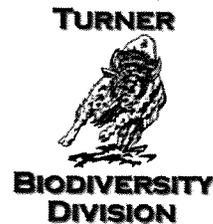
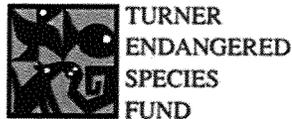


# Turner Endangered Species Fund & Turner Biodiversity Division Annual Report 2012



Mike Phillips, Carter Kruse, Dustin Long, Val Asher, Chris Wiese, Mackenzie Mizener,  
Hanne Small, and Magnus McCaffery

Turner Endangered Species Fund/Turner Biodiversity Division

1123 Research Drive

Bozeman, MT 59718

Website: [www.tesf.org](http://www.tesf.org)

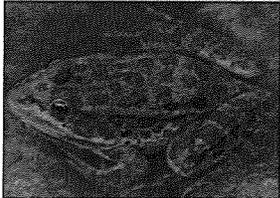
ATTACHMENT 1 TO  
EXHIBIT J

## IMPERILED SPECIES CONSERVATION PROJECTS

### ~ CHIRICAHUA LEOPARD FROG ~

*Lithobates chiricahuensis*

– ESA listing: **THREATENED**



STATUS: *Ongoing*

Principal biologists:

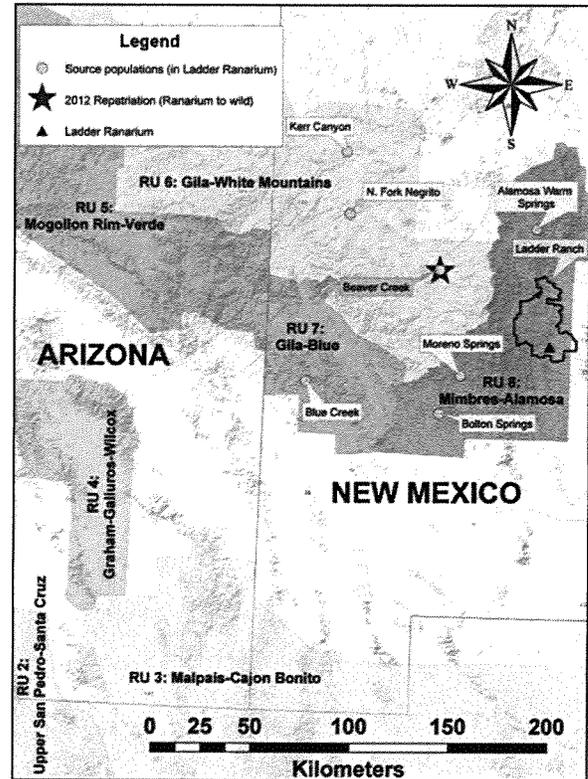
- Magnus McCaffery
- Hanne Small

#### Background

The Chiricahua leopard frog (CLF), has been lost from significant portions of its historical range in New Mexico and Arizona, and was listed as threatened under the Endangered Species Act (ESA) in 2002.

Numerous factors are implicated in the range-wide decline of this species, including: disease, nonnative species invasions, habitat degradation, and an increase in the severity and duration of drought conditions. Perhaps in response to reduced natural habitat availability and drying conditions, CLF naturally colonize stock tank structures. These serve as artificial CLF habitats in an increasingly arid landscape, and natural CLF colonization events have prompted conservation actions that utilize stock tanks to create captive CLF refugia populations. This involves removing frogs from the wild whose populations are deemed at risk of extirpation and placing them into escape-proof steel livestock tanks.

We have worked in partnership with the U.S. Fish and Wildlife Service (USFWS), and the New



Map 1: The Ladder Ranch is a CLF Management Area within the Mimbres-Alamosa Recovery Unit. In 2012, the Ladder's ranarium facility bred captive CLFs from seven off-ranch populations, spanning 3 Recovery Units.

Mexico Department of Game and Fish (NMDGF) to conserve the CLF on the Ladder Ranch since 2001. The conservation value of this 62,950 hectare property, located in Sierra County, New Mexico (*Map 1*) cannot be overstated. As home to the last, large CLF population in New Mexico, the Ladder Ranch plays a crucial role in the survival of this species as well as their range-wide recovery. The ranch is one of four CLF Management Areas within the Mimbres-Alamosa

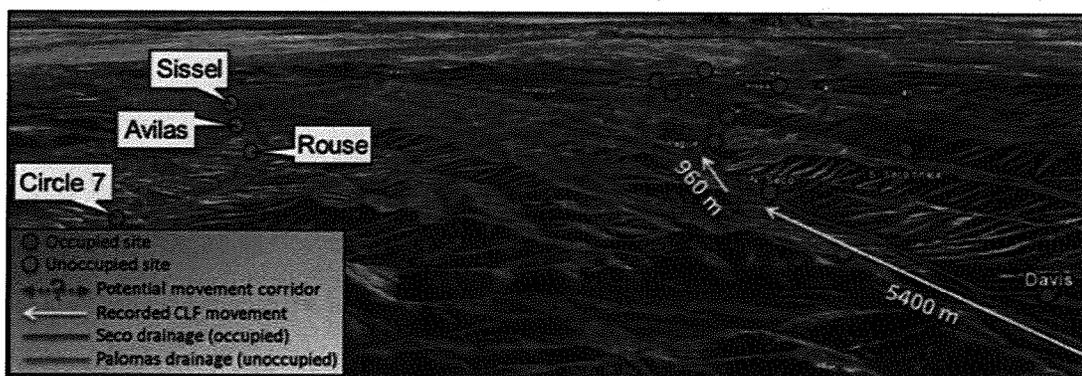


Figure 1: Expanding CLF occupancy into new wetlands to bolster the strong Seco Creek (green) population. With habitat modification and CLF translocations in Las Palomas Creek (orange), we aim to establish a robust, connected, and self-sustaining population on the Ladder Ranch.

CLF Recovery Unit (*Map 1*). The Ranch also lies at the ecotone of two Ecoregions: the *Arizona-New Mexico Mountains Ecoregion*, and the *Chihuahuan Desert Ecoregion*, and as such comprises diverse habitats that support high levels of biodiversity. From a broader conservation perspective, the Chihuahuan Desert Ecoregion is a *WWF Global 200 Priority Ecoregion*, conservation of which will help maintain a broad diversity of Earth’s ecosystems, and the Ladder

Ladder’s CLF population. Importantly, our federal *Threatened Species Recovery* permit was amended in 2012, giving us the tools to effectively monitor planned CLF expansions into new wetland sites.

We also increased our capacity to contribute to range-wide CLF recovery through improvements to captive CLF infrastructure. We made three steel stock tanks ‘escape-proof’, and in collaboration with the USFWS, stocked them with



Figure 2: CLF habitat improvement at a stock water site on the Ladder Ranch. Solar pumping of groundwater fills a CLF-accessible tank and earthen pond. Partial fencing of pond reduces ungulate trampling of frog habitat.

Ranch itself is recognized as a *Key Conservation Area* by The Nature Conservancy.

Our overarching goal is to work with the USFWS to achieve range-wide CLF recovery that results in the delisting of the species from the ESA. To this end, our CLF conservation strategy on the Ladder Ranch incorporates three core objectives:

- (A) To maintain and expand wild CLF populations on the Ladder Ranch.
- (B) To maintain captive refugia and captive breeding facilities for on- and off-ranch frogs.
- (C) To increase our CLF conservation capacity: securing grants, implementing research, developing effective conservation methods.

**Progress in 2012**

We made notable progress in 2012 with our three core objectives. To ensure the persistence of the Ladder Ranch’s wild CLF population, we closely monitored all occupied sites on the ranch, and data suggests that the Ladder population remains robust. However, this population is largely confined to a single drainage (Seco Creek). We aim to improve the likelihood of CLF persistence on the Ladder by expanding CLF distribution into unoccupied wetland habitats through the creation of a network of natural and artificial wetlands (*Figure 1*). In 2012, we began wetland habitat improvements (e.g. *Figure 2*) in several drainages to expand and secure the

CLFs from populations deemed to be at risk of extirpation (*Table 1; Figure 3*). This creates captive “assurance” colonies for these populations, thus preserving as much genetic diversity as possible for the species, and perhaps saving unique locally adapted genotypes that could prove critical in long-term survival of the species.

Table 1: Escape-proof refugia tanks on the Ladder Ranch in 2012, holding CLFs from off-ranch source populations.

Steel tank	Tadpoles	Adult-form	Source population
Feedlot	586	2	Beaver Creek
Seco	900	23	Kerr Spring/Creek
Wildhorse	502	204	Cuchillo/Seco
South	82	19	Cuchillo

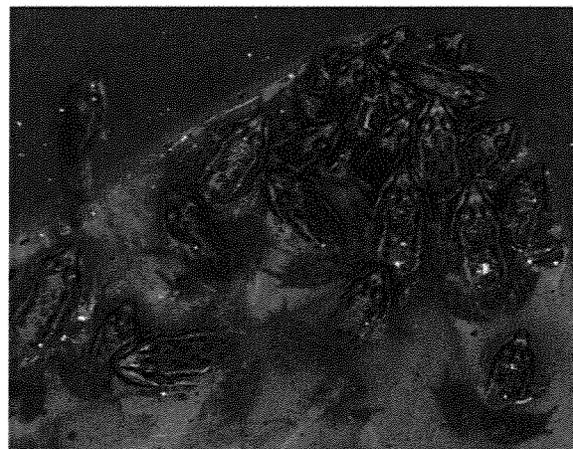


Figure 3: Metamorphs produced from reproduction between Seco and Cuchillo individuals. Offspring were transferred to Wildhorse refugia tank on the Ladder Ranch to create an assurance colony for CLFs with Cuchillo genes.

2012 was also the inaugural year for full-scale operation of the Ladder Ranch captive-breeding ranarium (*Figure 4*). Under our amended federal permit, we began encouraging captive breeding of adult CLFs from seven off-ranch populations, spanning three CLF Recovery Units (*Table 2; Map 1*). Egg masses produced in the adult ranarium cages were transferred to an adjacent tadpole rearing facility. This tadpole facility was completed in spring 2012 and comprises nine tanks which can hold approximately 1,000 tadpoles each. During its first year of operation, the facility produced 22 viable egg masses (*Table 2*), and the tadpoles from these masses were either released into the wild (*Map 1*), or into captive refugia holding tanks (*Table 1*).

*Table 2: The number, source, and reproduction of adult CLFs in the Ladder ranarium during 2012.*

Cube #	Source*	Adult	Adult	# egg masses
		♂	♀	
1	Blue Cr.	4	1	5
2	Alamosa W.S.	3	3	0
3	Beaver Cr.	3	4	17
4	Kerr Can.; N.F. Negrito	6	0	0
		1 unknown sex		
7	Bolton Spr.; Moreno Spr.	0	1	0
		6	0	
8	Bolton Spr.; Moreno Spr.	1	0	0
		0	1	

\* **SOURCE POPULATIONS** (see *Map 1*):

*Blue Creek (RU 7); Alamosa Warm Springs (RU 8); Beaver Creek (RU 6); Kerr Canyon (RU 6); North Fork Negrito (RU 6); Moreno Springs (RU 8); Bolton Springs (RU 8).*



*Figure 4: Captive breeding ranarium and tadpole-rearing facility at Ladder HQ.*

## 2012 CLF planning meeting at the Ladder Ranch

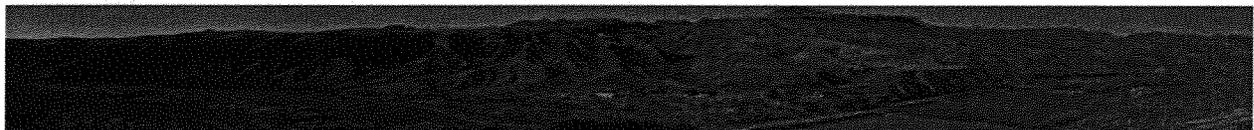
TESF and the Ladder Ranch hosted the *2012 Stakeholder Conservation and Coordination Meeting*, which brought together representatives from federal and state agencies, as well as from zoos, academia, and non-profit organizations (*Figure 5*). During this 3-day meeting, members of the CLF recovery team discussed progress made in 2011, and formulated recovery strategies for 2012.



### In attendance:

1. Michelle Christman (USFWS, NM)
2. Jeff Servoss (USFWS, AZ)
3. Magnus McCaffery (TESF)
4. Carter Kruse (TBD)
5. Hanne Small (TESF)
6. Rebecca McCaffery (Contract biologist)
7. Bruce Christman (Contract biologist)
8. Art Telles (USFS)
9. Jerry Monzingo
10. Justin Schofer (USFS)
11. Rene Guaderrama (USFS)
12. Jack Barnitz (BLM)
13. Charlie Painter (NMDGF)
14. Mike Sredl (AGFD)
15. Diane Barber (Ft. Worth Zoo, TX)
16. Kristine Schad (Lincoln Park Zoo, IL)
17. Randy Jennings (WNMU)
18. Martha Cooper (TNC)
19. Robert Martin (TNC)

*Figure 5: The Ladder Ranch proved to be an ideal venue for the 2012 meeting of the CLF recovery team (Photo Credit: J. Servoss).*



*Panoramic view of the Ladder Ranch farm and headquarters (Credit: M. McCaffery).*

~ CUTTHROAT TROUT ~

**Westslope cutthroat trout (*Oncorhynchus clarkii lewisi*) – ESA listing: NOT LISTED**  
**Rio Grande cutthroat trout (*Oncorhynchus clarkii virginalis*) – ESA listing: CANDIDATE**



**STATUS:** *Ongoing*

**Principal biologist:**  
 - Carter Kruse

Figure 15: WCT from Cherry Creek.

**Background**

The cutthroat trout is native to the Rocky Mountains, and coastal areas of the western U.S., and comprises 14 subspecies. The seven major inland subspecies (based on distribution) historically occupied the majority of cold water environments from Canada to southern New Mexico. However, all subspecies have suffered significant range reductions through competition and introgression with nonnative salmonids, but also by anthropogenic habitat degradation and overexploitation. Lahontan (*O. c. henshawi*) and greenback (*O. c. stomias*) cutthroat trout are listed as threatened under the U.S. Endangered Species Act (ESA) and the other inland subspecies have either been petitioned for listing under the ESA or are considered species of concern by state and federal agencies.

Turner western ranches are located within the range of the northern- and southernmost inland subspecies. Westslope cutthroat trout (WCT) (Figure 15) were historically the most widespread subspecies – occupying an estimated 90,800 km of streams and rivers of Montana, Wyoming and Idaho. The overall range of genetically pure WCT has been reduced by around 76%, while focusing on only the range of the subspecies on the east side of the Continental Divide reveals an alarming range contraction of over 95%. The subspecies was petitioned for listing under the ESA in 1997, but was deemed not warranted in 2003.

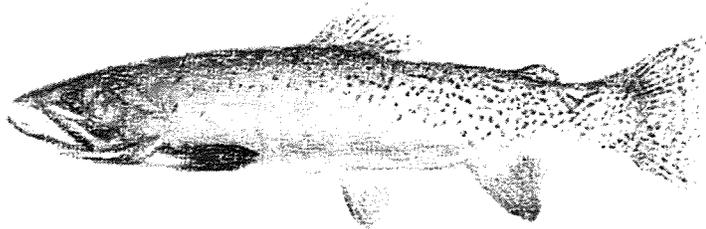
Similarly, Rio Grande cutthroat trout (RGCT) were historically found in about 10,700 km of habitat in the upper Rio Grande River basin of Colorado and New Mexico, although the current distribution of genetically pure populations have been reduced by 92%. This subspecies was petitioned for listing in 1998 and was added to the candidate list (listing is warranted but precluded) in 2008.

Both WCT and RGCT have been conferred with special status by state and federal land management agencies in the states in which they are found, in recognition of their conservation plight (e.g., WCT are designated as a species of concern by Montana Fish Wildlife and Parks (MTFWP), and a sensitive species by the U.S. Forest Service (USFS) and Bureau of Land Management (BLM) in Montana.

The Turner organization plays an important role in cutthroat conservation. The Flying D, Snowcrest, Vermejo, and Ladder ranches all contain large, connected sections of high quality cold water stream habitat within the historical range of WCT and RGCT. Cutthroat trout conservation is consistent with the mission of Turner Enterprises and fits within the land management framework on the ranches. Most importantly, the Turner family has been supportive of cutthroat restoration, embracing the risks inherent with large-scale native trout restoration. Subsequently, the Turner Biodiversity Program (TBD) developed a Cutthroat Trout Initiative with a goal of catalyzing cutthroat restoration or conservation activities on 400 km of stream. **This is by far the most comprehensive and ambitious effort on behalf of native cutthroat trout ever undertaken by a private organization.** Efforts to restore or conserve cutthroat trout are underway in eight streams on four ranches (Table 3).

Table 3: Cutthroat trout projects on Turner Ranches.

Stream	Ranch	Species	Project length (km)	Status
Cherry Cr.	Flying D	WCT	100	Completed in 2012
Spanish Cr.	Flying D	WCT	30	Early planning
Green Hollow Cr.	Flying D	WCT	4	Underway
Bear Trap Cr.	Flying D	WCT	8	Being considered
Greenhorn Cr.	Snowcrest	WCT	32	Final planning
Costilla Cr.	Vermejo	RGCT	190	Underway
Las Animas Cr.	Ladder	RGCT	48	Advanced planning
Vermejo River	Vermejo	RGCT	32	Underway



**Green Hollow Creek, MT** – Since 2003, TBD has used electrofishing to reduce brook trout numbers in upper Green Hollow Creek, and thereby mitigate disease and competitive pressure on the Green Hollow II arctic grayling (*Thymallus arcticus*) conservation broodstock. In 2010 the focus of the removal program shifted from reduction to elimination in anticipation of reintroducing WCT to the creek. Over 3,500 brook trout were removed by electrofishing in 2012, and we anticipate total removal of brook trout within one to two years. In conjunction with this project, we are collaborating on an innovative effort that is exploring the utility of using carbon dioxide as a nonnative fish removal tool.

**Bear Trap Creek, MT** – Due to its remoteness and lack of an obvious barrier site, this project is the least likely of the Cutthroat Trout Initiative to be implemented. However, in 2012 TBD began the necessary steps to assess project feasibility. Multiple population monitoring sections were established and sampled, a few fish that visually looked like cutthroat trout were sampled for genetic purity, and the watershed was reconnoitered to assess the potential scale of the project.

**Greenhorn Creek, MT** – This project entered final planning stages in 2012 in anticipation of a piscicide treatment in 2013. A permanent fish barrier (*Figure 21*), completed in October, will prevent nonnative re-invasion of the project area. The entire project area was assessed for a final time in order to identify all fish-holding water and develop a treatment plan. Fish population monitoring was conducted at seven, 100 m sites in the north and south forks to establish a pre-treatment population baseline. Potential donor streams (to provide WCT for introduction to Greenhorn Creek) were sampled and are being genetically tested. Final environmental analyses and permitting for the piscicide application are progressing.

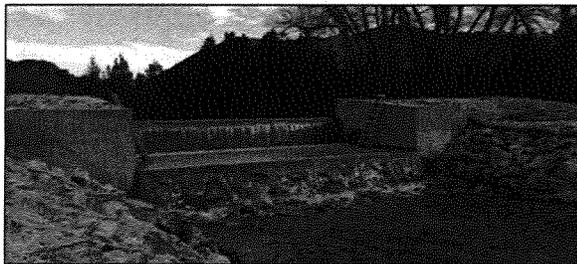
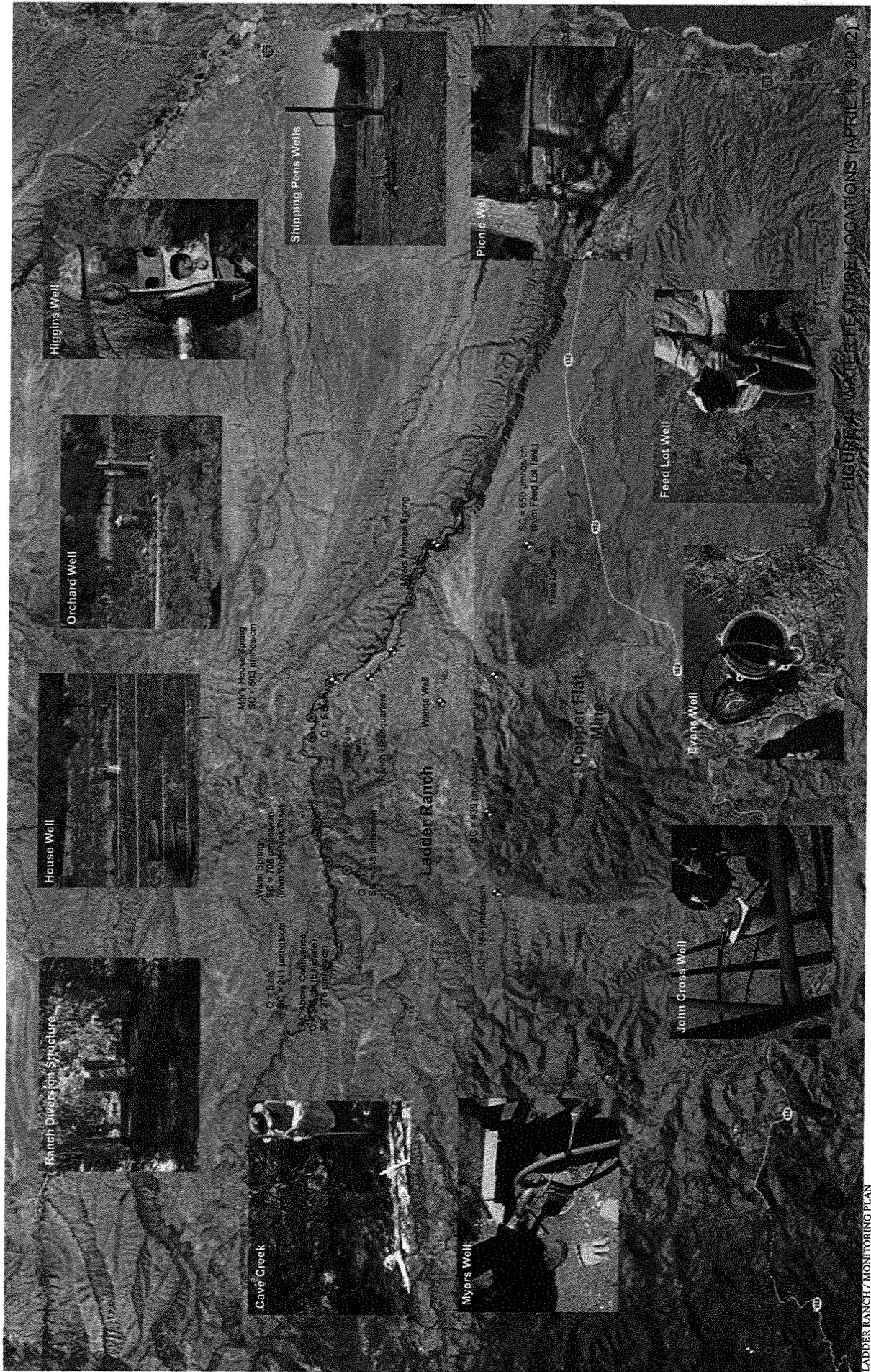


Figure 21: Permanent fish movement barrier on Greenhorn Creek.

**Costilla Creek, CO/NM (Case Study 2)** – In 2012, we installed two temporary fish barriers in Dominquez and Allen creeks, and renovated habitat above the barriers in anticipation of restocking RGCT. Around 4,500 young-of-year and age-1 RGCT were stocked into upper Casias Creek where nonnative removals were completed in 2011. To support recreational angling at VPR, several hundred RGCT were stocked into Lake #1 in July 2012. Glacier Lake and Lake #1 were also stocked with young-of-year RGCT in September 2012. Electrofishing was conducted in Casias and Costilla creeks to monitor the recovery of previously introduced RGCT. The data (*Figure 17*) shows the RGCT population in upper Costilla Creek is similar in size structure and density to the pre-treatment, nonnative fish community.

**Las Animas Creek, NM** – The Las Animas Creek Native Fishes Project was initiated in 1998 to restore the fish community of RGCT, Rio Grande sucker (*Catostomus plebeius*; a state species of concern), and Rio Grande chub (*Gila pandora*) to the upper 30 miles of Animas Creek. This fish community, once common in NM and southern CO, can no longer be found due to habitat loss and the introduction of exotic competitors. Animas is the southernmost historical distribution of RGCT and Rio Grande sucker, and this project presents an opportunity to restore a fish community that is functionally extinct across its range.

Half of the project area is located on the Ladder Ranch, with the remainder on the Gila National Forest. The project was initially opposed by a third party that owned ~one mile of Animas Creek between the Ladder and the national forest boundary. To move the project along, the Ladder purchased the intervening land in 2002. Despite this, the project stalled in 2003 due to other priorities among partners, political resistance, and the presence of the threatened CLF. In 2011 the NM Game Commission approved project implementation, but a severe 2012 fire season on the Gila National Forest took priority and the USFS was unable to commit resources to the project. Nevertheless, we continued pre-treatment monitoring in 2012, including fish distributions, abundance, and genetic analysis of Rio Grande sucker populations. TBD is now considering a shift from chemical to mechanical removal methods, which could allow the project to proceed while the permitting process for chemical renovation runs its course.



BALLEAU GROUNDWATER, INC.

ATTACHMENT 2 TO EXHIBIT J

**<sup>1</sup>STATE OF NEW MEXICO  
WATER QUALITY CONTROL COMMISSION**

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

**No. WQCC 12-01(R)**

**New Mexico Environment Department,  
Petitioner.**

**PROPOSED TESTIMONY OF WILLIAM C. OLSON IN SUPPORT OF REQUEST FOR  
STAY**

My name is William C. Olson, and I am presenting testimony in support of the October 23, 2013 Joint Request for Stay of 20.6.7 NMAC by Gila Resources Information Project (“GRIP”), Turner Ranch Properties, L.P. (“TRP”), and Amigos Bravos, referred to collectively as “Citizens”. The Joint Request for Stay is related to the New Mexico Water Quality Control Commission (“Commission”) rule-making hearing case No. WQCC 12-01(R) and the September 10, 2013 adoption of 20.6.7 NMAC by the Commission. I am presenting this technical testimony on behalf of Citizens and myself in support of the Citizens Joint Request for Stay pursuant to the November 7, 2013 Procedural Order Relating to the Joint Motion for Stay of 20.6.7 NMAC.

**I. BACKGROUND AND EXPERIENCE**

I have a Bachelor of Science degree in Geology, and a Master of Science degree in Hydrology from the New Mexico Institute of Mining and Technology, and over 27 years of work experience related to ground water discharge permits and remediation of contaminated ground water under Commission and New Mexico Oil Conservation Division (“NMOCD”) rules.

---

**EXHIBIT K**

Since January of 2012, I have been a private consultant on water quality issues in New Mexico. From mid-March of 2012 through November of 2012, I assisted the New Mexico Environment Department (“Department”) on the development of the Copper Mine Rule.

Prior to 2012, I worked for 25 years in state government on water quality issues with both the Department and the NMOCD.

I held the position of Bureau Chief of the Ground Water Quality Bureau with the Department from October of 2004 to November of 2011. As Bureau Chief, I was responsible for supervising and managing personnel of the Ground Water Quality Bureau’s Mining Environmental Compliance Section, Pollution Prevention Section, Remediation Oversight Section, Superfund Oversight Section, and Grants and Planning Section. My duties included directing the permitting and enforcement of discharge permits and abatement of ground water pollution pursuant to the New Mexico Water Quality Act (“WQA”) and Commission rules; remediation of contaminated properties pursuant to the Voluntary Remediation Act and Voluntary Remediation Regulations; remediation of abandoned sites in support of the U.S. Environmental Protection Agency Superfund Program; and implementation of the Department’s responsibilities under the New Mexico Mining Act. I also led the Department team that developed the Dairy Rule that was adopted by the Commission in January of 2012.

Prior to my term as Bureau Chief of the Ground Water Quality Bureau, I was a hydrologist for the NMOCD Environmental Bureau from 1990 to 2004. In this capacity, I implemented and enforced the WQA and Commission rules related to discharge permitting and abatement of ground water pollution at refineries, natural gas processing plants, natural gas compressor stations, brine extraction wells and oilfield service companies. I also implemented and enforced NMOCD water quality protection permit and pollution abatement rules adopted pursuant to the New Mexico Oil and Gas Act (“Oil and Gas Act”) for oilfield exploration,

development, production and disposal sites. Additional duties included conducting ground water studies, rule development and serving as an expert witness for water quality protection rules related to the oilfield industry.

From 1988 to 1990, I worked for the New Mexico Environmental Improvement Division's Ground Water Quality Bureau as a hydrologist, and from 1986 to 1988 I worked for the NMOCD as a hydrologist. Both of these jobs involved discharge permitting and abatement of water pollution under Commission rules.

I previously served on the Commission as the designee of the NMOCD for a period of approximately 13 years, and later served on the New Mexico Oil Conservation Commission as the designee of the Secretary of the Energy Minerals and Natural Resources Department for a little over 5 years. During service on both of these commissions, I participated in the adoption of a number of water quality protection rules under both the WQA and Oil and Gas Act.

A copy of my resume is already in the hearing record as Olson Direct Testimony WCO Exhibit 2.

## **II. INTRODUCTION**

On September 10, 2013, the Commission adopted 20.6.7 NMAC ("Copper Mine Rule"). The Copper Mine Rule reverses the Commission's and its constituent agencies' 36 year practice of protecting all ground water having 10,000 mg/l total dissolved solids or less for use as a domestic and agricultural water supply. Citizens, the Attorney General's Office, and myself have provided extensive evidence in the hearing record of how the Copper Mine Rule violates the WQA and have subsequently filed appeals of the Commission's adoption of the Copper Mine Rule with the New Mexico Court of Appeals. It is likely that the Copper Mine Rule will be set aside upon appeal as discussed in Citizens October 23, 2013 Joint Request for Stay of 20.6.7 NMAC. A stay of the Copper Mine Rule while the Rule is under appeal is necessary because

irreparable harm is likely to occur if a stay is not granted, as set out below.

**III. UNLESS IT IS STAYED PENDING APPEAL, THE COPPER MINE RULE WILL TERMINATE THE PUBLIC PERMITTING PROCESS ALREADY COMMENCED REGARDING DISCHARGE PERMIT DP-493 AND ALLOW NEW GROUND WATER POLLUTION AT CHINO MINE AT A PLACE OF WITHDRAWAL.**

On June 21, 2013, the Department issued a public notice of a draft Discharge Permit Renewal and Modification for DP-493 (*see* Attachment 1) at the Chino Mine under existing Commission rules. Draft DP-493 authorizes Chino Mines Company (“Chino”) to discharge in a manner that allows active and ongoing pollution of ground water in violation of the statutory permit approval requirements of the WQA and Commission rules. On July 21, 2013, GRIP, Amigos Bravos, Sierra Club Rio Grande Chapter, Conservation Voters New Mexico, Upper Gila Watershed Alliance, New Mexico Wildlife Federation, Perch/Animas Water Shed Association and William Olson (“Protestants”) (*see* Attachment 2) raised the following issues on the draft permit renewal.

1. In permit Findings #1 and 2 on Page 3 of the draft permit, the Department determined that effluent or leachate from Reservoir 3A may be discharged in a manner such that it will migrate from the reservoir into ground water.

2. On page 2, the draft permit states that the quality of solutions in the mine process water and impacted stormwater that will be discharged to Reservoir 3A exceeds the Commission water quality standards of 20.6.2.3103 NMAC for copper, manganese, iron, cadmium, chromium, fluoride, pH, sulfate, zinc and total dissolved solids. In addition, the draft permit states that Reservoir 3A contains sediments with leachable salts and metals that may become mobile and migrate into ground water.

3. In Finding #5 on Page 3 of the draft permit, the Department determined that discharges from Reservoir 3A have caused contamination of ground water in excess of Commission water quality standards of 20.6.2.3103 NMAC. The permit would allow active and continual pollution of ground water in excess of Commission standards.

4. Finding #4 on Page 3 of the draft permit states that the Department considers the discharge site covered by DP-493 to be a potential place of withdrawal of water for present or reasonably foreseeable future use (“place of withdrawal”) unless Chino presents evidence of why the site is not a place of withdrawal.

5. Pursuant to Section 74-6-5(E)(3) of the WQA and Commission rules in 20.6.2.3109.C NMAC and 20.6.2.3109.H NMAC, a discharge permit must be denied if the discharge would cause water pollution in excess of the Commission standards of 20.6.2.3103 NMAC at any place of withdrawal of water. According to the draft permit, Reservoir 3A has already caused ground water pollution in excess of Commission standards at a place of withdrawal. Under the draft permit, Chino would be allowed to continue to cause water pollution in excess of Commission standards at a place of withdrawal. This is a violation of the WQA and Commission rules.

For the above reasons, Protestants requested a public hearing on the permit if the Department intends to approve the permit as proposed. To date, the Department has not taken any action on this hearing request. Effective December 1, 2013, the Copper Mine Rule will require re-issuance of a draft permit consistent with the new rules. A new permit under the Copper Mine Rule will effectively void the Department’s determination that the site is a potential place of withdrawal and allow pollution at a determined place of withdrawal without any site-specific demonstration from Chino to the contrary in violation of the WQA.

In addition, the draft Discharge Permit DP-493 in permit condition 17 requires abatement

of water pollution that has occurred with the permit area. Without a stay, a re-issued permit under the Copper Mine Rule will no longer require this Department-determined place of withdrawal to be abated and monitoring and contingency requirements will no longer be necessary. Instead, unless the Copper Mine Rule is stayed pending appeal, the pollution at Chino will be permitted to further increase and spread, which will make the pollution more difficult to investigate and potentially impossible to abate to standards. This irreparable harm should not be allowed to occur while the validity of the Copper Mine Rule is being tested on appeal.

**IV. UNLESS IT IS STAYED PENDING APPEAL, THE COPPER MINE RULE WILL NEGATE EXISTING ABATEMENT PLANS AT FREEPORT MCMORAN, INC.'S ("FMI") MINES.**

The Tyrone, Chino, and Cobre mines have been required to abate water pollution in excess of Commission standards within all areas of each mine. This is currently an ongoing permitting process that will be severely affected without a stay.

Voluminous information on water pollution from copper mine discharge activities has been presented to the Commission at numerous hearings over the past ten years on the Tyrone Mine site near Silver City, New Mexico. Olson Direct, WCO Ex. 1, p. 4. Under the Copper Mine Rule and its point of compliance system, Tyrone, Chino and Cobre will no longer need to abate water pollution within large sections of the mines, encompassing many square miles. This area at the Tyrone Mine site, for example, is approximately 3 miles by 3 miles, or 9 square miles. Tr. vol. 6, p. 1500, l. 23 to p. 1501, l. 6. This area at the Tyrone Mine site essentially represents the Central Mining Area at the mine, up to the mine boundary. Blandford Marked Map [AGO Ex. 39]; Tr. vol. 4, p. 927, ll. 4-9. The Santa Rita Pit is approximately 1.8 miles in diameter and 0.3 miles deep, and covers approximately 2,560 acres. Chino Closure Permit, DP-1340, p. 1 [NMED Ex. 3].

Without a stay, a re-issued permit under the Copper Mine Rule will no longer need to require these Department-determined places of withdrawal to be abated and pollution will increase and spread making it more difficult to investigate and abate pollution in these areas if the Copper Mine Rule is ultimately set aside by the courts. The abatement permitting process currently underway for these areas will no longer be required, causing irreparable harm to ground water. Ongoing abatement plans should not be negated and ground water pollution should not be allowed to increase while the legal validity of the Copper Mine Rule is being tested on appeal, because it may be impossible to abate the pollution back to standards if the Rule is held invalid.

**V. UNLESS IT IS STAYED PENDING APPEAL, NEW MINE PERMITS UNDER THE COPPER MINE RULE ARE LIKELY WHICH WILL ALLOW NEW GROUND WATER POLLUTION.**

Copper mines are continually re-evaluating and updating mining plans and modifying their discharge permits to accommodate expansion of mining and new areas to mine within an existing mine. This requires continual modification of discharge permits to assure prevention of water pollution from expanded and new mining areas within a mine. For example, a variance for a new major leach facility within the Chino open pit was issued in 2007; new mining of an open pit commenced at the Tyrone Little Rock mine in 2011; and a variance for a new major leach facility was issued for the Savannah Pit at the Tyrone mine in 2011. Accordingly, it is highly likely that FMI will seek either a discharge permit for new units at its existing mines or modification of existing permits for expansion of mining while the Copper Mine Rule is pending on appeal. This includes the construction of new facilities at existing mines in areas that may contain clean ground water. In addition, a new copper mine in New Mexico, New Mexico Copper Corporation, is currently in the middle of its permitting process. Under the Copper Mine

Rule, all new mine units, with the exception of new leach stockpiles located outside a surface drainage area, are authorized to pollute ground water. It is well-established that such contamination from acid rock drainage/metal leach can last hundreds of years. Once those units are allowed to pollute – pending appeal – the harm to the State’s ground water resource may be irreparable. Because permits issued under the Copper Mine Rule would allow new ground water pollution that may be impossible to abate back to standards if the Rule set aside by the courts, the Rule should be stayed while its legal validity is tested on appeal.

**VI. UNLESS THE COPPER MINE RULE IS STAYED PENDING APPEAL, IT WILL SET A PRECEDENT FOR PROPOSED AMENDMENTS TO THE DAIRY RULE TO ALLOW POLLUTION BY RULE AT PLACES OF WITHDRAWAL**

On August 5, 2013, the Dairy Industry Group for a Cleaner Environment (“DIGCE”) filed a Second Petition to Amend 20.6.6 NMAC (Dairy Rule) and Request for Hearing with the Commission (*see* Attachment 3). The Commission, on September 10, 2013, set this issue for hearing in March of 2014. DIGCE’s proposed amendments to the Dairy Rule would allow compacted soil liners for disposal of dairy wastewaters. Compacted soil liners have previously been shown to cause pollution of ground water and are not allowed under existing rules without a variance. DIGCE’s proposed amendments would also replace monitoring well systems currently in place to monitor individual sources of contamination at a dairy facility with a weakened monitoring system that would allow ground water contamination within a dairy facility up to a point or points of compliance. Since adoption of Commission rules in 1977, the Department has considered all dairy sites to be a place of withdrawal unless the permittee can demonstrate otherwise. Based upon my experience and knowledge from 25 years of enforcing the WQA and Commission rules, there is no dairy in New Mexico that has made such a demonstration. Without a stay of the Copper Mine Rule the dairy industry is free to seek amended rules in March of 2014 that would allow new pollution of ground water underneath a dairy site up to a

point of compliance consistent with the Copper Mine Rule. As a matter of regulatory consistency, the Commission would not be able to deny such an amended Dairy Rule which would cause irreparable harm to public water resources. If the Copper Mine Rule is set aside on appeal, Dairy Rule amendments adopted using the precedent of the allowing pollution at a place of withdrawal would be negated and rulemaking hearings would need to be re-done resulting in a waste of public and private resources. The Commission should stay the Copper Mine Rule so that its precedent of allowing ground water pollution at a facility can't be used in the ongoing Dairy Rule amendment rulemaking proceedings until the Copper Mine Rule is upheld on appeal.

**VII. UNLESS THE COPPER MINE RULE IS STAYED, IT WILL SET THE PRECEDENT FOR OTHER DISCHARGE PERMITTEES TO SEEK ADMINISTRATIVE APPROVAL OF POLLUTION BY RULE AT PLACES OF WITHDRAWAL**

The Department has issued approximately 1000 discharge permits for prevention of water pollution to date. This includes discharge permits for molybdenum mines, uranium mines, dairies, municipal waste water treatment plants, industrial facilities, power plants, large scale domestic waste systems, Los Alamos National Laboratory, Waste Isolation Pilot Plant, oil refineries, natural gas processing plants, natural gas compressor stations, oilfield service companies, brine wells, and geothermal facilities.

In issuing these permits, the Department and the Commission have operated under a rebuttable presumption that all ground water with less than 10,000 milligrams per liter total dissolved solids is protectable for present or reasonably foreseeable future use. The Copper Mine Rule eliminates that rebuttable presumption and the need for a discharger to demonstrate that the ground water is not protectable thereby providing a copper mine a blanket exemption to pollute ground water without any site-specific place of withdrawal determination. The Copper Mine Rule sets the precedent for all other discharge permittees to administratively seek similar

treatment under their discharge permits. Without a stay of the Copper Mine Rule, all other dischargers and industries applying for, modifying, or renewing discharge permits can seek administrative approval of a discharge permit under the Department's new interpretation of the WQA that pollution of ground water underneath a discharge site up to a point of compliance is permissible and consistent with the WQA. As a matter of regulatory consistency, the Department, and upon appeal the Commission, would not be able to deny such a discharge permit. Therefore, the Copper Mine Rule should be stayed while its legal validity is being tested on appeal. Again, if the Rule is not stayed and ultimately set aside on appeal, the new pollution it allows at copper mines and sets the precedent for at other sites may be impossible to abate to standards.

**VIII. UNLESS THE COPPER MINE RULE IS STAYED PENDING APPEAL, THERE WILL BE ADMINISTRATIVE CONFUSION AND A WASTE OF RESOURCES IF THE RULE IS SET ASIDE BY THE COURT.**

The Copper Mine Rule completely upends how discharge permitting has been conducted in New Mexico for 36 years. Citizens, the Attorney General's Office and myself have provided extensive evidence in the hearing record of how the Copper Mine Rule is contrary to law, including the WQA. This issue will not be resolved until completion of the appeals before the New Mexico appellate courts. Accordingly, there will be public and administrative confusion over the application of new Copper Mine Rule and its relation to the WQA creating an increase of requests for public hearings. Permits issued under the Copper Mine Rule will allow ground water pollution, and therefore, they will likely be challenged. Section 74-6-5(E)(3) of the WQA provides the most obvious basis for such challenges, because it unequivocally requires the Department to deny a permit if the proposed discharge would cause an exceedance of standards at any place of withdrawal of water. Based on the Tyrone Mine case, litigation over places of

withdrawal is likely to be time-consuming and costly. The Commission should avoid this multiplicity of suits by staying the Copper Mine Rule pending appeal.

In addition, discharge permits are processed and issued on a regular basis. The average length of time for appeal from the Court of Appeals is approximately 1-3 years. It is likely that many of the 24 FMI permits will need to be renewed in in the time frame of appeal. Without a stay, these permits would need to be cancelled and reissued if the Copper Mine Rule is set aside on appeal, resulting in a waste of public and private resources.

#### **IX. FMI IS OPERATING SUCCESSFULLY UNDER EXISTING RULES**

FMI (and its predecessor Phelps Dodge Corporation) has operated for decades and continues to operate successfully under existing Commission rules. Staying the Copper Mine Rule preserves the *status quo*, and does no harm at all to FMI operations. FMI will not be prejudiced if it continues to apply for permits under Part 20.6.2 NMAC for the next one to three years while the validity of the Copper Mine Rule is tested on appeal.

FMI could be harmed if it relied on the Copper Mine Rule and the Rule is subsequently held invalid by the Court of Appeals or the Supreme Court. Remediating the added contamination that results while this Rule is on appeal will be costly for any mining company that relied on the Rule.

#### **X. LOSS OF PUBLIC RESOURCES**

Without a stay, under the point of compliance concept in the Copper Mine Rule, the pollution could become extensive from new and renewed discharges as discussed above. Therefore, extensive harm to the public interest will likely occur through the loss of water resources. This is a significant loss of public resources, especially when approximately 90% of the residents of the state rely on ground water as a source of drinking water and the state is experiencing high demand for its ground water resources and the reduction of its surface water

resources due to severe drought.

#### **XI. EFFECT ON OTHER STATE PROGRAMS**

Expansion of pollution by rule and establishment of a point of compliance regulatory system through other discharge permits would greatly increase the amount of lost ground water resources. There are other state programs that rely on the "place of withdrawal" approach to ground water pollution that could likewise be affected by approval of this proposed rule including hazardous waste permitting and cleanups under the Hazardous Waste Act and Superfund site cleanups. A stay should be granted to maintain the *status quo* pending final disposition by the New Mexico courts on what has become the most important ground water issue facing our state.

#### **XII. CONCLUSION**

For all the foregoing reasons, the Copper Mine Rule should be stayed pending appeal.

Thank you. That concludes my testimony.



---

William C. Olson

**DISCHARGE PERMIT RENEWAL and MODIFICATION**  
**Reservoir 3A, Reservoir 9, Highway to Heaven, DP-493**  
**Approval Date**

**I. INTRODUCTION**

The New Mexico Environment Department (NMED) issues this Discharge Permit, DP-493, to Chino Mines Company (permittee) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978 §§ 74-6-1 through 74-6-17 (1993), and the New Mexico Water Quality Control Commission (WQCC) Regulations, 20.6.2 NMAC.

NMED's purpose in issuing this Discharge Permit, and in imposing the requirements and conditions specified herein, is to control discharges of water contaminants from Reservoir 3A into ground and surface water, so as to protect ground and surface water for present and potential future use as domestic and agricultural water supply and other uses and protect public health. In issuing this Discharge Permit, NMED has determined that the requirements of 20.6.2.3109.C NMAC have been met.

**Facility Description**

Reservoir 3A has been in operation since 1987 as a surface impoundment formed by an earthen dam. Reservoir 3A is used for storage of mine process water and impacted storm water and has a capacity of 1.2 billion gallons. Reservoir 9 is formed by an earthen dam that is along the southeast toe of the Upper South Stockpile (DP-526). Highway to Heaven is a road built into the headwaters of Rustler Canyon during the mid to late 1990's from unmineralized volcanic rock mixed with sulfide containing rock.

Associated facilities include various pipelines that convey mine process water and storm to and from Reservoir 3A through the Reservoir 3A Valve Pit. Reservoir 3A receives storm water and mine process water from the Whitewater Leach System High Head Pump House via the South Side Booster (DP-526), from the Estrella Pit Sump dewatering system (DP-459), and from Reservoir 7 (DP-591) and Reservoir 9. Impacted storm water runoff and leachate from Highway to Heaven is collected in a lined impoundment in Rustler Canyon and pumped directly to Reservoir 3A. Reservoir 9 receives impacted storm water runoff from the south side of the dam face, as well as seepage water from Highway to Heaven.

**Discharge Permit Modification Description**

The DP-493 permit modification includes the addition of Reservoir 9 and Highway to Heaven to the Discharge Permit. These facilities have previously been covered under DP-526.

**ATTACHMENT 1 TO  
EXHIBIT K**

### **Location of Discharge**

Reservoir 3A, Reservoir 9 and Highway to Heaven are located approximately 15 miles east of Silver City, adjacent to and south of the Santa Rita open pit in Sections 2 and 3, R12W, T18S in Grant County.

### **Quantity, Quality and Flow Characteristics of the Discharge:**

Reservoir 3A is an unlined impoundment that contains mine process waters and impacted storm water that may move directly or indirectly into ground water. Solutions in Reservoir 3A exceed the water quality standards under WQCC Regulations in Section 20.6.2.3103.A NMAC for cadmium, chromium and fluoride; Section 20.6.2.3103.B NMAC for copper, manganese, iron, pH, sulfate, zinc, and total dissolved solids (TDS); and Section 20.6.2.3103.C NMAC for aluminum, cobalt and nickel. In addition to the contaminated mine waters, Reservoir 3A contains sediments with leachable salts and metals that may become mobile. The total combined maximum permitted discharge rate to Reservoir 3A is 10 million gallons per day (MGD).

### **Characteristics of Ground Water:**

The depth to ground water ranges from approximately 100 feet to more than 300 feet below ground surface; groundwater has a total dissolved solids (TDS) concentration of approximately 220 milligrams per liter (mg/L). Much of Reservoir 3A infiltration into groundwater moves to the north toward the Santa Rita pit capture zone, as evidenced by seepage in the pit walls and the areal potentiometric surface. It is possible that some seepage occurs to the south.

### **General:**

The Discharge Plan Renewal consists of the materials submitted by Chino to NMED dated February 28, 2011. In addition, this Discharge Permit includes information and materials submitted as part of the original Discharge Permit issued on September 3, 1987, modified on March 30, 1988, and renewed on November 13, 1992, November 18, 1998 and August 21, 2003.

Pursuant to 20.6.2.3109.E NMAC, NMED reserves the right to modify permit requirements in the event NMED determines that the requirements of 20.6.2 NMAC are being or may be violated, or the standards of 20.6.2.3103 NMAC are being, or may be, violated at a place of withdrawal of water for present or reasonably foreseeable future use due to a discharge regulated under this Discharge Permit. This may include a determination by NMED that operational practices approved under this Discharge Permit are not protective of ground and surface water quality, and that a modification is necessary to protect water quality or abate water pollution. Permit modification may include but is not limited to lining or relining impoundments, changing discharge locations, changing waste and leachate management practices, expanding monitoring requirements, and/or implementing abatement of water pollution.

Issuance of this Discharge Permit does not relieve Chino of its responsibility to comply with all conditions or requirements of the WQA, WQCC Regulations, and any other applicable federal, state and/or local laws and regulations such as zoning requirements and nuisance ordinances.

## II. FINDINGS

In issuing this Discharge Permit, NMED finds:

1. Chino Mines Company is discharging effluent or leachate from Reservoir 3A so that such effluent or leachate may move directly or indirectly into ground water within the meaning of 20.6.2.3104 NMAC.
2. Chino Mines Company is discharging effluent or leachate from Reservoir 3A so that such effluent or leachate may move into ground water of the State of New Mexico which has an existing concentration of 10,000 milligrams per liter or less of total dissolved solids within the meaning of 20.6.2.3101.A NMAC.
3. The discharges from Reservoir 3A are not subject to any of the exemptions of 20.6.2.3105 NMAC.
4. The Water Quality Act requires that determination of a discharger's effect on ground water shall be measured at any place of withdrawal of water for present or reasonably foreseeable future use. NMSA 1978, 74-6-5(E)(3). NMED considers the discharge site covered by DP-493 to be a potential place of withdrawal of water for present or reasonably foreseeable future use. In the future, as part of the permit application process, Chino may present evidence to NMED supporting why some or all of the discharge site is not a place of withdrawal of water for present or reasonably foreseeable future use. If the evidence is presented to NMED, NMED will consider the evidence and any other relevant evidence, and will issue a written determination based thereon.
5. Discharges from Reservoir 3A have caused contamination of ground water in excess of the water quality standards of 20.6.2.3103 NMAC.
6. Chino is required to abate ground water contamination pursuant to 20.6.2.3107.A(11) and 3109.E(1) NMAC.

## III. AUTHORIZATION TO DISCHARGE

Pursuant to 20.6.2.3104 NMAC, it is the responsibility of the permittee to ensure that discharges authorized by this Discharge Permit are consistent with the terms and conditions herein.

Chino is authorized to discharge mine process water, storm water and leachate to Reservoir 3A at a maximum combined rate of 10 million gpd from the following sources:

- Storm water and mine process water from the Estrella Pit Sump,

- Storm water and mine process water from the 6525 Booster Station,
- Storm water and mine process water from Reservoir 9, and
- Storm water and leachate from Highway to Heaven.

The maximum volume of mine process water stored in Reservoir 3A shall not exceed 1.2 billion gallons at any time.

#### IV. PERMIT CONDITIONS

Chino shall comply with the following conditions, which are enforceable by NMED.

##### OPERATIONS

1. Chino shall conduct the operational requirements set forth below in accordance with the WQCC Regulations at Sections 20.6.2.3106.C and 3107 NMAC to ensure compliance with 20.6.1 and 20.6.2 NMAC.
2. Chino shall reclaim or complete removal of Highway to Heaven material within 5 years of the date of issuance of this discharge permit. In the event Chino chooses to reclaim Highway to Heaven material instead of complete removal, a closure plan shall be submitted to NMED for approval prior to initiation of reclamation activities. Following reclamation or completion of removal activities Chino shall submit a summary report that evaluates the effectiveness and extent of the removal or reclamation operations, and the potential that any remaining materials and/or solutions from Highway to Heaven exist in the headwaters of Rustler Canyon that have the potential to impact water quality.

##### MONITORING, REPORTING, AND OTHER REQUIREMENTS

3. Chino shall conduct the monitoring, reporting, and other requirements listed below.  
[20.6.2.3107 NMAC]

##### Sampling and Field Measurements

4. *Ground Water Monitoring Wells* - Chino shall monitor ground water quality as follows.  
[20.6.2.3107 NMAC]
  - a. Monitoring wells 493-99-01, 493-99-02, 3A-5, 3A-7, and 493-2004-02 shall be sampled as follows.
    - 1) Chino shall record the depth to the water table to the nearest hundredth of a foot (0.01 ft), quarterly.
    - 2) Samples shall be collected from each well quarterly and analyzed for the water parameters listed in Conditions 10b and 10c below.

- b. Monitoring wells 526-96-15, 526-96-16 and 526-96-18 shall be sampled as follows.
  - 1) Chino shall record the depth to the water table to the nearest hundredth of a foot (0.01 ft), semi-annually.
  - 2) Samples shall be collected from each well quarterly and analyzed for the water parameters listed in Conditions 10b below.

Analytical results and depth to ground water measurements and water level elevations shall be reported as required in Condition 12 below.

- 5. *Reservoir 3A* - Chino shall sample Reservoir 3A as follows. [20.6.2.3107 NMAC]
  - a. Chino shall collect samples quarterly and analyze for the parameters listed in Conditions 10b and 10c below.
  - b. Chino shall sample annually for the parameters listed in Condition 10d below.
    - 1) If TPH in any sample exceeds 5 mg/L, Chino shall resample within two weeks of receiving the analysis described in 4b above and analyze for the water parameters listed in Condition 10e.

Analytical results shall be reported as required in Condition 12 below.

- 6. *Seeps and Springs* - Chino shall sample seep 459-SEEP-5 and any other observable seeps that can be safely accessed and sampled along the south side of the Santa Rita Pit quarterly for the parameters listed in Conditions 10b and 10c below. Analytical results shall be reported as required in Condition 12 below. [20.6.2.3107 NMAC]
- 7. *Discharge Volumes* - Chino shall measure the following discharge volumes using appropriate metering devices and/or calculation methods. Discharge volumes shall be reported as required in Condition 12 below. [20.6.2.3107.A NMAC]
  - a. The daily volume of mine process water pumped from the Estrella Sump to Reservoir 3A.
  - b. The daily volume of mine process water pumped from the 6525 Booster Station to Reservoir 3A.
  - c. The daily volume of impacted storm water pumped from Highway to Heaven collection systems to Reservoir 3A.
- 8. *Reservoir 3A Total Volume* - Chino shall measure the water elevation of Reservoir 3A on a monthly basis to insure that the permitted maximum volume of 1.2 billion gallons is not exceeded. The frequency of measurement shall be increased to daily in the event that reservoir levels exceed 85% of reservoir capacity. Water elevations shall be reported as required in Condition 12 below. [20.6.2.3107 NMAC]

9. *Meteorological Data* - Chino shall measure daily precipitation from the Reservoir 3A weather station and shall report the data as required in Condition 12 below. [20.6.2.3107.A NMAC]

### Analysis

10. Samples of reservoir water, storm water, and process water, including seeps shall be analyzed for total and dissolved concentrations of the analytes listed below. Samples of ground water shall be analyzed for dissolved concentrations of the analytes listed below. [20.6.2.3107.A NMAC]
- a. Field parameters (analysis to be performed in the field): temperature, pH, and specific conductance.
  - b. Indicator parameters: field parameters in Condition 10a plus sulfate and total dissolved solids (TDS).
  - c. Comprehensive inorganic parameters: alkalinity-bicarbonate, alkalinity-carbonate, calcium, magnesium, sodium, potassium, fluoride, chloride, aluminum, arsenic, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel and zinc.
  - d. Organic parameters I: Total petroleum hydrocarbons (TPH) for full range of diesel and gasoline.
  - e. Organic parameters II: Kerosene, Ethylbenzene, Napthalene and Toluene.

### Methodology

11. Unless otherwise approved in writing by NMED, Chino shall conduct sampling and analysis in accordance with the most recent edition of following documents. [20.6.2.3107.B NMAC]
- a. American Public Health Association, *Standard Methods for the Examination of Water and Wastewater*.
  - b. U.S. Environmental Protection Agency, *Methods for Chemical Analysis of Water and Waste*.
  - c. U.S. Geological Survey, *Techniques for Water Resource Investigations of the U.S. Geological Survey*.
  - d. American Society for Testing and Materials, *Annual Book of ASTM Standards*, Part 31. Water.

- e. U. S. Geological Survey, et al., *National Handbook of Recommended Methods for Water Data Acquisition*.
- f. Surface water monitoring must also be conducted according to test procedures approved under Title 40 Code of Federal Regulations Part 136.

## Reporting

12. Chino shall submit to NMED semi-annual monitoring reports containing information collected during the preceding six months from January 1<sup>st</sup> to June 30<sup>th</sup> by August 15<sup>th</sup> and from July 1<sup>st</sup> to December 31<sup>st</sup> by February 15<sup>th</sup>. Annual data shall be submitted in the February 15<sup>th</sup> report. The reports shall include the following information. [20.6.2.3107.A NMAC]
- a. A summary shall be provided of all activities at the facility during the preceding six months, including but not limited to, operational activities, daily flow volumes, spills, maintenance, repairs, synopsis of completed studies relevant to the facility, well drilling, water management, construction or demolition of structures, water quality trends, precipitation, trends in water levels, and a monthly water balance. If applicable, a summary of seep and spring flows as well as potentiometric maps shall also be included.
  - b. A single table shall be provided semi-annually in a paper and electronic format (EXCEL spreadsheet) of water quality data with only those constituents analyzed and water levels measured during a single event shown in columns. Tabulated electrical conductivity shall include the measured field values and corrected values to 25 degrees Celsius. Monitoring sites shall be shown in rows. Values exceeding standards shall be bolded. Any constituent not analyzed for a particular site shall be shown as "NA", any site not sampled shall be shown as "NS" with an associated reason, and any site not measured for water levels shall be shown as "NM" with an associated reason.
  - c. An annual update to the existing Access database shall be provided that includes all available water quality data to date collected pursuant to this discharge permit.
  - d. Electronic copies of the signed laboratory analyses sheets shall be provided semi-annually.
  - e. Semi-annual monitoring reports shall include water quality trends, laboratory QA/QC, trends in hydrographs, potentiometric surface maps and precipitation. At a minimum, graphs with the previous 5 years of indicator parameter data shall be presented for TDS, sulfate, and hydrographs (pH may be substituted for hydrographs at reservoirs or springs).
  - f. Flow measurements of seeps shall be reported semi-annually with the seep location and flow estimation method noted. A clearly marked map shall be included with labeled locations for each seep area and ponded water area. The first submittal of seeps and

ponded areas shall include photos of each location indicated on the map.

- g. Chino shall submit annually a potentiometric surface map of the Reservoir 3A area that includes water level data from the most recent sampling event. The map shall include the southern portion of the Santa Rita Pit, Reservoir 9 to the east and upper Lucky Bill Canyon to the southwest. The map shall be at a larger scale than that prepared for DP-1340, specific to the Reservoir 3A area.
- h. Chino shall submit annually the daily precipitation data from the Reservoir 3A weather station.

### CONTINGENCY MEASURES

#### Ground Water and Surface Water Exceedences

- 13. In the event that monitoring indicates ground water or surface water standards are exceeded, or the extent or magnitude of existing ground water contamination is significantly increasing, Chino shall collect a confirmatory sample from the monitoring well(s) within 15 days to confirm the initial sampling results. Within 30 days of the confirmation of ground water or surface water contamination or significant increases in existing contamination, Chino shall submit to NMED for approval an abatement plan, which includes a site investigation to define the source, nature and extent of contamination; a proposed abatement option, and a schedule for its implementation. The site investigation and abatement option shall be consistent with the requirements and provisions of Sections 20.6.2.4101, 4103, 4106, 4107, 4108 and 4112 NMAC. An abatement plan required under this condition may be incorporated into the abatement plan required in Condition 17 of this Discharge Permit. [20.6.2.3107.A (10) NMAC]

#### Operational Failures

- 14. In the event of a pipeline break, pump failure, pond overflow or other system failure associated with any facility covered under DP-493, all discharge water shall be contained, pumped and transferred to areas of the facility that impose minimal impacts to ground water quality. Failed components shall be repaired or replaced as soon as possible and no later than 72 hours from the time of failure unless Chino obtains a written consent and a new timetable from NMED. [20.6.2.3107A (10) NMAC]
- 15. If NMED or Chino identifies any other failures of the discharge plan or system not specifically noted in this permit, NMED may require Chino to develop for NMED approval contingency plans and schedules to address such failures. [20.6.2.3107.A.10 NMAC]

#### Spill Reporting and Remediation

- 16. In the event of a spill or release that is not authorized under this Discharge Permit, Chino shall initiate the notifications and corrective actions as required in 20.6.2.1203 NMAC.

Chino shall take immediate corrective action to contain and remove or mitigate any damage caused by the discharge. Within 24 hours after discovery of the discharge, Chino shall verbally notify NMED and provide the information required by 20.6.2.1203.A.1 NMAC. Within 7 days of discovering the discharge, Chino shall submit a written report to NMED verifying the oral notification and providing any additional information or changes. Chino shall submit a corrective action report within 15 days after discovery of the discharge. [20.6.2.1203 NMAC]

#### ABATEMENT

17. Ground water standards have been exceeded within and beyond the area covered under this Discharge Permit. Chino has been required to submit to NMED for approval a proposed abatement plan pursuant to abatement requirements in the Supplemental Discharge Permit for Closure, DP-1340. The abatement plan shall be conducted in two stages. Stage one of the abatement plan shall include an investigation of all known areas of ground water and surface water contamination within the area covered by DP-493 and shall define the extent and magnitude of ground water contamination in accordance with Sections 20.6.2.3109.E.1 or 20.6.2.4000 NMAC through 4115 NMAC. Stage two of the abatement plan shall address the selection of an abatement option to abate ground water contamination and shall include an analysis of abatement alternatives pursuant to 20.6.2.4106.E NMAC. Pursuant to 20.6.2.3109E (1), NMED may require additional abatement activities under this Discharge Permit Renewal. [20.6.2.4000 through 4115 NMAC] [20.6.2.3109.E NMAC]

#### CLOSURE PLAN

18. Chino shall maintain a closure plan for the Reservoir 3A area pursuant to the Supplemental Discharge Permit for Closure, DP-1340. In the event that Chino modifies or expands the Reservoir 3A area pursuant to this Discharge Permit in a manner that exceeds the scope of the closure plan, Chino shall propose changes to the closure plan accordingly. [20.6.2.3107.A.11 NMAC]

#### FINANCIAL ASSURANCE

19. Chino shall maintain financial assurance pursuant to the Supplemental Discharge Permit for Closure, DP-1340, for the Reservoir 3A area. In the event that Chino modifies or expands the Reservoir 3A area pursuant to this Discharge Permit in a manner that exceeds the scope of the closure plan, Chino shall propose changes to the financial assurance accordingly. [20.6.2.3107.A.11 NMAC]

#### V. GENERAL TERMS AND CONDITIONS

20. Chino shall comply with the following general conditions, which shall be enforceable by NMED.

## Record Keeping

21. Chino shall maintain at its facility a written record of all data and information on monitoring of ground water, surface water, seepage, and meteorological conditions pursuant to this Discharge Permit including the following information. [20.6.2.3107.A NMAC]
  - a. The date, exact time, and exact location of each sample collection or field measurement;
  - b. The name and job title of the person who performed each sample collection or field measurement;
  - c. The date of the analysis of each sample;
  - d. The name and address of the laboratory and the name and job title of the person that performed the analysis of each sample;
  - e. The analytical technique or method used to analyze each sample or take each field measurement;
  - f. The results of each analysis or field measurement, including the raw data; and,
  - g. A description of the quality assurance and quality control procedures used.
22. Such data and information as described in Condition 21, shall also be maintained on all split and duplicate samples, spike and blank samples, and repeat samples. [20.6.2.3107.A NMAC]
23. Chino shall maintain a written record of any spills, seeps or leaks of effluent, or process fluids not authorized by this Discharge Permit. [20.6.2.3107.A NMAC]
24. Chino shall maintain a written record of the operation, maintenance and repair of all facilities/equipment used to treat, store, or dispose of wastewater; to measure flow rates; to monitor water quality; or, to collect other data required by this Discharge Permit. This record shall include repair, replacement or calibration of any monitoring equipment and repair or replacement of any equipment used in the conveyance of process waters throughout this permit area. [20.6.2.3107.A NMAC]
25. Notwithstanding any company record retention policy to the contrary, until such time as NMED determines that all closure measures have been completed in accordance with the requirements of this Discharge Permit, Chino shall retain copies of all data, records, reports, and other documents generated pursuant to this Discharge Permit. Such record retention

period may be increased by the NMED at any time upon written notice to Chino.  
[20.6.2.3107.A NMAC]

26. All such data, records, reports, and other documents generated pursuant to this Discharge Permit, shall be provided to the NMED upon request. [20.6.2.3107.A NMAC]

### **Inspection and Entry**

27. Chino shall allow the Secretary or an authorized representative of NMED, upon the presentation of credentials to:
- a. Enter any property or premises owned or controlled by Chino during regular business hours or at other reasonable times upon Chino's premises or at another location where records are kept under the conditions of this Discharge Permit or any Federal or WQCC regulation.
  - b. Inspect and copy, at reasonable times, records required to be kept under the conditions of this Discharge Permit or pursuant to State or Federal water quality regulations.
  - c. Inspect, at reasonable times, any facility, equipment (including monitoring and control equipment for treatment works), practices or operations regulated or required under this Discharge Permit or under any Federal or WQCC regulations.
  - d. Sample or monitor at reasonable times any effluent, water contaminant, or receiving water at any location before or after the discharge for the purpose of assuring compliance with this Discharge Permit or as otherwise authorized by the New Mexico Water Quality Act.  
[20.6.2.3107.D NMAC] [74-6-9.B and E WQA]
28. Nothing in this Discharge Permit shall be construed as limiting in any way the inspection and entry authority of the NMED under the WQA, the WQCC Regulations, or any other applicable law or regulation. [20.6.2.3107 NMAC]

### **Duty to Provide Information**

29. Within a reasonable time after a request from the NMED, which time may be specified by the NMED, Chino shall provide the NMED with any relevant information to determine whether cause exists for modifying, terminating, or renewing this Discharge Permit, or to determine whether Chino is in compliance with this Discharge Permit. [20.6.2.3107.D NMAC] [74-6-9.B and E WQA]
30. Nothing in this Discharge Permit shall be construed as limiting in any way the information gathering authority of the NMED under the WQA, the WQCC Regulations, or any other applicable law or regulation. [20.6.2.3107.D NMAC] [74-6-9.B and E WQA]

### **Spills, Leaks and Other Unauthorized Discharges**

31. This Discharge Permit authorizes only those discharges specified herein. Any discharge not authorized by this Discharge Permit or any other Chino Discharge Permit is a violation of the WQCC Regulations at 20.6.2.3104 NMAC. Chino must report any such discharge to the NMED, and it must take corrective action to contain and remove or mitigate the damage caused by the discharge in accordance with Section 2.6.2.1203 NMAC and, if applicable, Condition 17. [20.6.2.1203 NMAC]

### **Modifications and Amendments**

32. Chino shall notify the NMED of any changes to its leachate or process water collection or disposal system, including any changes in the leachate or process water flow rate or the volume of leachate or process water storage, or of any other changes to its mining operations or processes that would result in any significant change in the discharge of water contaminants. Chino shall obtain NMED approval, as a modification to this Discharge Permit pursuant to Section 20.6.2.3109.E, F, or G NMAC, prior to any increase in the quantity leachate or process water discharged, any change in location of a discharge, or any increase in the concentration of water contaminants discharged above those levels approved in this Discharge Permit. [20.6.2.3107 NMAC]

### **Enforcement**

33. Any violation of the requirements and conditions of this Discharge Permit, including any failure or refusal to allow the NMED to enter and inspect records or facilities, or any refusal or failure to provide the NMED with records or information, may subject Chino to an enforcement action. Pursuant to WQA § 74-6-10(A) and (B), such action may include a compliance order requiring compliance immediately or in a specified time, assessing a civil penalty, suspending or terminating the Discharge Permit, or any combination of the foregoing; or an action in district court seeking injunctive relief, civil penalties, or both. Pursuant to the WQA §§ 74-6-10(C) and 74-6-10.1, civil penalties of up to \$15,000 per day of noncompliance may be assessed for each violation of the WQA § 74-6-5, the WQCC regulations, or this Discharge Permit, and civil penalties of up to \$10,000 per day of noncompliance may be assessed for each violation of any other provision of the WQA, or any regulation standard, or order adopted pursuant to such other provision. For certain violations specified in the WQA § 74-6-10.2, criminal penalties may also apply. In any action to enforce this Discharge Permit, Chino waives any objection to the admissibility as evidence of any data generated pursuant to this Discharge Permit. Chino does not waive any argument as to the weight such evidence should be given.

### **Compliance with Other Laws**

34. Nothing in this Discharge Permit shall be construed in any way as relieving Chino of its obligation to comply with all applicable Federal, State, and local laws, regulations, permits,

or orders. Chino does not waive any rights under such applicable Federal, State and local laws, regulations, permits, or orders except as expressly provided in this Discharge Permit. [20.6.2 NMAC] [74-5-5.K WQA]

#### **Liability**

35. The approval of this Discharge Permit does not relieve Chino of liability should the operation result in actual pollution of surface or ground water which may be actionable under other laws and/or regulations. [20.6.2.1220 NMAC]

#### **Right to Appeal**

36. Chino may file a petition for a hearing before the WQCC on this Discharge Permit. Such petition must be made in writing to the WQCC within thirty (30) days after Chino receives this Discharge Permit. Unless a timely petition for a hearing is made, the decision of NMED shall be final. [74-6-5.N WQA]

#### **Transfer**

37. Prior to any transfer of ownership, control, or possession of the permitted facility or any portion thereof, Chino shall notify the proposed transferee in writing of the existence of this Discharge Permit and include a copy of this Permit with the notice. Chino shall deliver or send by certified mail to the NMED a copy of the notification and proof that such notification has been received by the proposed transferee. [20.6.2.3111 NMAC]

#### **Term**

38. The effective date of this Discharge Permit is the date it is issued and signed by the Chief of the Ground Water Quality Bureau. The term of this Discharge Permit is five (5) years, and the Permit will automatically expire five (5) years from the date it is issued. To renew this Discharge Permit, Chino must submit an application for renewal at least 120 days before that date. [74-6-5.H and 20.6.2.3109.H NMAC]

Issued this XX day of Month, 2013

---

Jerry Schoeppner, Chief  
Ground Water Quality Bureau  
New Mexico Environment Department

Under authority delegated by the Secretary of the New Mexico Environment Department

**CHINO RESERVOIR 3A, DP-493  
 MONITORING SCHEDULE**

Area Sub-Area	Locations	Sampling			Notes
		type	Monthly	Quarterly	
1.	3A-5	mw		A,B,C,W	
2.	3A-7	mw		A,B,C,W	
3.	493-00-01	mw		A,B,C,W	
4.	493-99-02	mw		A,B,C,W	
5.	493-2004-01	mw		A,B,C,W	
6.	493-2004-02	mw		A,B,C,W	
7.	Reservoir 3A	si	inflow, outflow	A,B,C	D Weekly water elevations
8.	Reservoir 7	si		A,B,C	D
9.	459-SEEP-5 vicinity	sp		A,B,C	Seep in Santa Rita Pit

**Explanation to Abbreviations and Symbols**

<p><b>Type:</b> mw = monitoring well          ew = extraction well          si = surface impoundment          spg = spring          sp = seep</p>	<p><b>Sampling Quarters:</b>          Q1 = Jan-Mar          Q2 = Apr-Jun          Q3 = Jul-Sep          Q4 = Oct-Dec</p>
<p><b>Sampling Analytical Suites:</b>          A = Field parameters: Temp, pH, and specific conductance.          B = General chemistry parameters: bicarbonate, calcium, magnesium, sodium, potassium, alkalinity, sulfate, chloride, and total dissolved solids.          C = Metals parameters: aluminum, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury (total concentration only), molybdenum, nickel, selenium, silver, and zinc.<sup>1</sup>          D = Organics: benzene, kerosene, total poly aromatic hydrocarbons (PAHs), toluene, ethylbenzene and total petroleum hydrocarbons (TPH), full range.          E = Other parameters: any other parameters as identified during ongoing investigations of potential source areas and as required by NMED.          W = Depth to water measurement to the nearest 0.01 foot.</p>	

<sup>1</sup>If any of the following analytes are non-detectable and below WQCC standards (20.6.2.3103 NMAC) within the first two years of analysis following permit approval, they may be eliminated from the above list: barium, beryllium, mercury, selenium and silver

July 21, 2013

GROUND WATER

JUL 22 2013

BUREAU

Mr. Jerry Schoeppner, Chief  
Ground Water Quality Bureau  
New Mexico Environment Department  
P.O. Box 5469  
Santa Fe, NM 87502-5469

RE: Comments and hearing request on draft Discharge Permit  
Renewal DP-493 for the Chino Mines Company Reservoir 3A, Reservoir 9 and  
Highway to Heaven

Dear Mr. Schoeppner:

We the undersigned have reviewed the draft Discharge Permit Renewal referenced above as issued by the New Mexico Environment Department (NMED) in a public notice dated June 21, 2013. We are concerned that the draft permit authorizes Chino Mines Company to discharge in a manner that allows active and ongoing pollution of ground water in violation of Water Quality Control Commission (WQCC) rules and the statutory permit approval requirements of the Water Quality Act (WQA). We have the following comments on the above referenced draft permit renewal.

1. In permit Findings #1 and #2 on Page 3 of the draft permit, NMED finds that effluent or leachate from Reservoir 3A may be discharged in a manner such that it will migrate from the reservoir into ground water.
2. On page 2, the permit states that the quality of solutions in the mine process water and impacted stormwater that will be discharged to Reservoir 3A exceeds the WQCC water quality standards of 20.6.2.3103 NMAC for copper, manganese, iron, cadmium, chromium, fluoride, pH, sulfate, zinc and total dissolved standards. In addition, the permit states that Reservoir 3A contains sediments with leachable salts and metals that may become mobile and migrate into ground water.
3. In Finding #5 on Page 3 of the draft permit, NMED finds that discharges from Reservoir 3A have caused contamination of ground water in excess of WQCC water quality standards of 20.6.2.3103 NMAC. The permit would allow active and continual pollution of ground water in excess of WQCC standards.

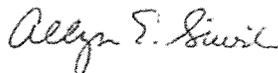
ATTACHMENT 2 TO  
EXHIBIT K

4. Finding #4 on Page 3 of the draft permit states that NMED considers the discharge site covered by DP-493 to be a potential place of withdrawal of water for present or reasonably foreseeable future use. We agree that the DP-493 discharge site is a place of withdrawal of water for present or reasonably foreseeable future use.

5. Pursuant to Section 74-6-5E(3) of the WQA and WQCC rules in 20.6.2.3109.C NMAC and 20.6.2.3109.H NMAC, a discharge permit must be denied if the discharge would cause water pollution in excess of the WQCC standards of 20.6.2.3103 NMAC at any place of withdrawal of water for present or reasonably foreseeable future use. According to the draft permit, Reservoir 3A has already caused ground water pollution in excess of WQCC standards at a place of withdrawal of water for present or reasonably foreseeable future use. Under the draft permit, Chino would be allowed to continue to cause water pollution in excess of WQCC standards at a place of withdrawal of water for present or reasonably foreseeable future use. This is a violation of the WQA and WQCC rules.

For the above reasons, NMED is required by statute and rule to deny the discharge permit renewal for DP-493. Therefore, we the undersigned respectfully request a public hearing on the permit if NMED intends to approve the permit as proposed. We also request to be placed on the facility-specific list for DP-493 and to be copied on all correspondence related to this permit.

Sincerely,



Allyson Siwik, Executive Director  
Gila Resources Information Project  
305A North Cooper St.  
Silver City, NM 88061

Brian Shields, Executive Director (sign on confirmed via email)  
Amigos Bravos  
105-A Quesnel Street  
Taos, NM 87571

Camilla Feibelman, Executive Director (sign on confirmed via telephone)  
Sierra Club Rio Grande Chapter  
142 Truman NE  
Albuquerque, NM 87108

Demis Foster, Executive Director (sign on confirmed via email)  
Conservation Voters New Mexico  
507 Webber St.  
Santa Fe, NM 87505

Donna Stevens, Executive Director (sign on confirmed via email)  
Upper Gila Watershed Alliance  
PO Box 383  
Gila, NM 88038

---

John Cornell, Sportsman Coordinator (sign on confirmed via email)  
New Mexico Wildlife Federation  
100 Juh Trail  
Hillsboro, NM 88042

Max Yeh (sign on confirmed via email)  
Percha/Animas Watershed Association  
P.O. Box 156  
Hillsboro, NM 88042

William Olson (sign on confirmed via telephone)  
14 Cosmic Way  
Lamy, NM 87540

Cc: Kurt Vollbrecht, Acting Program Manager, Mining Environmental Compliance  
Section, NMED

STATE OF NEW MEXICO  
BEFORE THE WATER QUALITY CONTROL COMMISSION



\_\_\_\_\_)  
)  
)  
**In the Matter of:** )  
**PROPOSED AMENDMENT** )  
**TO 20.6.6 NMAC (Dairy Rule)** )  
\_\_\_\_\_)

No. WQCC <sup>13</sup> ~~12~~ - 08 (R)

**SECOND PETITION TO AMEND 20.6.6 NMAC (DAIRY RULE)**  
**AND REQUEST FOR HEARING**

**I. INTRODUCTION**

Pursuant to the New Mexico Water Quality Act (“WQA”), NMSA 1978, §§ 74-6-1 to 74-6-17 (2009), and Section 301 of the *Guidelines for Water Quality Control Commission Regulation Hearings*, the Dairy Industry Group for a Clean Environment (“DIGCE”) petitions the Commission to amend the Ground Water Protection – Supplemental Permitting Requirements for Dairy Facilities Regulations, 20.6.6 NMAC (Dairy Rule).

DIGCE represents a coalition of dairy industry representatives, including the Dairy Farmers of America, Dairy Producers of New Mexico, and various individual dairy producers, who comprise its Board of Directors. DIGCE participated as the party representing the dairy industry in the original rulemaking proceedings regarding the Dairy Rule and in proceedings held before the Commission in 2011 regarding amendments to the Dairy Rule.

The Dairy Rule was adopted by the Commission in December 2010 and published in the New Mexico Register on January 15, 2011. DIGCE filed an appeal of the rules in the Court of Appeals, and implementation of the Dairy Rule was postponed while the parties to the rulemaking engaged in settlement discussions. Those settlement discussions resulted in a set of

proposed amendments to the Dairy Rule which were adopted by the Commission in November 2011 and became effective on December 31, 2011

On September 4, 2012, DIGCE filed a petition to amend the Dairy Rule with respect to three particular topics: flow meter calibration, acceptable backflow prevention devices, and nutrient management plans. Written direct and rebuttal testimony has been filed by DIGCE and a group of parties who oppose the amendments, and these proposed rule amendments currently are set for hearing before the Commission on September 10, 2013. As discussed below, DIGCE is willing to have the hearing on the amendments proposed through the September 2012 Petition be consolidated for hearing with the amendments proposed with this Petition.

As discussed in more detail below, since DIGCE filed its September 2012 Petition, a large number of draft discharge permits under the Dairy Rules have been published for comment. According to the latest report from NMED to the Commission dated June 2013, 92 draft discharge permits were published between September 2012 and June 2013 of a total of 128 draft discharge permits published since the Dairy Rule came into effect. As of June 2013, 18 discharge permits had been issued as final permits. With regard to those final permits, variance petitions had been filed and acted upon for two dairies, and there were five pending variance petitions. There were two other pending variance petitions, one regarding a draft permit and another regarding a permit issued before the Dairy Rule was in effect.

One of the primary reasons for this Petition is to avoid an unintended consequence of the Dairy Rule for the majority of permits to require variances from the Commission. DIGCE has polled dairy permittees to determine how many additional variance petitions could be expected regarding the 128 draft discharge permits. The results indicate that over 100 variance petitions are likely. Based on discussions with producers and their consultants, one of the most common

reasons for variance petitions are that the prescriptive rule requirements regarding the number and locations of monitoring wells result in a very large and unreasonable number of monitoring wells. Additional variance petitions are anticipated to address prescriptive liner requirements. Variance petitions also are expected to address a wide variety of other Dairy Rule provisions. DIGCE believes that the Commission's action on this Petition could avert the need for many, if not the large majority, of the expected variance petitions by providing the Department with a reasoned range of discretion and flexibility to establish reasonable permit requirements that can be put in place without the need for variances.

## II. SUMMARY OF PROPOSAL

Exhibit "A" to this Second Petition shows the amendments that DIGCE now proposes. In Exhibit "A," existing rule language proposed for deletion is shown by strikeout, and new language proposed to be included in an amended Dairy Rule is underlined. Exhibit "A" also shows the amendments proposed in DIGCE's September 2012 Petition, which DIGCE continues to support, although they are shown in Exhibit "A" for convenience only. The following list summarizes the proposed amendments:

1. Amend the definition of "impoundment," section 20.6.6.7.B(18) NMAC, to exclude structures used for solids settling.
2. Amend the engineering design requirements for solids separators, section 20.6.6.17.C(5) NMAC, eliminate the requirement to submit a design schematic for a separator not proposed by the applicant or permittee within 90 days of the effective date of the permit.
3. Amend the engineering design requirements for new or improved impoundments, to section 20.6.6.17.D(5), (6) and (7) NMAC, to replace the minimum requirement for a

60 mil synthetic liner with a requirement for a two-foot thick compacted soil liner with a maximum demonstrated permeability of  $1 \times 10^{-7}$  cm/sec.

4. Amend the requirements for manure solids separators to eliminate the requirement for existing dairies to install separators. Section 20.6.6.20.F NMAC.
5. Amend the flow meter installation requirements, section 20.6.6.20.J NMAC, to eliminate the requirement for a "physical and permanent" label. Note: additional amendments to this subsection were proposed in the September 2012 Petition.
6. Amend the flow metering methods requirements, section 20.6.6.20.K NMAC, to allow for a closed pipe totalizing flow meter in gravity flow situations and to allow the Department discretion to accept a proposal to meter flow by metering the water supply.
7. Amend the impoundment capacity management requirements, section 20.6.6.21.A NMAC, and corresponding flow meter requirements, 20.6.6.21.G, to allow for a tank to store wastewater.
8. Amend the requirement for fresh water to be used in a land application area, 20.6.6.21.C NMAC, to allow the Department discretion to accept a proposal for land application of wastewater in the absence of fresh water.
9. Amend the requirements for crop removal methods, 20.6.6.21.J NMAC, to eliminate some of the prescriptive requirements for demonstrations of grazing as a crop removal method.
10. Amend the requirement for Department approval of changes to crop removal methods, 20.6.6.21.K NMAC, by eliminating the requirement.

11. Amend the monitoring well location requirements, 20.6.6.23.A and .B NMAC, to reduce the prescriptive monitoring well location requirements requiring a well downgradient of each "source" and to eliminate other prescriptive requirements specifying the location and number of monitoring wells. Instead, require an appropriate monitoring well system for the dairy facility with a minimum of one upgradient and two downgradient wells. Provide for acceptance of the continued use of previously approved existing monitoring wells.
12. Amend the monitoring well identification tag requirements, 20.6.6.23.C NMAC to allow for printed adhesive or metal labels.
13. Amend the construction and completion requirements for monitoring wells, 20.6.6.23.D NMAC, to clarify they apply to new monitoring wells.
14. Amend the ground water sampling requirements, 20.6.6.23.H(3) NMAC, to allow the Department to extend the time for sample collection.
15. Amend the monitoring well inspection requirements, 20.6.6.23.M NMAC, to eliminate the provisions on performance of downhole inspections.
16. Amend the wastewater volume measurement and reporting requirements, 20.6.6.24.C NMAC to allow for monthly rather than weekly recording of flow meter readings.
17. Amend the stormwater sampling and reporting requirements, 20.6.6.24.D NMAC, to eliminate the need to sample stormwater if it will first be sent to a wastewater impoundment before land application.
18. Amend the sampling and reporting requirements for wastewater to be land applied, 20.6.6.25.C NMAC, to provide for annual, rather than quarterly sampling and to allow the Department to approve an alternative sampling method for good cause.

19. Amend the sampling requirements for irrigation wells, 20.6.6.25.E NMAC, to allow sampling from a group of wells rather than each individual well and for sampling once every five years rather than annually.
20. Amend the land application data sheet requirement, 20.6.6.25.G, to eliminate the requirement to repeat data from the previous six quarters.
21. Amend the soil sampling requirement, 20.6.6.25.K and .L, to eliminate the specified five month period for sample collection.
22. Amend the requirements for sampling of wastewater from an evaporative system, 20.6.6.26, to eliminate the requirement for collection of six-subsamples.
23. Amend the contingency requirements regarding exceedance of ground water standards, 20.6.6.27.A and .B, to reflect the proposed modified engineering design requirements for new liners and to consolidate similar sections.
24. Amend the monitoring well replacement contingency requirements, 20.6.6.27.C NMAC [proposed to change to .B], to allow the Department discretion to extend the time to install replacement wells for good cause shown.
25. Amend the contingency requirements for impoundments, 20.6.6.27.G NMAC [proposed to change to .F], to reflect changes to the monitoring well requirements.
26. Amend the requirements for permanent closure, 20.6.6.30.A NMAC, to clarify what monitoring wells have to be installed and to change triggering event for certain activities from the removal of all livestock to the cessation of regulated discharges.
27. Amend the closure requirements regarding discontinuing of ground water monitoring, 20.6.6.30.D and E NMAC, by eliminating these subsections.

### III. STATEMENT OF REASONS & PROPOSED REGULATORY CHANGES

A copy of the proposed regulatory changes, indicating any language proposed to be added or deleted, is included as Attachment A. DIGCE requests that the Commission hear and adopt the regulatory changes identified in Attachment A for the reasons indicated below.

DIGCE's reasons for the regulatory changes in Attachment A will be more fully supported by testimony to be submitted as part of the hearing process.

The general reasons for the proposed regulatory changes are to address issues regarding permits proposed for issuance under the Dairy Rule which, if the Dairy Rule is not amended, likely would result in petitions for variances to be heard before the Commission regarding the majority of the pending permit actions, and would be unduly burdensome on dairy operators. Specific reasons for each proposed change are set forth below.

**1. Amend the definition of "impoundment," section 20.6.6.7.B(18) NMAC, to exclude structures used for solids settling.**

The Dairy Rule currently requires solids settling structures for dairies originally permitted under the Dairy Rule and the addition of solids settling structure for existing dairies already permitted. The Dairy Rule allows the dairy operator to choose the type of solids settling structure to be used. One approach to solids settling is to have a settling basin, which must be designed to allow for removal of solids. Solids removal generally is not feasible for synthetically-lined impoundments because of the high risk of tearing the liner. The definition in the Dairy Rule, however, can be read to treat certain solids settling structures as "impoundments" subject to the prescriptive liner requirements. This proposed rule amendments would clarify that solids settling structures are not "impoundments" and may be constructed in a manner appropriate for solids settling and removal.

- 2. Amend the engineering design requirements for solids separators, section 20.6.6.17.C(5) NMAC, eliminate the requirement to submit a design schematic for a separator not proposed by the applicant or permittee within 90 days of the effective date of the permit.**

The purpose of this amendment is to eliminate the requirement for an existing dairy operating under an existing discharge permit to be retrofitted with a solids separator. Most existing dairies do not have solids separators, but some dairies were originally designed and permitted without solids separators. Retrofitting an existing dairy to install a separate solids separator can be costly and impracticable, and these existing dairies already are functioning without the need for a separate solids separator.

- 3. Amend the engineering design requirements for new or improved impoundments, to section 20.6.6.17.D(5), (6) and (7) NMAC, to replace the minimum requirement for a 60 mil synthetic liner with a requirement for a two-foot thick compacted soil liner with a maximum demonstrated permeability of  $1 \times 10^{-7}$  cm/sec.**

The Dairy Rule currently requires a single 60 mil HDPE liner or an equivalent liner. The Commission adopted the single synthetic liner requirement as a compromise between a double synthetic liner system with leak collection, as originally proposed by the Department, and a compacted soil liner system as proposed by DIGCE. Further technical evaluation of the synthetic liner system prescribed by the current Dairy Rule indicates that the single synthetic liner system as prescribed in the Dairy Rule likely will not be as effective in preventing or reducing discharges to ground water as would a two foot thick compacted soil liner with a demonstrated permeability of  $1 \times 10^{-7}$  or less. As DIGCE's witnesses testified in the original Dairy Rule hearing, a compacted soil liner system has several other advantages over a synthetic liner system. A compacted soil liner system can be less costly than a synthetic liner system, but, depending upon the nature of the soils at the site, can be more costly in some instances. DIGCE

proposes this amendment based primarily on the superior expected performance of a compacted soil liner system compared to a single synthetic liner.

4. **Amend the requirements for manure solids separators to eliminate the requirement for existing dairies to install separators. Section 20.6.6.20.F NMAC.**

See reasons for this amendment as discussed in item 2 above.

5. **Amend the flow meter installation requirements, section 20.6.6.20.J NMAC, to eliminate the requirement for a “physical and permanent” label. Note: additional amendments to this subsection were proposed in the September 2012 Petition.**

While this is a relatively minor issue, DIGCE believes that the current requirement for an engraved metal label is overly prescriptive and unduly burdensome, so DIGCE proposes to allow for labeling that can be more easily accomplished.

6. **Amend the flow metering methods requirements, section 20.6.6.20.K NMAC, to allow for a closed pipe totalizing flow meter in gravity flow situations and to allow the Department discretion to accept a proposal to meter flow by metering the water supply.**

The current Dairy Rule would not allow a closed pipe totalizing flow meter in gravity flow situations and can be read to mandate an open pipe weir device. The amendment would allow the use of a closed-pipe totalizing flow meter when practicable. The amendment also allows for the use of metering the water supply as an alternative to flow meters for wastewater. Flow meters on the water supply are easier to maintain and are more reliable, and methods are available to allow for relatively easy calculation of wastewater discharge rates based on water use rates.

7. **Amend the impoundment capacity management requirements, section 20.6.6.21.A NMAC, and corresponding flow meter requirements, 20.6.6.21.G, to allow for a tank to store wastewater.**

A few dairies utilize tanks to store wastewater rather than impoundments, particularly for relatively low-volume wastewater discharges. Tanks generally provide superior containment to impoundments, and there is no reason to preclude the use of tanks or to require a variance to allow the use of a tank.

- 8. Amend the requirement for fresh water to be used in a land application area, 20.6.6.21.C NMAC, to allow the Department discretion to accept a proposal for land application of wastewater in the absence of fresh water.**

A few dairies have been permitted to operate land application systems without concurrent use of fresh water for irrigation. These typically are very small dairies who have successfully demonstrated their ability to land-apply dairy wastewater while maintaining crops. This approach may actually reduce the likelihood of discharges to groundwater, as long as crops are maintained, because of the much lower total volume of water applied to the crops. This amendment would allow the Department to review and approve this approach without the need for a variance.

- 9. Amend the requirements for crop removal methods, 20.6.6.21.J NMAC, to eliminate the need for Department-approved demonstrations to allow for grazing as a crop removal method.**

Grazing as a means of harvesting crops can be an efficient means of crop removal. The current Dairy Rule allows the Department to accept grazing as a crop removal method subject to a number of prescriptive requirements. The proposed amendment would keep the minimum data requirements needed to calculate nitrogen removal by crops grazing, but would eliminate the need for a technical proposal and demonstration requiring Department approval.

- 10. Amend the requirement for Department approval of changes to crop removal methods, 20.6.6.21.K NMAC, by eliminating the requirement.**

Changes to crop removal methods can be dictating by weather, the success of a particular crop in a particular season or year, and crops prices. For example, a farmer may plant a crop

with the intention of mechanical harvesting to produce grain, but failure of a crop due to hail or lack of precipitation can result in the need to change to a different crop and different crop removal method, such as harvesting for forage rather than grain or grazing rather than mechanical harvesting. These changes occur during the course of a growing season and are dictated by events outside the farmer's control, and it is not practicable to obtain Department approval for these changes. The potential for change can be accounted for in a nutrient management plan, with a simple switch to a different data collection and accounting method when crop removal methods change.

- 11. Amend the monitoring well location requirements, 20.6.6.23.A and .B NMAC, to reduce the prescriptive monitoring well location requirements requiring a well downgradient of each "source" and to eliminate other prescriptive requirements specifying the location and number of monitoring wells. Instead, require an appropriate monitoring well system for the dairy facility with a minimum of one upgradient and two downgradient wells. Provide for acceptance of the continued use of previously approved existing monitoring wells.**

The prescriptive requirements for monitoring well locations and numbers is the most common Dairy Rule requirement that will cause permittees to seek variances. The prescriptive requirements for monitoring well locations in the Dairy Rule can arbitrarily require replacement of existing monitoring wells for slight changes in location. They can require replacement of a monitoring well system previously approved by the Department that is functioning properly to monitor groundwater based on a site-specific conditions. The prescriptive requirements specify the location of monitoring wells without considering site-specific conditions in locations that could cause a monitoring well itself to be a conduit for contamination, such as placement in a playa lake bed or in a heavily-used area where a well is susceptible to damage. These requirements to not allow for experts to consider site specific conditions, such as surface topography, hydrology and geology in considering how to properly design an effective

monitoring well system. The prescriptive requirements do not take into account U.S. Environmental Protection Agency guidance on how to properly design a monitoring well system. The prescriptive requirements would require hundreds, perhaps over a thousand, new monitoring wells for dairies at great cost, and there is not sufficient drilling capacity to construct the required number of wells, even if it were reasonable and necessary to install all of these wells.

The proposed amendment would return the approach to developing appropriate monitoring well systems similar to the general Commission discharge permit regulations, where a monitoring well system would be designed for an entire facility, not individual sources, and the number and locations of wells would be considered based upon site-specific conditions. The consideration of professional interpretations and opinions based upon site-specific conditions is accomplished for facilities by the retention of subsection N of the current Dairy Rule, which provides for dispute resolution to consider differences in professional opinions and to provide a forum for resolution of disputes without resort to appeals to the Commission.

**12. Amend the monitoring well identification tag requirements, 20.6.6.23.C NMAC to allow for printed adhesive or metal labels.**

This is a minor change similar to item 5 to eliminate overly prescriptive requirements for labeling.

**13. Amend the construction and completion requirements for monitoring wells, 20.6.6.23.D NMAC, to clarify they apply to new monitoring wells.**

The Dairy Rule contains prescriptive design requirements for monitoring wells. DIGCE's proposed amendments would retain these requirements as is for new monitoring wells, but would clarify that they do not apply to existing monitoring wells previously approved for use

by the Department. This will allow for continued use of existing, previously approved and functioning monitoring wells.

**14. Amend the ground water sampling requirements, 20.6.6.23.H(3) NMAC, to allow the Department to extend the time for sample collection.**

This is a simple amendment allowing the Department to approve an extension of time to collect samples from newly-installed monitoring wells. An extension may be appropriate for a number of reasons, including the status of the dairy facility, issues with well development, and other limitations on sampling within the specified time frame.

**15. Amend the monitoring well inspection requirements, 20.6.6.23.M NMAC, to eliminate the provisions on performance of downhole inspections.**

This change corresponds to the change in item 13. Downhole inspections are costly, disruptive, and pose a risk of damage a monitoring well. DIGCE contends they are rarely needed, and are likely unnecessary if the Commission clarifies that the new well construction requirements do not apply retroactively to existing monitoring wells.

**16. Amend the wastewater volume measurement and reporting requirements, 20.6.6.24.C NMAC to allow for monthly rather than weekly recording of flow meter readings.**

The frequency of flow meter readings is not of high importance. It is easy to calculate daily discharge volumes regardless of the frequency of meter readings by simple arithmetic. Flow meter readings typically are taken by consultants to ensure proper recording of data, and a weekly meter reading requirement can require excessive consultant visits at considerable cost. Monthly readings were allowed in the past and are reasonable going forward.

**17. Amend the stormwater sampling and reporting requirements, 20.6.6.24.D NMAC, to eliminate the need to sample stormwater if it will first be sent to a wastewater impoundment before land application.**

When stormwater is sent for land application, it is simpler for purposes of nutrient management plans and data management and calculations to measure nutrient values for the combination wastewater and stormwater sent to a common pond. Separate measurements for stormwater impoundments can require considerable additional sampling and data handling and management with no benefit to nutrient management planning or groundwater protection.

**18. Amend the sampling and reporting requirements for wastewater to be land applied, 20.6.6.25.C NMAC, to provide for annual, rather than quarterly sampling and to allow the Department to approve an alternative sampling method for good cause.**

Frequent sampling of wastewater ponds can be dangerous to samplers attempting to obtain multiple samples from a wastewater pond. Annual sampling is believed to be of sufficient frequency to provide reasonably accurate data for use in nutrient management planning and would reduce the potential danger to samplers and the cost of sampling and data management.

**19. Amend the sampling requirements for irrigation wells, 20.6.6.25.E NMAC, to allow sampling from a group of wells rather than each individual well and for sampling once every five years rather than annually.**

Sampling individual irrigation wells to provide data on nitrogen levels for use in nutrient management planning is not necessarily representative of the quality of water applied for irrigation when multiple wells are used at the same time to supply an irrigation system. This amendment would simplify and reduce sampling and data management requirements while still providing reasonably accurate data.

**20. Amend the land application data sheet requirement, 20.6.6.25.G, to eliminate the requirement to repeat data from the previous six quarters.**

The current Dairy Rule requirement is to repeat land application data from the previous six quarters in a land application data sheet. Previous data will be available from previously submitted land application data sheets, and repeating the submission of data will increase paperwork and the potential for errors.

**21. Amend the soil sampling requirement, 20.6.6.25.K and .L, to eliminate the specified five month period for sample collection.**

It is not always practical or optimal to collect soil samples within the specified period due to changes in crop rotation, weather, and other factors. Soil collection can be addressed as specified in a nutrient management plan based upon individual farm and site circumstances as appropriate. The current rule is overly prescriptive.

**22. Amend the requirements for sampling of wastewater from an evaporative system, 20.6.6.26, to eliminate the requirement for collection of six-subsamples.**

Data from the sampling of wastewater in an evaporative system is of limited use, since it need not be used for nutrient management planning. Taking six subsamples from an evaporative pond is not necessary and simply adds to the danger of sample collection for samplers and the cost of data collection and management.

**23. Amend the contingency requirements regarding exceedance of ground water standards, 20.6.6.27.A and .B, to reflect the proposed modified engineering design requirements for new liners and to consolidate similar sections.**

The current Dairy Rule has a complex set of contingency requirements that vary based upon slightly different liner types. This approach is unnecessarily complex and there is less need

for such an approach if the Commission adopts the changes to standard wastewater impoundment liner design requirements as proposed above.

**24. Amend the monitoring well replacement contingency requirements, 20.6.6.27.C NMAC [proposed to change to .B], to allow the Department discretion to extend the time to install replacement wells for good cause shown.**

As discussed above, there are substantial constraints on available capacity to install monitoring wells given the large number of dairy permits that may require new wells and the large number of wells. Consequently, there is a serious question whether it is possible for dairies to meet the deadlines for installation of new wells. This change would give the Department discretion to grant an extension for good cause.

**25. Amend the contingency requirements for impoundments, 20.6.6.27.G NMAC [proposed to change to .F], to reflect changes to the monitoring well requirements.**

This proposed change reflects the proposed changes to reduce the prescriptive monitoring well requirements that currently require a downgradient monitoring well for each potential “source.”

**26. Amend the requirements for permanent closure, 20.6.6.30.A NMAC, to clarify what monitoring wells have to be installed and to change triggering event for certain activities from the removal of all livestock to the cessation of regulated discharges.**

The prescriptive monitoring well requirements have unduly burdened the number of dairies that are being closed due to economic constraints to the industry. These proposed changes generally correspond to the reduction in prescriptive requirements for installation of new monitoring wells under the Dairy Rules and will facilitate closure of existing dairies. Dairies

that are closing also may be used for other purposes, such as feeding heifers or beef cattle, from which discharges are not regulated. Part of this amendment changes the timing of certain closure activities so they occur sooner, on cessation of regulated dairy discharges, rather than waiting if the dairy has been put to another productive use.

**27. Amend the closure requirements regarding discontinuing of ground water monitoring, 20.6.6.30.D and E NMAC, by eliminating these subsections.**

This proposed amendment is intended to reduce overly prescriptive requirements regarding cessation of groundwater monitoring following closure. It is intended to facilitate closeout of permits for closed dairies by providing additional flexibility for cessation of monitoring when it is no longer necessary.

**IV. REQUEST FOR HEARING**

Petitioner requests that the Commission schedule a rulemaking hearing to consider these proposed amendments as soon as possible and that the Commission appoint a hearing officer to conduct this rulemaking hearing. Upon appointment of a hearing officer, DIGCE requests the Commission grant the hearing officer authority to set a schedule for submission of written direct testimony and responses prior to the hearing. It is anticipated that the rulemaking hearing will take approximately five days. DIGCE reserves the right to supplement the statement of reasons with additional reasons in support of the proposed regulatory changes and to change the language set forth in Attachment A.

A hearing already is scheduled to take place at the Commission's September 2013 meeting regarding the Petition filed in September 2012. Petitioner would agree to the consolidation of this Second Petition with the September 2012 Petition for hearing, allowing the Commission to hold one hearing covering both Petitions.

In order to avoid the need for dairies that currently have permit deadlines to take actions that would be affected by the proposed rule amendments, Petitioner has requested that the Department suspend enforcement of deadlines for actions that may be affected by the proposed rule amendments pending the Commission's consideration of this Petition. Suspension of enforcement pending the Commission's consideration of this Petition also will avoid the potential need for permittees to request variances from these requirements pending the Commission's consideration of the rule amendments, saving substantial commitments of resources by permittees, the Department and the Commission.

In addition, if amendments can be considered and adopted while the majority of the permits remain in draft form, any Dairy Rule amendments adopted by the Commission can be addressed by changes to the draft permits, reducing the need for permit modification proceedings should the Dairy Rule amendments not be adopted until after many additional final permits are issued. That will conserve resources for both the Department and permittees.

For the foregoing reasons, DIGCE respectfully requests that the Commission set a hearing on the amendments proposed in this Second Petition.

Respectfully submitted,

DAIRY INDUSTRY GROUP FOR A CLEAN  
ENVIRONMENT, INC.



---

Dalva L. Mochlenberg, Esq.  
Anthony (T.J.) J. Trujillo, Esq.  
Gallagher & Kennedy, P.A.  
1233 Paseo de Peralta  
Santa Fe, New Mexico 87501  
Phone: (505) 982-9523  
Fax: (505) 983-8160  
[DLM@gknet.com](mailto:DLM@gknet.com)  
[AJT@gknet.com](mailto:AJT@gknet.com)

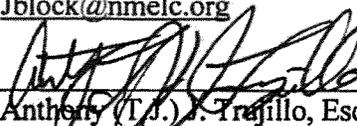
**CERTIFICATE OF SERVICE**

I hereby certify that a copy of this Petition to Amend 20.6.6 NMAC (Dairy Rule) and Request for Hearing was served via email and regular U.S. mail on the following parties this Monday, August 05, 2013:

Felicia Orth  
Acting Board Administrator  
NMED Boards and Commissions  
1190 St. Francis Dr., N2153  
Santa Fe, NM 87502  
[Felicia.Orth@state.nm.us](mailto:Felicia.Orth@state.nm.us)

Jeff Kendall  
General Counsel  
Office of General Counsel  
New Mexico Environment Department  
1190 St. Francis Drive  
Santa Fe, NM 87502  
[jeff.kendall@state.nm.us](mailto:jeff.kendall@state.nm.us)

Jonathan Block, Staff Attorney  
New Mexico Environmental Law Center  
1405 Luisa St. #5  
Santa Fe, NM 87505  
[Jblock@nmelc.org](mailto:Jblock@nmelc.org)

  
Anthony (T.J.) Trajillo, Esq.