SUMMARY AND RESPONSE TO PUBLIC COMMENTS

Permit No: Aquifer Protection Permit (APP) No. 512235, LTF #65051
Trench Camp Property - Tailings Storage Facility (TSF)

Arizona Pollutant Discharge Elimination System (AZPDES)
Permit No. AZ0026387, LTF #66046
January Mine Workings Treatment System

Applicant: Arizona Minerals Inc.
3845 Business Center Drive, Suite 115
Tucson, AZ 85705

Permit Action: Response to comments received during the public comment period:
October 20, 2017 and ended on December 13, 2017.
Public Hearing – November 29, 2017

Prepared By: Arizona Department of Environmental Quality (ADEQ)
Water Quality Division
1110 W. Washington Street
Phoenix, Arizona 85007

Date: January 8, 2018

A. INTRODUCTION

Summary

Arizona Minerals Inc. (AMI) has applied for an Aquifer Protection Permit (APP) and an Arizona Pollutant Discharge Elimination System Permit (AZPDES) to clean up older mine material including mine tailings and waste rock that may lead to an acidic discharge. Mine activities before this permit happened prior to the APP program and are outside the scope of the APP program. These permits allow AMI to clean up existing environmental problems and benefit Arizona's environment.

While AMI may be considering future operations near this site, these permits do not allow mining activities, only relocation and cleanup of existing material with a limited amount of exploratory excavation. These permits allow AMI to discharge up to 172,000 gallons per day of treated water into Alum Gulch, although most of the water will be used for dust control and other internal process and not discharged. Any water that is discharged into Alum Gulch will be treated and then monitored to ensure it meets standards to be used in agriculture and to water livestock.

These permits require monitoring of any discharge to Alum Gulch and of groundwater in the area by AMI. Samples are analyzed by a laboratory approved by Arizona Department of Health Services and the results submitted to ADEQ. In the event that AMI exceeds the standards put in place by ADEQ, they are required to investigate the cause of the exceedance and are subject to enforcement action from the department. If AMI is operating beyond what is allowed in the permits, ADEQ encourages people to file an on-line complaint at

http://legacy.azdeq.gov/function/compliance/complaint.html. All complaints are investigated and the complainant will be notified of the results of ADEQ's investigation if they choose.

Public Notice, Public Meetings and Public Hearing Comments

The public comment period began on October 20, 2017 and was extended to December 13, 2017. Publication of the preliminary decision to issue a permit and the associated public hearing were published in the Nogales International on October 20, 2017. This summary of public comments received and the associated ADEQ responses is prepared in accordance with the Arizona Administrative Code (A.A.C.) R18-9-109(A).

The public hearing was held at the Santa Cruz County Complex, 2150 N. Congress Dr., Room 120, Nogales, Arizona on November 29, 2017, at 6:00pm. This summary of public comments received and associated ADEQ responses is prepared in accordance with the Arizona Administrative Code (A.A.C.) R18-9-109(B).

Everyone who commented during the public comment period has the right to file an appeal and request a hearing on the final decision as an appealable agency action under A.R.S. § 41-1092.03 by filing a written Request for Hearing or Notice of Appeal within 30 days of issuance of the final decision. A Request for Hearing or Notice of Appeal is filed when it is received by ADEQ's Hearing Administrator as follows:

Hearing Administrator
Office of Administrative Counsel
Arizona Department of Environmental Quality
1110 W. Washington Street
Phoenix, AZ 85007

The Request for Hearing or Notice of Appeal shall identify the party, the party's address, the agency and the action being appealed and shall contain a concise statement of the reasons for the appeal. Upon proper filing of a Request for Hearing or Notice of Appeal, ADEQ will serve a Notice of Hearing on all parties to the appeal. If you file a timely Request for Hearing or Notice of Appeal you have a right to request an informal settlement conference with ADEQ under A.R.S. § 41-1092.06. This request must be made in writing no later than 20 days before a scheduled hearing and must be filed with the Hearing Administrator at the above address.

Comments received during the public comment period are summarized below. The comments are followed by ADEQ's response shown in *italics*. Comments are organized as follows:

Commenter #	Source	Method
1	Diana Nash – Circle Z Ranch Property	Written
2	Jean Miller – Patagonia, Arizona	Written
3	Joseph Nitsche – Patagonia Area Resource Alliance, Inc.	Written
4	Craig Coray – Patagonia, Arizona	Written
5	Andrew Gould – Patagonia, Arizona	Written
6	Chuck Klingenstein – Park City, Utah	Written
7	Mayor Isakson – Town of Patagonia, Arizona	Written
8	Leslie Schupp – Patagonia, Arizona	Oral
9	Joseph Nitsche – Patagonia Area Resource Alliance, Inc.	Oral
10	Vincent Pinto – Patagonia, Arizona	Oral
11	Laura Jean Miller – Patagonia, Arizona	Oral
12	Joseph Nitsche – Patagonia Area Resource Alliance, Inc.	Written

13	Jerri Sober – Patagonia, Arizona	Written
14	Bryan Bird – Defender of Wildlife	Written
15	Kristi Hinson – Coronado National Forest, Sierra Vista Ranger District	Written
16	Vincent Pinto – RavensWay Wild Journeys	Written
17	Anne Townsend – Friends of Sonoita Creek, Inc.	Written
18	Claudia Campos Pinto – Ravens- Way Wild Journeys LLC	Written
19	Michael Stabile	Written
20	Robert Proctor	Written
21	Tom Arny	Written
22	Matt Wallin	Written
23	Leslie Schupp	Written
24	Joseph Nitsche – Patagonia Area Resource Alliance, Inc.	Written
25	Lisa Froelich – Save the Scenic Santa Ritas	Written
26	Caleb Weaver	Written
27	Celeste Kinsey – Coronado National Forest	Written

Comments may have been shortened or paraphrased for presentation in this document; a copy of the unabridged comments is available upon written request from the ADEQ Records Center, recordscenter@azdeq.gov.

WRITTEN and Oral COMMENTS

Written and Oral comments received on the official record were received during the Public Comment period.

#1. Diana Nash - Circle Z Ranch Property (Patagonia AZ), submitted the following:
The commenter delivered the comments via email on November 20, 2017.

The Circle Z Ranch property in Patagonia AZ, protecting over 2 miles of Sonoita Creek and 6000 acres of grazing and recreational land. This Guest Ranch has been in business for 93 years and is a strong contributor to the areas taxes and tourism base. This property is adjacent to and in the direct path of the proposed discharge of up to 0.172 million gallons per day of treated water in the Alum Gulch/Flux Canyon area. This will have an enormous negative effect on my property.

This water will directly drain into the Alum Gulch/Flux Canyon washes and will empty directly into Sonoita Creek within the property owned by Circle Z Ranch and will then go directly into Lake Patagonia and then into the Santa Cruz River. In other words, this discharge will affect a number of homes, businesses directly and will later affect hundreds of wells and thousands of head of cattle, horses and wildlife.

There is no indication that Arizona Minerals or ADEQ will consistently monitor the quality of this water to ensure that it is potable. We have several wells in this area for our cattle, over 100 horses, along with the visiting wildlife. We all have a right to be sure this water is safe and there is no indication that it will be so.

During heavy storms, the flow of water in Alum Gulch/Flux Canyon can cause the creek to run with dangerous rapidity and the water can be over 3 feet deep. This can also cause unsafe and washed out conditions on Flux Canyon road where we have grazed cattle for over 40 years and need access to year round. Will Arizona Minerals or ADEQ improve our access or trap our cattle during any significant storms?

In short, I need to be sure that our wells won't be polluted, that our animals can safely drink the water in the wash when it runs, and that we can safely drive through the running washes in order to have access. Without those assurances, this permit must be denied.

ADEQ response:

The purpose of both the AZPDES and APP programs is to ensure the activities being proposed at the site do not have a negative impact on the uses of Alum Gulch (AZPDES) or the aquifer (APP) in the area around the January/Trench Camp mine site. The APP includes monitoring requirements designed to protect the quality of water in the aquifer and the AZPDES permit includes requirements to protect Alum Gulch, which includes protections for livestock watering. AMI is required to submit monitoring reports to demonstrate compliance with the discharge limits in their respective permits. Failure of AMI to maintain compliance with their permit would cause ADEQ to take any necessary enforcement action to return the facility to compliance.

The AZPDES permit allows up to 172,000 gallons per day to be discharged into Alum Gulch as a worst case scenario. Most of the water will be reused on site for dust control and other activities. If AMI does discharge 172,000 gallons per day – about 120 gallons per minute – information reviewed by ADEQ indicates the water will be fully absorbed by the normally dry creek bed 1.2 miles away from the discharge site or several miles upstream from the Circle Z Ranch. Under normal operations, information reviewed by ADEQ indicates that AMI will be discharging less than 172,000 gallons per day, if they discharge at all on a daily basis, and the water will be absorbed into the riverbed further away from Circle Z Ranch. During heavy rainfall, any discharge from the AMI facility will be minimal compared to the amount of water described.

In regards to the stormwater concern, AMI has submitted a Stormwater Pollution Prevention Plan (SWPPP) as part of their AZPDES stormwater permit. The SWPPP outlines what best management practices will be used to prevent pollutants from being carried off the site and into Alum Gulch during rain events.

Because these permits allow AMI to cleanup and move existing material that is potentially acid generating, the project these permits authorize ultimately benefits the environment.

#2. Jean Miller – resident of Patagonia AZ, submitted the following:
The commenter delivered the comments via email on November 19, 2017.

My home and land is located in the Alum Gulch/Flux Canyon area and is directly in the path of the proposed discharge of up to 0.172 million gallons per day of treated water. This will have an enormous negative effect on my property. Ms. Miller has a private well using the Alum Gulch aquifer and would be directly affected by the discharge of this potentially deadly and contaminated water unless major protections for me and my animals is put into place.

I have a private well using the Alum Gulch aquifer and would be directly affected by the discharge of this potentially deadly and contaminated water unless major protections for me and my animals is put into place.

This water will directly drain into the Alum Gulch/Flux Canyon washes and will empty directly into Sonoita Creek within the property owned by Circle Z Ranch and will then go directly into Lake Patagonia and then into the Santa Cruz River. In other words, this discharge will affect a number of homes like mine directly and will later affect hundreds of wells and thousands of head of cattle and horses and wildlife.

There is no indication that Arizona Minerals or ADEQ will consistently monitor the quality of this water to ensure that it is potable. While I have had to install costly filtering systems for my own water based on the previous contamination of my aquifer by past mining operations, the water running through the wash on my land is drunk by cattle, my horses and dogs along with the visiting wildlife. My neighbors and I have a right to be sure this water is safe and there is no indication that it will be so.

During heavy storms, the flow of water in Alum Gulch/Flux Canyon can cause the creek to run with dangerous rapidity and the water can be over 3 feet deep. I have spent thousands of dollars to grade and condition the bottom of my driveway which crosses the wash in order to be able to just have access to get home. To knowingly add to this volume of water without doing major improvements to the washes will trap at least a dozen homeowners in the area. The County does not maintain Aztec Canyon Road which leads to my driveway – I have been paying for all the upkeep. Will Arizona Minerals or ADEQ improve our access or trap us during any significant storm?

I need to be sure that my well won't be polluted, that my animals can safely drink the water in the wash when it runs, and that I can safely drive through the running washes in order to have access in and out of my home. Without those assurances, this permit must be denied.

Finally, I had a test of my well water done about 10 years ago, indicating some serious issues which I can been forced to address. To further contaminate my water would be criminal. Please let me know what steps will be taken to protect my water and my access. I would be glad to work with ADEQ to protect the public.

ADEQ response:
Please see the response to Comment #1 above. Any discharge to the aquifer from AMI will be required to meet aquifer protection water quality standards. Groundwater samples will be collected at a well near the discharge location to verify the water quality. Although ADEQ does not regulate private wells, the department encourages well owners to educate themselves about water quality and drinking water health issues. ADEQ strongly encourages private well owners to collect periodic water samples to test for bacteria and other contaminants.

#3. Joseph Nitsche – Patagonia Area Resource Alliance, Inc.

The Patagonia Area Resource Alliance has just recently received notice that the Aquifer Protection Permit (APP) applied for by Arizona Minerals, Inc. has been released for Public Comment due by November 29, 2017, with a Public Hearing scheduled the same day. *See* Public Notice referencing a Public Hearing on November 29, 2017 at 6:00 p.m. (http://static.azdeq.gov/pn/pn_app_azminerals.pdf).
No ADEQ Public Notice email was ever received announcing the opening of this comment period and the scheduling of a Public Hearing. Furthermore, the most recently received monthly Permits in Progress emailed Excel table (issued on November 14, 2017) showing the status of water quality permits was generated after the opening of the comment period, yet still shows the permit as in "Substantive Review Phase" with "No public hearing." *See* **Attachment 1**.

The email notices transmitting these monthly Permit in Progress reports contain a link to the Legacy AZURITE database, stating: "To view the real-time status of a specific permit application, please search by LTF number | Search Now >." A PDF copy of the AZURITE database results is attached here. It shows that the most current permit activity for the APP occurred on June 8, 2017. It also states "No public hearing" and that the permit is still in "Substantive Review Phase." *See* **Attachment 2**.

This Public Comment review period and the Public Hearing have been improperly noticed, and ADEQ materials on this matter reflect inaccurate information. Accordingly, we hereby request that the comment

period for this APP permit be extended to allow adequate time for review and comment.

ADEQ response:
As requested, ADEQ extended the public comment period for both the AZPDES and the APP permits for an additional 14 days, to December 13, 2017. This extension was republished on December 1, 2017, in the Nogales International, to allow more time for interested parties to submit comments for the public record. ADEQ will be using an email notification system for both APP and AZPDES permits in the future.

#4 and 5. Craig Coray - resident of Patagonia AZ, submitted the following:
The commenter delivered the comments via email on November 28, 2017.

Comment #4
I hereby state my strong opposition to the creation of a tailings storage facility five miles from Patagonia. History had proven time and again that these tailings ponds are subject to leaking and contaminating the ground water. Building such a facility so close to the town of Patagonia is a very risky and ill-conceived plan.

Comment #5
I hereby express my strong opposition to the proposal to discharge mining waste into the Santa Cruz watershed. I have done enough research to know that despite all claims to the contrary this discharge will be toxic to the environment and pose a serious threat to people and wildlife.

ADEQ response:

The activities being proposed under these two permits are intended to minimize any potential impact to the environment from historic mining activities at the site, including existing tailings facilities that pre-date any of the regulations in place today and were previously exempt from APP requirements.

The AZPDES and APP programs are the state and federal programs established to assure the discharge from the January Mine Water Treatment Plant will not be toxic to the environment. The limits and requirements set forth in the AZPDES and APP permits ensure that the environment will be protected; failure to comply with these permits will result in enforcement action taken by ADEQ.

The proposed Tailings Storage Facility has been designed to meet all of the applicable requirements of A.R.S. §49-241, A.A.C. R18-9-A201, and conformance with the Arizona Mining Best Available Demonstrated Control Technology (BADCT) Guidance Manual.

#6. Andrew Gould - Andrew Gould and Rita Bradley Homeowners in Patagonia area, submitted the following: The commenter delivered the comments via email on November 29, 2017.

As a homeowners in the Patagonia area who rely on the clean water from our well we are very concerned by and opposed to the request by AMI for a permit to store mine tailings in our watershed. Thank you for protecting our water.

ADEQ response:

Please see the response to comment #4 and 5 above. These permits allow AMI to relocate material from historic mining that was in place prior to the APP program. No new mining and processing activities are being permitted.

#7. Chuck Klingenstein - Chuck Klingenstein and Sara Klingenstein, Park City, Utah submitted the following: The commenter delivered the comments via email on December 6, 2017.

I have read the Draft Fact Sheets and scanned the Draft Permits for both ADEQ Permits. My first comment is to state that my wife and I have been coming to Patagonia for over a year looking for a place to purchase as second home for our late fall, winter and early spring visits. The threat of reintroducing mining into the area has been of great concern to us as we live in an old mining town. The legacy of mining is still with us and its impacts will never be gone. In fact, ASARCO Trust was involved in our town and county. The clean-up continues today with the legacy of tailings still evident throughout our watershed. We have a superfund site and EPA and UDEQ have been active for well over 25 years in other mining impact matters and we do not ever expect to see them gone.

With this history in mind, we would ask that that both of these permits be developed with two steps built in. The first step for the Aquifer Protection Permit (No. P-512235, LTF 65051) would be to clean up the existing tailings with their placement in lined systems using Best Available Demonstrated Control Technology (BADCT). Any new materials would not be allowed to be placed in the newly designed system until AMI proves its commitment to solving the existing problems. These came with the 300 acre purchase of the historic, January and Norton Mine Claims and the Trench Camp Mine claims and associated Tailings Pile/waste rock from the ASARCO Trust in early 2016. They bought this property knowing they were accepting the liability and responsibility.

The other permit, Pollution Discharge Elimination Permit (No. AZ0026387), should also first cause the development of an active water treatment system instead of a passive water treatment system since it failed. The active water treatment system would be designed with enough capacity to meet the first step in remediating the contaminated materials and waters left over from the historic mining operations.

Assuming ADEQ choses a two-step permitting process and AMI accepts, AMI would be able to first demonstrate to a skeptical public they are truly committed to AMI's commitments to being a good steward and environmentally responsible mining operation. They could prove everything they say they are going to do by "walking the talk". I have read plenty of statements by both this company and those who are very opposed. AMI has bought these properties with the expectation of mining them. While I do not applaud their plans and I also recognize their right to do so if they wish on their private property. But given the history of these sites, the unmanaged wastes on them, the contaminated waters seeping from them and the overall poor reputation and history of mining, I would ask them to show us how to properly do this work using BADCT practices.

I would assume (I found no reference in any of the documents I word searched) AMI would post a surety bond guaranteeing their proposal and ensuring its completion and operation. If, after one year of full operation, AMI is successful at remediating the current problems then ADEQ could allow step two of the permits to allow for the storage and management of new materials and, if necessary, releasing excess treated water into Alum Gulch. We would also strongly recommend the maintaining of a surety bond guaranteeing clean up, operations, site remediation and returning the site to its "natural" state in the event of a mine closure, due to changing economic conditions and/or AMI (or successors) demise.

ADEQ response:

The scenarios described above are the activities being covered by the two permits for this project. The Aquifer Protection Permit is for construction of a new, lined tailings storage facility where the historic tailings material will be placed and monitored. There is an underdrain collection pond at the base of the tailings storage facility that will collect seepage from the re-located material, as well as water pumped from the existing underground workings at the site. Both of these facilities have been designed to meet Arizona BADCT requirements.

The AZPDES permit authorizes the discharge (as necessary) of the treated water from the underdrain collection pond. The majority of the water collected in the underdrain pond is intended to be treated and re-used at the site. The water treatment plant is not a passive treatment system. The new active treatment system involves raising the pH of the water and precipitating out the metals in tanks. Page 2 and 3 of the factsheet provide the details of the treatment system.

The details of the closure/post-closure cost estimates and surety bond are provided on page 3 of the Aquifer Protection Permit. ADEQ requires all permittees maintain the technical and financial capability necessary to fully carry out the terms and conditions of their permits. The financial requirement includes a financial assurance mechanism held by ADEQ to ensure the closure/post-closure cost of all permitted facilities. AMI has agreed to submit a performance surety bond.

#8. Mayor R. E. Isakson - Mayor of the Town of Patagonia Arizona, submitted the following: The commenter delivered the comments via email on December 12, 2017.

Regarding the application for an Aquifer Protection Permit by Arizona Minerals Inc., the Town of Patagonia is concerned with the following:

The quality of our water.

Recognition of our town regulations relating to truck traffic.

Assistance with a water study of our watershed, as Sonoita Creek and Harshaw Creek are recognized as part of our municipal watershed.

ADEQ response:

The purpose of both permits is to ensure that the activities at the Arizona Minerals Inc. (AMI) site do not negatively impact groundwater or surface water. ADEQ shares the town's concern for the health and well-being of our communities and for our state. The purpose of the two permits is to ensure that groundwater and surface waterways in the area of this project remain protected. Water quantity issues and truck traffic are beyond the scope of ADEQ's regulatory authority.

ADEQ completed a Total Maximum Daily Load report for the Alum Gulch watershed (headwaters to Sonoita Creek) in 2003. If stakeholders are interested in assistance with additional surface water monitoring or watershed planning, please contact Watershed Protection Unit Manager Jade Dickens at 602.771.4115.

#9. Leslie Schupp (Patagonia AZ), submitted the following:
The commenter delivered oral comments at the hearing on November 29, 2017.

I live in Flux Canyon -- I actually live in-- I actually live in Alum Canyon. Alum Gulch Creeks runs in the middle of my 24 acres of property. My house is right above it. My well draws the water -- the well that we use to shower, to drink, everything, draws from Alum Gulch. You can imagine how I feel being told that acid mine leakage is going to be released just a short ways above my water supply.

The mine is not going to benefit anybody in Patagonia, anybody in that area. All its going to do is destroy our environmental quality. It's going to directly destroy my water by polluting it and probably drying it up. How much will my property values be worth at that point?

Is it worth it, so that we can -- so that foreign investors who own Arizona Minerals, Incorporated can make a profit directly off of my life? The only thing I own is that property, that house. I wanted to leave it to my children. I will not be able to if they -- if they're going to drain their toxic waste directly into my water table.

ADEQ response:

Please see comments above; this permit allows the cleanup and relocation of existing rock and material placed by older mine sites that may already be generating acidic discharge to Alum Gulch. No new mining activities are authorized with these permits.

The Aquifer Protection Permit regulates the amount of pollutants discharged to groundwater in the area of this proposed project. The monitoring requirements and Aquifer Water Quality Standards are designed to protect drinking water use of the aquifer and the AZPDES permit is designed to protect the designated uses of Alum Gulch.

Neither permit addresses the quantity of water used by AMI as water usage is not regulated by ADEQ. ADEQ's authority with respect to the proposed project is limited to regulating the amount of pollutants discharged to groundwater, and protecting the designated uses of Alum Gulch.

Private drinking water wells are not subject to the Safe Drinking Water Act and it is the well owner's responsibility to ensure the quality of water in the wells is safe for consumption through testing. If ADEQ has reason to believe that conditions in the permits are or have been violated, ADEQ will take appropriate enforcement action.

#10. Joseph Nitsche – Patagonia Area Resource Alliance, Inc. submitted the following:
The commenter delivered oral comments at the hearing on November 29, 2017.

I'm on the board of directors of Patagonia Area Resource Alliance, which is a community based organization in Patagonia dedicated to preserving the natural environment in the area around Patagonia, including the Patagonia Mountains.

First of all, I wanted to mention that the notice for this public hearing was part of the same notice for the comment period for the two permits. The notices have a number of legal problems with them. They're not legally sufficient. I have brought this to the attention of ADEQ; that's why the comment period was extended. But this hearing was part of the same notice, and it suffers the same deficiencies as the notice for the permits.

I will be speaking on only AZPDES permit, not the aquifer protection permit. PARA has asked ADEQ for documents related to both permits. We've received documents from the AZPDES permit. I might have gotten something today for the APP permits, but no one has had a chance to look at them. PARA will be submitting detailed written comments on both permits by the comment deadline period.

The first point I wanted to make was that the discharge from the January Mine Water Plant is a new discharge from a new source as defined in the Water Act, and must be permitted by ADEQ at this standard, not as an existing discharge from an existing facility as the permit is written now. This is under the authority of the Clean Water Act and regulations at 40CFR 122.2 and 122.29. Under the permit, ADEQ incorrectly treats the discharges as existing discharges. This position is contrary to law and to ADEQ's own documents related to this permit.

The draft permit is unclear about how it characterizes receiving waters in Alum Gulch on page four of the draft factsheet. All fluid testing in the draft permit is inadequate because it only is mandated for the first 12 months of

operation, during which time the grind shafted mill site would not be operational. There needs to be additional mandated wet testing for toxicity beyond the one-year period.

ADEQ response:

Please see the response to Comment #51 below regarding the new source vs existing source comment.

The public participation requirements are established at A.A.C. R18-9-108, R18-9-109, R18-9-A907 and R18-9-A908, and were adhered to with respect to these two permit actions. The public comment period was extended to allow the commenter adequate time to review all of the public records related to the applications, and to make comments on the record.

Page 4 of the fact sheet describes the designated uses for Alum Gulch that were used to establish which water quality standards applied to this permit. The permit requires AMI to monitor the discharge from the January Mine Water Treatment Plant for the entire 5-year term of the AZPDES permit, not only for the first 12 months. Based on public concerns, ADEQ added additional WET testing to the AZPDES permit.

The mill site is not being permitted at this time. Any additional facilities will require either additional permits or amendments to the current permit.

#11. Vincent Pinto (Patagonia AZ), submitted the following:
The commenter delivered oral comments at the hearing on November 29, 2017.

My background is as a wildlife biologist and naturalist, and I speak from that perspective. I also run a business, along with my wife, Claudia. Our business will be impacted. Just as drinking water can be impacted, so can the financial means of people and businesses. I think that will be a negative impact of this mine in general.

But I have two main questions:

One is what about water quantity? In about six weeks, as I understand it, this mine will use as much water as the town of Patagonia historically has in a year. And also, what about quality? We're already experiencing water pollution from existing mines, ones that's aren't being run right now. We don't have water, we're nothing. If you want to create a ghost county, then suck all this water dry. We have ghost towns in Arizona. We they're quaint: we go and visit them. What about Ghost County? Without water—and the Patagonia's are not a well-water range like the Chiricahuas and the Pinalenos. And I want to mention some of our unique wildlife diversity. We have the most birds recorded in North America, the most hummingbirds in North America, the most sparrows on earth, the most mammals -- 108 species -- in the whole US, the most reptiles, the most venomous reptiles, the most bees, most ants. We have 2,100 species of plants.

If you connect the San Rafael to the Sierra San Antonio, to the Patagonia's, to the Santa Ritas, and little places like our little nature preserve and such, that's a wildlife corridor for jaguars, ocelots and other species coming up from Mexico -- the only place that that occurs. So if you want to turn a touristy, quaint little county and town into hell on earth with no water, then please approve this.

ADEQ response:

Neither permit addresses the quantity of water used by AMI as water usage is not regulated by ADEQ. ADEQ's authority with respect to the proposed project is limited to regulating the amount of pollutants discharged to groundwater, and protecting the designated uses of Alum Gulch.

#12. Laura Jean Miller (Patagonia AZ), submitted the following:
The commenter delivered oral comments at the hearing on November 29, 2017.

My legal name is Laura Jean Miller. I live at 149 Flex Canyon Road. I go by Jean Miller as a business name. I also happen to be the owner of a Long Realty company in Patagonia and Sonoita, so I'm very well-acquainted with the property values and everything else that goes on. I submitted a letter to the comments -- to the ADEQ. We built a house in 2006. When we built the house, our well had been dug. When we started to use the water, we discovered that it had a lot of pretty nasty things in the water. I live directly – I'm Leslie's next-door neighbor. It passes me and gets to her, okay? It literally runs directly through my property. I have to cross it, actually, to get up to my home. In that water, we've found significant things. I purchased and spent -- the initial cost was $15,000, or closer to 25,000 -- on my own water treatment plant, just for my water right now, based on the older -- what has happened to the aquifer based on the older mines in the region, okay?

My concern about this -- and I'm talking specifically about the discharge permit. I'm really not terribly familiar with the other permit issue. The discharge would cause, if it's a slow -- it sounds pretty massive, but .1-something in a million gallons per day of water. I have horses, we have dogs, we have cattle. We have every kind of wildlife, as Vince can tell you. All of those animals must drink this water.

I'm somewhat protected. My guest home is filtered. I have a complete home RO system myself just to protect my own health. I can't guarantee now that -- those horses, all the cattle, everything is drinking from that stream. Alum Gulch runs directly into Sonoita Creek, where it runs 24/7 through Circle C property. It then runs directly into Lake Patagonia, and it then runs to the Santa Cruz River. This is not limited.

I'm speaking on behalf of myself and the homeowners. I'm not in the subdivision that's impacted, Valley of 1,000 Oaks. My property is just outside of it. But I speak for all of them to say that we're talking about a dozen or more, or 15 homes that are directly affected.

Should this happen -- I need to understand. We used to have ADEQ people come to my door and ask me to call them when the wash ran so that they could take a sample. They haven't in five years. But they used to take samples and be concerned about the water that was coming down. At this point now, we're talking about all of those homes being affected.

And I'm very concerned about the amount of water when the creek runs in monsoon. Right now it can get as much as three feet deep. If there's a discharge during monsoon -- I personally pay; the County does pay for my driveway; it does Flux Canyon -- you will trap 15 homeowners into their homes that will not be able to get out. So that's pretty much what I have to say. And I did write a letter to the ADEQ. I have copies if you would like.

ADEQ response:

Please see responses to comments above, particularly comment #1; these permits only allow cleanup and relocation of existing material and will help to address the water quality concerns you describe in the comment. The intermittent stream sampling described in the comment will be supplemented by monitoring of groundwater and the discharge permitted under the permits.

The discharge from the January Mine Water Treatment Plant to Alum Gulch is expected to be infrequent and if it does occur, even at the maximum discharge rate, it is estimated to go subsurface approximately 1.2 miles downstream of the outfall.

Although ADEQ does not regulate private wells, the department encourages well owners to educate themselves about water quality and drinking water health issues. ADEQ strongly encourages private well owners to collect periodic water samples to test for bacteria and other contaminants.

#13 through 27. Joseph Nitsche – Board Secretary -Patagonia Area Resource Alliance, Inc.
The commenter delivered comments via email on December 13, 2017.

Comment #13
Patagonia Area Resource Alliance, Inc. (PARA) is a non-profit community watchdog organization that monitors the activities of mining companies and others, as well as ensures government agencies' due diligence, to make sure their actions have long-term, sustainable benefits to public lands and water resources in Patagonia and the State of Arizona. PARA is submitting comments to the Arizona Department of Environmental Quality (ADEQ) regarding APP Permit #P-512235, Trench Camp Property – Tailings Storage Facility (Permit), to be issued to Arizona Minerals, Inc. (AMI). As discussed in greater detail below, the Permit would authorize AMI to construct and operate the Trench Camp Property - Tailings Storage Facility (TSF) located approximately 5 miles south of the Town of Patagonia, Arizona.

As written, the proposed Aquifer Protection Permit (APP) is contrary to federal and Arizona law. Other problems and issues with the Permit also are noted. ADEQ should revisit the APP Permit to institute robust standards, limitations and permit requirements in conformance with existing law that are truly protective of the environment and public health.

PARA's specific comments and objections to the currently proposed Aquifer Protection Permit are set forth below:

In AMI's letter to ADEQ, dated Jan 13, 2017 (AMI letter), AMI explains its plans to return at least 45 percent of tailings (presumably historic and future) to the underground mine workings in the form of Cemented Paste Tailings (CPT), used for structural backfill to allow maximum recovery of the ore body.

PARA first notes that nothing in the records we have reviewed clarifies whether any amount of the 45 percent of the tailings will include potentially acid generating (PAG) waste rock. This should be clarified by ADEQ. The AMI plan - returning at least 45 percent of old and new tailings to the underground mine workings as CPT for structural backfill - constitutes a source of potential discharge and must be regulated as a separate APP facility that is not subject to any exception under ARS 49-250(B). ADEQ must at some later point in time to require AMI to apply for and receive a separate individual APP (or significant amendment to the current APP) for the use of CPT as structural backfill.

Further, it is unclear from the Permit documents whether ADEQ takes the position, as AMI suggests in its letter, that at the depths in which the CPT will be used, the potential discharge will not impact an "aquifer" within the meaning of ARS 49-201(2).

ADEQ response:

These permits authorize AMI to clean up and relocate existing tailings and waste rock piles. The AMI letter dated January 13, 2017, was related to information provided for a pre-application meeting related to a future Hermosa Taylor Project, and it is not part of the APP that was public noticed and issued. This permit does not

cover backfilling an existing mine shaft.

ADEQ agrees and acknowledges your comment regarding a significant amendment to the APP or any potential future APP application, including any proposed use of CPT for structural backfill.

Comment #14 - Protections for Groundwater are Incomplete to Account for Historic Toe Seepage and Future Re-Handling of Historic Trench Camp Tailings Piles #1 - 4

The Draft Permit and Fact Sheet both describe how existing historic tailings from the ASARCO Trench Camp Mine, including tailings containing PAG waste rock located at Tailings Pile #1, will be excavated and moved/re-handled to prepare for construction of the new Trench Camp Tailings Storage Facility (TSF) (Interim Phase). Thereafter, these tailings will be placed at the new TSF as part of Phase 1 and Phase 2.

There is insufficient information in the permit materials to explain the site conditions beneath these historic tailings footprints (*See* A.A.C. R18-9-A202(8)(b)(vii)) or how the soil beneath these historic, unlined tailings will be remediated, given the long history of tailing toe seepage and the potential for additional and new contamination resulting from the excavation, exposure and re-handling of the tailings. This omission is particularly important for those tailings located in Tailings Pile #1, which have PAG, and which will in the future be located outside of the western boundary of the planned TSF and Pollutant Management Area (PMA). Please clarify.

ADEQ response:

AMI has agreed to remove the native soil beneath the existing tailings piles to a depth of one foot. The historic tailing piles predate the APP program and are outside of the program's authority. Further information regarding the geotechnical investigation of the existing tailings piles is presented in Attachment B of the application titled "TAILINGS AND POTENTIALLY ACID GENERATING (PAG) MATERIAL REMEDIATION, PLACEMENT AND STORAGE PROJECT AQUIFER PROTECTION PERMIT (APP)", dated June 5, 2017.

Comment #15 - A separate APP Permit Related to Tailings Piles #2 and #4 should be required to protect the Harshaw Creek Watershed

The original tailings located at Piles #2 and #4 may have resulted in an independent contamination of soils beneath the piles, which notably are located (at least in part) in the Harshaw Creek watershed. Tailings Pile #1, including PAG rock, will be moved and commingled during the Interim Phase with Tailings Pile #2 and #4 prior to supposed removal to the new TSF.

ADEQ should require a separate APP for the site of historic Tailings Piles #2 and #4 to ensure there is future monitoring and the imposition of a Discharge Impact Area (DIA)/PMA and Point of Compliance (POC) in the Harshaw Creek drainage/watershed area. *See* ARS 49-241 and 49-244. At present, the APP focuses solely on the separate Alum Gulch Creek drainage. Harshaw Creek drains into Sonoita Creek upstream of the intake facility of the Town of Patagonia water supply, unlike Alum Gulch Creek.

ADEQ response:

Mining activities that occurred prior to 1986, such as historic tailings and waste rock sites described above predate the APP program and are outside of APP's authority. Because these permits allow AMI to cleanup and

move existing material that is potentially acid generating, the project these permits authorize ultimately benefits the environment.

Comment #16 - It is a Mischaracterization for ADEQ to Suggest the APP is Solely for Regulated Discharges Associated with ADEQ's Voluntary Remediation Program(VRP)

Both the Fact Sheet and the Permit explain that the instant APP is being issued to AMI for development of the Trench Camp TSF merely for the remediation of the existing tailings (Piles #1-4) and elimination of discharges of mine impacted water from the historic ASARCO January Mine Adit to Alum Gulch. Fact Sheet at 2.0; Permit at Sec. I.

These statements mischaracterize the purpose of the activities and facilities to be constructed under the APP. AMI understands that in order to resume mining operations at this site, it will need to develop a new, larger TSF to store existing and future tailings and waste rock. ADEQ's attempt to couch these actions as remediation of this historic site is not convincing. The TSF will incorporate PAG development rock from a planned exploration decline or shaft as a co-mingled material with the existing tailings and PAG waste rock. Fact Sheet, page 2. This project extends well beyond the VRP.

Specifically, AMI intends to construct a new TSF, Underdrain Collection Pond (UCP) and Active Water Treatment Plant (WTP), which will treat and eventually discharge to Alum Gulch Creek under an AZPDES permit. These discharges will include mine process water, tailings underflow, mine working water, decline/shaft water, and precipitation to be collected in the UCP from the relocated historic mine facilities, as well as new mining facilities to be developed by AMI during the life of the APP permit, including eventually a new mill. ADEQ should correct this confusion for purposes of public understanding.

ADEQ response:
ADEQ disagrees that it has mischaracterized in suggesting the APP is solely for regulated discharges associated with ADEQ's VRP. As discussed in response to Comments #4, 5 and 13, future mine activities including collection and processing of ore are not permitted at this time. ADEQ has not received an application in relation to expansion of the mining operations. The APP is related to relocation of historical tailings on a lined facility and collecting the drain-down in a lined UCP. The solutions in the UCP will be treated prior to on-site reuse or discharge to the Alum Gulch under the AZPDES permit. It shall be noted that no "mine process water" will be discharged under these permits. The planned decline and shaft are exploratory in nature and are not new mining activities. The majority of material to be placed on the TSF is for remediation purposes.

Comment #17 - The WTP should be considered a potentially Discharging Facility under the Aquifer Protection Permit

The WTP should be treated as a discharging Facility subject to regulation under the APP. See A.R.S. 49-241. The draft Permit lists the TSF, the UCP, and the AZPDES Outfall 001 (but not the WTP itself) as a discharging facility subject to regulation under the APP. The omission of the WTP must be corrected by ADEQ in a revised Permit.

ADEQ also should clarify if Best Available Demonstrated Control Technology (BADCT) was required for the design and development of the WTP. [1]If BADCT (prescriptive or individual) was used for the WTP, ADEQ

[1] It is difficult to understand how ADEQ's use of the Arizona Mining BADCT Guidance Manual, which dates back to at least 2001, can

should explain how BADCT could have been developed to ensure proper treatment of future, yet uncharacterized, sources of mine working/drift and shaft water, including PAG sources.

ADEQ response:
ADEQ disagrees that water treatment plants are categorical discharging facilities per A.R.S. 49-241 as they are not listed as such. Additionally, the WTP components consist of aboveground tanks that meet the requirements of the tank exemption as per ARS 49-250(22). Therefore, the WTP is exempt from the APP program.

As discussed in response to Comments #4, 5 and 13 above, future mine expansion is not permitted at this time. At this time, ADEQ has not received an application in relation to expansion of the mining operations. If an application to amend the permit to include additional flows to the WTP is submitted, it will be required to include characterization of the flows and treatment design for the WTP to meet desired discharge quality.

Comment #18 - Groundwater Monitoring, Aquifer Quality Limits, and Alert Levels should be required, at minimum, for all three Points of Compliance

Points of Compliance are required under ARS 49-244 for "each facility" identified in the Permit. While ADEQ has identified the three facilities and referenced three POCs, its reasoning for requiring the construction, groundwater monitoring and the establishment of Aquifer Quality Limits (AQLs) and Alert Levels (ALs) only for POC-2 is not explained in any way.

The Draft Permit calls for three Points of Compliance. POC-1 is a "conceptual location" downgradient of the TSF. POC-2 is to be located 200 feet downgradient of Outfall 001, in the Alum Gulch drainage, and POC-3 is a "conceptual location" approximately 1 mile to the north- northwest and downgradient of Outfall 001.

However, only POC-2 is required under the APP to be used for groundwater monitoring, while POC-1 and POC-3 will be constructed and/or used for groundwater monitoring only for contingency purposes. Permit at Sec. 2.4.

ADEQ should clarify if POC-1 and POC-3 will be constructed, though not utilized for monitoring unless a contingency event occurs, or if these POCs are truly "conceptual" only, so that there are no plans to construct these POCs at this time. Note that the Compliance Schedule found in Sec. 3.0 of the draft Permit does not reference POC-1 and POC-3.

The Fact Sheet and Permit fail to adequately explain when and under what circumstances POC-1 and POC-3 will be used for groundwater monitoring under "contingency" circumstances, presumably in compliance with, among other requirements, A.C.C. R18-9-204(A). There is little explanation how Table 4.3.1 relates to POC-1 and POC-3, if at all. Also, the requirement in Table 4.3.1 for AMI to secure only a single sample within 24 hours of discovery of a contingency event (without more) makes little sense and is unclear.

ADEQ response:

Table 4.3.1 does not relate to POC-1 or POC-3, but instead lists the contaminants required to be analyzed for in a representative sample of either fluid from overtopping or other breach of the impoundment.

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be used for the development of BADCT components for this permit under ARS 49-243 and A.C.C. R18-9-A202(A)(5). Given the exponential opportunities for technological advancements in this field, as in many other fields in our society today, reliance on a Manual that is at least 16 years old does not demonstrate "the greatest degree of discharge reduction achievable through application of the best available demonstrated control technology, processes, operating methods or other alternatives, where practicable, a technology permitting no discharge of pollutants." ARS 49-243(B)(1).

POC's 1 and 3 are not required to be constructed at this time. Should circumstances such as an exceedance of an alert level (described in 2.6.2.8 of the permit) happen, ADEQ may require the construction and monitoring of POC's 1 and/or 3 at that time.

The TSF is being constructed as a double-lined facility with a leak collection system between the first and second liners. Any potential leaks from the first liner would be captured and removed by the leak collection system. The second liner is additional protection. Due to the built-in protections of the two-liner-system, ADEQ does not typically require groundwater monitoring for double-lined facilities. Therefore, with those protections in place, ADEQ designated POC-1 as a conceptual POC that would be constructed and monitored only if ADEQ deems it necessary. Examples of reasons ADEQ would require installation of the POC-1 well include, but are not limited to, evidence of liner failure, overtopping or other breaches of the impoundment, and/or elevated levels of constituents of concern detected in other locations.

POC-2 is located approximately 200 feet downgradient of the AZPDES outfall, and allows ADEQ to monitor the direct impacts, if any, from the discharge. POC-2 also serves as a potential contingency trigger, where if POC-2 detects a pollutant in a concentration that exceeds the permit limits, ADEQ may require the installation and monitoring of existing conceptual POCs or the creation of new POC locations/wells.

POC-3 is located at the down-gradient edge of the PMA as defined in statute (A.R.S. § 49-244). The PMA was determined based on how far downstream the water from the WTP would be present at the surface if there was a continuous discharge at the maximum permitted flow rate of 172,000 gallons per day. However, information reviewed by ADEQ indicated that under normal operating conditions, discharges will be infrequent and highly unlikely to come close to the maximum permitted flow rate. Therefore, it would be unlikely that POC-3 would be able to adequately monitor any direct effects that the discharge would have. Subsequently, ADEQ designated POC-3 as a conceptual POC that would be constructed and monitored only if a contingency event occurs.

Comment #19

Discharges from the January Mine Adit into Alum Gulch Creek have long contained the presence of cadmium, copper, zinc and acidity at levels exceeding water quality standards. Given these historic discharges, there should be both ALs and Discharge Limits (DLs) established in the permit (Table 4.2.2) for copper and zinc, in addition to cadmium. Further, if metals are to be analyzed as dissolved metals, should hardness also be set in this Table?

ADEQ response:

Discharge monitoring ALs and DLs for copper and zinc are not established for the APP because there are no numeric aquifer water quality standards for those pollutants. The same is true for compliance groundwater monitoring ALs and DLs.

Comment #20

The Compliance Schedule found at Sec. 3.0 of the draft Permit calls for Ambient Groundwater Quality Monitoring at POC-2 in accordance with Sections 2.4 and 2.5.3.2 and requires AMI to submit this information in the form of a report to ADEQ, along with a Permit Amendment application. Given the importance of this report and monitoring information and the requisite Permit Amendment, will the Permit Amendment and information associated with the Amendment be considered a significant permit amendment subject to public notice and comment? Please explain.

ADEQ response:

The information provided in the report described above and required in a compliance schedule item is used to set alert levels and aquifer quality limits in a minor amendment per A.A.C. R18-9-A211(C)(7). Minor amendments are not subject to public notification and comment requirements, however information

associated with a minor amendment may be obtained through a records request to ADEQ.

Comment #21
What is the basis for applying prescriptive BADCT components for the UCP facility and individual BADCT for the TSF? Please explain.

ADEQ response:
ADEQ acknowledges a typographical error in Section 2.2.1 of the Draft APP. The TSF and the UCP will be constructed using prescriptive BADCT design. The APP has been amended.

Comment #22
The Contingency Plan requirements in Sec. 2.6 of the draft Permit repeatedly calls for AMI to "cease or reduce" discharging to the various impoundments or facilities in the event of certain exceedances under the Permit, such as an exceedance to the freeboard performance levels in the UCP, exceedance to certain Alert Levels, a liner failure or rip or a containment structure failure, or an unexpected loss of fluid or overtopping of the impoundments. Yet, there is nothing in the permit or contingency materials reviewed by PARA that makes clear how under these circumstances AMI will ensure that discharges can, in fact, be ceased or reduced, particularly in the event of a massive rainstorm, seismic or other event. There also is no explanation in the materials PARA has reviewed of whether or not AMI has sufficient redundancy in its pumps and other operating systems to ensure that it could meet the above listed requirement. This should be clarified.

ADEQ response:
As per the various contingencies listed in the subsections of Section 2.6 Contingency Plan Requirements of the APP, "the permittee is responsible for compliance with contingency plans relating to the exceedance of an AL or violation of a DL, AQL or any other permit condition. The permittee is subject to enforcement action for the failure to comply with any contingency actions in this permit." Failure of the permittee to cease discharge or otherwise respond appropriately to an event subjects them to enforcement action from ADEQ.

Comment #23
ADEQ has received written comments on this permit from individuals who have homes, domestic wells and livestock directly downstream and down gradient of the proposed facilities. There is nothing in the contingency planning materials PARA has read that calls for timely notice to directly affected downstream individuals in the event of an Aquifer Water Quality Standards violation, AL or an overtopping or dangerous failure. Please explain how timely notification to these particular individuals will take place.

ADEQ response:
Please see response to Comment #1. Based on the site specific conditions, distance to the nearest downstream properties, proposed operational procedures, and design specifications of the permitted facilities, ADEQ has deemed it unlikely that the permitted activities would contribute to an imminent and substantial endangerment to the public health or the environment. However, ADEQ agrees to add the following requirement to Section 2.6.4 Aquifer Quality Limit Violation of the APP:

> *"4. The permittee shall notify any downstream or downgradient users who may be directly affected by the discharge."*

If or when AMI submits an application to amend this permit or to obtain a new permit for the purposes of beginning any new mining activities, ADEQ will re-evaluate the contingency plan requirements to ensure adequate protections for those activities.

Comment #24

The statement in the Fact Sheet that the Trench Camp TSF is not located within a 100 year flood plain is misleading. Prior documents in ADEQ's records show that the flood hazard for this area undetermined. ASARCO Adit Workplan, PDF18. Further, the Dam Breach Analysis performed by ERC (April 2017) fails to clarify the hazards to downstream residents and their livestock. It also fails to adequately explain how downstream domestic wells will be impacted by potential flooding comparable to a 100 year, 24 hour storm event.

ADEQ response:
According to the Flood Insurance Rate Map for Santa Cruz County, Arizona and Incorporated Areas, Panel 525 of 750, Map #04023C0525C, Effective Date December 2, 2011, the Trench Camp TSF is located in Zone D. Zone D is defined as, "Areas in which flood hazards are undetermined, but possible." ADEQ acknowledges the error and will revise the Fact Sheet.

The APP facilities are designed to contain flows from a 100-year, 24-hour storm. Therefore, no impact should occur to the downstream domestic wells from the APP facilities as a result of potential flooding comparable to a 100-year, 24-hour storm.

The Dam Breach Analysis performed by ERC (April 2017) was not part of the APP application. The Arizona Department of Water Resources has jurisdiction over issues of dam integrity and related hazards.

Comment #25
The Fact Sheet only states that the TSF, UCP, and associated stormwater controls were designed for a 100-year/24 hour storm event. Please clarify if this means the AMI must contain all discharges up to and including a 100-year/24 hour storm event or if AMI is permitted to discharge upon the occurrence of a 100-year/24 hour event.

ADEQ response:
The APP facilities are designed to contain flows from a 100-year, 24-hour storm.

Comment #26
ADEQ documents indicate that AMI may intend to use development rock from planned exploration decline and shaft (which ADEQ has stated may include PAG rock) for placement on the exterior face of the existing tailings as some sort of "rock armor" to prevent water and wind erosion. This should be explained. Further, any use of mine water for dust suppression should also be explained since both intended uses appear to present a risk of contamination and air quality violations.

ADEQ response:
Based on information provided in the application, the development rock from the exploration decline (which may include PAG rock), will be placed on the lined tailings facility and drainage from the tailings facility flows to the UCP. Solutions in the UCP will be treated prior to discharge to Alum Gulch under the AZPDES permit or for onsite use for dust control. Rock armor is also known as rip-rap or rubble and is commonly used to protect areas where erosion from flowing water is possible.

The application indicates that contact water from the tailings will not be used for either construction activities or dust suppression. AMI proposed to use only treated effluent from the WTP for dust suppression or construction activities. Water used in this fashion is designed to prevent air quality violations.

Comment #27
In conclusion, the draft APP Permit is fatally flawed. Its issuance would violate the federal and Arizona law and other applicable authorities. ADEQ should refrain from issuing this Permit until a complete and proper permitting process can be undertaken and adequate protections for the environment, the public health and

the waters of Arizona can be developed.

ADEQ response:
The ADEQ disagrees with the above statement. The ADEQ APP program is responsible for issuing environmentally protective permits to facilities and activities that are subject to the requirements of Arizona Revised Statutes (A.R.S.) §49-241. The APP application submitted by Arizona Minerals Inc., has been evaluated and determined to meet all of the requirements of A.R.S. §49-241, Arizona Administrative Code (A.A.C.) R18-9-A201, and conformance with the Arizona Mining Best Available Demonstrated Control Technology (BADCT) Guidance Manual, in order to obtain the APP.

#28 and 29. Jerri Sober - Patagonia, Arizona submitted the following:
The commenter delivered the comments via email on December 13, 2017.

Comment #28

As a resident of the Patagonia area, I am writing to protest the proposed siting of a mine tailings storage facility at Trench Camp (No. P-512235, LTF65051) in the Patagonia Mountains. This storage area is located over groundwater of the Santa Cruz Basin.

The permit allows the overflow of effluent of January Mine Water Treatment Plant into Alum Gulch, which flows into Flux Canyon, which in turn flows into Sonoita Creek and the Santa Cruz River. These waterways pass through residential areas, as well as through a bird sanctuary (Nature Conservancy property), Patagonia State Park (recreation area), Rio Rico, Tubac, Green Valley and Tucson. Water from the Santa Cruz is used by all of these places for drinking, household use, irrigation and more.

I am concerned about the potential discharge into Alum affecting everyone and everything downstream. The 350,000 tons of waste products from the old Trench Mine days, as well as some of the new AMI-mined rocks/dirt, contain potentially acid generating material. Historically, mine waste has been known to escape containment facilities, flow downstream, and pollute creeks/rivers. There is no guarantee of that not happening here. Do AMI executives have good records of safety and honesty? Is that worth checking out? I think so.

Patagonia depends on tourism for its economy. A good portion of that tourism is for birding, hiking, hunting and site seeing. The proposed excavations, mines, tailings piles, and waste products would not be attractive to these tourists. Patagonia will cease to exist as it is today, and it will not benefit in any way. Profits from the mines will go to the mining companies and foreign countries.

On a personal level, friends and I frequently hike in Alum/Flux. We enjoy the arroyos, mountains, wildlife, trees and plants, and we sometimes come in contact with seasonal runoff. I want the area to remain as it is for all to enjoy.

Water is life. If Alum/Flux and everything downstream are polluted as you suggest in the permit, the area will be a wasteland. I do not want to take that chance and neither should you. Please do not rubber stamp this permit. Visit the area, talk to the residents, and then please deny this permit.

Comment #29
As a resident of the Patagonia area, I am writing to protest the proposed "permit (to Arizona Minerals Inc. (AMI)) to discharge pollutants" from the January Mine Water Treatment Plant into Alum Gulch, Pollution Discharge Elimination Permit (No. AZ0026387).

Alum Gulch flows into Flux Canyon, which in turn flows into Sonoita Creek and the Santa Cruz River. These waterways pass through residential areas, as well as through a bird sanctuary (Nature Conservancy property), Patagonia State Park (recreation area), Rio Rico, Tubac, Green Valley and Tucson. Water from the Santa Cruz is used by all of these places for drinking, household use, irrigation and more.

Alum as well as Flux contain homes, horses, cattle (from the Coronado National Forest), pets, wildlife, trees and shrubs. The houses receive their water from wells. I am concerned about the long term discharge (0.172 million gallons per day) of mining waste to the welfare of the people, animals, trees and shrubs. What guarantee do they have that this effluent will not later be deemed toxic to them and the land? Will it be another situation wherein years later diseases (i.e., cancer) will manifest in them or their offspring?

What about the property values in the area? What do you think the likelihood is that buyers would be interested in living adjacent to a creek flowing with "mine drainage and tailings seepage"? I wouldn't purchase a home there. Would you? You may be paying off lawsuits in years to come if this permit is granted.

On a personal level, friends and I frequently hike in Alum/Flux. We enjoy the arroyos, mountains, wildlife, trees and plants, and we sometimes come in contact with seasonal runoff. I want the area to remain as it is for all to enjoy.

In the permit draft, I read that AMI will be responsible for the limiting and monitoring of discharges into Alum. So, the coyote is guarding the hen house. What assurance do we have for the quality and accuracy of data under this system? With the monitoring frequency being one time per quarter or one time per year, what is to stop AMI from taking their samples at a time when they know the results will show no toxicity? Research will show you that AMI executives do not have a good safety or honesty record.

Water is life. If Alum Gulch and everything downstream are polluted as you suggest, these people, these animals and this land will be a wasteland. I do not want to take that chance and neither should you. Please deny this permit. Thank you.

ADEQ response:

Please see response to Comments #4, 5, 13 and 16. The activities being proposed under these two permits are being conducted under ADEQ's Voluntary Remediation Program and are intended to minimize the potential environmental impacts from historic mining facilities that have existed unmonitored for several decades. Because these permits allow AMI to cleanup and move existing material that is potentially acid generating, the project these permits authorize ultimately benefits the environment.

There are no provisions under the APP or AZPDES programs that require monitoring to be performed by a third party, but all samples are required to be analyzed by an Arizona Department of Health Services approved laboratory, and ADEQ has established Arizona Water Watch, offering interested citizens the opportunity to help ADEQ monitor the health of our waters and inform measures to protect it for future generations. Information on how to participate in Arizona Water Watch can be found on ADEQ's website by searching "Arizona Water Watch".

#30 through 41. Bryan Bird- Defender of Wildlife, Santa Fe, New Mexico, submitted the following:
The commenter delivered the comments via email on December 13, 2017.

Comment #30
Defenders of Wildlife is a national, nonprofit membership organization with more than 1.2 million members

and supporters dedicated to the protection of all native animals and plants in their natural communities, with its headquarters in Washington, D.C. Defenders has two fulltime employees in Tucson, Arizona, and has more than 18,000 active members in the state.
Defenders has a long history of protecting wildlife and landscapes of the Arizona border region including the water resources of the Patagonia Mountains and the grater the Santa Cruz River Basin.

Defenders of Wildlife is submitting comments to the Arizona Department of Environmental Quality (ADEQ) regarding APP Permit #P-512235, Trench Camp Property – Tailings Storage Facility (Permit), to be issued to Arizona Minerals, Inc. (AMI).

Defenders make the same claims made in the December 12, 2017 letter signed by Joseph Nitsche, Patagonia Area Resource Alliance (PARA) Board Secretary and supported in that document. As discussed in Mr. Nitsche's letter attached here, the Permit would authorize AMI to construct and operate the Trench Camp Property - Tailings Storage Facility (TSF) located approximately 5 miles south of the Town of Patagonia, Arizona.

As written, the proposed Aquifer Protection Permit (APP) is contrary to federal and Arizona law. Other problems and issues with the Permit also are noted. ADEQ should revisit the APP Permit to institute robust standards, limitations and permit requirements in conformance with existing law that are truly protective of the environment and public health.

Comment #31
Defenders of Wildlife is a national, nonprofit membership organization with more than 1.2 million members and supporters dedicated to the protection of all native animals and plants in their natural communities, with its headquarters in Washington, D.C. Defenders has two fulltime employees in Tucson, Arizona, and has more than 18,000 active members in the state. Defenders has a long history of protecting wildlife and landscapes of the Arizona border region including the water resources of the Patagonia Mountains and the grater the Santa Cruz River Basin.

Defenders of Wildlife is submitting comments to the Arizona Department of Environmental Quality (ADEQ) regarding Arizona Pollutant Discharge Elimination System (AZPDES) Permit No. AZ0026387 (Permit) to be issued to Arizona Minerals, Inc. (AMI).

Defenders make the same claims made in the December 7, 2017 letter signed by Joseph
Nitsche, Patagonia Area Resource Alliance (PARA) Board Secretary and supported in that document. As discussed in Mr. Nitsche's letter attached here, the Permit would authorize AMI to discharge up to 0.172 million gallons per day (mgd) of treated mine water, consisting of mine drainage and tailings seepage from the January Mine Water Treatment Plant, into waters of the United States, specifically Alum Gulch Creek in the Santa Cruz River Basin in Santa Cruz County, Arizona.

As written, the proposed AZPDES Permit is contrary to the Clean Water Act (CWA), 33 U.S.C. §§ 1251 et seq. and applicable law, and standards that protect the receiving waters of Alum Gulch Creek, which is listed as impaired under Sec. 303(d) of the Clean Water Act and other requirements. Other problems and issues with the Permit also are noted.

ADEQ should revisit the AZPDES Permit to institute robust standards, limitations and permit requirements in conformance with existing law that are truly protective of the environment, public health, and the receiving waters of Alum Gulch Creek.

Defenders of Wildlife's specific comments and objections to the currently proposed
Permit are stated here and supported in Mr. Nitsches's December 7, 2017 letter.

1. The Permit violates the CWA by treating the January Mine Water Treatment Plant as an Existing Source rather than a New Discharger and New Source.

2. The discharge of process wastewater is prohibited by regulation but appears to be planned by AMI under the AZPDES Permit. The Permit should be revised to clarify that mine process wastewater under any name is not allowed.

3.AZPDES Permit should not be issued until a new Alum Gulch Creek TMDL and TMDL Model have been completed and approved, and;

4. Use of Assessment Levels rather than Setting Permit Limits, and the frequency of WET Testing in the Permit, are insufficient.

In conclusion, the AZPDES Permit is critically flawed. Its issuance would violate the CWA, Arizona law and other applicable authorities. ADEQ should refrain from issuing this Permit until a complete and proper permitting process can be undertaken and adequate protections for the environment, the public health and the waters of Arizona can be developed.
(The Commenter also included a copy of comments #51 through 56)

ADEQ response:

The ADEQ APP program is responsible for issuing environmentally protective permits to facilities and activities that are subject to the requirements of Arizona Revised Statutes (A.R.S.) §49-241. The APP application submitted by Arizona Minerals Inc., has been evaluated and determined to meet all of the requirements of A.R.S. §49-241, Arizona Administrative Code (A.A.C.) R18-9-A201, and conformance with the Arizona Mining Best Available Demonstrated Control Technology (BADCT) Guidance Manual, in order to obtain the APP.

Please see responses to Comments #51 through 56.

Comment #34
Defenders of Wildlife's specific comments and objections to the currently proposed Permit are stated here and supported in Mr. Nitsches's December 12, 2017 letter.

Use of Cemented Paste Tailings for structural backfill requires a separate Aquifer Protection Permit.

ADEQ response:
See response to Comment #13 above.

Comment #35
Protections for Groundwater are Incomplete to Account for Historic Toe Seepage and Future Re-Handling of Historic Trench Camp Tailings Piles #1 – 4.

ADEQ response:
See response to Comment #14 above.

Comment #36
A separate APP Permit Related to Tailings Piles #2 and #4 should be required to protect the Harshaw Creek Watershed.

ADEQ response:
See response to Comment #15 above.

Comment #37
It is a Mischaracterization for ADEQ to Suggest the APP is Solely for Regulated Discharges Associated with ADEQ's Voluntary Remediation Program (VRP).

ADEQ response:
See response to Comment #16 above.

Comment #38
The WTP should be considered a potentially Discharging Facility under the Aquifer Protection Permit.

ADEQ response:
See response to Comment #17 above.

Comment #39
Groundwater Monitoring, Aquifer Quality Limits, and Alert Levels Should be required, at minimum, for all three Points of Compliance; and,

ADEQ response:
See response to Comment #18 above.

Comment #40
Additional Comments/Permit Questions as stated in Mr. Nitsches's December 12, 2017 letter.

ADEQ response:
See response to Comment #19 above.

Comment #41
In conclusion, the draft APP Permit is fatally flawed. Its issuance would violate the federal and Arizona law and other applicable authorities. ADEQ should refrain from issuing this Permit until a complete and proper permitting process can be undertaken and adequate protections for the environment, the public health and the waters of Arizona can be developed.

ADEQ response:
See response to Comment #20 above.

#42. Kristi Hinson - Coronado National Forest, Sierra Vista Ranger District, submitted the following:
The commenter delivered the comments via email on December 13, 2017.

The Coronado National Forest (Forest) received the Arizona Department of Environmental Quality (ADEQ), public notice concerning the draft Trench Camp Property - Tailings Storage Facility (TSF), Aquifer Protection Permit #P-512235, Place ID 150279, LTF 65051. The Draft Aquifer Protection Permit (APP) was prepared for Arizona Minerals Inc. (AMI) for APP regulated discharges associated with ADEQ's Voluntary Remediation Program (VRP) project related to eliminating discharges of mine impacted water from January Adit mine workings and tailing piles. The proposed facilities would also serve as a disposal area for approximately 1,000,000 tons of newly excavated development rock from an exploration decline.

The Coronado National Forest manages a substantial portion of the lands within the Flux Canyon and

Harshaw watersheds where the APP facilities are proposed. The Forest also owns the lands surrounding the private lands around the subject AMI property. The Forest has reviewed the Draft APP #P-512235 with supporting documents, and provides the following questions and comments on the Draft APP.

In section IV. HYDROGEOLOGIC SETTING and sub heading POLLUTANT MANAGEMENT AREA (PMA) / DISCHARGE IMPACT AREA (DIA) of the Draft APP states:

"Arizona Revised Statutes (A.R.S.) § 49-244(I) defines the pollutant management area (PMA) as the limit projected in the horizontal plane of the area on which pollutants are or will be placed." The PMA forms a close boundary to the edges of the TSF, underdrain collection pond, and WTP outfall, following Alum Gulch downgradient (north-northwest) for approximately one mile. The DIA is approximately an outline of the PMA, except it extends approximately 1,500 ft. further down Alum Gulch than the PMA."

The area described in the Draft APP, as the PMA, included approximately 1 mile of Forest lands. We would note that AMI has no authority to create APP regulated facilities on these specific Coronado National Forest lands. Therefore the PMA to be authorized in the APP, cannot extend into Forest owned lands.

The Draft Aquifer Protection Permit #P-512235, in section 2.4 Point of Compliance (POC), is a list of POCs, among them is a POC-3. *" POC-3 Conceptual location approximately one mile to the north-northwest and downgradient of the WTP outfall, 31° 29' 1.7", 110° 44' 16.4".*

The Section continues and says: *"Groundwater monitoring is not required at POC-1 and 3, unless as contingency monitoring. The Director may amend this permit to designate an additional point or points of compliance if information on groundwater gradient or groundwater usage indicates the need."*

The AMI APP application dated 6/5/2017 (section 26) indicates that a "conceptual POC" is proposed based on extent of discharge surface flow. This stream segment of Flux Canyon crosses approximately 1 mile of the Coronado National Forest, not private lands.

It is not clear what purpose POC-3 will serve, as it not in the contiguous property boundary of the permittee or proposed permitted facilities, nor does it appear to meet the geographic proximity requirements under A.R.S. § 49-244. If the basis were that the extent of surface discharge is the Pollutant Management Area (PMA), and therefore a POC is placed at the edge of the PMA, this would open many issues of land ownership (as noted in comment 1 above), definition of a facility, and technical sufficiency in the BADCT current demonstration.

We understand that this groundwater monitoring may be an appropriate consideration for monitoring within the Discharge Impact Area (DIA) but it does not seem to be an appropriate 'POC' for facilities the to be monitored. We understand that this may be a contingency monitoring location, but it is legally confusing to have it labeled and shown as a 'POC' in this table in section 2.4. We recommend that "POC-3" be renamed to an 'alert', 'contingency well', or 'DIA well' and moved to another permit section, such as the contingency section of the permit (e.g., Section 2.6).

We have reviewed the draft permit coordinates for the POC locations and our GIS grade mapping, and we recommend that proper land surveys may be needed to verify that the proposed APP facilities, and POC

wells, are indeed not located on National Forest Lands.

ADEQ response:
ADEQ has the authority to define the PMA and locate one or more POC's under A.R.S. § 49-244, which states that, "The director shall designate a point or points of compliance for each facility receiving a permit under this article." The AZPDES outfall is a legal discharge that is located on AMI property and therefore requires a POC to be determined. The purpose of the PMA is to show the limit of the area where pollutants may be placed on the surface, and it helps define the location of the POC. Therefore, since the water from the AZPDES outfall will travel down Alum Gulch, the PMA must extend to the point where that water is no longer present at the surface, and POC-3 is located accordingly. Should a pollutant release occur, POC-3 could be essential in providing information that could determine and direct the scope of remediation.

The Coronado National Forest Service (NFS) is correct that the conceptual POC-3 is located on National Forest Lands. If ADEQ determines a physical well is to be installed as POC-3, AMI will be required to obtain all necessary permissions and approvals from NFS. As this is located on NFS land, NFS may or may not grant access at their discretion. As noted, POC-3 is essentially is a "contingency well," as ADEQ will only require AMI to construct and monitor it under certain contingency events.

It is standard practice for a facility with dual APP and AZPDES permits to have a PMA extending off of the property boundary, as the discharge will impact groundwater as it's absorbed by the normally dry creek bed up to 1.2 miles away.

#43. Vincent Pinto – Ravens Way Wild Journeys, submitted the following:
The commenter delivered the comments via email on December 13, 2017.

This letter is in regards to the proposed water permit for the proposed AMI mine and its Trench Camp property in the Patagonia Mountains. On November 30, 2017 I attended the water permit hearing in Nogales Arizona in order to voice my opinion on this critical issue. Given that along with other concerned citizens *I was allowed only 3 minutes to speak my mind*, I have also chosen to submit these written comments. I hope that they will be taken into consideration, owing to the immense environmental implications of this permit.

My background is as a Wildlife Biologist (B.S. University of Montana, 1986) an Ethnobotanist (M.A. Prescott College, 2000), and a Naturalist. Everything I do each day is aimed at promoting education about and conservation within our Sky Islands region of southeast Arizona. I see both the environmental and economic future of Santa Cruz County and beyond being placed in dire jeopardy by the short-term financial interests of a foreign mining corporation, which is promising dubious benefits to local communities. I live locally - 5 minutes from Patagonia Lake State Park and thus will, as with many other local people, be directly impacted by the potential approval of this ill-advised mine.

As I see it the future of people as well as the natural environments in Santa Cruz County hinge heavily on the health and well-being of its water resources. There are numerous other arguments against the mine, yet the one that trumps them all surely is the diminishment and degradation of our already scarce water.

Many regions of the world are now witnessing the catastrophic results of what happens when humans take their water and other resources for granted. Wars, refugees, political strife, and more cascade from depauperate environments, where poor choices were made regarding natural resources, key among them water. Southern Arizona is at a similar latitude as the Middle East and, if we are not careful, may suffer some of the same predictable consequences of a depauperate natural environment.

In 2014 *Smithsonian* magazine published an article entitled "*Arizona Could Be Out of Water in Six Years*" In it they chronicle the alarmingly low supplies of water for Arizona, given both its rapidly growing population and various industries. At that time the EPA predicted a worsening of this situation given the increasing effects of global warming. Ghost towns, though often considered quaint/historic sages of the past, may soon arise out of water shortages instead of economic woes. The source of many if not most existing Arizona ghost towns? Defunct boom/bust mines - pure and simple. Like a jolt of economic caffeine, the mine might stimulate certain segments of the local economy only to withdraw entirely within a mere few decades. Left behind will be a legacy of compromised water and economic bust. Images of the Dust Bowl days, though seemingly forgotten in today's frivolous use of water, should provide a sobering enough effect to make all of think twice about adding even more stress to our water resources.

Even as I write and prior to any new mining, the *current* state of our water resources in Santa Cruz County is not good. Currently we are in a drought and look to be for the near and foreseeable future. Recurrent droughts challenge our water levels frequently. They are a fact of life here. Wells have recently run dry in the town of Sonoita, while others are showing alarming signs of lowering near Patagonia Lake, near where I live. Tucson has long since "mined" its water to the point where it must import Colorado River water (CAP water) to try to meet the needs of its population. The Colorado River supply has dwindled to the point where by 2019 it may stop delivering to urban areas in Arizona. I wonder where we will import *our* water from when we use up our local supplies?

On the azwater.gov website I located a pdf with a very telling graphic. Namely, a map of Santa Cruz County showing the drawdown on wells between 1995 and 2004/5. The numerous colored dots on it indicate wells with a diminished water level ranging from minus 1 foot to over minus 30 feet - all significant drawdowns in such a short time period. This was without the added stress of AMI's mine, which is predicted to use 650 gallons/minute, pumped 24 hours a day for 7 days a week during the mine's estimated 20-year lifespan. *That equates to nearly a million gallons of water pumped per day by the mine!* This means a yearly use rate of about 342 million gallons of water. Surely our aquifers will draw down at unprecedented rates even without additional drought.

In its own words the Arizona Department of Water Resources states its mission as:

"Conserving and sustaining all water resources...it's our future."

Their website goes on to proclaim: *The primary goal of the Santa Cruz AMA Conservation Program is to gradually reduce water consumption by encouraging the use of the best available water conservation practices and maximizing the efficient use of all water supplies including the direct use of effluent.* This seems glaringly inconsistent with the intended level and type of water usage that AMI desires.

Given the anticipated near million gallons of water/day usage for the mine, it would use as much water in 6 weeks as the town of Patagonia does in a year. This is simply unacceptable, as the future of not only the people of Santa Cruz County, but also its natural resources will be needlessly squandered - and for what? To line the pockets of a few mining executives, investors, and employees? Will *they* be willing to drink the tainted water? Will *they* pay to drill our wells deeper *if* there is any water still to be found? Will *they* pay to have my water tested and to put in a water treatment plant to ensure water quality? Will *they* magically be able to replace beautiful Sonoita Creek and the Santa Cruz River, the futures of which will be placed in peril by such a mine? Of course we all know the answers to these and other such questions - no, they won't do any of this. We will be left holding the collective bag and left to ponder why we allowed this to happen.

Not only will water levels subside, the *quality* of the remaining water will be compromised as well. Even now we are all still dealing with the toxic pollution from mines that closed decades ago and which have turned certain Patagonia Mountain streams milky white. I wonder if the mining executives would like to drink *that* water? The Patagonias are already rather depauperate in water with few perennial stretches of streams, so endangering them further will greatly compromise the habitats and their attendant wildlife, so many species of which depend upon clean and available water. So to do recreationists, hunters, equestrians, birdwatchers, hikers, bikers, and everyone else who uses this beautiful mountain range.

Beyond people, many species of flora and fauna will be impacted by this mine, especially riparian obligates that rely mostly or solely upon living in and/or near water. Such species include:

- Elegant Trogon
- Western Yellow-billed Cuckoo
- Gray Hawk
- Zone-tailed Hawk
- Common Black Hawk
- Jaguar
- Ocelot
- Sonora Mud Turtle
- Canyon Tree Frog & other Amphibians
- Native Fish
- A plethora of Aquatic Invertebrates
- Fremont Cottonwood
- Arizona Sycamore
- Arizona Walnut

Of course, the majority of wildlife species present in the Patagonias rely upon water and associated riparian areas during all or some of their life cycle, making any harm to these rare resources all the more impactful. *A mountain range with less water and with polluted water provides marginal habitat at best for various species.*

Now to the water treatment and retention facilities proposed by AMI. Supposedly these facilities can accommodate a 100-year flood. What happens when a large storm - say the remnant of a Pacific Ocean hurricane - delivers a 500 or a 100-year flood? Naturally, the storage and treatment capacity that AMI designs cannot take this deluge. We have all seen and/or personally witnessed national news stories highlighting environmental mining disasters. Burst and leaking retention ponds, wildlife poisoned by mining waste, people and their pets sickened by drinking foul water, long and drawn-out lawsuits against the polluters are all real possibilities with this mine.

Have the tectonics of the exact area been taken into account regarding the approval of this water permit. In particular any concrete, gravel, and piping systems can be instantly compromised by a seismic event. In ADEQ's own "Draft Fact Sheet" for the Trench Camp Property - Tailings Storage Facility (TSF)" they reference the Harshaw Creek Fault which underlies the mining area. What if (really when) an earthquake similar to the 1887 estimated 7.2 - 7.6 Richter scale event epicenter about 60 miles south of Douglas, AZ happens again. During that earthquake there were widespread earth fissures, boulder displacement, and damage to countless structures that is well documented. Even a small, more local quake can unleash the stored toxic waste that AMI plans to "safely store".

Regarding the testing of water at AMI's mine, who exactly will do the testing? Is it AMI itself? If this is the case, then no reputable scientist can trust that data, given the vested economic interests of this company in

favorable results. Instead, independent tests need to be regularly and *randomly* conducted to insure compliance with water quality standards. Further, are the proposed species to be used as benchmarks for water quality - the Water Flea, the Fathead Minnow, and a Green Alga - *native* to the Patagonia Mountains. Certainly the Fathead Minnow is not native to Arizona and in the words of one website: *"Because the fathead minnow is fairly tolerant of harsh conditions, it can be found in bodies of water that may be uninhabitable to other fish* [i.e. ones native to the Patagonia Mountains], *such as waste drainage sites."* Thus, their use to determine the negative effects of water toxins on species that actually inhabit drainages within this mountain range, while useful, is not ideal. An effort should be made to employ a handful of species - an invertebrate, vertebrate, and a plant work well - that are *native* to the Patagonias. In particular, species know to be sensitive to changes in water quality should be chosen.

What more can be said at this critical juncture? There is no amount of time and no words sufficient for me to devote to this topic given its importance to the future health of our water, and the people, wildlife, livestock, and pets of Santa Cruz County.

No amount of promised economic benefit - either through jobs or via increased tax revenue - is worth selling away the future of our water. Our collective fates - humans, wildlife, pets, livestock - are all inextricably linked to the health of our water. Thus I urge you to reject this water permit, given the undo risk it places upon all of our futures. Please think not on a 10 or 20-year time scale, but instead where we might be in terms of water in 100 years.

ADEQ response:

Please see response to Comments #1, 4, 5, 13 and 16. The activities being proposed under these two permits are intended to minimize any potential impact to the environment from historic mining activities at the site that pre-dated regulations in place today. The quantity of water used by AMI is not addressed in either permit; the Arizona Department of Water Resources has jurisdiction over quantity of water. Because these permits allow AMI to cleanup and move existing material that is potentially acid generating, the project these permits authorize ultimately benefits the environment.

Samples for monitoring under both permits are collected by the permittee, but are required to be analyzed in a laboratory approved by the Arizona Department of Health Services. ADEQ reserves the right to collect and analyze independent samples if it is suspected that a permittee is not following sample collection protocol.

In regards to the question about the test species used for the toxicity testing, the AZPDES permit requires AMI to use test methods approved by the EPA. The three test species required for toxicity sampling in the permit are approved by EPA as surrogate species for toxicity testing methods. In addition, the EPA Technical Support Document for Water Quality Based Toxics Control (page 17) states it is unnecessary to test for resident species since standard test species have been shown to represent the sensitive range of all ecosystems analyzed.

#44. Anne Townsend - Friends of Sonoita Creek, Inc., submitted the following:
The commenter delivered the comments via email on December 12, and December 13, 2017.

This letter is to state that Friends of Sonoita Creek, Inc. (FOSC) supports and seconds Ms. Shafer's letter (copied below and hereby incorporated into these comments).

I have followed unfolding events and promises regarding Arizona Mining Inc. (AMI) activities here in the Patagonia Mountains.

As President of FOSC and on behalf of the FOSC Board and some 90 members, I write to say we have long been concerned about these activities, 1) because of the proposed excessive use of ground water, which along with surface water, feeds Sonoita Creek and, 2) because of the as yet to be resolved possibility of pollution of Sonoita Creek (nearly all drainages from the mining activities feed into Sonoita Creek, especially during flooding).

Because Sonoita Creek is a beautiful and rare riparian stretch of about 30 miles, stretching from Sonoita to Rio Rico, FOSC was formed in 2004 as a 501(c)3 non-profit to protect its watersheds and educate the public about its importance.

Therefore, FOSC stands firm with PARA in insisting that AMI dot all the "i's" and cross all the "t's". Please consider the comments in PARA's letter below to represent our concerns as well.

ADEQ response:

ADEQ has responded to the concerns referenced in this comments in the responses above.

#45. Claudia Campos Pinto – Ravens – Way Wild Journeys LLC., submitted the following:
The commenter delivered the comments via email on December 13, 2017.

RAVENS-WAY WILD JOURNEYS LLC
www.ravensnatureschool.org

VISIT OUR WEBSITE AND EXPLORE OUR SAFARI TENTED CAMP!

"DO NOT GO WHERE THE PATH MAY LEAD. GO INSTEAD WHERE THERE IS NO PATH AND LEAVE A TRAIL....." Emerson

Thank you for taking the time to read my plea to you as an alarmed resident and small business owner of Santa Cruz County whose well water, health, and livelihood depends on the health of the Santa Cruz River Basin.

While I attended the public hearing on November 30, I was too emotionally overwhelmed to share in public these heartfelt concerns during just 3 minutes - given the magnitude and long lasting implications that your decision has in our lives, our health, our economic future, and our community.

I am a proud American citizen who highly values the environmental laws and regulations aimed at ensuring that all its citizens have the right to access clean and safe drinking water. The ADEQ's mission to protect and enhance public health and the environment in Arizona leads me to wholeheartedly believe that you will stand to protect our most fundamental human need and the most vital aspect of our lives - Having daily access to safe water! Having functioning wells in the properties that we all have purchased in Santa Cruz County! Please help our community by enforcing the Clean Water Act and 40 C.F.R. # 122.2 and 122.29.

Please visit the impacted area and fully analyze the direct, indirect, and cumulative impacts of granting the Aquifer permit to AMI on our lives, livelihoods, community and biodiversity for generations to come. I beg you to think about the true economic and environmental future of our area. Mines are not the answer to any economic woes we may be experiencing. Instead we need to protect the most precious resource we have - Safe Water - to be able to preserve the health of the residents and biodiversity our very unique Sky Islands region. Your decision will forever compromise our water sources, our lives, our economic future, and the unique Bio-diversity of the majestic Patagonia Mountains. Granting these critical water permits will ensure an open pit mine. Consequently,

the water in our wells, creeks, streams, and lakes will be forever polluted, the quality of the air we breathe will deteriorate, the noise and the light pollution levels in our area will worsen, and the health and longevity of all of us will be doomed. The viability of a critical cross-border wildlife corridor for fragile wildlife populations such as the Jaguar, Ocelot, and the Mexican spotted owl will also be forever doomed.

The irreparable negative consequences will permeate every aspect of our community and our lives. As small business owners, we choose to move to Patagonia to showcase their amazing biodiversity via Nature Adventures such as Birding, Tracking, Hiking, Glamping, Star-Gazing, Conservation, and Wildlife Habitat Restoration. Your decision will ruin our Eco-tourism business - RAVENS-WAY WILD JOURNEYS LLC. Our unique and popular Astronomy Programs will cease to exist along with our Ecolodge - as tourists will see no reason to visit Patagonia anymore. As a result, our livelihood and our ability to make ends meet would be devastated. Along with many other Eco-tourism organizations in the region, we rely upon tourism dollars to sustain our business. The hundreds of people we yearly teach about the unique Sky Islands Biodiversity would no longer have an incentive to travel to our region. Guests from around the country and the world now come to the famed Sky Islands region in Arizona to explore our pristine Deserts, Grasslands, Mountains, Canyons, and other remote natural areas. Granting these critical water permits will ensure an open pit mine and the end of all the Eco-tourism in our area.

The proposed AMI mining project would change forever what makes our region unique and will undoubtedly make the mountains just another scarred, beat-up, and used piece of land. Our scarce water resources will be depleted and polluted, threatening all local wells, aquifers and creeks. Please help us protect the Patagonia Mountains, they should be protected, not raped. Local businesses should be able to thrive based upon a healthy environment. Any use of the environment should be sustainable - particularly as it pertains to water. Open pit mining certainly is not sustainable, nor can humans or the environment survive without water or be fixed after the mine inevitably crashes when it runs out of water.
Let us instead support local businesses that bring jobs and diversity to our communities. Eco-lodges and Nature and Bird guide services like us, rely solely upon an undamaged environment to be able to stay in business and offer the Biodiversity that tourists have come to expect in Patagonia.

Please help us preserve the unique Bio-diversity of this majestic mountains for generations to come! Please assess the irreversible and devastating damage to our water, land, air quality, wildlife and human populations in this critical wildlife corridor! In a world where there are such few pristine wilderness areas left, please help us protect this unique habitat and critical wildlife corridor for generations to come!

www.ravensnatureschool.org

ADEQ response:
The activities being proposed under these two permits are intended to minimize any potential impact to the environment from historic mining activities at the site that pre-date any of the regulations in place today and were previously exempt from regulatory requirements. While AMI may be considering future operations near this site, these permits do not allow mining activities, only relocation and cleanup of existing material and a limited amount of exploratory activities. Because these permits allow AMI to cleanup and move existing material that is potentially acid generating, the project these permits authorize ultimately benefits the environment.

#46. Michael Stabile submitted the following:
The commenter delivered the comments via email on November 11, 2017.

It is proposed that the treatment facility proposed by AMI only have a lifespan of 30 years. The Trench mine

tailings and adit have been discharging into alum gulch/flux canyon since the Trench mine closed down over sixty years ago AMI is proposing a large-scale industrial mining operation that will dwarf the Trench mine. If there are no guidelines in place to require compliance in perpetuity and there is discharge, the taxpayers will be strapped with the bill. The Lead Queen Mine also here in the Patagonia Mountains is a perfect example of that. It is only prudent to have the operation financed in perpetuity I would request that AZDEQ require a bond that provides sufficient funds for the operation and maintenance of the facility for at least 100 years.

I also request that an independent company be in charge of monitoring the discharge from the treatment facility. Having the proponent be in charge would be a big mistake, this will assure the residents that live in Flux canyon that their safety and the quality of their water will be safeguarded.

ADEQ response:
ADEQ has authority under Arizona Revised Statutes 49-243(N) and Arizona Administrative Code R18-9-A203 only to require financial assurance for closure and post-closure activities and not operating expenses for any period of time. The details of the closure/post-closure cost estimates and surety bond are provided on page 3 of the Aquifer Protection Permit. ADEQ requires all permittees maintain the technical and financial capability necessary to fully carry out the terms and conditions of their permits. The financial requirement includes a financial assurance mechanism held by ADEQ to ensure the closure/post-closure cost of all permitted facilities. AMI has agreed to submit a performance surety bond.

Both the APP and AZPDES programs rely on the permittee to perform self-monitoring to assure compliance with their permit; there is no rule to support the requirement for sampling to be performed by a third party. ADEQ does have the authority to perform on-site inspections and take samples of the discharge if warranted. All samples taken by the permittee are required to be analyzed by an independent laboratory licensed through the Arizona Department of Health Services.

ADEQ is also concerned about the water quality of Alum Gulch in the Flux Canyon. A water quality study (Total Maximum Daily Load study, or TMDL) was completed in 2003 establishing the pollutant loading limits required to meet all applicable water quality standards in the watershed starting at Alum Gulch and extending to Sonoita Creek. The AZPDES permit limits are consistent with the limits established in this water quality study. Recently, ADEQ has established the Arizona Water Watch, which offers interested citizens the opportunity to help ADEQ monitor the health of Arizona's waters. Information on how to participate in Arizona Water Watch can be found on ADEQ's website by searching "Arizona Water Watch".

#47. Robert Proctor submitted the following:
The commenter delivered the comments via email on November 28, 2017.

As a resident of Santa Cruz County, I strongly oppose any mining in our county. The damage AMI will do to our land and our water table will be permanent. The area to be mined is the head waters of the Santa Cruz River basin that provides clean water to most of our communities from Patagonia and Nogales to Tucson. The permanent damage that will be done to our water and environment will forever outweigh the advantages to the few that will profit from this travesty. Please deny any and all permits requested by AMI and any mining interests.
Save our water.
Save our land

ADEQ response:
Please see responses to Comments #4, 5, 13 and 16.

#48. Tom Arny submitted the following:
The commenter delivered the comments via email on November 29, 2017.

I would like to express my opposition to the proposed granting of water discharge permits for mining in the Patagonia Mts. I live in Flux Canyon and have followed the problems with the clean-up at the World's Fair Mine (if I recall its name properly). Given the difficulties with that clean up, I don't understand why there is a proposal to discharge yet more mine waste water. Water is so precious here and the amount of water being pumped for this proposal seems colossal. Thank you for the opportunity to comment on this proposal.

ADEQ response:

Please see responses to Comments #4, 5, 13 and 16.

The amount of water being pumped at the site is outside of the ADEQ's authority. ADEQ regulates water quality and Arizona Department of Water Resources (ADWR) regulates water quantity.

#49. Matt Wallin submitted the following:
The commenter delivered the comments via email on December 4, 2017.

I'm a native of southern Arizona and grew up south of green valley. I watched the mines in Sahuarita grow from tiny spots on the map as originally proposed to every direction that could contain it. Windy dry days revealed the lack of control of the tailings as dust clouds would blanket the town of green valley from the tailing ponds. The Maggie's that still own the ranch behind the old mine saw their water table drop below 1800ft (brine) and the surrounding land lose all value just in time for the mine to scoop it up and continue. Who won? There is a nice library in green valley and a few structures (Courtesy of Phelps Dodge) and I'm sure jobs were created but who is left, who really drives this place to continue. Those poor old people with toxic salts coating their homes.

I'm a graduate of the Chemical engineering program at the U of A. (If you're a ASU fan I'm sorry) Although mineral development is vital to our growth as a Society it does not need to done at all cost. Current Copper and mineral production are sufficient to maintain demand as reuse is incorporated. 80% of the worlds copper demand is already supplied by recycling which is directly tied to the price. The higher the price the higher the recycled material utilization (This Holds true for Silver Also). Silver itself has dropped 50% in value since 2012 due to over supply. The current mining techniques are old and outdated but utilized for cost at the expense of the land and water that supplies the mine. When I look around Tucson and southern Arizona we are surrounded by very little remaining perennial water and it seems like the 2 largest mining projects are gunning to take these out. Sonoita Creek in Patagonia and The Cienega with the Rosemont project. With such a bustling economy and influx of retires and tourists I can't imagine why we as a community or even as a society that is concerned with the future for our children would even consider allowing another mine in the little amount of pristine areas we have left. Water is the most sacred commodity to life in the desert. Monopolizing what we have, however small along with the precious few open spaces, for a few jobs or a temporary boost in of economy only to be left parched and with our lands decimated is unconscionable. Please take a drive through Helmet peak or Duvall mine or Morenci or Silverbell or Helvetia. See if you think the promised mitigation and rehabilitation strategies are working. Ask the Maggie's if their water is ever coming back. Guess who wins not the people you are trying to protect. Please help us stop this money GRAB.

ADEQ response:

Please see responses to Comments #4, 5, 13 and 16.

The amount of water being pumped at the site is outside of the ADEQ's authority. ADEQ regulates water quality and Arizona Department of Water Resources (ADWR) regulates water quantity.

#50. Leslie Schupp submitted the following:
The commenter delivered the comments via email on December 4, 2017.

Do you know anyone who would like to have acid mine seepage in their drinking water?

I strongly protest Arizona Minerals Inc.'s proposals to use water from Alum Gulch for their proposed mining operations, and to discharge their "tailings seepage" into Alum Gulch, under Pollution Discharge Elimination Permit (No. AZ0026387).

I live in Alum Gulch fulltime. I own a house and 24 acres. Alum Gulch Creek runs through my property. My well, only 100 feet from the creek, depends upon the Alum Gulch watershed. Arizona Mineral's plans to draw literally millions of gallons of water from this watershed will suck my well dry. Their further plans to "discharge of up to 0.172 million gallons per day of treated water consisting of mine drainage and tailings seepage" into Alum Gulch will poison whatever water might be left. Arizona Minerals claims that the "effluent" will be fully "treated" and safe to drink, but it is not their water that is being charged with toxic metals, it is mine, and that of the other residents in Flux and Alum Canyons who have no other recourse for water.

Furthermore, one mile downstream from my house is one of the last free-flowing rivers in southern Arizona, Sonoita Creek. This creek flows downstream into the Santa Cruz River to Nogales and Tucson. If this creek is poisoned or runs dry, there are many thousands of people who will be adversely affected.

The people who live in Alum and Flux Canyons, and in the town of Patagonia, depend on clean water for our livelihoods and our property values. The proposed mines will not benefit us, but merely put money in the pockets of foreign investors and leave us with a toxic mess that will last hundreds of years and cannot be mitigated.

ADEQ should do its job of ensuring the environmental quality of the water for Arizona residents, not for out of state short-term profits that will damage our water for the foreseeable future.

Do not grant this permit. Why? Because no one wants to drink acid.

ADEQ response:
Please see responses to Comment #2, 4, and 5. The activities being proposed under these two permits are intended to minimize any potential impact to the environment from historic mining activities at the site that pre-date any of the regulations in place today, and were previously exempt from regulatory requirements.

Ground water quantity and supply is outside the scope of the both the AZPDES and APP programs. The Arizona Department of Water Resources oversees the use of groundwater resources.

Any discharge to the aquifer from AMI will be required to meet aquifer water quality standards to prevent contamination of the ground water and verified by samples collected at a well and at the discharge location. Although ADEQ does not regulate private wells, the department encourages well owners to educate themselves about water quality and drinking water health issues. ADEQ strongly encourages private well owners to collect periodic water samples to test for bacteria and other contaminants

The AZPDES permits regulates the quality of water allowed to be discharged into Alum Gulch. The limits in the AZPDES permit are written to protect for human recreation, aquatic life and livestock watering uses. Both permits require monitoring and reporting of their discharge and any violation of a permit limit is subject to Arizona's environmental enforcement laws.

#51 through 56. Joseph Nitsche – Patagonia Resource Alliance, Inc. submitted the following:
The commenter delivered the comments via email on December 11, 2017.

Comment #51
The Permit violates the CWA by treating the January Mine Water Treatment Plant as an Existing Source rather than a New Discharger and New Source

(a) Additional loading of copper, cadmium, and zinc to Alum Gulch Creek by AMI violates the CWA and its anti-degradation standards (b) ADEQ applied the wrong Effluent Limitation Guidelines

The January Mine Water Treatment Plant is a new discharger and new source as defined in the Clean Water Act and regulations at 40 C.F.R. §§ 122.2 and 122.29 and A.A.C. R18-9-A901(24) and (25), and must be treated as such in the Permit.

The Permit characterizes discharges of mine workings and tailings seepage from the January Adit Water Treatment Plant to be an existing source rather than a new source or new discharger. This determination is based upon the mine workings and historic tailings at the site that date back to the first half of the twentieth century. See page four of Fact Sheet. The exact same language -"seepage from the mine workings likely predates August 29, 1979" - appears on both the ADEQ Fact Sheet at page four, and page two of the Arizona Minerals, Inc. letter to ADEQ that accompanied its Application, dated May 19, 2017 (AMI letter).

The permitted AMI activities are not solely related to the old ASARCO mine on the site but include new facilities and structures or new sources of discharge water during the five year Permit term. The new sources of discharges include those from the "development of a decline and shaft to facilitate exploration and mining" which will be "placed into the planned underdrain collection pond" and discharged, after treatment at the new treatment plant, to Alum Gulch Creek through Outfall 002. See page one of the AMI letter. AMI also will move the historic tailings to a new site with a liner and build a new water treatment plant to treat any water collected in the underdrain collection pond. The Fact Sheet, Permit and AMI letter repeatedly refers to the project as a new facility or reference portions of the project as having new facilities/discharges. For example, Fact Sheet Section IV.,"Description of Discharge", notes that "Because this is a new facility and no discharges have yet occurred, effluent monitoring data is not available." Also, as discussed further below, the use of Assessment Levels vs. Specific Effluent Limitations is used in the Permit precisely because there is a new discharge.

The federal Environmental Protection Agency (EPA) agrees that the January Mine Water Treatment Plant is a new discharger. In an email of September 1, 2017 from Elizabeth Sablad of the EPA to Richard Mendelian of ADEQ, Ms. Sablad states, "Although this is an existing source, this is a new permit for a new discharge, which means that an antidegredation analysis for the new discharge must be explained."

ADEQ response:
To answer the New Source, New Discharger question it is important to first review all the legal definitions. Below are definitions for New Discharger, New Source and Site as defined in Arizona Administrative Code (A.A.C) R18-9-A901 and in 40 CFR 122.2 and 122.29:

"New Source" means any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced;

a) After the promulgation of standards of performance under section 306 of the Clean Water Act that are applicable to the source, or

b) After the proposal of standards of performance in accordance with section 306 of the Clean Water Act that are applicable to the source, but only if the standards are promulgated under section 306 within 120 days of their proposal.

"New Discharger" means any building, structure, facility, or installation:

a) From which there is or may be a discharge of pollutants;
b) That did not commence the discharge of pollutants at a particular site before August 13, 1979;
c) That is not a new source; and
d) That has never received a finally effective NPDES or AZPDES permit for dischargers at that site.

40 CFR 122.2 (referenced by 40 CFR 122.29) defines 'Site' as meaning the land or water area. "Site" means the land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity.

In addition, 40 CFR 122.29(b) (adopted at AAC R18-9-A905) provides that a facility is not a new source or new discharger unless: (1) it is constructed at a site at which no other source is located; (2) it totally replaces the process that causes the discharge of pollutants at an existing source; or (3) its processes are substantially independent of an existing source at the same site.

New Source Response
The standards of performance under section 306 of the Clean Water Act (CWA) applicable to ore mining are listed in 40 CFR 440, Sub Part J. The technology-based effluent limitation guidelines and the new source performance standards for ore mining were both promulgated in 1982.

The current AMI mine site was previously owned and operated by ASARCO and existed as a mine prior to the promulgation of the standards of performance specific to the ore mining and dressing point source category under section 306. ASARCO was also previously permitted for the discharge of the January Adit to Alum Gulch (AZPDES Permit # AZ0025054). Because the mine existed prior to promulgation of the CWA 306 standards of performance, the mine drainage at the AMI site is an existing source and it is being permitted as such. In addition, the AMI site does not qualify as a new source under the provisions of 40 CFR 122.29(b).

New Discharger Response
The AMI site is also not considered a new discharger. Although this permit is creating a new outfall for a new AZPDES permit, it does not qualify as a new discharger as defined in rule because (1) the discharge of pollutants from the site predates August 13, 1979, (2) it is not a New Source, and (3) the site previously was issued an AZPDES (NPDES) permit to ASARCO in December 2003. In addition, the AMI site does not qualify as a new discharger under the provisions of 40 CFR 122.29(b).

Regarding the September 1, 2017 email from Elizabeth Sablad, ADEQ responded back to EPA with revised factsheet language that clarified ADEQ's position that this is an existing source not considered a new discharge. ADEQ did not receive any public notice comments from the EPA in regards to this permit.

In regards to antidegradation requirements, the discharge from the January Mine Water Treatment Plant will be to an ephemeral wash, which receives Tier 1 antidegradation protection. As long as the permittee maintains compliance with the permit requirements and applicable surface water standards, the designated uses of the receiving water will be presumed protected, and the facility will be deemed to meet the antidegradation requirements under A.A.C. R18-11-107.01(A).

Comment #52

The Permit violates Anti-degradation standards

Section 303(d) of the Clean Water Act requires a state to identify its polluted waters and to establish a Total Maximum Daily Load (TMDL) for each pollutant in the water body. A TMDL analysis is then completed to establish baseline measurements of pollutant materials in those water bodies, and to identify potential reductions needed to attain standards.

The Clean Water Act, as administered by ADEQ, also prohibits further degradation of water quality. Alum Gulch Creek is already listed as impaired under Sec. 303(d) of the CWA for copper, cadmium, pH, and zinc. See 2003 Alum Gulch Creek TMDL. Thus, additional loading to Alum Gulch Creek with any of the above elements can in certain instances violate the CWA and its anti-degradation standards.

The obvious objective of the Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of our Nation's waters. Even if a discharge itself will not violate water quality standards (which has not been shown to be the case here), the Clean Water Act prohibits discharges of a pollutant into an impaired water body if that pollutant is the reason for the impairment (i.e., the reason why the stream is on the 303(d) list), unless certain stringent planning and stream remediation efforts have been finalized and are in place – which (as discussed below) has not been done in this case.

Here, Alum Gulch Creek is listed as impaired for copper, cadmium, and zinc and the discharge permitted under the AZPDES Permit, which is a "new discharger" under 40 C.F.R. §§ 122.2 and 122.29 (as discussed above), will contain copper, cadmium, and zinc (among other pollutants). Under the CWA, such a discharge will "cause or contribute" to water quality violations and cannot be permitted without a plan in place to ensure that the stream can and will achieve the standard. See 40 C.F.R. § 122.4(i) ("Prohibitions. No permit may be issued: (i) To a new source or a new discharger, if the discharge from its construction or operation will cause or contribute to the violation of water quality standards"). This regulation is a flat-out prohibition against any new discharge that would cause or contribute to a violation of a water quality standard. ADEQ in the draft permit nevertheless disregards the fact that Alum Gulch Creek is impaired for copper, cadmium, and zinc.

Furthermore, this regulatory requirement of the CWA allows for only one limited exception – in 40 CFR § 122.4(i) – to the prohibition of discharges into impaired waters that already are violating the standard. In order for a discharge of the pollutant in question to be allowed, the EPA regulations require strict assurances that (1) the stream can handle the new discharge and still meet the standard and (2) that specific plans are in place to ensure that the stream will be brought back to health—i.e., achieve the applicable water quality standard for that waterbody. Thus, the permit applicant has the dual burden of demonstrating that "there are sufficient pollutant load allocations to allow for the discharge" and that "existing dischargers into that segment are subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards." That has not occurred here.

The Ninth Circuit Court of Appeals has directly affirmed this reading of the CWA and its Regulations. In Friends of Pinto Creek v. United States E.P.A., the court overturned a water quality discharge permit issued by the federal EPA to a large copper mining project in Arizona. See Friends of Pinto Creek v. United States E.P.A., 504 F.3d 1007 (9th Cir. 2007), cert. denied, 129 S.Ct. 896 (2009). The critical issue in that case was whether a discharge permit could be issued that would add a pollutant to Pinto Creek, a water body that did not meet the applicable water quality standard for that pollutant—in that case, dissolved copper. The court vacated and remanded the EPA-issued permit on the ground that such a discharge violated the impaired waters provision of the CWA.

In Pinto Creek, the Ninth Circuit framed the fundamental issue as: "[w]hether the issuance of the permit to discharge a pollutant, dissolved copper, into Pinto Creek, which already exceed the amount of dissolved copper allowed under the Section 303(d) Water Quality Standards, is in violation of the Clean Water Act and applicable regulations?" Pinto Creek, 504 F.3d at 1009. The court said that such a discharge would violate the Clean Water

Act. The Ninth Circuit's decision squarely rejected the "offset" defense raised by EPA, the discharger, and ADEQ (which had certified the discharge under CWA Section 401). Id. at 1012. Relying on the stated objective of the CWA "to restore and maintain the chemical, physical, and biological integrity of the nation's waters," the court held that "[t]he plain language of the first sentence of the regulation is very clear that no permit may be issued to a new discharger if the discharge will contribute to the violation of water quality standards." Id.

The court further held that: "[t]here is nothing in the Clean Water Act or the regulation that provides an exception for an offset when the waters remain impaired and the new source is discharging pollution into that impaired water." Id. The court noted that 40 C.F.R. § 122.4(i) allows for an exception to this strict rule only "where a TMDL has been performed." Id. "[T]his exception to the prohibited discharge by a new source provides that the exception does not apply unless the new source can demonstrate that, under the TMDL, the plan is designed to bring the water into compliance with applicable water quality standards." Id. The court also noted that, in addition to the requirement that a TMDL be performed, the discharger must demonstrate that two conditions discussed in 40 C.F.R. § 122.4(i) have also been met. That is, (1) there are sufficient remaining pollutant load allocations to allow for the discharge; and (2) the existing dischargers into that segment are subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards. 40 C.F.R. § 122.4(i). See Pinto Creek, 504 F.3d at 1013. Neither of these conditions have been satisfied here by Arizona Minerals, Inc. or ADEQ.

The Ninth Circuit required that these compliance plans must not only show what pollutant load reductions are needed to bring a water body back to health, but also actually how these reductions will be achieved. Specifically the Court pointed out that the error of both the EPA and the mining company was that the objective of 40 C.F.R. §122.4(i)(2) is not simply to show a lessening of pollution, but to show how the water quality standards will be met if the mine was allowed to discharge pollutants into the impaired waters. Pinto Creek, 504 F.3d at 1014.

The Pinto Creek court further found that "compliance schedules" must be established for all "existing dischargers" into Pinto Creek, so that the stream could accommodate the new and increased copper discharges from the mine. Id. at 1012-13. In this regard, the Court noted that all point sources must be subject to these compliances schedules (i.e., plans designed to reduce the pollutant loading from each source so the stream segment would be brought into compliance with water quality standards). Id. The court specifically rejected EPA's argument that only currently permitted point source discharges were subject to the "compliance schedule" requirement. Id. at 1013. The Pinto Creek court established the basic procedure that must be followed before a new NPDES permit is issued for a discharge to an impaired water:

> If point sources, other than the permitted point source, are necessary to be scheduled in order to achieve the water quality standard, then EPA must locate any such point sources and establish compliance schedules to meet the water quality standard before issuing a permit. If there are not adequate point sources to do so, then a permit cannot be issued unless the state or [the discharge permit applicant] agrees to establish a schedule to limit pollution from a nonpoint source or sources sufficient to achieve water quality standards. Id. at 1014.

On this point, EPA in Pinto Creek had correctly argued that nothing in the CWA compelled it to act against other dischargers. However, the Pinto Creek court noted that its ruling did not force EPA to take any action requiring existing discharges to reduce their pollutant loadings. Rather, "[t]he EPA remains free to establish its priorities; it just cannot issue a permit to a new discharger until it has complied with [40 C.F.R.] § 122.4(i)." Id. at 1015.

The AMI AZPDES Permit as written violates the CWA and its anti-degradation standards because it allows additional loading of the above referenced elements into an already impaired water and, as noted below in discussion of the TMDL, is likely to cause a disruption of a Waste Load Allocation (WLA) set forth in the 2003 TMDL. See R18-9-A903(7). Tier 1 antidegradation protection applies to Alum Gulch Creek since it is on the 303(d) list for Arizona. See R 18-11-107(A) and (B).

ADEQ response:
The AMI AZPDES permit sets limits to meet the water quality standards of Alum Gulch and any exceedance of a permit limit is prohibited. Because the discharge is required to meet the standards, it will not cause or contribute to the violation of water quality standards.

The decision in the Friends of Pinto Creek v US EPA does not set a precedent for this permit. The Carlota Copper Company was permitted by the EPA as a New Source and New Discharger because operations at the site began after 1979. As detailed in ADEQ's response to Comment #51, the discharge from the AMI site is not a New Source or New Discharge, thus showing the differences between the two sites.

Alum Gulch is not listed on the current 303(d) list, which lists waters assessed as Category 5 (impaired) in the 305(b) Assessment. The Gulch has been listed as a Category 4A (Not Attaining) water since the 2004 305(b) Assessment as the TMDL was approved by the EPA in 2003. For more information specific to the TMDL and how this permit incorporates the TMDL see ADEQ Response Comment #55.

In regards to antidegradation requirements, the discharge from the January Mine Water Treatment Plant will be to an ephemeral wash, which receives Tier 1 antidegradation protection. Compliance with the permit requirements and applicable surface water standards ensures thatthe designated uses of the receiving water will be presumed protected, and the facility will be deemed to meet the antidegradation requirements under A.A.C. R18-11-107.01(A).

Comment #53
The Permit applies the wrong Effluent Limitation Guidelines

ADEQ has applied the wrong Effluent Limitation Guidelines (ELGs) in the Permit. Since the AMI project involves a new source (see above), the technology-based requirements used in the Permit are incorrect.

Arizona regulation R18-11-107.01(3) makes it clear that Tier 1 antidegradation requirements are satisfied for a point source discharger like AMI if the AZPDES Permit has both water quality based effluent limitations designed to achieve compliance with applicable surface water quality standards and the technology-based requirements of the CWA for the point source are met.

In this case, the standards of R18-11-107.01(3) have not been met. ADEQ has incorrectly decided that AMI is not a new source (or a new discharger for that matter) and therefore, ADEQ applies a combination of Technology Based Limitations associated with Best Practicable Control Technology (BPT) for pH and TSS and Best Available Technology (BAT) for cadmium, copper, mercury, lead, and Zinc. See Fact Sheet at page five and 40 CFR 440.103.

However, AMI is a new source. Accordingly, the levels of control associated with the AMI project are driven by the New Source Performance Standard (NSPS) and the Permit is incorrect. See 40 CFR 440.104.

ADEQ response:
See ADEQ Response to comment #51, above. The discharge from the January Mine Water Treatment Plant is considered an existing source, and the Effluent Limitation Guidelines pursuant to 40 CFR 440.102 (Best Practicable Control Technology – BPT) and 440.103 (Best Economically Achievable – BAT) were correctly applied to this discharge.

Comment #54
The discharge of process wastewater is prohibited by regulation but appears to be planned by AMI under the AZPDES Permit. The Permit should be revised to clarify that mine process wastewater under any name is not

allowed.

The AMI letter states that under this Permit AMI will be constructing a new decline and mine shaft to facilitate exploration and mining (AMI letter at page 1) and later an on-site mill. All water generated as the result of these efforts would be placed in the underdrain collection pond, eventually treated, and in certain circumstances (such as too much rainfall or if all the water cannot be used in the mine process), discharged to Alum Gulch Creek.

AMI makes clear in its letter at page one, in reference to the construction of the mill, that there may be circumstances when discharge of water associated with mining may occur through Outfall 002 under the Permit. Specifically, AMI states: "Once AMI's planned on-site mill is constructed, AMI expects to be able to reuse all water from the mine workings and underdrain collection pond (UP), and to discharge to Alum Gulch Creek only in unusual circumstances." AMI letter at pages one and two. However, in this same letter AMI makes clear that it will not discharge "mine process water" to Alum Gulch Creek since this is prohibited, according to ADEQ under 40 C.F.R. 103(c)(1) (BAT). 40 C.F.R. 440.102 (BPT) and 440.104 (NSPS) also prohibit the discharge of mine process wastewater. *Id.*

Accordingly, in the Permit ADEQ explains in the authorization page that AMI is permitted to discharge "treated mine drainage" and "tailings seepage" but not "process wastewater" (page three) to Alum Gulch Creek. The Fact Sheet at page two, however, explains that the new treatment plant will accept both "mine water" and "UP" water for ultimate discharge. A review of the definitions of these terms and their uses in the documents fails to make clear what types of water will be permitted or prohibited by the Permit.

From review of this project and the associated definitions, the discharge of "process wastewater" may by authorized by ADEQ under the Permit as written. *See, e.g.,* 40 CFR 401.11(q) ("process waste water"); 40 CFR 440.132(f) ("mill"); 440.132(g) ("mine"); 440.132(h) ("mine drainage").

Questions for ADEQ include:

- How does mine drainage or "mine water" coming from either the historic mine workings or tailings or the new mill differ from "process waste water"?
- Is water associated with the to-be-constructed mill considered "process waste water" even if old mine water is not?
- If so, how will this be handled?
- How will these different sources of water be segregated or not be commingled with the "mine water" or UP water that is ultimately treated and discharged to Alum Gulch Creek?

ADEQ must revise the Permit documents to clarify that mine process wastewater under any name is not allowed. ADEQ must go beyond the general statement that the discharge of process wastewater is prohibited by answering the bulleted questions above and evaluating all AMI sources of water as possible process wastewater. ADEQ must not authorize the discharge by AMI of mine process wastewater under any name into Alum Gulch Creek.

ADEQ response:
The activities currently proposed under this permit are related to reclamation of historic mining facilities under ADEQ's Voluntary Remediation Program. Process wastewater, as defined in 40 CFR 122.2, is water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. Active mining at this site ceased several decades ago and therefore no mining process wastewater is currently present at the site. Furthermore, AMI will be constructing an industrial treatment plant to treat the existing mine drainage prior to discharge.

The AZPDES permit did not consider the construction of a mill as part of the application process. Discharge from a new mill would be considered process wastewater if the mill is using the froth-flotation process per 40

CFR 440.104 (b). If AMI proceeds with constructing a mill at the site the AZPDES permit would need to modified to incorporate the applicable performance standards.. The methods used to prevent process waste water from the mill from discharging to a waters of the US are not prescribed in the permit or regulations.

The rule citation in Table 1 related to the discharge of process of wastewater has been removed because it was citing the 40 CFR 440 requirements applicable to copper mines. If AMI starts active mining operations they will be mining for lead, silver and zinc. Therefore, ADEQ removed the rule citation applicable to copper mines.

Comment #55
AZPDES Permit should not be issued until a new Alum Gulch Creek TMDL and TMDL Model have been completed and approved.

TMDL analysis is a tool for implementing state surface water quality standards and is based on the relationship between pollution sources and in-stream water quality conditions. The TMDL process is a method used in balancing the pollution concerns for a waterbody and allocating the acceptable pollutant loads (Waste Load Allocation or WLA) among the different point and nonpoint sources, allowing the selection and implementation of suitable control measures to attain water quality standards.

Alum Gulch Creek is listed as impaired under Sec. 303(d) of the CWA for copper, cadmium, pH, and zinc. A TMDL analysis last was conducted for Alum Gulch Creek in 2003. The Fact Sheet at page seven attempts to explain how ADEQ can issue an AZPDES permit to AMI authorizing substantial additional volumes of discharge to Alum Gulch Creek and discharges that include water from additional sources other than the passive seepage from the January Adit (the source of waste loading previously considered and modeled in the 2003 TMDL).

The explanation falls far short of providing an explanation consistent with the CWA.
Even ADEQ admits at Fact Sheet 7 that the 2003 TMDL only considered the passive seepage from the January Adit, while under the proposed Permit, there will be new sources of waste loading to Alum Gulch Creek, including from "active pumping and treatment of water from the underground workings....". While not specifically acknowledged by ADEQ, these workings will include the development of a new decline and mine shaft, and eventually a mill site. None of these sources or the additional loading to Alum Gulch Creek are considered in the current TMDL.

Furthermore, AMI has an obligation under the CWA and ACC R18-9-A903 to demonstrate, among other things, that there are sufficient remaining wasteload allocations to allow for the proposed discharge, in addition to showing that existing dischargers into the instant segment of Alum Gulch Creek are subject to schedules of compliance designed to bring the segment into compliance with water quality standards.

Thus, a permit should not issue until a new TMDL and model has been completed and an adequate showing that the above requirements have been met.

ADEQ response:
Alum Gulch is not listed on the current 303(d) list, which lists waters assessed as Category 5 (impaired) in the 305(b) Assessment. The Gulch has been listed as a Category 4A (Not Attaining) water since the 2004 305(b) Assessment as the TMDL was approved by the EPA in 2003. The January and World's Fair adit discharges were the only identified point sources within Alum Gulch contributing to its baseflow At the time the 2003 TMDL was developed, discharges from the January and World's Fair adits did not meet water quality standards and were not regulated under a NPDES (now AZPDES) permit. The proposed AZPDES permit requires AMI to ensure that discharges covered by the permit meet the applicable surface water quality standards. This meets the intent of the CWA and the Alum Gulch TMDL.

The discharge meets the terms of the TMDL, protects water quality and therefore the AZPDES permit can

be issued without completing a new model. First, there is a margin of safety applied to the TMDL that can account for the increased authorized flow volume. Second, the load reductions required for the January and World's Fair adits have been met since they no longer discharge and any authorized discharges must meet water quality standards. The effluent limits in the draft AZPDES permit are concentration-based with the applicable surface water quality standards serving as the basis of the limits. This approach is consistent with the TMDL as it also uses applicable water quality standards as the basis for setting allocations.

As an effort to monitor the water quality of Alum Gulch, ADEQ has reinitiated effectiveness monitoring in the watershed to characterize current conditions reflecting water quality improvement from the remedial activities completed by AMI and USFS.

Comment #56

Use of Assessment Levels rather than Setting Permit Limits, and the frequency of WET Testing in the Permit, are insufficient.

ADEQ takes the position throughout the Permit documents that AMI's project, including the development of new shafts, a decline, treatment plant, and mill site, are neither a new source nor a new discharge. Nevertheless, ADEQ concludes that there is insufficient information about the potential character of the discharge to set permit limits for a wide range of trace substances. See Permit at page 5, Table 2. ADEQ under the Permit instead only requires monitoring for Assessment Levels, which may or may not at some point in the future result in new permit limitations. This approach fails to adequately protect the environment and is insufficient to comply with the CWA.

Furthermore, the overall frequency of monitoring is grossly insufficient for ADEQ to identify reasonable potential for an excedence of water quality standards for the listed elements in the Permit, since ADEQ only requires monitoring no more than one time on a quarterly basis. However, discharges under the Permit are anticipated to be intermittent and mostly during heavy rain events when the underdrain collection pond is filled. Yet there is no requirement that quarterly monitoring occur during these events, and it is difficult to believe that quarterly monitoring is likely to occur concomitant to such events.

Finally, the requirements that AMI shall monitor discharges from Outfall 001 for Whole Effluent Toxicity (WET), as specified in Table 3 of the Permit, also are insufficient. The monitoring requirements in the Permit only require that WET Testing occur one time during the first year of operation of the facility – with no additional monitoring required after the first year of operation. See Table 3 & note 6 of the Permit.

This is problematic for several reasons. First, ADEQ has concluded that AMI will not be a continuous discharger. It is difficult to understand how a single WET Test conducted only one time in the first year adequately characterizes the potential of the discharged water or its acute and chronic impacts. Second, it is important to understand that the Permit would only require AMI to conduct WET Testing for the very first year "the facility is operational." *See id.*

However, AMI intends to develop additional mine shaft(s), a decline, and ultimately a mill on the project location, along with moving the tailings and developing a new underdrain collection pond and treatment facility over the life of the Permit. This will result in an evolving stream of discharge that will change and potentially become more toxic over the life of the Permit. WET Testing that is more robust than required by the proposed Permit should be required for the life of the Permit.

In conclusion, the AZPDES Permit is fatally flawed. Its issuance would violate the CWA, Arizona law and other applicable authorities. ADEQ should refrain from issuing this Permit until a complete and proper permitting process can be undertaken and adequate protections for the environment, the public health and the waters of Arizona can be developed.

ADEQ response:
ADEQ sets permit limits if there is reasonable probability (RP) the discharge will exceed a water quality standard. Because the mine water treatment plant is not yet operational, ADEQ could not determine RP and therefore included assessment levels in the permit. If the data concludes the discharge is above an assessment level, ADEQ has included a Reopener Condition in the permit (Part IV) that gives ADEQ the authority to modify the permit to set new discharge limits.

In regards to the comment about the WET monitoring frequency, ADEQ has considered the comment and has revised the WET monitoring table in the permit to require the initial WET test be conducted within 6 months of initial start-up of the treatment plant and another test be conducted in year 4 of the permit term.

Any additional mine shafts/declines that may be developed in the future do not change the fact that this mine site is an existing source. The prohibition of discharging mine process waste water remains. If a new mill were to be constructed, the waste stream from that mill would need to be segregated from the discharge covered under this permit for a discharge to be allowed and the AZPDES permit would need to be modified.

#57. Lisa Froelich – Save the Scenic Santa Ritas submitted the following:
The commenter delivered the comments via email on December 13, 2017.

We are sending you this letter to express our serious reservations about the request by Arizona Mining Inc. for a Pollution Discharge Elimination Permit. We wish to reiterate the concerns expressed by PARA, as outlined in the attached comment letter.

Save the Scenic Santa Ritas (SSSR) is a volunteer-based, non-profit, 501(c)(3) organization, based in Tucson, Arizona with a mission to protect the scenic, aesthetic, recreational, environmental and wildlife values of the Santa Rita Mountains, Patagonia Mountains, Canelo Hills and San Rafael Valley through education and outreach, including protection of these areas from degradation due to mining activities.
(The Commenter also included a copy of comments #51 through 56)

ADEQ response:
Please see Comments responses to comments #51 through 56.

#58. Caleb Weaver submitted the following:
The commenter delivered the comments via email on November 28, 2017.

I write to you concerning the January Mine Water Treatment Facility being proposed 2.5 miles south of the Town of Patagonia, Arizona. The plan call for:

1-Moving historic mine tailings to a new lined tailings storage facility
2-Discharging water into Alum Gulch
3-Active treatment of mine tailings water

I am concerned with the activity proposed with this permit, as it occurs within the Sonoita Creek watershed- which the Coronado National Forest and Town of Patagonia jointly designated as a municipal watershed (see the August 11, 2017 story in the Nogales International labeled, "New Signs Recognize Patagonia Watershed"). This permit pertains to activities that would occur around 5000'- more than 1000 ft above the Town of Patagonia's wells, and 1,300 ft above Patagonia Lake.

Acid mine tailings have a history of leaching further down in the watershed- just look up "Orange Sludge Lead Queen September 2014" online to see visible evidence of mine tailings leaching further down in the watershed (this example carrying water with a pH of 1-3 many miles downstream). Since the ADEQ's

stated mission is to, "Protect and Enhance Public Health and the Environment in Arizona", I urge you to do what you can to protect the future of my community's drinking water (which eventually drains to Tucson, AZ).

Here are specific concerns that need to be addressed:
1-Method for moving contaminated soil, to reduce amount of heavy metals entering environment, through air, water, and soil, eventually harming residents of Patagonia and visitors to Patagonia Lake.

2-Surface and groundwater studies to research how activities will impact communities in the municipal watershed over the next 100 years (including after mine is closed).

3-Plan to reduce contamination in Alum Gulch after active treatment of mine tailings concludes.

ADEQ response:

AMI will be moving historic tailings and waste rock from its current location and placed on a newly constructed lined area at the site. The method of placing the tailings and waste rock on the lined area will prevent any ground water or soil contamination. AMI will also be using water to spray the soil during construction for dust control.

ADEQ will continue to monitor the water quality in Alum Gulch as part of the annual surface water assessment required by the Clean Water Act. ADEQ originally wrote a water quality improvement plan in 2003 to reduce the contamination in Alum Gulch that existed because of historic mine contamination. Since 2003 there have been multiple projects implemented that have improved the water quality in Alum Gulch. ADEQ anticipates the newly constructed mine contamination containment structures at the January Mine site will prevent any future contamination.

Prior to closing the site and as required in the APP, AMI will be required to submit a closure plan to ADEQ. This closure plan will be reviewed and approved by ADEQ. Additional monitoring or closure activities will incorporate any future mining activities not covered by these permits.

#59. Celeste Kinsey – Coronado National Forest submitted the following:
The commenter delivered the comments via email on December 13, 2017.

The Forest would make the comment that the water quality in Flux Canyon Gulch, as acknowledged by the Total Maximum Daily Load (TMDL) and other information from USGS, is characterized by low pH and elevated from both natural geologic and historic anthropogenic conditions. While the Draft permit appears to meet the Surface Water Quality Standards (SWQS) at the point of discharge, there may be future unintended consequence that we would like to point out to ADEQ.

There is a risk that, because the water will be discharged at the AMI 001 outfall at pH of 8.5, when this water meets and mixes with any other sources of acidic waters (ARD) water entering Flux Canyon Gulch (e.g. down at World's Fair Mine), we may see metals precipitating out as the pH of the naturally issuing waters is raised above the current levels in the stream. ADEQ might want to address or otherwise emphasize in the permit that if the phenomenon occurs, the discharge from the 001 outfall may require further pH adjustment to avoid formation of these precipitates from forming. These precipitates could cause problems for aquatic species that require clearer stream bottom conditions.

ADEQ response:

AMI has indicated any discharge from the mine water treatment plant will be infrequent thus providing few opportunities for the discharge to come into contact with other sources of water in the Gulch. When a discharge does occur, it must meet the permit pH requirements of between 6.5 and 9.0 standard units (derived from surface water quality standards) before it enters Alum Gulch. ADEQ does not require facilities to make pH adjustments to their discharge if the pH is meeting permit limitations.

ADEQ is aware of the legacy water quality issues of Alum Gulch and has awarded water quality improvement grants in the watershed for property owners to help fix the problems. Two major sources of pollutants and acidic water in Alum Gulch were from the World's Fair and January adits. ADEQ has determined both of these adits are no longer discharging pollutants. The World's Fair adit has been plugged and the January adit stopped flowing because AMI installed pumps to draw down the ground water table, which stopped the flow. If the Forest Service is aware of information counter to this, please provide us with additional information. AMI will also be constructing an industrial water treatment facility to chemically remove any metals from the mine drainage.

END of COMMENTS.