



**C I E N E G A W A T E R S H E D**  
**Partnership**

P.O. Box 903 • Vail, Arizona • 85641

February 14, 2014

TO: Reviewing Officer  
USFS Southwest Region  
333 Broadway SE  
Albuquerque, NM 87102

FROM: Cienega Watershed Partnership, Martie Maierhauser, Chairman  
P.O. Box 903  
Vail, AZ 85641  
(928) 362-0864

RE: Rosemont Copper Project FEIS Objection  
Project: Draft Record of Decision and Finding of Non-significant Forest Plan  
Amendment for the Rosemont Copper Project, Jim Upchurch, Forest Supervisor,  
Coronado National Forest

Cienega Watershed Partnership (CWP) objects to the draft Record of Decision (ROD) in these areas:

- A. Impacts to the Las Cienegas National Conservation Area Legislative Mandates;
  - B. Impacts on the Sonoran Desert Conservation Plan;
  - C. Impacts to protected resources on the Las Cienegas National Conservation Area related to cultural resources;
  - D. Impacts to key biological and hydrologic resources;
  - E. Impacts to Outstanding Waters of Arizona;
  - F. Inadequate climate change analysis; and,
  - G. Lack of sufficient mitigation development including reasonable financial bonding related to monitoring and mitigation for A through F.
- A. Impacts to the Las Cienegas National Conservation Mandates under H.R. 2941.  
The FEIS did not sufficiently address our comments in January 2012: “After a detailed review of the DEIS... and by comments being offered by our partners, the DEIS is inadequate

to permit the CNF to make a decision to approve the mine. The DEIS is insufficient in mitigation measures and in providing mechanisms of assurance for short-term and longer-term mitigation implementation and monitoring.”

Additionally, we identified this issue: “Major impacts of the Rosemont project include the direct loss of 7,000 acres of forest lands and indirect impacts to over 145,000 acres of public and private lands, including impacts to the management of the Las Cienegas National Conservation Area.”

Specifically, the FEIS failed to analyze and mitigate impacts to the Las Cienegas National Conservation Area (LCNCA) as designated by Congress through H.R. 2941 on October 5, 2000, established [Section 4a] “in order to conserve, protect, and enhance for the benefit and enjoyment of present and future generations the unique and nationally important aquatic, wildlife, vegetative, archaeological, paleontological, scientific, cave, cultural, historical, recreational, educational, scenic, rangeland, and riparian resources and values of the public lands described in subsection (b)“...

The FEIS does not analyze impacts and the draft ROD does not consider findings to the nationally important lands that lie less than a mile from the associated connected actions related to the Mine Plan of Operation: that is, the realignment of the Arizona Trail. It does not consider the impacts to components of the LCNCA that are fundamental and necessary for its continuance as a Congressionally-designated area. It assumed that the General Mining Act on forest lands supersedes Congressional will on public lands.

The draft decision conflicts with H.R. 2941 Section 5 which directs The Secretary of the Interior to manage the Conservation Area in a manner that conserves, protects, and enhances its resources and values. The fact that this enabling legislation does not permit lands adjacent to the LCNCA to serve as a buffer by limiting actions on non-LCNCA lands does not preclude the FEIS from identifying impacts—direct, indirect, and cumulative—to the nationally significant LCNCA and to mitigate these to ensure that H.R. 2941 is not violated.

Because the FEIS does not contain substantial analysis of these impacts to the intent and requirements of H.R. 2941, mitigation has not been sufficiently developed to establish baselines, monitor results, or carry out restoration actions when impacts are found to occur to the cultural resources, biological resources, and hydrological systems that are protected under H.R. 2941.

Our objection is based on our prior comments but we also obtained new information from Bureau of Land Management (BLM) comments on the administrative draft, filed August 15, 2013, with the Forest Supervisor that support our finding that the protected LCNCA resources will be impacted and were insufficiently analyzed and mitigated for. Refer to the BLM comments, but one example will suffice: in its response to FEIS page 86 and 88, BLM noted:

If Empire Gulch is impacted as stated in comment above and below (i.e. Empire Gulch is mapped as hydroriparian, hydroriparian habitat in Empire Gulch would be impacted if drawdown of this magnitude were to occur, etc.) then Cienega Creek will be impacted because Empire Gulch is a tributary to Cienega Creek, which is not speculative. Even

very small levels of groundwater drawdown, which has been supported by modeling as stated, may have impacts to water depth, stream flow and vegetation....Any drawdown, even less than 100 feet, would be significant to Empire Gulch and Cienega Creek, and BLM's existing water rights. BLM does not relinquish existing BLM surface and groundwater rights.

In addition, the Congressional Act which designated Las Cienegas National Conservation Area states "In order to conserve, protect, and enhance for the benefit and enjoyment of present and future generations the unique and nationally important aquatic, wildlife, vegetative, archaeological, paleontological, scientific, cave, cultural, historical, recreational, educational, scenic, rangeland, and riparian resources and values of the public lands..." (Section 4.a), and "The Secretary shall manage the Conservation Area in a manner that conserves, protects, and enhances its resources and values, including the resources and values specified in section 4(a), pursuant to the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.) and other applicable law, including this Act" (Section 5.a), and "The Secretary shall allow only such uses of the Conservation Area as the Secretary finds will further the purposes for which the Conservation Area is established as set forth in section 4(a) (Section 5.b).

We object and request that the draft ROD should not be finalized until a specific section identifies impacts to the LCNCA **and** until adequate mitigation is developed to protect this nationally significant area. We recognize a potential conflict between the General Mining Act and H.R. 2951 that may require solicitor opinions but we believe that the current interpretation of the Decision Space of the Forest Supervisor regarding mitigation on and off the forest lands should not be used to diminish this national resource.

Such mitigation may include extending planned monitoring to detect impacts, validate FEIS assumptions, and ensure adequate funding for future remedies during the life of the mine plan. For example, the FEIS correctly identifies that public recreation will likely extend off Forest Service lands onto other areas. Monitoring should be included along the LCNCA edge to detect (and correct) OHV or other damaging uses, which will increase because 6,000 acres of forest lands (popular for recreation) are closed. The FEIS identifies potential impacts along the Arizona Trail from use which runs along the edge of the LCNCA but does not require monitoring or mitigation.

B. Impacts to the Pima County Sonoran Desert Conservation Plan.

CWP's comments on January 18, 2012 identified that:

*the proposed Rosemont Mine constitutes a significant adverse impact to the Sonoran Desert Conservation Plan, a comprehensive conservation plan years in preparation as well as supported and funded by the people of Pima County. The operation will pose significant threats to all five Plan elements:*

- *Adjacent to the critical biological core area and situated within key biological corridors;*
- *Situated in the headwaters of a stream (Davidson Creek) identified for riparian restoration and rehabilitation; it is also in the vicinity of important springs;*
- *Located within a strategic corridor of lands linking the Santa Rita and Rincon Mountains and proximate to a proposed New Mountain Park and a New Natural*

- Preserve;*
- *Situated in an area designated as an archaeological sensitive area; and,*
  - *Situated proximate to four open-space bond-purchased ranches, a Ranch Conservation District (immediately adjacent to the Coronado) and virtually surrounded by lands identified as Ranchlands.*

We object that the draft ROD makes no findings with regard to how this plan and its elements are impacted. We fully expect that Pima County will file objections on this issue. We request that the final ROD address each of our elements with regard to impacts and mitigation.

CWP believes that monitoring and mitigations should be close to the impacted areas and provide as close to a continuous corridor for wildlife access as possible. We support the County's significant monetary investment in conservation lands and preservation efforts within the watershed. Ranches along Davidson Canyon and Gardner Canyon as well as state lands could be added to the Pima County conservation land system, and these are not yet included in the Rosemont mitigation plan. The Sonoita Creek and Fullerton Ranch mitigation proposals are not sufficient, as they do not lie in the same watershed.

C. Cultural Resources Indirect Impacts and Mitigation.

CWP commented on January 18, 2012:

*that insufficient analysis has been conducted for direct and indirect impacts to cultural resources listed on or eligible for the National Register of Historic Places such as the Empire Ranch Headquarters. Insufficient analysis has been completed for sites impacted by the operations outside the primary work zones. Specifically, disturbances from blasting is a concern for standing structures off-site; neither monitoring nor interim maintenance has been proposed for these structures in the DEIS. Considerable public and private resources have spent to preserve and restore structures and further plans are already approved or in place for major interpretive programs at some locations.*

*We are aware of the role of the Arizona State Historic Office of Preservation in completing an Agreement for how historic properties will be inventoried, assessed, and mitigated for impacts. Direct and indirect impacts off-site of the mine must be included in such language. Further this Agreement should spell out responsibilities for periodic and longer-term monitoring even setting up an escrow account or other mechanism to ensure mitigation is completed.*

The FEIS cultural resources section is well researched and identifies serious impacts from the proposed action, which we agree with the draft ROD language will result in the destruction of eligible National Register sites and cultural resources. The analysis is thorough except in two areas: indirect impacts and sufficient mitigation for them. We object that these issues have been only partially considered. CWP is not an invited party to the Memorandum of Agreement for cultural resources nor can we review the treatment plan for mitigating direct impacts to sites within the Area of Potential Effects.

Indirect impacts: An example of the attention in the FEIS: “Historic properties that could be subjected to increased public use and unauthorized collection as a result of the rerouting of the Arizona National Scenic Trail could lose integrity of materials, design, and workmanship, which are critical to the information potential that makes them eligible for the NRHP under criterion D” and that “These impacts are severe, irreversible, and irretrievable.”

Further, the FEIS identifies “adverse effects on historic properties. Important scientific data would be lost; direct and indirect impacts would have concomitant effects on the communities for whom the historic properties are important to maintaining their heritage. Of the 31 historic properties included in table 202, seven would be subject to indirect visual impacts in all of the action alternatives; the other 24 properties would have potential indirect impacts from one or more alternatives. These sites are adjacent either to the security zone, the utility corridor, or the Arizona National Scenic Trail.”

This was addressed in the Memorandum of Agreement as follows: “WHEREAS, the Forest, in consultation with the SHPO, as required by 36 CFR § 800.4(a)(1), has defined the Project’s Area of Potential Effects (APE) to include the area enclosed within the mine perimeter fence, the associated access roads, the re-route of the Arizona Trail, the associated utilities corridor, and the area in which historic properties may be visually, audibly, and atmospherically affected by the undertaking....”

Yet indirect impacts get very little attention, possibly because cultural resource managers have been given the approach that mitigation off Forest lands is outside its authority. Analysis and mitigation remain [slightly?] inadequate.

CWP and other organizations in the area are deeply involved in heritage issues especially in working with the communities and residents impacted by the loss of historic properties whether directly or indirectly. We have tried to stem trends to lost information and properties through oral histories, rancher potlucks, and by creating a watershed calendar with over 400 events recorded in an interactive, retrievable database. So we know that heritage is important in the watershed, yet, the loss of historic sites directly impacted and indirectly threatened seems minimized in the FEIS—we are not privy to the Treatment Plan.

The draft ROD correctly identified that “Ranching and mining communities also have attachments to the area that began in the late 19th century and continue through the present” (page 7). We request expanded mitigation to ensure that historic sites and features that are lost do not result in a loss of heritage information and connectiveness—in short, we request that indirect impacts be offset or minimized through efforts identified in the FEIS and others:

- a. Is the apparent volunteer Rosemont proposal for the Santa Rita Mountains Community Endowment Trust for the purpose of funding priority community projects (RC-CP-01) mitigation? If so, for what? The FEIS has no specifics that permit us to determine that this fund would cover this loss of historic connections to the area. Frankly it sounds like conservation easements will deplete the funds (page 1051). It should clearly be explained whether this fund is for the Treatment Plan or for community projects that also include specific property impacts and loss of connectiveness of individuals to this area through oral histories, exhibits, special days on the land, etc. These efforts would increase the mitigation

of indirect impacts. It is also not clear whether these funds also support tribal concerns or non-tribal communities, or both.

- b. The FEIS indicates that “no later than the end of the third production year, Rosemont will create an exhibit at the Rosemont Public Visitor Center that describes the 7,000 years of occupation in the project area, the importance of Ce:wi Duag, and the new knowledge gained as a result of the data recovery conducted for the Project. CWP requests that “old” knowledge be included as well through the various sources that are available ranging from local histories to oral histories.

We did not find, however, funding mechanisms to support this exhibit or Visitor Center throughout the life of the mine; exhibits will require replacement, updating, and maintenance. Please clarify how this will happen.

- c. The FEIS indicates that: “Concurrently with Item 2 above, Rosemont will use the information developed for the exhibit to create public brochures that will be accessible online via Rosemont and the Forest websites.” CWP requests that such information be developed in forms for a wide audience that might include print, digital history lessons, the Arizona Memory Project site, and other sources beyond CNF and Rosemont.
- d. The FEIS does not mention the availability of information produced by recovery work for the public through area histories, structural reconstruction on lines, digitized maps, etc. The public, especially watershed populations, are losing part of their heritage. Access to the resulting information should be available beyond the SHPO, ASM, or Forest archives as appropriate given archaeological data restrictions.

CWP in January 2012 for the DEIS, identified a concern for standing structures and blasting: *“Specifically, disturbances from blasting is a concern for standing structures off-site; neither monitoring nor interim maintenance has been proposed for these structures in the DEIS”.*

This was mostly addressed in the FEIS: Maximum blast noise levels were modeled for the project area and included surface blasting and in-pit blasting under various weather conditions. Low-frequency airborne and ground vibrations generated by blasting, which can also induce vibrations in buildings or other structures, were also analyzed. The study concluded, “Modeling of blast-generated ground vibration levels indicates that locations more than 0.5 mile from the blast site would not experience vibration intensities high enough to induce even minor cosmetic damage to buildings (such as cracking paint or plaster).” The study also reported that “airborne vibrations may be capable of rattling loose objects or windows at a distance of 0.5 mile from the blast site, but they fall off rapidly 5 miles away from the site. Because Empire Ranch is more than 6 miles from the easternmost edge of the proposed mine pit, no impacts from vibrations or blasting are expected in any of the action alternatives (page 1038).

The FEIS indicates that to further evaluate the potential for vibration damage to historic structures, Tetra Tech (2009e) conducted a more detailed study based on modeled ground vibrations, sound measurements, noise modeling, and noise predictions for the area around the project area. Tetra Tech’s study appears to be in 2009; our comment was lodged in January 2012. What did this study really take into consideration?

CWP objects that the modeling may be insufficient unless the underlying sediments are taken into account and request further monitoring and potential mitigation. CWP request that the finding based on the modeling be monitored at the time blasting commences at multiple locations from the blasting including the Empire Ranch buildings.

The draft ROD indicates (page 25) in its conclusion that the selected action contains a number of design features that will avoid or reduce environmental impacts, as well as a comprehensive mitigation and monitoring plan that will reduce overall impacts and ensure that impacts are within the range that are predicted by the analysis that is disclosed in the FEIS.

In order to ensure that impacts are within the range for standing structures under the vibration model analyzed in the FEIS, CWP requests that the comprehensive mitigation and monitoring plan be applied to this issue. Mitigation should include the development of a monitoring plan with quantitative and qualitative measures agreed to by the Bureau of Land Management and SHPO for those buildings and the plan should identify specific steps to be taken if the monitoring shows impacts. If the Arizona SHPO has waived this issue and has no concerns, please supply this information to CWP.

D. Key biological and hydrologic components in the watershed.

In January 2012, CWP commented directly on biological and ecological analysis:

- *Inadequate analysis of impacts to aquatic and riparian resources and the analysis and findings are spread over three to five different sections of the DEIS*
- *Inadequate analysis of impacts to the Ciénega Creek Watershed*
- *Inadequate analysis of impacts to the ecological system as a whole*
- *Inadequate information on mitigation measures*

By incorporation, we included other groups' comments on the entire hydrological system.

Now, we have new information from the BLM comments on the administrative draft of August 15, 2013, which ties together the hydrological system and biological component impacts.

CWP is aware of the complex relationships between these fundamental components of the watershed. We object to the failure to address impacts as noted below.

The FEIS does a solid job of addressing what the potential impacts of the mine are on the depth and availability of ground water in the surrounding system. The Barrel alternative would minimize the impacts but does not eliminate them. In Particular, the report notes that there would be significant impacts on groundwater elevations and thus the discharge from springs along Empire Gulch. Importantly, on page 32 of the Executive Summary the FEIS notes that "Empire Gulch would likely eventually change from perennial flow status to ephemeral flow status, although the timing of this change varies widely."

A few lines down, the summary notes "hydroriparian habitat along Empire Gulch could transition to mesoriparian or xeroriparian, although this is highly uncertain". These two statements indicate the high likelihood of significant adverse impact on ecological structure and function along Empire Gulch which lies within the LCNCA, a major component.

As noted above under A., such an impact would appear to run counter to the Congressional establishment of LCNCA. BLM even notes this impact in its August 2013 comments to the administrative draft, pg 101: “The FEIS states ‘Upper Cienega Creek also receives surface water flow from Empire Gulch, and the potential for reduction in Empire Gulch stream flow could therefore also result in reductions in Cienega Creek’s stream flow as well.’ Therefore, the Huachuca water umbel in Cienega Creek could be affected and therefore the nationally significant ecological component at the LCNCA”.

This issue goes further, however, than the specific issue of compliance with H.R. 2941 identified under A. Assuming even that no LCNCA exists, impacts to significant resources were identified which require attention. The summary notes that “Some contraction at the margins of the hydriparian corridor could occur along Upper Cienega Creek” but notes the high degree of uncertainty about these projections. Importantly while the draft ROD uses this uncertainty to minimize the threat of impacts, the uncertainty present in projections of groundwater elevations and impact on groundwater-dependent riparian ecosystems could mean that impacts are worse than projected.

CWP objects that it is not clear in the FEIS what resulting action will be taken from documenting increasing or decreasing impacts. The documented uncertainty in groundwater elevation and spring, seep, surface water, and riparian impacts of mine operation and closure make the ongoing monitoring and model updating a critical piece of the draft ROD. While the monitoring and updating of projections is explained and robust there is no indication of how this information will be used. Will an updated model that shows an increased (decreased) impact of mine operations be used to alter the mitigation plans, mine operations or even induce closure of the mine once permitted?

CWP requests: 1) that the ROD state what resulting action or processes will be followed if documentation of an increased (or decreased) impact on surrounding ecosystems, resources, or landholders occurs; and 2) that the ROD (and eventual permit and bonding) require substantial mitigation to “fix” the issues revealed in the comprehensive monitoring program referred to on draft ROD page 11 and page 25.

#### E. Outstanding Arizona Waters:

On January 18, 2012 CWP noted “*the potential impact of an open pit mine on aquifers, both from depletion and contamination from leaks, spills, and runoff, represents an enormous threat to water supplies in the immediate vicinity of the mine and to watersheds key to supplying Tucson and surrounding areas, including two Federally-designated Outstanding Waters, Davidson Canyon and the Cienega Creek*”.

Federal and state law requires that surface waters be protected from discharges that might degrade water quality. Tier 3 Anti-degradation Protection states that no long-term degradation is allowed on Outstanding Arizona Waters (OAWs). All monitoring of the OAWs that USFS recommended is on State Land upstream of the Outstanding Arizona Waters. Dikes in the geology would prevent good monitoring on the effects downstream and the challenge of not disturbing this sensitive land while monitoring well installation has not been addressed. The surface water/groundwater interactions are not sufficiently understood as to what sustains these valuable springs.



CWP requests that the comprehensive monitoring plan as discussed on page 25 include more adequate monitoring to ensure as the draft ROD notes: “The selected action contains a number of design features that will avoid or reduce environmental impacts, as well as a comprehensive mitigation and monitoring plan that will reduce overall impacts and ensure that impacts are within the range that are predicted by the analysis that is disclosed in the FEIS.”

F. Climate Change Impacts did not receive sufficiently analysis.

CWP stated in our January 18, 2012 comment letter that “*Major biological and ecological concerns with the DEIS include: Inadequate analysis of climate change impacts*”.

This is a delicate system where a small drop in groundwater could devastate the area. The area is already fragile through prolonged and sometimes severe drought. The Southwest Climate Change Network states that “*The Southwest is projected to warm faster than the world as a whole in coming decades, with summer temperatures rising even faster than winter ones. Average annual temperatures in many parts of the region could be 5 to 8 degrees F higher than they were even during the hot quarter century that began in the 1970s.*” See Attachment on Climate Change Assessment.

All assessments of impacts to water and vegetation and especially evapo-transpiration should have accounted for this well-accepted climate change prediction because remaining waters will carry even more disproportionate value in the future that will require more effort to appropriately mitigate. The EPA letter to the Army Corps of Engineers dated Nov. 7, 2013 points out that the mine would “*reduce stream flows, increase water temperatures, and disrupt breeding*”. Pima Association of Government’s hydrologic monitoring studies show that monitoring frequently and consistently is necessary to catch the critical hottest and driest points of year when the critical thresholds occur for streamflow and depth of groundwater for shallow-groundwater-dependent vegetation. This monitoring would be needed at each sensitive area throughout the affected area. Please see Attachments 5 and 6.

CWP requests that the ROD statement (page 25) that a comprehensive mitigation and monitoring plan will reduce overall impacts and ensure that impacts are within the range predicted by the analysis disclosed in the FEIS, be followed and specifically include elements identified by EPA, ACOE, and PAG regarding monitoring for evapo-transpiration.

G. Failure to set adequate financial controls for mitigation

CWP commented on January 12, 2012 that “*While insufficient at this point on a number of issues that need further analysis and then mitigation measures, no mechanism appears in the DEIS to ensure that such measures take place during and after the life of the mine. Is an escrow account to be set up? Who decides whether a damaged well or dried spring qualifies for mitigation? Is a Board or Trust to be set up to manage this aspect? How are citizens from the area to be involved?*” and,

“*We understand that CNF and other agencies must ensure compliance with any approved mine operations, but the total amount of mitigation required suggests that a programmatic approach is required.*”

CWP maintains through our and our colleagues' experience with watershed restoration in this area, that the proposed endowment fund—the Cienega Creek Watershed Conservation Fund—is inadequate (underfunded) to achieve what is proposed. This underfunding will either result in no restoration with a loss that we cannot afford or the taxpayers will have to fund this recovery which is fully the responsibility of Rosemont Mining.

### **Impacts to riparian habitat – the Cienega Creek Watershed Conservation Fund**

Rosemont Copper has proposed establishing an endowment fund, the Cienega Creek Watershed Conservation Fund, “as a resource to help restore the watershed to a functioning ecosystem... and a mechanism to promote adaptive management and allow flexibility in mitigation to achieve desired outcomes in light of future uncertainties.” Endowment funding would be used to increase water flows and enhance wetlands in the Cienega Creek watershed and to implement future mitigation and management strategies to offset unanticipated effects resulting from groundwater drawdown from the mine, if necessary.”

The proposed investment in the Cienega Creek Watershed Conservation Fund would provide \$2,000,000 over 10 years, or “\$200,000 per year beginning on April 1 of the year following the year in which copper concentrates are initially produced.”

The projected investment from this endowment fund is woefully inadequate to achieve the objectives outlined above. While endowment funds certainly fluctuate from year to year, depending on market performance and investment strategy, endowment managers, such as the National Association of College and University Business Officers (NACUBO) recently reported that their 10-year average return is 7.1% (*Endowment Returns Up, For Now*, Inside Higher Ed, November 7, 2013). Since roughly 3% of endowment funding is reinvested to keep pace with inflation, this would leave an estimated 4% annual investment for the endowment, or approximately \$8,000 in year one, and only \$80,000 at full funding capacity.

Even a standard endowment approach of 5% on \$2,000,000 amounts to \$100K per year. The mitigations that would appropriate could not be managed for \$100k per year. A single FTE for a solid biological restoration consultant easily runs that much.

Estimated impacts to the watershed and riparian area will require hundreds of thousands, if not millions of dollars of annual investment to mitigate the impacts required to maintain riparian and watershed health. For example, water source enhancement and mitigation activities for the estimated 1362 acres of riparian habitat directly impacted by changes in ground and surface water will require significant and sustained funding.

We estimate that at least \$2 million a year would be required for just the next ten years to fix Cienega Creek and its tributaries. Pumping wells near the stream would impair the health of the creek, grasslands and riparian galleries. Other water sources should be explored such as effluent, wheeled water, retirement of existing wells and water rights to be put into the name of water for the environment, or urban stormwater capture and recharge.

Some examples (see attachments):

- We estimate, using a Wildlife Habitat Incentives Program (WHIP) cost sheet, for stream channel morphology and aquatic species project predicts cost at 28.20/ft for the 20 miles of Cienega Creek in the analysis area would total \$3 million.
- In a report titled “Environmental Restoration Projects in Arizona: The U.S. Army Corps of Engineers’ Approach, Final Report; June 2005, Sharon B. Megdal, Ph.D., Director, Water Resources Research Center, University of Arizona, Tucson AZ, estimated the cost of KERP site using stormwater capture: ~ \$4.6 million first costs, plus \$256,000 annually. KERP is selected as an example because there is little other water source than stormwater to create surface water and so it serves as an example of utilizing that water source for irrigation. The cost is for restoring 88 acres so it helps to create estimates of what restoration would cost per acre for the Cienega Watershed.
- Additionally the costs for the Swan Wetlands Riparian Area is ~\$ 2.8 million first costs, ~\$200,000 annually. The Swan Wetlands was an example of restoring a river that has now run dry but still has shallow groundwater that has dropped over time, much like is anticipated for Cienega. It requires imported reclaimed water to irrigate and keep the cottonwoods alive and utilizes stormwater harvesting restoration techniques. 349 acre feet of water are needed a year costing \$81,000 a year, in an area where reclaimed water is not very distant. In the Cienega Watershed, the water would be much more distant, increasing costs.

To seriously mitigate the impacts identified in the FEIS and draft ROD, CWP requests that a more thorough analysis be made considering reclaimed and stormwater water sources to create wetlands, grasslands, aquatic habitat and riparian galleries within the watershed with appropriate funding allocated to create these projects.

#### **A coordinated and detailed mitigation plan and funding document does not exist**

CWP objects that a detailed mitigation plan and funding document has not been developed in concert with the Bureau of Land Management for the Las Cienegas National Conservation Area and for any other landowner that must mitigate impacts to Cienega Creek and the Cienega Watershed, even though these are off forest lands.

To remedy this situation, CWP expects to see a detailed and adequate plan, which will not burden the taxpayer for millions with which to mitigate known impacts over the life of the mine. Instead, before approving the permit, the US Forest Service must require Rosemont Mining operators to endow or escrow funds to cover these costs to this creek and watershed that would not occur without the mine development and operation.

#### **Our objections summary**

While the FEIS is greatly improved and while the Barrel Canyon alternative does have the least impact, we find that there are serious gaps in the analysis and insufficient mitigations for substantial and irreparable direct **and indirect** adverse cumulative, long-term impacts in the FEIS.

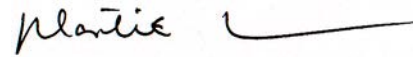
We stand by our statements that:

*The No Action Alternative is the only alternative that will safeguard the irreplaceable biological resources of the Rosemont area for future generations,*

and

*The No Action alternative is the only alternative that will safeguard these priceless cultural remains for the future.*

Submitted by:

A handwritten signature in black ink, appearing to read "Martie Maierhauser". The signature is written in a cursive style with a long horizontal stroke at the end.

Martie Maierhauser, Chairman,

Prepared by Cienega Watershed Partnership Board members: Shela McFarlin, lead; Mead Mier, Dr. Tom Meixner, Dr. Larry Fisher, Martie Maierhauser, Kelly Mott Lacroix, and Trevor Hare

Attachments:

- 1) CWP Comments on DEIS January 18, 2012
- 2) BLM Comments on the Administrative Draft August 18, 2013
- 3) Assessment of Climate Change in the SW
- 4) EPA letter to USACOE 2012
- 5) PAG Cienega Creek Summary
- 6) Wildlife Habitat Incentives Program (WHIP) Cost Sheet
- 7) Megdal 2005 Arizona Environmental Restoration
- 8) Pima County 2013 Letter to USACOE on Compensatory Mitigation
- 9) Gerlak et al Restoration and River Management in SW 2009