3. The pit drawdown could also reduce the flows in the intermittent streams and seeps in Grayback Canyon on the Hillsboro Pitchfork Ranch. It could reduce the production of the wells on the east side of the ranch, the Rodgers Well and the Grayback Well. Cunningham Test. Tr. vol. 3, p. 881, lines 10-17.

Nevertheless, during the hearing the Department argued that the potential for water depletion from operations at the Copper Flat Mine is not a proper consideration for a groundwater discharge permit, as counsel for the Department insisted in his opening statement. Knight Statement Tr. vol. 2, p. 36, line 21 to p. 37, line 4. According to this view, water "quantity" issues, as opposed to water "quality" issues, are the prerogative of the Office of the State Engineer, not the Environment Department. But the Office of the State Engineer will insist that it has no authority to consider environmental or ecological concerns when reviewing an application for a permit to change the place or purpose of use of a water right. *See* Fuchs Test. Tr. vol. 5, p. 1450, line 18 to p. 1451, line 7; EBID Ex. 1. The Office of the State Engineer considers only whether issuance of the permit would be "contrary to the conservation of water within the [S]tate or detrimental to the public welfare of the [S]tate," as narrowly interpreted, NMSA 1978, § 72-5-7, or whether the permit would "be detrimental to [another user's] water right," NMSA 1978, § 72-5-5. If the self-imposed constraints of both these State agencies are obeyed, many concerns will fall through the regulatory cracks, the concerns of the Ranches among them. The Ranches are concerned that the lowering of the water table by the expanded open pit will harm the environment, the ecosystems on their property, not simply that it will impair their water rights.

But the Department's authority is not so constrained as its counsel suggests. The Ranches' concerns are not simply "water supply and impairment concerns," which would be within the authority of the Office of the State Engineer, as both the Department and N.M. Copper Corp. have argued. Rather, they are *environmental* concerns, which are not at all within the authority of the Office of the State Engineer. They are within the authority of the Environment Department. As our Supreme Court has ruled, "the Department cannot ignore concerns that relate to environmental protection simply because they are not mentioned in a technical regulation." Further, the "Department has a duty to interpret the regulations liberally in order to realize the purposes of the Acts." *Colonias Dev. Council v. Rhino Envtl. Servs.*, 2005-NMSC-024, ¶ 34, 138 N.M. 133, 142, 117 P.3d 939, 948. The Department cannot ignore this issue.

The Hearing Officer was clearly troubled by the potential for undue risk to property. She found that the concerns about water contamination expressed by the Ranches and members of the public "are understandable," observing that "migration of significant water contaminants over very long distances, or in directions contrary to typical groundwater flow, may be unlikely, but the sensitivity of the Ranches' ecosystems . . . amplify even a small risk of occurrence." Hearing Off'r Rep't at 28. And she found that the concerns about water depletion expressed by the Ranches and others "were compelling." *Id.* She posed a series of unanswered questions on how the phrase "undue risk" should be interpreted and applied. *Id.* at 31. Ultimately, she made no recommendation to the Secretary on the issue, leaving it for "his consideration and decision-making." *Id.* The Secretary's Final Order contains little analysis of the issue. He simply found that "[t]he phrase 'undue risk to property' as used in the Copper [Mine] Rule pertains to potential impacts to water quality from the permitted discharges, not to the depletion of groundwater"; that the discharge permit "regulates only the discharge of water at the mine site"; and that granting of any right to pump

groundwater and consideration of the adverse effects of pumping "is a matter solely within the jurisdiction of the New Mexico Office of the State Engineer." Final Order at 3, ¶¶ 4, 5, 6.

Under the Copper Mine Regulations, the Secretary can approve a discharge permit for a copper mine only if the permit does not pose undue risk to property. 20.6.7.10.J NMAC; *see also* 20.6.2.3109.C NMAC (similar provision). The Secretary has discretion in deciding whether the proposed permit would pose an undue risk. *Pickett Ranch, LLC v. Curry*, ¶ 36, 2006-NMCA-082, 140 N.M. 49, 61, 139 P.3d 209, 220. Yet the Copper Flat Mine is the rare case in which the evidence of an undue risk to property is overwhelming.

The Commission should reverse the Secretary's decision that the discharge permit does not pose an undue risk to property. The Secretary's finding that the discharge permit does not pose an undue risk to property is an abuse of that discretion and not supported by evidence in the record. *See* NMSA 1978, § 74-6-7(B)(1), (2). The Commission should remand the permit to the Department with instructions to withdraw and deny the permit because it poses an undue risk to property.

D. THE GROUNDWATER MONITORING NETWORK IS NOT ADEQUATE

As part of its permit application N.M. Copper Corp. prepared and submitted to the Department a groundwater monitoring plan. The Department incorporated the plan into the discharge permit, with the addition of two more monitoring wells. NMED Ex. 1, p. 22. The Secretary found that the groundwater monitoring well network proposed for the mine is appropriate. Hearing Off'r Rep't at 12-14; Final Order at 3, ¶ 9. Nevertheless, the groundwater monitoring well network is inadequate and does not meet the requirements of the Copper Mine Regulations. Diligent groundwater monitoring is critical at the Copper Flat Mine site, given its proximity to private property, fragile ecosystems that depend on clean water, and business activities that depend on those ecosystems. A tighter groundwater monitoring network is necessary.

The Ranches' expert hydrologist, Dr. Tom Myers, has concluded that the proposed groundwater monitoring wells are not adequately spaced. Using an interpretive model, Dr. Myers calculated the effects on groundwater of a 4-gallon per day leak from the tailing storage facility into the Santa Fe Group aquifer formation; a 20-gallon per day leak from the tailing storage facility into the Santa Fe Group aquifer formation; and a 4-gallon per day leak from the waste rock piles into the andesite formation. Each simulated leak was modeled to last for 15 years. Ranches Ex. 24, pp. 12-25; Myers Test. Tr. vol. 4, p. 1200, line 13 to p. 1203, line 22, p. 1207, line 10 to p. 1212, line 16. Dr. Myers conservatively assumed a low hydraulic conductivity rate for the andesite in his interpretive model, 0.01 feet per day (3.53×10^{-6} centimeters per second). The model, again conservatively, did not account for possible fractures in the andesite. Ranches Ex. 24, p. 12; Myers Test. Tr. vol. 4, p. 1223, lines 10-13.

The simulated plumes of groundwater contamination (in the Santa Fe Group formation) from the Tailings Storage Facility produced by the interpretive model are, in some cases, 500 to 700 feet wide. If monitoring wells are spaced at 1000-foot intervals, it is very possible for a contaminant plume to pass through undetected. Myers Test. Tr. vol. 4, p. 1221, lines 1-5. Thus, Dr. Myers concludes that monitoring wells downgradient of the proposed Tailing Storage Facility need to be spaced approximately every 500 feet. That would require a total of about 18 monitoring wells along the downgradient perimeter of the facility. Ranches Ex. 24, p. 38; Myers Test. Tr. vol. 4, p. 1222, lines 9-16.

The simulated plumes of groundwater contamination (in the andesite) from the Waste Rock Piles produced by the interpretive model are relatively wide, almost circular. But the plumes move slowly in the andesite. Monitoring wells need to be spaced sufficiently to detect the plume during mine operations. Ranches Ex. 24, pp. 38-39; Myers Test. Tr. vol. 4, p. 1222, lines 17-22. Dr. Myers

concludes that monitoring wells downgradient of the proposed waste rock piles also need to be spaced approximately every 500 feet, although somewhat wider spacing would be acceptable. That would require a total of approximately 10 monitoring wells along the downgradient perimeter of the waste rock piles. Ranches Ex. 24, p. 39; Myers Test. Tr. vol. 4, p. 1222, line 23 to p. 1223, line 5.

The Copper Mine Regulations require an applicant for a discharge permit to submit to the Department a groundwater monitoring plan showing the location of proposed monitoring wells. Monitoring wells must be spaced "as close as practicable around the perimeter and downgradient of" each specified mine facility, including open pits, waste rock piles, and tailings impoundments. 20.6.7.28.B NMAC. The regulations further specify:

> Monitoring wells shall be located pursuant to this section to detect an exceedance(s) or a trend towards exceedance(s) of the applicable standards at the earliest possible occurrence, so that investigation of the extent of contamination and actions to address the source of contamination may be implemented as soon as possible.

Id. The Department may require additional wells around the perimeter of mine units that are underlain by areas where ground water flow directions are uncertain. Such areas may include areas of potential fracture flow and areas around mine units that have the potential to cause ground water mounding. *Id.*

Because the groundwater monitoring network in the permit is inadequate to detect an exceedance or a trend towards exceedance of the groundwater quality standards at the earliest possible occurrence, it does not meet this requirement of the regulations. N.M. Copper Corp. did not meet its burden of showing that the permit should be approved. During the hearing, the Ranches proposed a new permit condition requiring wells to be spaced at approximately 500-foot intervals downgradient of the Tailings Storage Facility and downgradient of the waste rock piles. Ranches Ex. 34. The Department did not oppose the proposed permit condition. Vollbrecht Test. Tr. vol. 3, p.

555, line 17 to p. 556, line 13, and p. 556, line 23 to p. 557, line 9. As with the andesite characterization, the Hearing Officer invited the Secretary to add a condition to the discharge permit requiring additional monitoring wells. Hearing Off'r Rep't at 14. The Secretary found that the groundwater monitoring network is adequate." Final Order at 3, ¶ 9.

The Commission should reverse the Secretary's finding that the groundwater monitoring well network in the discharge permit is adequate. The Secretary's finding is not in accordance with the Copper Mine Regulations and not supported by substantial evidence in the record. *See* NMSA 1978, § 74-6-7(B)(2), (3). The Commission should remand the discharge permit to the Department to add a permit condition requiring a more extensive monitoring well network.

E. THE FINANCIAL ASSURANCE PROPOSAL IS NOT ADEQUATE

On August 9, 2018, N.M. Copper Corp. submitted a preliminary financial assurance cost estimate ("Preliminary FA Proposal") to the Mining and Minerals Division (MMD) of the New Mexico Energy, Minerals and Natural Resources Department. NMCC Ex. 7; Smith Test. Tr. vol. 1, p. 55, lines 7-8. As of this date, N.M. Copper Corp. has not submitted a final financial assurance proposal, and there is no final proposal in the record. Although financial assurance is a critical element of a discharge permit – and it was a major issue during the hearing – the Secretary found that he did not need to make a decision on the adequacy of the financial assurance as part of his decision on the discharge permit. Hearing Off'r Rep't at 18; Final Order at 3-4, ¶ 10. He also did not find "either substantive inadequacy or procedural defect" in the Preliminary FA Proposal. Final Order at 4, ¶ 10. However, because it is based on the inadequate and incomplete Preliminary FA Proposal, the discharge permit does not satisfy the financial assurance requirements of the WQA and the regulations.

Financial assurance is particularly important in this case considering the history of the Copper Flat Mine. One company stopped production after only three months. Another company went into bankruptcy. Several others considered reopening the mine, but ultimately did not. The mine was abandoned repeatedly. The profitability of the ore body is marginal. This history renders the company's "best case" projections especially doubtful. Moreover, the current owner and operator of the mine, N.M. Copper Corp., holds no assets other than the mine itself. Smith Test. Tr. vol. 1, p. 63, lines 1-16. It is a wholly-owned subsidiary of a Canadian corporation. If the financial assurance that N.M. Copper Corp. ultimately obtains is inadequate because, for example, the cost estimate is too low, and the company goes into bankruptcy before completing closure, the State of New Mexico will have little recourse. The State, and ultimately its taxpayers, will bear the additional costs of closure. Vollbrecht Test. Tr. vol. 2, p. 548, line 9 to p. 549, line 1.

Yet the Preliminary FA Proposal for the Copper Flat Mine is, on its face, inadequate and incomplete. During the hearing, Department staff acknowledged the shortcomings of the proposal. The Secretary, in approving the permit, also tacitly acknowledged that the proposal was not adequate as it was "the subject of multi-agency negotiation" with N.M. Copper Corp. Final Order at 3, ¶ 10. Several problems with the Preliminary FA Proposal were recognized during the hearing.

First, the proposal does not include two key components of financial assurance. It does not include a proposed form that the financial assurance will take, such as a bond or a letter of credit. Vollbrecht Test. Tr. vol. 2, p. 554, lines 10-17. And it does not include either the discount rate or the escalation rate that will be applied to the cost estimate. *Id.* vol, 2, p. 549, lines 2-23.

Second, the Preliminary FA Proposal is based on the impractical assumption that, after 25 years, the company will be able to simply "walk away" from the mine. The Preliminary FA Proposal is based on the assumption that groundwater monitoring will be necessary at the Copper Flat Mine

for only 25 years. Smith Test. Tr. p. 65, lines 3-14; Vollbrecht Test. Tr. vol. 2, p. 551, lines 15-22. The proposal is also based on the assumption that water will continue to drain from the Tailings Storage Facility for only 25 years. Smith Test. Tr. p. 64, lines 18-22; Vollbrecht Test. Tr. vol. 2, p. 550, line 25 to p. 551, line 7. Both of these 25-year projections are implausible. Monitoring and maintenance activities will likely be necessary for much longer than 25 years. In other jurisdictions, monitoring and maintenance activities are generally projected to continue for 100 to 500 years. Kuipers Test. Tr. vol. 54, p. 1035, lines 3-12, p. 1046, lines 8-12. Indeed, Department staff have, appropriately, concluded that a minimum of 100 years will be necessary for monitoring of groundwater and for management of tailings drainage. Vollbrecht Test. Tr. vol. 2, p. 543, line 16 to p. 544, line 17.

Third, the Preliminary FA Proposal omits a number of important elements of the closure of the mine, and their associated costs. It does not include monitoring of the water level in the pit lake, stability of the Tailings Storage Facility, erosion, vegetation growth, or wildlife. Kuipers Test. Tr. vol. 2, p. 1047, line 21 to p. 1049, line 7. The Preliminary FA Proposal includes only a one-time expenditure for post-mining maintenance in year 7 in the amount of $686,791, which is most likely insufficient. *Id.* vol. 4, p. 1050, lines 8-13, 22-23. And the proposal does not include costs for the maintenance of roads, storm water control structures, the pit lake, or the Tailings Storage Facility capture system. *Id.* vol. 4, p. 1051, lines 10 to p. 1052, line 13.

Fourth, the Preliminary FA Proposal applies a direct cost rate of only 26 percent, which is substantially lower than MMD draft guidance would require (42 percent). *Id.* vol. 4, p. 1058, lines 9-13; Ranches Ex. 20. Indirect costs, which include such things as administration and overhead, are a significant component of closure costs.

Because the financial assurance proposal is preliminary, inadequate, and incomplete, it does not conform to the WQA and the Copper Mine Regulations. Financial assurance is a critical component of a mining discharge permit. The WQA specifically authorizes the Commission to adopt regulations for "financial responsibility." NMSA 1978, § 74-6-5(H). The Copper Mine Regulations provide that an application for a permit "shall include a proposal for financial assurance for those portions of a copper mine facility to be reclaimed in accordance with a closure plan." 20.6.7.11.U NMAC. The regulations further provide that the Department can propose to approve or disapprove a discharge permit only after "all required technical information is available," or after "an application is deemed technically complete." 20.6.7.10.H NMAC; *see also* 20.6.2.3109.B NMAC. But because the financial assurance proposal was (and remains) incomplete, all required technical information was *not* available to the Department, and the permit application was *not* technically complete.

Thus, approval of the permit was procedurally flawed. When the Department held the public hearing on the discharge permit, the administrative record was not complete. The public did not have an opportunity to review a complete and adequate financial assurance proposal, comment on the proposal, and present evidence, data, views, and arguments on the proposal in a public forum. *See* NMSA 1978, § 74-6-5(G). And when the Secretary approved the permit, he likewise did not have a complete administrative record for his consideration. And now the Commission does not have before it a complete administrative record upon which to judge the Secretary's decision.

Aside from the legal question, the Commission should find that the Preliminary FA Proposal is inadequate as a matter of policy. As Mr. Kuipers observed, issuance of the discharge permit before the financial assurance requirements have been determined reduces the leverage that the Department has in the financial assurance negotiations. Kuipers Test. Tr. vol. 4, p. 1114, line 11 to

p. 1115, line 3. Approval of a discharge permit is especially problematic when basic elements of the financial assurance – the form of the financial instruments, the total amount of financial assurance, the length of time that monitoring and maintenance costs will be necessary – have yet to be determined. Again, neither the Department, nor the public, nor this Commission have had a chance to review and assess the final (or near-final) financial assurance for this permit. Moreover, this Commission, as the body that adopts regulations under the WQA and oversees their implementation, has the authority to establish agency policy. For example, in reviewing the groundwater discharge permit for another copper mine, the Court of Appeals directed the Commission to "create some general factors or policies to guide its determination" whether certain WQA requirements have been met. *Phelps Dodge Tyrone v. N.M. Water Quality Control Comm'n*, 2006-NMCA-115, ¶ 35, 140 N.M. 464, 473, 143 P3d 502, 511. The Commission should find, as a matter of agency policy, that the permit should not have been issued without a final financial assurance proposal.

The Commission should reverse the Secretary's finding that he need not rule on the adequacy of financial assurance. The Commission should also reverse the Secretary's finding of no substantive inadequacy or procedural defect in the Preliminary FA Proposal. The Secretary's findings are not in accordance with the Copper Mine Regulations, arbitrary, capricious, and not supported by substantial evidence in the record. *See* NMSA 1978, § 74-6-7(B)(1), (2), (3). The Commission should remand the discharge permit to the Department to allow the agencies time to complete their negotiations and to allow N.M. Copper Corp. an opportunity to submit a final financial assurance proposal.

VI. CONCLUSION

For the foregoing reasons, the Ranches and GRIP respectfully request that the Commission reverse the Secretary's Final Order approving the discharge permit and remand the matter to the

Secretary. The Commission should instruct the Secretary to deny the permit because the permit application is not technically complete; the permit will result in the exceedance of State water quality standards; and the permit will result in undue risk to property. Alternatively, the Commission should instruct the Secretary to revise the permit to require the permittee to treat the water in the pit lake or take other measures to ensure that surface water standards are met; require the permittee to fully evaluate the andesite bedrock, particularly its conductivity and the extent to which it is fractured; require the permittee to expand the monitoring well network; and require the permittee to submit a final, approvable financial assurance proposal.

Respectfully submitted,

June 18, 2019

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CERTIFICATE OF SERVICE

I hereby certify that on this 18th day of June 2019, a copy of the foregoing Joint Opening Brief of Petitioners Turner Ranch Properties, L.P., Hillsboro Pitchfork Ranch, LLC, and Gila Resources Information Project was sent by first class mail, postage prepaid, or electronic mail to:

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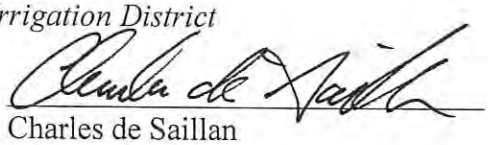


Charles de Saillan

STATE OF NEW MEXICO
BEFORE THE WATER QUALITY CONTROL COMMISSION

IN THE MATTER OF:	)	
THE PETITION FOR A HEARING ON	)	**Docket No.**
DISCHARGE PERMIT NO. DP-1840	)	**WQCC-19-02(A)**
FOR THE COPPER FLAT MINE,	)	
	)	
TURNER RANCH PROPERTIES, L.P.,	)	
HILLSBORO PITCHFORK RANCH, LLC,	)	
AND GILA RESOURCES INFORMATION	)	
PROJECT,	)	
	)	
Petitioners.	)	
	)	

AFFIDAVIT OF ALLYSON SIWIK

Allyson Siwik, being duly sworn, deposes and says:

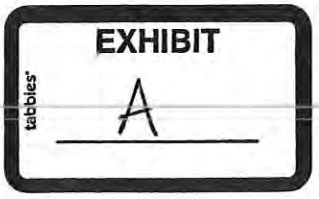
1. My name is Allyson Siwik. I am the Executive Director of Gila Resources Information Project (GRIP).

2. My duties as Executive Director include setting goals and priorities for GRIP and developing positions on environmental and health issues. I also represent GRIP on local and statewide community and environmental health bodies.

3. GRIP is a New Mexico nonprofit organization, tax-exempt under section 501(c)(3), established in 1998, and based in Silver City, New Mexico. GRIP has approximately 1000 supporters.

4. GRIP's mission statement states that:

> Recognizing that human and environmental systems are inseparable and interdependent, Gila Resources Information Project pursues two goals:
>
> 1. To protect and nurture human communities by safeguarding the natural resources that sustain us all; and



2. To safeguard natural resources by facilitating informed public participation in resource use decisions.

5. GRIP's mission is to promote community health by protecting the environment and natural resources of southwest New Mexico, including protecting groundwater for current or potential future use as drinking water. GRIP has advocated for protection of groundwater and surface water and for free-flowing rivers.

6. GRIP engages in various activities including public outreach, education and advocacy. These activities include publishing a newsletter, communicating with supporters via a website, e-mail, and social media, offering community meetings, issuing press releases, placing display advertisements, and encouraging and facilitating public participation in regulatory deliberations regarding mines and mining in southwest New Mexico.

7. For the past 20 years, GRIP has participated in numerous proceedings before the Environment Department involving discharge permits under the N.M. Water Quality Act for the Copper Flat Mine. GRIP has also participated in discharge permit proceedings for the Freeport-McMoRan (formerly Phelps Dodge) Tyrone and Chino copper mines in Grant County, New Mexico, and other mining projects in southern New Mexico.

8. GRIP also participated in the rulemaking proceeding before the Water Quality Control Commission on the Copper Mine Rule, and was a party in the appeals to the N.M. Court of Appeals and the N.M. Supreme Court.

9. GRIP has also participated in administrative proceedings before the Mining and Minerals Division of the Energy, Minerals and Natural Resources Department involving mining permits under the N.M. Mining Act for the Copper Flat Mine, as well as for the Tyrone and Chino mines.

10. GRIP also actively supported legislation in the 2019 New Mexico Legislative Session to clarify the Water Quality Act provision that states where groundwater quality standards are measured, and to strengthen the Mining Act provision on financial assurance for hardrock mines.

11. Most GRIP members live in southwestern New Mexico, including areas in the vicinity of the proposed Copper Flat Mine that is subject to a discharge permit (DP-1840) issued by the New Mexico Environment Department in December 2019.

12. GRIP members use and enjoy the natural resources of southwest New Mexico, including the areas in the vicinity of the Copper Flat Mine, such as the Ladder Ranch. They use these areas for various forms of recreation, including hunting, fishing, birding, hiking, photography and mountain biking.

13. I understand that operations at the Copper Flat Mine are likely to cause contamination of groundwater and depletion of groundwater, and might also cause contamination and depletion of surface water. I also understand that operations at the Copper Flat Mine will result in the creation of a pit lake that will not meet New Mexico surface water standards for protection of wildlife.

14. Potential pollution from the Copper Flat Mine operations may adversely affect the ability of GRIP members to use and enjoy the natural resources in the area, including water resources.

15. GRIP has a direct, substantial interest in this action, the outcome of which may have enormous adverse effects on the natural resources and environment, including water resources, that its members use and enjoy and that the organization works to protect.

16. GRIP's interests in this proceeding are not represented by any of the other parties. GRIP is a community organization seeking to provide a public-interest perspective to administrative agencies granting or approving discharge permits in order that New Mexico's natural resources, environment, and communities are well protected.

I declare under penalty of perjury that the foregoing is true and correct.

Dated: June 15, 2019

Allyson Siwik

STATE OF NEW MEXICO)
) ss:
COUNTY OF GRANT)

Sworn to before me this 15th day of June 2019

OFFICIAL SEAL
Amanda Clinton
NOTARY PUBLIC
STATE OF NEW MEXICO
My Comm. Expires 12-14-22

Notary Public

My commission expires: 12-14-22

STATE OF NEW MEXICO
BEFORE THE WATER QUALITY CONTROL COMMISSION

IN THE MATTER OF:	)	
THE PETITION FOR A HEARING ON	)	**Docket No.**
DISCHARGE PERMIT NO. DP-1840	)	**WQCC-19-02(A)**
FOR THE COPPER FLAT MINE,	)	
	)	
TURNER RANCH PROPERTIES, L.P.,	)	
HILLSBORO PITCHFORK RANCH, LLC,	)	
AND GILA RESOURCES INFORMATION	)	
PROJECT,	)	
	)	
Petitioners.	)	
	)	

AFFIDAVIT OF MICHAEL P. BERMAN

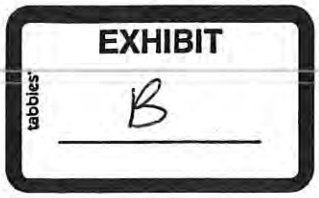
Michael P. Berman, being duly sworn, deposes and says:

1. My name is Michael P Berman. I am a resident of Grant County, New Mexico.

2. I am a member and on the board of the Gila Resources Information Project that works to protect community health by protecting the environment and natural resources in southwest New Mexico.

3. I understand that operations at the Copper Flat Mine are likely to cause contamination of groundwater and depletion of groundwater, and might also cause contamination and depletion of surface water. I also understand that operations at the Copper Flat Mine will result in the creation of a pit lake that will not meet New Mexico surface water standards for protection of wildlife.

4. I am an artist and photographer. The primary focus of my work is identifying and photographing intact ecosystems, with a focus on desert grasslands and riparian habitat. I have published two books: "Trinity" Bowden/Berman and "Fly-Fishing in Southern New Mexico" Johnson et al, which include images I made in the Animas watershed; on the Ladder Ranch and



in the Gila National Forest. I have exhibited these images in Museums and Galleries. I have received grants and financial support from: The Guggenheim Foundation, The Lannan Foundation and the McCune foundation for this work.

5. I am currently working on a survey of the Rio Grande River from headwaters in Colorado to the Gulf of Mexico. The Animas River is the only river I have access to in which the riparian has recovered throughout most of the watershed. I am also working on a project over the next six years which looks at watershed scale ecosystems that have recovered from ecological degradation. The Ladder Ranch and the Animas river are a critical component of these projects and I will be returning to these areas in the future for my work.

6. When you enter the Ladder Ranch you drive through the Avant pasture. The pasture is currently in a low intensity grazing regime utilizing bison and horses. Of particular interest to me are the various regimes that have been implemented for the recovery of desert grasslands that have endured high intensity grazing and shifted to scrub ecosystems with low grass species diversity and density. The Avant pasture is unique because it uses animals - horses and bison, which behave differently than other ranch herbivores: cattle, sheep and goats. Also the Ladder Ranch has demonstrated a long term commitment to implement and continue unique grazing regimes. This is important because the effects of change in a grazing regime can take a long time, decades and centuries, to manifest in desert grasslands. I am not aware of other ranches that have implemented this grazing regime: horses and bison. The Avant Pasture is of particular significance in that it was very degraded, and has significant expanses that had shifted to creosote and now, after decades, the pasture is showing recovery. Photographing this shift in ecological systems is the heart of my work. Examples like this are rare, and I do not know of a

comparable experiment to the pasturing of horses and bison in the Chihuahuan Desert. Grass lands of the Chihuahuan Desert are a central focus of my work.

7. I will publish the book "Perdido" this Fall 2019. One of the central themes of the book combines hunting coues deer in healthy ecosystems with learning to see and value the unique characteristics of ecological systems. The Avant pasture is also important to me in that it is also used for hunting and wildlife viewing, and shows people an example of the effects on wildlife populations of healthy ecological systems.

8. I make my living from the publication, exhibition and sale of images. Either the pollution of the Animas watershed or the withdrawal of ground water that could cause the degradation of habitat in the Animas Watershed and on the Ladder Ranch would have an adverse effect on my professional work.

9. I use and enjoy the natural resources of southwest New Mexico, including the areas in the vicinity of the Copper Flat Mine, such as the Ladder Ranch for recreation.

10. Potential pollution from the Copper Flat Mine operations may adversely affect my ability to use and enjoy the natural resources in the area, including water resources.

11. I have a direct, substantial interest in this action, the outcome of which may have enormous adverse effects on the natural resources and environment, including water resources, that I use and enjoy.

12. My interests in this proceeding are not represented by any of the other parties.

I declare under penalty of perjury that the foregoing is true and correct.

Dated: June _____, 2019

_____
Michael P. Berman

STATE OF NEW MEXICO)
) ss:
COUNTY OF GRANT)

Sworn to before me this _____ day of June 2019

_____
Notary Public

My commission expires: _____