October 10, 2016

Richard Goshen Geologist/Project Manager

Coronado National Forest

Comments for the Arizona Minerals Inc. Hermosa Taylor Deposit Drilling Project

We oppose the proposed Arizona Minerals Inc. (AMI) Hermosa Taylor Deposit Drilling Project. We believe that the project would result in significant impacts to the human environment.

As this comment is being written, we are listening to the constant drone of drill rigs operating less than a mile from our home, as we have been listening to 24 hours a day since March of this year. These drill rigs are being operated on AMI’s private land which is next to the proposed project.

We felt it was important to point this out since nowhere in the scoping notice or AMI’s Plan of Operations is there mention that the proposed project is less than a mile from a private residence. The Vicinity Map (Figure 1) has our property covered by the Legend block. We believe this to be an intentional misrepresentation of the situation. Our existence on this property must be considered when the Forest Service is analyzing the impacts to the human environment within the project area. Our property address is 878 Harshaw Road.

We believe that once the Forest Service considers all the potential impacts of this project it will be clear that the impacts will reach a level of significance that requires the preparation of an Environmental Impact Statement.

**The Forest Service needs to analyze the potential effects on the following resources and values that are likely to be significantly impacted by the Hermosa Taylor Drilling project by Arizona Minerals Inc.**

Air Quality

Water quality and quantity

Wildlife and vegetation, including endangered, threatened, and other special status species

Wildlife movement corridors

Soils

Riparian areas

Cultural and Archeological resources

Visual resources and scenic values

Dark skies

Recreation

Transportation and traffic

Public Safety

Socioeconomic Impacts

**In addition the Forest Service needs to analyze the Cumulative Impacts on the above resources and values of past, present and reasonably foreseeable future actions which include:**

**Past:**

Abandoned leaking mines throughout the project area

Exploratory Drilling for Hermosa Project in the project area--- AMI/Wildcat Silver private land. Over 200 exploratory drill holes and associated land clearing.

Grazing in the project area

Border Patrol Activities in the project area

**Present:**

Abandoned leaking mines throughout the project area

Exploratory Drilling for the Taylor Deposit --- AMI private land Trench Camp and Hermosa. Over 40 exploratory drill holes and associated land clearing.

Voluntary Remediation Program Passive Water Treatment for January Adit mining influenced Water

Grazing in the Project Area

Border Patrol Activities in the project area

Lead Queen Mine Remediation

**Foreseeable Future:**

Abandoned leaking mines throughout the project area

Exploratory Drilling for the Taylor Deposit

Voluntary Remediation Program Passive Water Treatment for January Adit mining influenced Water (30 year program)

Abandoned mine clean up in the Project Area

Border Patrol Activities in the project area

**Air Quality**

The Forest Service needs to analyze the impact on air quality by:

**Vehicular traffic from town of Patagonia to project site which includes:**

Transportation of employees to project.

Drill rig mobilization and demobilization trips.

Drilling supply trucks.

Trips to AMI’s Office on 3rd Ave. near the Montessori school in Patagonia.

**Vehicular traffic within project area which includes:**

Delivery trucks, pickup trucks with or without trailers

Water Supply Trucks.

**Equipment on site:**

Drill Rigs running 24 hours a day

Power generators running 24 hours a day

Excavation Equipment on site for preparation of roads and drill pads

**Water quality and quantity**

The Forest Service needs to analyze the impact on water quality and quantity.

The effects of exploration activities on surface water and groundwater quantity and quality need to be analyzed for a full range of flow conditions at the project site and along the access route. Intermittent and ephemeral drainages are often as important as perennial streams in the arid southwest and serve important hydrological services as well as wildlife habitat. The analysis of the effects should include the following factors.

Pre-existing water quality issues from previous exploration and mining activities in the watershed

Sedimentation from roads

Transportation of hazardous or toxic material near intermittent drainages

On site water needs—sources of water

The depth and flow of water table

Mud pit depth and potential for overflow due to storm water

The potential for chemicals and toxins to leach into surface and ground waters

Wastewater discharge from site

Storm water runoff (especially during Monsoon rains and winter snow melt)

The potential for project’s drilling alteration of groundwater hydrology resulting in increased flows from adjacent areas previously contaminated with historic mining waste.

In addition, the Forest Service needs to analyze the impacts on the 5 streams and drainages in the project area:

Harshaw Creek, Corral Canyon, Willow Spring Canyon, Goldbaum Canyon and Hermosa Canyon.

All these streams and drainages are within the Town of Patagonia Municipal Watershed. It must be determined what impact the exploratory drilling project will have on these waters and the Municipal Watershed for the Town of Patagonia. At present the mix of Harshaw Creek and Sonoita Creek feed the Town of Patagonia Wells. The Impaired/Not Attained quality of Harshaw Creek directly affects the quality of the Town of Patagonia water supply especially when the flow from Harshaw Creek is greater than the flow from Sonoita Creek. Any increased pollution to Harshaw Creek would adversely affect the municipal watershed. The potential of silt to enter these drainages is also of serious concern. Drill site preparation, road improvements and traffic have a great potential for creating silt. There is no mention of mitigation measures to control silt from entering drainages in the documents available on this project.

Another reason for analysis of impacts to water quality and quantity:

The drilling into the earth has the potential to intersect with numerous aquifers and the effects on these aquifers are uncertain. The drilling companies want us to believe that their methods are without problems and we are sure they are sincere; however, if a problem with the drill hole casing does happen there is no going back and cross aquifer contamination could result. To our knowledge no studies have been done in the project area (or the rest of the Patagonia Mountains) to fully understand the ground water hydrology. Common sense would suggest that such a study be performed prior to this or any other exploratory drilling projects go forward. In fact, a federal judge in The United States District Court for the District of Idaho determined **that base line groundwater studies were necessary** when dealing with exploratory drilling in that state.

Reference: Case No. 1:11-CV-00341-EJL

IDAHO CONSERVATION LEAGUE,

IDAHO RIVERS UNITED, and

GOLDEN EAGLE AUDUBON

SOCIETY

Plaintiff,

v.

UNITED STATES FOREST SERVICE,

Defendant,

MOSQUITO MINING

**Wildlife and vegetation, including endangered, threatened, and other special status species**

The Forest Service needs to analyze the impacts to wildlife and vegetation including:

Federally Threatened, Endangered and Sensitive Species: Patagonia Mountain area

A list of Federally Threatened, Endangered and Sensitive Species in and around the Patagonia Mountains of the Coronado National

Forest in southern Arizona listed by *scientific name* and common name.

**Amphibians:**

*Ambystoma mavortium stebbinsi* – Sonora Tiger Salamander

*Craugastor augusti cactorum* –Western Barking Frog

*Gastrophryne olivacea* – Western Narrow-mouthed Toad

*Hyla wrightorum* (Huachuca/Canelo Pop.) — Arizona Treefrog (Huachuca/Canelo DPS)

*Lithobates chiricahuensis –* Chiricahua Leopard Frog

*Lithobates tarahumarae –* Tarahumara Frog

*Lithobates yavapaiensis –* Lowland Leopard Frog

**Birds:**

*Accipiter gentilis –* Northern Goshawk

*Amazilia violiceps –* Violet-crowned Hummingbird

*Ammodramus bairdii –* Baird’s Sparrow

*Ammodramus savannarum ammolegus* — Arizona grasshopper sparrow

*Anthus spragueii* – Sprague’s Pipit

*Antrostomus ridgwayi –* Buff-collared Nightjar

*Athene cunicularia hypugaea –* Western Burrowing Owl

*Buteo albonotatus –* Zone-tailed Hawk

*Buteo plagiatus –* Gray Hawk

*Buteogallus anthracinus –* Common Black-Hawk

*Calothorax lucifer* – Lucifer Hummingbird

*Camptostoma imberbe –* Northern Beardless-Tyrannulet

*Coccyzus americanus –* Yellow-billed Cuckoo (Western U.S. DPS)

*Empidonax fulvifrons pygmaeus –* Northern Buff-breasted Flycatcher

*Empidonax traillii extimus –* Southwestern Willow Flycatcher

*Falco peregrinus anatum –* American Peregrine Falcon

*Glaucidium brasilianum cactorum –* Cactus Ferruginous Pygmy-owl

*Haliaeetus leucocephalus (wintering pop.)* – Bald Eagle – Winter Population

*Pachyramphus aglaiae –* Rose-throated Becard

*Strix occidentalis lucida –* Mexican Spotted Owl

*Tyrannus crassirostris –* Thick-billed Kingbird

**Fish:**

*Agosia chrysogaster chrysogaster –* Gila Longfin Dace

*Catostomus clarkii* – Desert Sucker

*Catostomus insignis –* Sonora Sucker

*Cyprinodon macularius –* Desert Pupfish

*Gila ditaenia –* Sonora Chub

*Gila intermedia –* Gila Chub

*Poeciliopsis occidentalis occidentalis –* Gila Topminnow

*Rhinichthys osculus –* Speckled Dace

**Invertebrates:**

*Argia sabino –* Sabino Canyon Dancer

*Heterelmis stephani –* Stephan’s Heterelmis Riffle Beetle

*Pyrgulopsis thompsoni* – Huachuca Springsnail

*Stygobromus arizonensis –* Arizona Cave Amphipod

**Mammals:**

*Baiomys taylori* – Northern Pygmy Mouse

*Choeronycteris mexicana –* Mexican Long-tongued Bat

*Corynorhinus townsendii pallescens –* Pale Townsend’s Big-eared Bat

Lasiurus blossevillii — Western Red Bat

*Leptonycteris curasoae yerbabuenae* – Lesser Long-nosed Bat

*Macrotus californicus –* California Leaf-nosed Bat

*Myotis velifer –* Cave Myotis

*Panthera onca –* Jaguar

*Reithrodontomys fulvescens* – Fulvous Harvest Mouse

*Reithrodontomys montanus –* Plains Harvest Mouse

*Sciurus arizonensis –* Arizona Gray Squirrel

*Sigmodon ochrognathus –* Yellow-nosed Cotton Rat

*Sorex arizonae –* Arizona Shrew

*Thomomys umbrinus intermedius –* Southern Pocket Gopher

**Plants:**

*Abutilon parishii –* Pima Indian Mallow

*Agave parviflora ssp. parviflora –* Santa Cruz Striped Agave

*Amoreuxia gonzalezii –* Saiya

*Amsonia grandiflora* – Large-flowered Blue Star

*Asclepias lemmonii* – Lemmon Milkweed

*Asclepias uncialis –* Greene Milkweed

*Astragalus hypoxylus –* Huachuca Milkvetch

*Browallia eludens –* Bush-violet

*Capsicum annuum var. glabriusculum –* Chiltepin

*Carex chihuahuensis –* Chihuahuan Sedge

*Carex ultra –* Arizona Giant Sedge

*Choisya mollis –* Santa Cruz Star Leaf

*Conioselinum mexicanum* – Mexican Hemlock Parsley

*Coryphantha recurvata –* Santa Cruz Beehive Cactus

*Coryphantha scheeri var. robustispina –* Pima Pineapple Cactus

*Coursetia glabella –* Smooth Baby-bonnets

*Dalea tentaculoides –* Gentry’s Indigo Bush

*Desmodium metcalfei –* Metcalfe’s Tick-trefoil

*Erigeron arisolius –* Arid Throne Fleabane

*Euphorbia macropus –* Woodland Spurge

*Graptopetalum bartramii* – Bartram Stonecrop

*Heterotheca rutteri –* Huachuca Golden Aster

*Hexalectris arizonica –* Arizona Crested coral-root

*Hexalectris colemanii –* Coleman’s coral-root

*Hieracium pringlei –* Pringle Hawkweed

*Lilaeopsis schaffneriana ssp. recurva –* Huachuca Water-umbel

*Lilium parryi –* Lemmon Lily

*Lotus alamosanus –* Alamos Deer Vetch

*Lupinus huachucanus* – Huachuca Mountain Lupine

*Macroptilium supinum –* Supine Bean

*Manihot davisiae –* Arizona Manihot

*Metastelma mexicanum –* Wiggins Milkweed Vine

*Muhlenbergia palmeri –* Palmer’s Muhly

*Muhlenbergia xerophila –* Weeping Muhly

*Notholaena lemmonii* – Lemmon Cloak Fern

*Paspalum virletii –* Virlet Paspalum

*Passiflora arizonica –* Arizona Passionflower

*Pectis imberbis* – Beardless Chinch Weed

*Pennellia tricornuta –* Chiricahua Rock Cress

*Penstemon discolor –* Catalina Beardtongue

*Phemeranthus humilis –* Pinos Altos Flame Flower

*Phemeranthus marginatus –* Tepic Flame Flower

*Physalis latiphysa –* Broad-leaf Ground-cherry

*Potentilla rhyolitica var. rhyolitica –* Huachuca Cinquefoil

*Psilotum nudum –* Whisk Fern

*Samolus vagans –* Chiricahua Mountain Brookweed

*Senecio multidentatus var. huachucanus –* Huachuca Groundsel

*Sisyrinchium cernuum –* Nodding Blue-eyed Grass

*Spiranthes delitescens –* Canelo Hills Ladies’-tresses

*Stevia lemmonii* – Lemmon’s Stevia

*Tragia laciniata –* Sonoran Noseburn

*Viola umbraticola –* Shade Violet

**Reptiles:**

*Aspidoscelis burti stictogrammus –* Giant Spotted Whiptail

*Crotalus pricei –* Twin-spotted Rattlesnake

*Crotalus willardi willardi* – Arizona Ridge-nosed Rattlesnake

*Gopherus morafkai* – Sonoran Desert Tortoise

*Gyalopion quadrangulare* – Thornscrub Hook-nosed Snake

*Oxybelis aeneus –* Brown Vinesnake

*Plestiodon callicephalus –* Mountain Skink

*Sceloporus slevini –* Slevin’s Bunchgrass Lizard

*Senticolis triaspis intermedia –* Northern Green Ratsnake

*Tantilla yaquia –* Yaqui Black-headed Snake

*Thamnophis eques megalops –* Northern Mexican Gartersnake

*Source: Arizona Game and Fish Department*

**Wildlife movement corridors**

The Forest Service needs to analyze the impacts to wildlife movement corridors. The Patagonia Mountains are one of the last open corridors into Mexico. The endangered Jaguar and Ocelot are known to utilize this corridor. Most cat experts agree that the Jaguar recently documented in the Santa Rita Mountains had to traverse the Patagonia Mountains to reach the Santa Ritas hence the reason for designating the area as a critical habitat for the Jaguar.

**Soils**

The Forest Service needs to analyze the impacts on soils. The PoO has described numerous access road projects. The disturbance of soils during road reconstruction, construction, maintenance and use will be significant. Once soil structure is destroyed by compaction it is virtually impossible to correct. The amount of equipment traveling the roads will have a significant destruction to the soils on and adjacent to all the roads.

The removal of over 220 trees and all other vegetation will have a significant impact on soil retention.

**Riparian areas**

The Forest Service needs to analyze the impacts to the Riparian Areas. The riparian areas are vital to certain wildlife and vegetation. The amount of activity planned in these areas will certainly have a significant impact. Massive amounts of earthwork/ earthmoving will be taking place in the Riparian areas. These fragile areas must be protected from the potential damage from earthmoving equipment.

**Cultural and Archeological resources**

The Forest Service needs to analyze the impacts to Cultural and Archeological resource and consult with the Native Tribes. The Tohono O’odham and Yaqui tribes are known to have been present in the project area. The PoO states that cultural studies have taken place. Have these studies been done by an Forest Service Approved Nepa Contractor? Can the results of studies done by an unapproved contractor be utilized by the Forest Service directly or by means of a sub contracting agreement with an approved contractor?

**Visual resources and scenic values**

The Forest Service needs to analyze the impacts to the visual resource and scenic values. The Forest Service Management of Scenic Resources introduction states--

“The management of scenic resources is required by many laws, including the National Environmental Policy Act of 1969, the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by the National Forest Management Act of 1976. These acts ensure that scenic resources are treated equally with other resources.”

**The project area is has the highest ratings of each of the 3 categories for scenic management.**

**INHERENT SCENIC ATTRACTIVENESS --- RATED AS DISTINCTIVE**

**SCENIC CLASSES – RELATIVE IMPORTANCE OF SCENERY –CLASS 1 EXTREMELY HIGH IMPORTANCE**

**CONCERN LEVELS –CONCERN FOR SCENERY FROM ROADS AND TRAILS – CONCERN LEVEL 1 TRAVELWAYS (HIGH SENSITIVITY)**

"Why are we managing scenery? So that our children and grandchildren can enjoy the beauty and spirit of the national forests, just as we have enjoyed them." (Landscape Aesthetics: A Handbook for Scenery Management,USDA Forest Service, 1995)

In our opinion, there is no possible way the project as proposed cannot not have significant impact on the scenic resources of this area.

AMI states in the PoO “Historical and recent mining activity on adjacent private lands is part of the landscape within the which the Project will occur, so the addition of the three drill sites for approximately 5 months will not be a drastic change to the landscape” AMI is responsible for the change in the landscape on their adjacent private land due to their exploratory drilling activities during their ownership. The landscape on their property has been severely changed by removal of vegetation, construction of drill pads, access roads, buildings, water storage tanks and water storage ponds. It is insulting to reason that they should request permission to destroy more landscape since they already have. The removal of 220 trees between 4-12” dbh and 14 trees 12” dbh of greater is proposed in the project. The regrowth of these trees will take significantly longer than 5 months. (Anywhere from 5 – 100 years) There are no plans in the PoO to replants trees therefore the scenic value of this proposed project area of the forest will be lost forever.

**Dark skies**

The Forest Service needs to analyze the impacts to the dark skies. The Patagonia Mountains and surrounding Sky Islands are home to numerous Observatories. They are here because of the dark skies.

Most of these observatories are accessed through internet by universities around the world. The 24 hour operations of the project with night time lighting will have a significant impact on these observatories.

During previous and current drilling projects on adjacent private landthe night time lighting of the drill rigs was done without any concern for impacts to others. At times the lights have been pointed directly at our house shining through the windows. The night time lighting created by AMI’s drilling activities made the Patagonia Mountains look like a city rather than a National Forest. The company apparently took no effort to properly shield and direct the lights used for illuminating the night time activities. The impact on wildlife is unknown.

The cumulative impact of lighting from this project and the adjacent ongoing projects must be analyzed for the significant impact it will have on dark skies.

**Recreation**

The Forest Service needs to analyze the impacts to recreation. People come to the Patagonia Mountains for recreation at all times of the year. These recreational activities include: Hunting, camping, birding, numerous different wildlife viewing and study, hiking, cycling and horseback riding. This exploratory drilling project will not be conducive to these activities, especially when coupled with the adjacent exploratory drilling project impacts to recreation which include:

Closing down Flux Canyon road, one of only two east/west access roads through the Patagonia Mountain restricting recreation travel.

Excessive traffic, drilling noise and light which permeates into the forest and therefore limits the enjoyment of recreational activities.

**Transportation and traffic**

The Forest Service needs to analyze the impacts to transportation and traffic. The amount of vehicle and heavy equipment travel through the project area daily is astounding when compared to normal traffic. The access roads to the project have not been designed, built or maintained to safely handle this type and volume of traffic. Public safety is at risk if this project goes forward as proposed.

The number of vehicular traffic proposed will change the entire nature of the National Forest in the project area. The existing roads and temporary roadways planned will be extensively used. There is great variation of the number of trips these project vehicles will make through the forest. The Forest Service must analyze how this traffic will be controlled and monitored to ensure minimum impact.

The increase of traffic created by AMI’s previous and current drilling activities had a significant impact on the safety and maintenance of Harshaw Road leading to the project site. It is a daily event to encounter 20-25 vehicles associated with the current mineral exploration project on our commute on Harshaw Road. During the drilling activities we both have had numerous ‘close calls’ with the support vehicles traveling along Harshaw Road since they routinely drive in the center of the narrow road. Harshaw Road was not designed to handle large truck traffic. We both feared for our safety while traveling on this road daily during the drilling projects. The speed limit on Harshaw Road is 35 mph in sections and 25 mph in other sections. We observed the support vehicles traveling in excess of the speed limits on all sections of the road. We realize that this situation may seem to be out of the control of the Forest Service; however the increase in traffic definitely increased the potential for injury to motorists using Harshaw Road. The impact on wildlife is unknown.

The seemingly small incremental change in traffic due to this project needs to be analyzed along with the traffic increase already realized in the project area from the other activities.

**Public Safety**

The Forest Service needs to analyze the impacts to Public Safety. Everything about this project has the potential for threatening Public Safety. Turning the National Forest into an industrial development of such size will significantly impact public safety.

**Socioeconomic Impacts**

The Forest Service needs to analyze the socioeconomic impacts. The Patagonia area was re-invented after the last mining era. Once the mining became uneconomical for the mining companies, they moved out leaving a mess of water pollution, mine tailing, which continues to leach toxins into the land and water and mining roads cutting through the forest. This area has recovered from that abandonment and has become an economic self-sufficient area. The businesses that started up after the mining left town some 50-75 years ago, tended to be sustainable in nature and not requiring destruction of the environment to exist. Most of these businesses focus on recreation, wildlife, physical wellness, home construction and maintenance, Landscaping and Tree Care and food service. The majority of these businesses would be greatly impacted by an industrial activity of this scale happening in the area. One **temporary** new business’s gain should not be allowed to jeopardize existing sustainable businesses.

**-----------------------------------------------------------------------------------------------------------**

We feel that the most important analysis to be done in preparation of the Environment Assessment by the Forest Service is the Cumulative Impact Analysis. Once the Cumulative Impacts have been studied it will become clear that the impacts of this project coupled with the impacts of the many other activities taking place in the project area are of a level of significance to warrant an EIS level of environmental review.

Reference: National Environmental Policy Act Handbook Chapter 30 31.3 Scoping

*If the responsible official determines, based on scoping, that it is uncertain whether the proposed action may have a significant effect on the environment, prepare an EA.* ***If the responsible official determines, based on scoping, that the proposed action may have a significant environmental effect, prepare an EIS. (36 CFR 220.6(c))***

---------------------------------------------------------------------------------------------------------------------------------------

One very important thing to note with regard to scoping:

The community of Patagonia has very few residents. The number of comments received by the Forest Service must be analyzed as a percentage of total population when considering the level of concern within the community.

Thank-you for considering our comments,

Clifford and Linda Hirsch

878 Harshaw Road

Patagonia, AZ