APPENDIX B

CHIRICAHUA LEOPARD FROG VISUAL ENCOUNTER SURVEY DATA SHEETS

Larry Jones /R3/USDAFS
05/24/2010 09:55 AM

To jrigg@swca.com
cc Melinda D Roth/R3/USDAFS@FSNOTES, Deborah K Sebesta/R3/USDAFS@FSNOTES, Salek Shafiqullah/R3/USDAFS@FSNOTES, Robert
bcc Larry Jones/R3/USDAFS
Subject mitigation language

Jonathan et al.--

In the undated (filename dated as 5/10/2010, but not recorded on document) Rosemont Mitigation Table that Mindee just sent me, it says the following under plants and animals:

1.3.2.Rosemont shall develop a Noxious Weed and Invasive Species Management Plan that includes periodic monitoring and eradication of designated noxious plants on Forest Lands.

Per a note that Julia Fonseca, Pima Co., sent us on 5/20/2010, we need to ensure that aquatic invasive species are eradicated and monitored, as well as invasive plants, so I recommend we replace 1.3.2. with something more encompassing, such as (bold added):

1.3.2.Rosemont **Copper Company** shall develop a Noxious Weed and Invasive Species Management Plan that includes **initial eradication, as practicable,** and periodic monitoring and eradication of designated noxious plants **and invasive animals (e.g., warmwater fishes)** on Forest Lands. **Prior to ground disturbance, non-native aquatic species must be eradicated from within the boundaries of the Rosemont Copper Company patented and unpatented mining claims, to ensure there is no downstream transport of invasive aquatic organisms during any phase of mining operations. The Plan must ensure there will not be concomitant deleterious effects to threatened, endangered, and sensitive species of plants and animals coexisting with undesirable non-natives during control operations, except as authorized under the federal regulatory framework (e.g., Endangered Species Act consulation).**

Melissa--can you file in project record under biological resources? If anybody has a better way to state this, I'm all ears, or wordsmithing can wait till later, and it can be a placeholder now.

As an aside, this is a plea to always have the date of a draft on the draft document itself. I also like to see the name of the compiler (author), so we know who receives official comments, to keep book-keeping straight. Thanks!

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"Tom Furgason"
<tfurgason@swca.com>
04/15/2009 01:47 PM

To "Larry Jones" <ljones02@fs.fed.us>
cc "Beverley A Everson" <beverson@fs.fed.us>, "Deborah K Sebesta" <dsebesta@fs.fed.us>, "Geoff Soroka" <gsoroka@swca.com>, "Ken Kertell" <kkertell@swca.com>,
bcc
Subject RE: Biological Assessment

Larry,

I think that we covered this before, but we will need to treat analysis of each of the alternatives equally. This probably means a set of tech documents for each alternative. We'll have to see where the alternative development takes us, but we may need more than one BA.

You are correct that the USFWS will likely only consult on the preferred alternative. However, the Line Officer does not need to ID a preferred prior to publication of the FEIS. This leaves us in a bit of a conundrum if we are to disclose impacts to the public in the DEIS. Therefore, we should at the very least have some consultation history in the DEIS. If it turns out that the FWS will only issue a BO for the preferred alt, then we need to have them state this for the Admin Record before the DEIS goes out. We should also document in the Admin Record that the FWS would not review BA's for other alternatives if that is what they decide. Ideally, we'd have hard copy letters for all of this. In my opinion, it is in the interest of the FS to clearly demonstrate your efforts in working with the FWS. As far as I know they still have not responded to the invitation to be a cooperating agency, nor did they respond to the scoping letter. I expect that they will respond to a request for formal consultation.

I'll let Geoff know that you have some additional info on MIS. Thanks!

Tom

From: Larry Jones [mailto:ljones02@fs.fed.us]
Sent: Wednesday, April 15, 2009 1:23 PM
To: Tom Furgason
Cc: Beverley A Everson; Deborah K Sebesta; Geoff Soroka; Ken Kertell; Melissa Reichard; Richard A Gerhart; Reta Laford; Beverley A Everson
Subject: RE: Biological Assessment

Tom et al.--

Another deliberative set of comments here. Playing a little catchup...is there a Migratory Bird Treaty Act report I could look at? Also, the reports you mention from WestLand? I saw on your trailing message that you are going to write a BA for each alternative? From my limited experience, the FWS only wants to see the Biological Assessment for the preferred alternative, but internally we do analysis of the affected environment in a Specialist Report or similar. But if a draft BA with each alternative addressed is the way it was decided to go, that is probably alright, as long as the final BA to FWS only has preferred alternative. I'm sure Debbie is right about the fact that we don't need a consultation number...and I'm unaware of any number being assigned, but I would think Debbie would know that.

On the MIS front, we recently got some good info from our regional office on how to prepare MIS reports "the right way", based on what comes up in litigation. I can see if I have those powerpoints saved somewhere. There was also a powerpoint on what to put into MBTA report. I'm also curious what is going on with Rosemont Talussnail, as WestLand implied the taxon is not valid, but I haven't seen the arguments and supporting documentation, and I think we are supposed to follow ITIS and/or NatureServe

for taxonomic issues. Is this info in a document that can be shared with us?

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"Tom Furgason" <tfurgason@swca.com>

04/15/2009 11:33 AM

To "Deborah K Sebesta" <dsebesta@fs.fed.us>
cc "Beverley A Everson" <beverson@fs.fed.us>, "Geoff Soroka" <gsoroka@swca.com>, "Ken Kertell" <kkertell@swca.com>, "Melissa Reichard" <mreichard@swca.com>, "Larry Jones" <ljones02@fs.fed.us>, "Richard A Gerhart" <rgerhart@fs.fed.us>
Subject RE: Biological Assessment

Thanks for getting back to me Debbie. Geoff sent a MBTA report a while ago for your review. This report covers many neotropical, but we can add more species if you feel that the MBTA list leaves out any that are important to the Forest. Otherwise, we'll track the alternatives and see if we need to revise the report as alternatives are developed.

As for the MIS, we have a good start on the report, but we need to wait for the alternatives to be developed before we complete that document.

We have not contacted other agency biologists yet. We need to wait to see which will be cooperating agencies and go from there. We'll talk to the BLM when they sign the MOU and officially become a cooperating agency. I suspect that we will have most of the MOUs signed by the other cooperating agencies by the end of next month, but that is just a guess on my part.

I agree about Cienega Creek and we are keeping it in the back of our minds, but we need some data to support the determination and nature of any potential impacts..

Tom

From: Deborah K Sebesta [mailto:dsebesta@fs.fed.us]
Sent: Wednesday, April 15, 2009 11:13 AM
To: Tom Furgason
Cc: Beverley A Everson; Geoff Soroka; Ken Kertell; Melissa Reichard; Larry Jones; Richard A Gerhart
Subject: Re: Biological Assessment

Tom,
As far as I know no one has received a USFWS consultation number. I don't think you need one in order to submit the BA to them; at least I never do. They assign it after they receive the BA.

Are you also going to address FS MIS and neotropical migratory birds? I think you need separate reports for these plus the BA and BE. You know more about writing the reports for BLM and the state and county but I think their reports should be separate documents. Have you been in contact with their biologists?

Do you have access to the AZGFD Heritage Database? If not, I can find out how you can get access.

I think you will eventually need to assess impacts to Cienega Creek. Has the BLM had any involvement in the project? It might to wise to contact them.

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**"Tom Furgason" <
tfurgason@swca.com>**

04/15/2009 10:34 AM

To "Deborah K Sebesta" <dsebesta@fs.fed.us>
cc "Beverley A Everson" <beverson@fs.fed.us>, "Ken Kertell" <kkertell@swca.com>, "Geoff Soroka" <gsoroka@swca.com>, "Melissa Reichard" <mreichard@swca.com>
Subject Biological Assessment

Debbie,

I just wanted to let you know the status of the preparation of the Biological Assessment for the proposed action. For now, we are assuming that the Action Area is the footprint of all of the mine facilities (pit, waste rock, tailings, processing, etc.), utility lines, and access roads. We have received the PPC, LLNB, and agave survey reports from Westland and have begun drafting the BA. We are expecting the Chircahua leopard frog survey report soon. Based on our understanding of the area, we are addressing four species in the BA: LLNB, PPC, Chircahua leopard frog, and MSO. All but the MSO have been documented as occurring in the Action Area. We are not considering impacts to Cienega Creek and any

species that it may support because we lack sufficient hydrologic studies to make this determination at this time. We will revise the report accordingly if it is determined that the mine would result in impacted Cienega Cr.

I know that there was a lot of discussion about obtaining a consultation number for the proposed Rosemont Mine. Do you know if this has occurred? For now, we are relying on the species list from the USFWS web page. However, we'd like to site any correspondence with UFWS to date.

Also, how would you like for SWCA to handle FS and BLM Sensitive Species, AGFD WSCA, Pima County's HCP species, etc.? We could prepare a large wildlife specialists report evaluating all of these or we could prepared separate reports and tech memos for each agency/jurisdiction. I'd appreciate any direction that you could provide on this.

I'd like to point out that we are aware that we may need to prepare BA's for each of the action alternative, but we'd really would like to get the BA into USFWS to engage them as soon as possible. Any assistance with this would be greatly appreciated. Thanks.

Tom

Program Director
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Larry Jones/R3/USDAFS
08/20/2009 02:17 PM

To ken kertell, tom furgason,
cc Richard A Gerhart/R3/USDAFS, Deborah K Sebesta/R3/USDAFS, Beverley A Everson/R3/USDAFS,
bcc Larry Jones/R3/USDAFS,
Subject rosemont BA and Specialist's Report

Ken and Tom--

I'm going ahead and attaching what I reviewed so far on the Draft BA (the non-bio parts). Rick and Debbie can probably give you a better idea of their timeline about their review. I'll be gone for nearly a couple weeks (or mostly out of touch), so I don't need to hold it captive. When I get back I can work on the biology parts of the document. I sent the Draft BA to our contact in our regional office and asked her if the format and headings looked good, and she says they do.

I was talking to Tom today a little bit about the Specialists' Report. That would be a good first product, at it doesn't need to await other things like alternative development and mitigation. I don't know of any template for this report--it just seems to be a document that will be useful for us in laying out what the situation is in the affected environment. So, I would say just go with the affected environment as being the big hole in the ground and waste rock and tailings piles, etc. that fit inside the basic footprint. That much we know pretty well. I would use the document to highlight the species that should be discussed in follow-up reports, and show which of these species are likely to be ones that need our attention. So, below are things to discuss in the Specialist's Report.

--affected environment description, including the footprint, buffer zone, associated actions, downstream effect areas
-- general effects to wildlife and wildlife habitat...important to include Rosemont Talussnail--this may be the only official doc where this critter is addressed. The tie here is that when we wrote the Forest Plan, we were guided by the 1982 planning rule which had verbiage about maintaining viable populations of all species well-represented across the Forest (i.e., the planning rule directives were directing the National Forest Management Act of 1976)...anyway, that's my take where the snail fits it...it is a local endemic, recognized as valid in the ITIS database (or mandatory standard) and there are environmental concerns, so we had best address it somewhere.
--T and E species for a BA (use the entire website list and highlight those that would need to be addressed and why
-- Regional Forester's Sensitive Species (do you have this list?)
-- Management Indicator Species (per our Forest Plan...do you have that list? Refer to the Forest-wide MIS report)
-- Migratory birds (as defined in the act)
-- And look over my comments in the attachment to help guide you with some of the recurring themes

Stuff like that. Debbie, Rick, and I can probably help with this...but I think the bottom line is that this document should set the stage as to how we plan to address which plants and animals, especially in the other reports.

Thanks!

Draft Rosemont BA_071409LJones Comments sans bio sections.doc

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Meeting notes, Rosemont Mine Meeting

prepared by Larry Jones, Coronado NF, 31 July 2008; reviewed by Debbie Sebesta, Geoff Soroka, and Bev Everson, same date.

Venue: SWCA office in Tucson.

Date: 29 July 2008.

Present:

- Bev Everson, Coronado National Forest, Geologist, Interdisciplinary Team lead
- Debbie Sebesta, Coronado NF, Lead Biologist, core team
- Larry Jones, Coronado NF, Biologist, extended team
- Tom Skinner, Coronado NF, Biologist, Wildlife, Fish, and Rare Plants program
- Tom Furgason, SWCA Environmental Consultants, Rosemont Program Manager
- Geoff Soroka, SWCA, Lead Biologist
- Ken Kerkell, Senior Scientist, SWCA
- Brian Lindenlaub, Biologist, WestLand Environmental Consultants
- Bob Scmalzel, BiologistWestland

Purpose: To determine roles and responsibilities of the biologists working on the Rosemont Mining project, and to discuss the progress to date and which documents were being developed and by whom.

Salient discussion points:

- Westland works for Rosemont. Tom Strong is the lead biologist for WestLand. They are producing a report called Biological Resources and Mitigation Concept. This is not done yet, but should be done in a couple of weeks. They will produce the Biological Assessment and Evaluation. This will likely be completed in fall 2008. They have done surveys for Lesser Long-nosed Bat in the immediate vicinity of the proposed project area (1 feeding on agave was detected; no roost sites were detected). Chiricahua Leopard Frogs will be surveyed for (2 recent records in Box Canyon, plus there is now water in cattle tanks on-site). Talussnails are being opportunistically surveyed for. Pima Pineapple Cactus is possible along utlity corridor.
- SWCA is contracted by the Forest Service. They will produce the Management Indicator Species report and Migratory Bird report. SWCA will act as intermediary (with Forest Service) to review Westland's documents and identify issues and concerns, as will the Forest Service. Geoff is going to write a letter for Forest Service to ask for Fish and Wildlife Service as a cooperator.
- The Forest Service, Coronado National Forest is the lead agency, and for the biology issues, provides guidance and oversight for SWCA. The Forest Service will provide a Specialists' Report that will identify issues and concerns of the affected area. The date for a final version of this document has yet to be determined, but interim working drafts may be useful to the team.

- The ID Team is currently composed only of Forest Service members. Arizona Game and Fish was invited
- A Project Initiation Letter went out today identifying roles and responsibilities of core and extended team members.
- The Forest Service and SWCA cannot discuss the Rosemont Mine with Westland or biological peers, but biologists, regardless of byline, are allowed to discuss biological issues.
- This is a politically very sensitive project so we need to be very careful about what we say.
- Talussnails: There was a lot of discussion about the Rosemont Talussnail, which occurs in the project area. The type locality is imprecisely known and its range is not well known. At the UA, a professor Reinthal knows about talussnails. As far as we know two talussnail species occur in the Rosemont Area, Rosemont Talussnail (*Sonorella rosemontensis*) and Magdalena Talussnail (*S. magdalenensis*). There are several other species of *Sonorella* and other general that occur in the Santa Ritas. There was discussion of variation, history, and what was known about *S. rosemontensis*. In a nutshell, not much is known, other than general information about talussnails, and some taxonomic implications. Everyone agreed that surveys are needed to delineate the range of this species. Westland surveyors had several photographs of some talussnails found during their cursory surveys[1].
- Debbie was to send email of Sandy Wolf, bat researcher, to Brian, and Larry was to send him the latest Regional Forester's Sensitive Species List[2] .
- All biological communiques and documentation need to go through Bev and Debbie, and will go into Public Record.

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[1] G. Soroka, pers. comm., 7/31/2008, found that one character (mucous color over mantle) was consistent with *S.magdalenensis*, but identification cannot be inferred from unvouchered specimens.
[2] Tasks completed 7/31/2008.

Larry Jones comments
7/22-23/2009
Track changes? Word doc available

DRAFT - always have this word in here (till final)

Biological Assessment

Rosemont Copper Project

← Location: Northern Santa Rita Mountains Sierra Vista Ranger District

Prepared for

Coronado National Forest

Prepared by

SWCA Environmental Consultants

← I always like to see a name, the writer or a lead who handles input + is "responsible" for content

July 2009

↳ have a day for this - may be more versions per month

COMBINE THESE FIRST TWO PAGES

Jason_Douglas@fws.gov
03/26/2010 09:18 AM

To Larry Jones <ljones02@fs.fed.us>
cc Beverley A Everson <beverson@fs.fed.us>, Deborah K Sebesta <dsebesta@fs.fed.us>, gsoroka@swca.com, Julia.Fonseca@rfcd.pima.gov, Melinda D Roth
bcc
Subject Re: section 10 and such for Rosemont

Larry et al.,

The off-the-cuff answer is that the section 7 consultation will include all T&E species directly and indirectly affected by the proposed action, including the effects of interdependent and interrelated actions. This analysis is independent of land ownership.

Land ownership, however, may be an important component moving forward. To answer this more fully, I would like learn more about the following topics.

1. Will the Forest Service retain discretion over the Rosemont mine after the Record of Decision is signed?
2. Is Rosemont Patenting NFS lands?
3. Does the FS anticipate being administratively capable of reinitiating section 7 consultation for the life of the mine, including reclamation, on NFS, other Federal, State, and private lands?

These three questions pertain to our interest in determining if the FS will retain discretion over Rosemont's action over time and thus will remain capable of ensuring ongoing ESA compliance as the mine operates. This is per the following clause, which appears in the Reinitiation and Closing Statement portion of every Biological Opinion: "As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law)..."

In other words, what is the scope and duration of the FS's discretion over Rosemont?

As an aside, permitting for golden eagles would occur under the Bald and Golden Eagle Protection Act, as the species is not listed under the ESA. Golden eagles can be addressed as a covered species under a section 10-related process (i.e. HCP), but that may not be appropriate here. The B&GEPA is currently under revision due the the recovery of the bald eagle and subsequent removal from the list of T&E species.

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Larry Jones
<ljones02@fs.fed.us>

03/26/2010 08:36 AM

To jason_douglas@fws.gov, Julia.Fonseca@rfcd.pima.gov

cc Beverley A Everson <beverson@fs.fed.us>, Teresa Ann Ciapusci <tciapusci@fs.fed.us>, Melinda D Roth <mroth@fs.fed.us>, Deborah K Sebesta <dsebesta@fs.fed.us>, Richard A Gerhart <rgerhart@fs.fed.us>, gsoroka@swca.com, tfurgason@swca.com

Subject section 10 and such for Rosemont

Hi Jason and Julia--

On the proposed Rosemont Copper Mine project, I am getting into new, unfamiliar terrain. Basically, I am overseeing the suite of "biological documents" for the Forest Service and BLM, but I am unsure how to proceed with affected state, county, and private lands with regards to their requirements. Case in point, and why I am contacting you two, is how to deal with Section 10 of the Endangered Species Act. All I really know about it is that I read that an Incidental Take Permit (like the Golden Eagle Take Permit) is required by non-federal agencies. And I read that often involves an HCP. Then I got to wondering if the Interagency/NGO Multiple-Species Conservation Plan (and/or Sonoran Desert Conservation Plan) applies to Rosemont private lands. For example, Chiricahua Leopard Frogs and Lesser Long-nosed Bats have been reported from the private lands, so what is needed to comply with ESA regulations on take? Maybe this is common knowledge among many biologists, but I am a little naive in this department, since I've pretty much only dealt with Section 7 of the ESA.

Right now, SWCA and I are working on a Biologists Specialist Report (a white paper on the affected environment), wherein we will incorporate Priority Vulnerable Species and other non-federal species of conservation concern, with regards to the affected environment, so perhaps if we need some more documentation to be compliant with non-federal jurisdictions, this white paper is the venue.

[note, this message sent with approval of the Interdisciplinary Team Lead (provided I send a copy to Bev and Teresa), and needs to be included into the project record. It is a deliberative note, so let's keep correspondence within our emailing group, and if we need to go outside this group, we have to do it through guidance of Teresa as cooperating agency coordinator)].

Thanks! I would call, but I need to have things in black and white for the project record.

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I have read pp 1-61 of the wildlife + habitat comments
11/2/2009

Comments by Resource Category

Wildlife and Habitat

Record ID	Comment Number	Commenter Type	Comment Text
1983	5	Individual	I'm concerned about loss of wildlife habitat.
2268	4	Individual	The wildlife habitat should not be destroyed just because a FORIEGN country wants to mine copper.
2294	3	Individual	Our birds and wildlife are being threatened from all sides in this wonderful Sky Island.
2593	109	Organization	Concerns regarding the vegetation in the area that should be addressed in the EIS include: -What are the short term direct impacts to the vegetation in the area? -What are the long term, indirect impacts to the vegetation in the area? -What are the important habitat types in the area? -What is the current productivity of important habitat types in the area?
6913	2	Individual	What would be done to minimize the effects on neighbors and wildlife of daily blasting at the proposed Rosemont mine?
7253	109	Organization	Concerns regarding the vegetation in the area that should be addressed in the EIS include: -What are the short term direct impacts to the vegetation in the area? -What are the long term, indirect impacts to the vegetation in the area? -What are the important habitat types in the area? -What is the current productivity of important habitat types in the area?

99 Cumulative Impact

Record ID	Comment Number	Commenter Type	Comment Text
43	13		What will the cumulative impacts be of this mine and other proposed mining operations in the vicinity on wildlife?
183	3		What will the cumulative impacts be from this mine and the other proposed mining operations in the vicinity on wildlife
1660	2	Individual	Cumulative Impacts of all new mining proposals in this BIOLOGICALLY SENSITIVE AREA. I request that this be considered in the EIS.
2122	3	Individual	Augusta Mining's short term economic boom can not possibly offset the disastrous long term impact on wildlife habitat that this proposed encroachment would have.
2199	16	Individual	What will be the cumulative impact on wildlife of the mining and transport operations?
2214	15	Individual	What will the cumulative impacts be of this mine and other proposed mining operations in the vicinity on wildlife?
2360	4	Individual	I am writing to oppose the Mine's approval for many reasons. Here are some: The destruction of pristine land that can never be restored, and as a result the loss of the homes of many animals.
2677	18	Government	There are so many demands on land in Arizona. Human population and urban and rural development are growing at such a rate that there will soon be a time when the only land left for the public to use for recreation, and the only land left for wildlife, will be the public land. The Forest Service should consider that the highest value of Arizona public land is for wildlife.
2677	63	Government	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Impacts to wildlife habitat off-site
2713	24	Organization	The EIS for the proposed Rosemont Copper Mine must consider both the immediate and cumulative impacts fo the proposed action, as required by the National Environmental Policy Act. Specifically, the following types of resouces analyses must be included: An analysis of all of the hydrologic and geological formations in the area, entailing a thorough evaluation of how the proposed project/s will impact the entire region, including a detailed analysis of the projected exposure of wildlife (including pollinators such as bats, insects) to these impacts and potential hazards.

DRAFT DELIBERATIVE CONTROL

Wildlife and Habitat

99 Cumulative Impact

Record ID	Comment Number	Commenter Type	Comment Text
2723	5	Individual	The proposed Rosemont Mine is located adjacent to and partially overlapping an area designed by the Sonoran Desert Conservation Plan as biological core habitat The mine and associated traffic would put additional stress on wildlife already being impacted by rapid growth in the general area.
2745	14	Individual	The Tucson Active Management Area (TUMA) is a cmoprehensive system that is to large to quantify the critical impact that Rosemont Copper will directly and cumulatively indirectly impact the present and futures of these willife.
2760	38	Government	Identify direct, indirect and cumulative impacts to wildlife as a result of groundwater pumping assoicated with the proposed project.
6880	20	Government	Finally, all of these and other legitimate concerns that have been raised about this mine proposal should be analyzed for their cumulative impacts on surrounding communities, wildlife, water quality, water quantity, and air pollution.
6919	3	Individual	What will the cumulative impacts be from this mine and the other proposed mining operations in the vicinity on wildlife,
7083	9	Individual	Please take into consideration the cumulative impacts from this mine and the other proposed mining operations in the vicinity on wildlife, water quality, water quantity, and air quality.
7088	80	Organization	What will be the full and cumulative impacts of the Rosemont mining project on these endangered, candidate species, other priority vulnerable species or Wildlife of Special Concern, and other wildlife, flora and fauna?
7163	67	Organization	In addition to the economic and social concerns discussed above, these proposals raise significant environmental concerns. If the mines are developed, they would destroy extensive areas of habitat for imperiled wildlife and plants, including the endangered jaguar; degrade air quality; produce significant amounts of greenhouse gas emissions; drawdown aquifers, contaminate ground and surface water supplies; negatively impact scenic views; increase traffic on scenic and commuter highways; and eliminate current recreational use by a broad-cross section of local residents and visitors alike.
7163	80	Organization	We suggest the environmental impacts of the proposed Rosemont Mine should not be analyzed in isolation. As noted above, numerous proposed hardrock mining proposals are on the table on the Colorado National Forest, all of which collectively impact wildlife habitat on a landscape to regional scale and potentially connected groundwater resources. Given the Forest Service's inclination to authorize numerous mining CEs within the span of only 1-2 years, this constitutes linked actions that have cumulative and synergistic environmental effects. As such, these consequences must be considered in an EIS.
7175	6	Individual	The Forest Service, and the U.S. Fish and Wildlife Services, must seriously consider the widespread loss of foraging habitat that is occurring and will continue to occur. Cumulative effects; agencies should be given the same weight and consideration as direct and indirect effects; agencies should no continue approving projects that destroy agave habitat without knowing how much total habitat has been destroyed, and how much is needed to ensure the persistence of the species. A detailed map of agave distribution throughout southeastern Arizona, overlaid with layers of land ownership, known roost-sites, and current and planned changes in land use, would give tremendous insight into the status of foraging habitat for lesser long-nosed bats. Decision makers must have this information to make well-informed, wise decisions.
7259	9	Individual	Urbanization What effects will a mine/employer like this have on the area in terms of increased commercial and residential development? Increased housing in the area will also tax ground water, add to pollution, increase vehicle traffic, increase recreation on the National Forest and create new habitat for invasive species of plants and animals. All of these impacts will have adverse effects on wildlife.
7427	7	Individual	Cumulative effects – How will the mine affect native wildlife of the area?

DRAFT PLEASE DO NOT QUOTE OR CITE

Wildlife and Habitat

99 Cumulative Impact

Record ID	Comment Number	Commenter Type	Comment Text
7456	18	Government	There are so many demands on land in Arizona. Human population and urban and rural development are growing at such a rate that there will soon be a time when the only land left for the public to use for wildlife, will be the public land. The Forest Service should consider that the highest value of Arizona public land is for and wildlife.
7456	63	Government	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Impacts to wildlife habitat off-site
7462	3	Organization	We request that the upcoming environmental analysis for the proposed Rosemont Project fully examine its potential impact on jaguar recovery and on the conservation of other wild species at the greater landscape level, as well as locally in the project area. Analysis should include direct project impacts combined with cumulative impacts from the full range of human activities affecting wildlife habitat in the broader geographic area surrounding the project (e.g., the I-10 corridor, recreational activities on the national forest, road densities, urban and exurban sprawl). As you undertake your analysis, please contact us for further details on the importance of the project area and the Santa Rita Mountains for jaguar population recovery.
7499	9	Individual	due to the population growth the forest and the animals, natural habitants of the area is already rapidly dwindling
7504	156	7508	What will be the full and cumulative impacts of the Rosement mining project on these endangered, candidate species, other priority vulnerable species or Wildlife of Special Concern, and other wildlife, flora and fauna?
7558	10	Individual	The development that has taken place in Arizona has already stressed and isolated the species in the various "sky islands" near Tucson. I have seen no study of the impact of the mine on this exisiting problem. Is there one?
7812	11	Individual	Reduction in wildlife populations and/or habitats including threatened and endangered species;
8725	3	Individual	I just want to say that I'm against the open mining here in sahuarita because you guys have ruined Tucson as it is. And when is this going to stop. This just is getting bigger and bigger and the water, environment -- and the animals have no place to go. So I'm against open mining for copper in Sahuarita. That is ridiculous. So I am against it.

01 General

Record ID	Comment Number	Commenter Type	Comment Text
2	4	Individual	Our primary concern: Wildlife: There is abundant wildlife on our property (hawks, deer, pronghorn, etc) - will the Rosemont Mine development and operation affect local wildlife; how?
19	3	Individual	We lose already dwindling natural habitat.
24	9		The Sky Islands of the Coronado National Forest are a globally recognized biodiversity hotspot.
24	10		The Santa Rita Mountains and surrounding desert and grassland seas are globally recognized for the diversity of birds, reptiles, amphibians, bees and plants.
24	17		There is every likelihood that a mine -- a Rosemont Ranch as is being proposed -- would dewater wells currently in use (as has already been done by Augusta Resource Corporation test wells) and imperil important wildlife habitat.
24	22		Daily blasing is required to remove rock (or overburden) covering the ore body. The impact to nearby wildlife will be equivalent to daily sonic booms.
24	30		Intensive development of the site as an open pit mine will result in loss of a significant portion of the wildlife habitat and movement corridor on the eastern side of the Santa Ritas.
24	32		The Santa Ritas are recognized for the biological values and are an Important Birding Area (IBA).

DRAFT FOR REVIEW AND COMMENT ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
24	33		The Sonoran Desert Conservation Plan lists part of the area around Rosemont as part of the Biological Core.
27	2	Individual	Damaging acres and acres of habitat to wonderful flora and fauna. This will severely damage flora and fauna habitat which the FS should be a good custodian of.
30	2	Individual	I support it all unless the mine ruines the wildlifes habitats.
43	5		How will natural habitat and wildlife corridors be affected by the mining proposal and a proposed pipeline, and how will these impacts be mitigated?
47	2	Individual	The road: will become disruptive, danger to wildlife.
51	5	Individual	[I]mportant wildlife areas would be disturbed.
52	5	Individual	Potential species effected are Chiricahua Leopard Frogs, lesser-long nosed Bats, Naïve fish, Protected migratory songbirds, and other native flora and fauna.
52	9	Individual	Effects of noise from mining and machinery on wildlife, including endangered species needs to be considered.
60	4	Individual	Lights, truck traffic, noise, dust could affect transit routes for mamals and smaller creature large and small.
134	6		The wildlife corridors would be adversely affected with danger to threatened species. There is important biodiversity in that area that must be protected.
156	4		Please save the Santa Ritas, our scenic, beneficial, ecological, way-of-life supporting local mountain range that is a part of our culture, our hertiage, and our local human ecology & economy.
159	1		Pima County is working to preserve critical habitat and other areas of biological significance through the Sonoran Desert Conservation Plan.
159	2		This property is located largely within the biological core management area of the Sonoran Desert Conservation Plan, and within a watershed that drains to the proposed Santa Rita Mountain Park and the Davidson Canyon Nature Preserve, both designations proposed in the Sonoran Desert Conservation Plan.
159	3		The lands being considered for mining are prime wildlife habitat, home to abundant game and non-game species such as deer, javelina, bats, mountain lion, quail, hawks, vultures, golden eagles and songbirds
159	5		This area is an important wildlife corridor.
160	63		COMMENT 4: DESTRUCTION OF IRREPLACEABLE AND INVALUABLE WILDLIFE AND WILDLIFE HABITAT BY THE MINE IS CERTAIN. THESE ADVERSE REGIONAL EFFECTS ARE UNDERESTIMATED BY AUGUSTA AND MUST BE FURTHER AND INDEPENDENTLY STUDIED TO BE SUFFICIENTLY UNDERSTOOD AND AVOIDED OR FULLY MITIGATED. The Coronado National Forest Land and Resource Management Plan states the following: "The diversity of plants and animals found on the Coronado is unique in the National Forest. This uniqueness, coupled with a great deal of local and national interest in this resource, generates a complex management opportunity. Five issues involving wildlife management follow: 1 The amount of time and resources to be given between threatened, endangered, or unique species; and other flora and fauna. 2. Critical wildlife habitat must be identified, along with needed controls on other uses (mineral extraction, recreation, etc.). 3. Appropriateness of predator and rodent control, when and where. 4. Fishing lakes which will be maintained, and consideration of any new construction. 5. Maintenance and improvement of the wildlife habitat for future generations in conjunction with other Forest activities." Augusta plans to destroy a total of 4,415 acres of irreplaceable wildlife habitat for special-status, rare, and endangered plant and animal species. The Mine will significantly and detrimentally impact some of the most biologically important areas and wildlife habitat in Pima County as identified in the County's Sonoran Desert Conservation Plan.

DRAFT FOR REVIEW AND COMMENT ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
160	65		Operation of the Mine will disrupt species reproduction within and beyond the Mine's physical footprint, and block established animal migration routes within a declared major bio-diversity corridor. The Rosemont area is part of or adjacent to three potential wildlife linkage zones identified in the Arizona Wildlife Linkages Assessment, completed by the Arizona Game and Fish Department and Arizona Department of Transportation in 2007. These wildlife linkage zones are defined by the Assessment as being "important to Arizona's wildlife and natural ecosystems." One of these zones was determined to be a "high priority" linkage zone, meaning it has both high biological value and high threat and opportunity value. In addition, one of the six "Critical Landscape Linkages" identified in Pima County's Sonoran Desert Conservation Plan lies just north of the project area across U.S. Interstate-10 and south into Cienega Creek.
160	67		Augusta underestimates the number of rare and endangered species of plants and animals present at or frequenting the proposed mine site, and overestimates the ability of its plan to protect such wildlife and such wildlife's habitat. It is imperative that impacts of the Mine on all plant and animal species be considered, especially those classified as endangered/threatened (Federal), a species of concern (State), or vulnerable (Pima County). The presence of species listed under the Endangered Species Act will require the preparation of a Biological Assessment and then a Biological Opinion (BO) by the listing agency (U.S. Fish and Wildlife Service). Until these are available, it is not possible to design the form or extent of the mitigation needed. Thus the scoping report should note the requirement, and list the BO requirements in the final environmental assessment.
160	68		COMMENT 4A: THE MINE'S SULFURIC ACID SOLUTION LEACH PAD/COLLECTION PONDS AND THE PROCESS WATER TEMPORARY STORAGE POND POSE DEADLY THREATS TO WILDLIFE. Discussion: Two facilities of the Mine pose direct and immediate threats to wildlife: the sulfuric acid solution leach pad/collection ponds and the process water temporary storage pond. Sulfuric acid solution fumes are caustic and if inhaled will damage respiratory organs and potentially cause death. Sulfuric acid solution is caustic and if contacted will burn skin, eyes, and nasal and throat passages, and if swallowed will damage digestive organs and potentially cause death. Industrial process water and wastewater ponds that contain acid, oils, salts, or other toxic chemicals are dangerous to all wildlife, but are particularly dangerous to birds. Birds landing in these acidic ponds can ingest the polluted water, which causes severe trauma to their gastrointestinal tracts and eventual death. The acidic water removes natural oils from the birds' feathers causing death by drowning or hypothermia. Mitigation: All sulfuric acid solution collection ponds and process water and wastewater ponds must be covered. COMMENT 4B: DISRUPTION BY THE MINE OF WATER RUNOFF TO DAVIDSON CANYON WASH POSES DEADLY THREATS TO ENDANGERED WILDLIFE. Discussion: Disruption of the water runoff to Davidson Canyon Wash (see COMMENT 1A), lowering of the local groundwater table (see COMMENT 2A) will likely have an adverse impact on the surface water of the Cienega Creek. The U.S. Fish and Wildlife service has classified the Cienega Creek (upper and lower) as a critical habitat for the Gila Chub (Gila Intermedia) which is designated as endangered with critical habitat under the Endangered Species Act.
777	3	Individual	Even is the NEPA process concludes (incredibly) that an open pit mine more than a mile wide, together with its thousands of acres of tailings and maintenance facilities, will not destroy wildlife habitat, pollute ground water, and poison air quality, put an intolerable burden upon existing water supplies and destroy the natural beauty of that area of the Santa Ritas, it is a foregone conculsion that its steady stream of ore trucks will make Scenic Highway 83, a hellish obstacle course.
1538	4	Individual	A mine should not be allowed to destroy thousands of acres of wild animal habitat unless the public surrounding the area is in agreement.
1548	1	Individual	I am deeply concerned about the negative effect the proposed Rosemont project will have on the resident and migrating wildlife in the affected area.
1555	3	Individual	The biodiversity of this magnificent sky island is already under threat by climate change and drought. We must not hasten their destruction.
1558	1	Individual	Every development is a threat to the biodiversity of the Sonoran desert.
1564	1	Individual	Biological diversity is critical for short and long term human existance.

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
1566	9	Individual	healthy wildlife
1572	3	Individual	Immediate concerns: Disruption of wildlife habitat
1574	5	Individual	It will interfere with the wildlife corridor.
1580	1	Individual	Unique flora/fauna in area?
1585	4	Individual	The health consequences to all other species would be irreparable and unconscionable.
1590	1	Individual	The damage to the bird and animal habitat is enourmous!
1592	7	Individual	Important habitat,
1611	4	Individual	The Sky Islands of the Coronado National Forest are recognized all over the world as special areas for birds, mammals, reptiles, amphibians and insects.
1614	3	Individual	My biggest concern is distruction of the land and what it will do to the wild life.
1616	4	Individual	I live within 1 mile of the proposed mine. As such the following will severely affect me: Biological resources: The mule tail and white tail deer will be adversely affected.
1620	9	Individual	My primary concerns are: Loss of wildlife and eco systems.
1622	8	Individual	Destruction of wild life!!
1622	9	Individual	Destruction of plants/trees
1623	4	Individual	This is all in addition to plant and animal habitat destruction
1625	4	Organization	(2) an open pit mine in the area of the Santa Rita Mountains surrounding Rosemont Ranch would undermine the ecological health of the region resulting in permanent loss of a key area for wildlife habitat and migration;
1625	6	Organization	(3) the mine would irretrievably impact prime wildlife land used extensively by ranchers, trail riders, hikers, birders, hunters, and nature lovers from throughout Southern Arizona and beyond;
1631	2	Individual	I feel the Rosemont mine project will be a horrible detriment to the environment and destroy the beauty, natural resources and majesty of the Santa Rita mountains.
1631	4	Individual	Animal habitat destruction are also high concerns.
1641	7	Individual	The proposed Rosemont Copper mine will not only disturb archeological and historic sites, it will also disrupt sensitive bird and wildlife areas.
1641	8	Individual	This mine will disrupt nesting, breeding and migratory areas
1642	5	Individual	The Rosemont mine will destroy precious wildlife habitats.
1645	2	Individual	I am concerned about the following with regard to increased mining in the Rosemont copper project: Water-use increase; Effect on wildlife in Davidson Canyon and surrounding areas; Increased traffic and construction on wildlife. All of the above seem to be detrimental if the proposal is allowed to go through.
1647	4	Individual	The filling in of Barrel, Wasp, McCleary and Scholfield Canyons by the mine wastes (tailings and rock) will destroy valuable/irreplaceable wildlife habitat.
1660	7	Individual	Destruction of wildlife habitat.

DRAFT-DELIBERATIVE CONTENT ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
1680	2	Individual	With as much growth as we experience, wildlife is losing it's havens for refuge. This proposal leaves irreversible damage to our fragile ecosystem.
1696	5	Individual	500 jobs means nothing when destroying habitat.
1701	3	Individual	Please do not allow this operation to begin if the wildlife and water use of current residents is impacted negatively.
1703	4	Individual	Deleterious and dangerous reasults to grownd water, traffic safety, and travel times, wild life habitat, soil and water pollution and permanent damage to the tourism-based economy of South Pima and Santa Cruz counties.
1731	4	Organization	I am concerned fot the fragile desert environment, the flora, the fauna, those species unique to our desert climes.
1746	3	Organization	The Board of the Cienega Watershed Partnership (CWP) is deeply concerned about the potential devastating environmental impacts of the open pit mine proposed for Rosemont Ranch. In particular, the Board believes that: an open pit mine in the area of the Santa Rita Mountains surrounding Rosemont Ranch would undermine the ecological health of the region, resulting in permanent loss of a key area for wildlife habitat and migration
1746	5	Organization	The Board of the Cienega Watershed Partnership (CWP) is deeply concerned about the potential devastating environmental impacts of the open pit mine proposed for Rosemont Ranch. In particular, the Board believes that: the mine would irretrievably impact prime wildlife land used extensively by ranchers, trail riders, hikers, birders, hunters, and nature lovers from throughout Southern Arizona and beyond
1748	7	Organization	The Mine's operation will deleteriously affect: Wildlife
1755	1	Individual	What will be the impact of the amount of groundwater used by mining operations over the life of the mine and beyond its current and future availability of groundwater to the Area (Tucson, Vail, Corona de Tucson, Sonoita, Patagonia and Green Valley) residents as it pertains to sustainablity of wildlife.
1760	4	Individual	How is this mine going to affect the ecosystem?
1760	5	Individual	How is this mine going to affect wildlife?
1761	3	Individual	I am concerned about the impact on wildlife in the adjacent canyons both activity and geochemical impact.
1762	2	Individual	The biological resources of Rosemont Ranch should be preserved.
1763	2	Individual	I greatly fear the proposed mining will adversely affect water availability for the large cats, deer, javelina and many other animals and birds that call the Santa Rita Mountains home, which will upset the ecological balance.
1770	6	Individual	I am concerned about the impact of heavy truck Traffic widening of Hwy 83, the toxic leaching from the tailings into our groundwater supplies, the pumping of Groundwater from the Sahuarita area, the noise pollution, effect on the wildlife, the scenic beauty of our Forest.
1817	1	Individual	The Rosemont Mine will have an unmiticable and strongly negative impact on a large biologic area. The lower slopes of the greatest sky island in the region. Air, Noise, and Habitat destruction will necessarily adversely impact animal and vegetative communities now part of a viable conservation program.
1828	1	Individual	How will the proposed mine operations affect wildlife and vegetation in the area?
1833	1	Individual	Will the proposed mine have any predictable impacts to wildlife and specifically birds from the exposure to toxins?
1841	1	Individual	As you well know, the history of mining in the southwest over the past hundred or more years has been notoriously destructive of flora and fauna.

DRAFT-DELIBERATIVE CONTENT ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
1845	8	Individual	No pup fish no wildlife ruined nature.
1853	3	Individual	The whole ecosytem is dependent on the water which the mine will suck up. Without water the ecosystem and the native species in it will be exterminated.
1854	5	Individual	The so-called "profits" of this mine would cost loss of the auquifer, destruction of the " sky islands" and area desert and grasslands; upset the diversity and habitat of wildlife and birds, create traffic, waste, and damage to the forest.
1855	2	Individual	I would severely compromise a critical wildlife corridor - one essential for the movement of animals from the Santa Ritas and places south of there to the Rincons/Catalinas etc. The proposed site is also part of unique habitat. As such it is an important part of Pima County's planned conservation area - and holds an important relationship to the La Cienega Conservation area.
1857	9	Individual	The habitat will have been destroyed and the wildlife will be gone. Desert environments are very fragile systems and cannot be disturbed and then replicated; it doesn't work that way.
1864	2	Individual	If allowed to mine, Rosemont Copper will be gone in 19 years. In the mean time, they will have ruined the ecology in the area, raped the land, and killed God-knows how many animals with the chemicals they use.
1874	2	Organization	The water table in the aquifers is critical to this Sonoran Desert area not only for the human residents here but also for the abundant but fragile plant life. Singing Valley North, and the valley that surround it are full of century oak trees that survive from the same aquifers that will be drained to meet the requirements of the Rosemont Copper Mine. These unique desert trees will die out along with the grasslands surrounding them as well as the raptors, songbirds, reptiles and mammals that call this area home.
1876	4	Individual	Concerns: Migratory mammal habitat loss "Sonora Desert Conservation Plan"
1879	4	Individual	The projected open pit mine will have negative, in some cases disastrous impacts in critical areas of the Coronado National Forest, upon wild life and birds.
1885	4	Individual	The Santa Rita Mountain area is unique in biodiversity in plants, animals, birds, reptiles and even bees and insects. This act is appreciated globally.
1889	2	Individual	This land is crucial "Sky Island" habitat and provides havens for a diverse and unique wildlife some species that are only found on the "Sky Islands". If a copper mine were to be open not only would it negatively affect wildlife in the area but it would destroy a part of America's natural heritage.
1891	21	Individual	Arizona is globally known for the diversity of birds, reptiles, amphibians, bees and plants in the Sonoita/Rosemont/Patagonia region. For example, it has unique species that burrow underground in watersheds during drought and dry seasons. The effects of mining on this wildlife needs to be understood before such impact is brought down upon them.
1891	27	Individual	Filling in of the proposed canyons will destroy wildlife movement corridors.
1892	4	Organization	The project as proposed will impact water resources and riparian areas both within and outside the project area. This includes impacts to washes, creeks, springs, and riparian habitat, including Davidson Canyon and Cienega Creek. Both Davidson Canyon and Cienega Creek are within Pima County's Cienega Creek Natural Preserve, while Cienega Creek has been recognized as a national treasure and is protected within the Las Cienegas National Conservation Area. Both areas provide crucial habitat to numerous wildlife species
1892	13	Organization	CAP water is notorious for compiling the contaminants from agricultural and industrial processes throughout the Colorado River Basin, as well as for spreading invasive aquatic species and diseases. Bringing these contaminants into such a relatively pristine basin poses obvious threats to the area's human and wildlife populations.

DRAFT FOR PUBLIC COMMENT ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
1892	18	Organization	Impacts to important wildlfe linkages: This project will have significant impacts to wildlife linkage zones present in and adjacent to the project area. A recent important study should be especially considered when evaluating these impacts. The Arizona Wildlife Linkages Workgroup completed the Arizona Wildlife Linkages Assessment (Arizona Wildlife Linkages Workgroup 2007). This statewide assessment identified 152 potential linkage zones in Arizona, three of which are in or adjacent to the project area. Furthermore, the assessment identified important habitat blocks; the project area lies almost completely within one of these blocks. Of particular note is that one of these potential linkage zones (San Xavier to Sierrita - Santa Rita, Zone 92) was classified as one of 28 "high priority" linkage zones. The workgroup assessed both the biological value and threat and opportunity value of each zone and those that fell in the top quarter of both values were designated as "high priority." The biological imprtance score was dependent on the "size and habitat quality of habitat blocks and the ability of the zone to support special status species, aquatic ecosystems, and seasonal migrations." The threat and opportunity score was dependent on the "barrier effect of canals, roads, urbanization, and railroads" (threat) and "ongoing and proposed conservation efforts [along with] whether impending major road projects provide the opportunity to increase permeability of roads" (opportunity). Given the presence of multiple critical wildlife linkage zones in or adjacent to the project area, it is essential that the full range of impacts to these linkage zones be considered in the EIS. Impacts include habitat fragmentation from the open-pit mine and associated tailings piles and waste facilities; excessive noise; road construction; and an increase in large truck traffic on I-10 and SR 83 and related impacts to wildlife crossing areas.
1894	11	Individual	What effect will the mine have on wildlife and migration patterns? And if there is an effect, how will that effect ecotourism?
1895	4	Individual	The copper company will make money and leave and the rest of us will be stuck with the scars on the land, the pollution of the air and water, the ruined water shed, the vanishing wild life and the loss of one more wild and beautiful place in Southern Arizona.
1900	2	Individual	Millions of tons of waste rock and tailings from the Rosemont Mine will f… Barrel Canyon, one of the main tributaries to Davidson Canyon, mercury, arsenic… other solvents will be the risk for unintended leaks and spills, on surface and gro… water and our aquifers will be at risk from contamination. What will be done to pro… wild life from contamination?
1900	7	Individual	All wildlife will be at risk in the Santa Rita Mountains for 20 square… Public land. What will be done to protect our wildlife?
1901	2	Individual	I am particularly concerned about the impact of mining on wildlife.
1902	6	Individual	The Santa Ritas are very special to me and my family, I go to Mt. Hopkins once a week. I enjoy the peace. Please don't take the home to the animals away.
1903	4	Individual	After my return home in 1946 (WWII Navy Vet) I used to hunt with bow & arrow in this part of our country. Hunted deer & javalina. The mines ruined the natural habitat for this wild game, by preventing access to game & hunter!!
1904	10	Individual	It is likely that a mine at Rosemont Ranch as is being proposed would imperil wildlife habitat.
1908	4	Individual	The Coronado Forest is known internationally as one of the finest birding sanctuaries anywhere not to mention the stunning beauty of the Santa Rita Mountains.
1911	9	Individual	Wild life habitat is at risk. Mining is noisy and will drive away wildlife that makes its habitat there. Where do we expect these animals to go? They are forever being displaced.
1917	8	Individual	I am concerned about the following environmental & health issues: Impact on wild life/habitat.
1920	4	Individual	I am concerned about the negative aspect the operation of mine will bring to bear on: Animal life and century oaks in an eco sensitive area recognized globally.

DRAFT FOR INTERNAL USE ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
1924	5	Individual	Destruction of wildlife habitat, wildlife movement corridors, native plants and ecosystems.
1927	5	Individual	There will be permanent destruction of thousands of acres of national forest land including wildlife habitats by the dumping of tailing on national forest land.
1930	5	Individual	Destruction of wildlife habitat, wildlife movement corridors, native plants and ecosystems.
1931	7	Individual	Hazardous dust from existing mining operations in the area already create significant public health issues for wildlife. Mine operators choose to pay the minimal fines levied rather than attempt to resolve the problem. How does Rosemont plan to address the problem?
1931	8	Individual	The valley running from Nogalas to Tucson is rapidly and aggressively being developed. This significantly impacts wildlife habitats. How is this loss to be mitigated?
1932	5	Individual	Wild life will dissapear
1935	3	Individual	An open pit mining operation in the pristine and unspoiled Santa Rita Mountains and the Coronado Forest will disturb wild life and the internationally famous Sky Island bio-diversity.
1937	2	Individual	It will negatively impact wildlife
1938	2	Individual	It will negatively impact wildlife
1942	7	Individual	Wildlife + natural beauty of the area will be destroyed forever.
1948	1	Individual	I am concerned about the displacement of wildlife in the mine area.
1949	2	Individual	much of the wildlife that now lives in the Rosemont area will disappear
1951	1	Individual	Foremost in my concerns is the potential & certain damage to the land,
1953	4	Individual	The biodiversity of the animals, plants, reptiles is what makes it so special.
1955	3	Individual	and harm wildlife habitats,
1956	9	Individual	The Sky Islands of the Coronado National Forest are a globally recognized biodiversity hotspot.
1956	10	Individual	The Santa Rita Mountains and surrounding desert and grassland seas are globally recognized for diversity of birds, reptiles, amphibians, bees and plants.
1956	19	Individual	Destruction of wildlife habitat, wildlife movement corridors, native plants and ecosystems
1958	3	Individual	both short and long term.
1965	4	Individual	The area Rosemont Copper plans for their mine is extraordinarily scenic and the home of abundant wildlife. The Views from State Highway 86 are famous and the road is designated as a scenic route in every road atlas I have encountered. Development of this mine will permanently destroy the area's scenic beauty, negatively affect the entire surrounding area, and deprive us all of an irreplaceable natural resource.
1966	2	Individual	…our sky-islands constitute a large part of the charm and beauty of this area, and these islands are vitally important to the wildlife that uses them. A mine would constitute an unacceptable disturbance to both people and wildlife.
1967	4	Individual	and abundant plant and animal life.
1968	4	Individual	the negative impact on wildlife in and around the national forest
1971	2	Individual	Also as an avid hiker and environmentalist, destruction to this sensitive habitat would be a travesty.
1974	6	Individual	Stress on wildlife

DRAFT - FOR INTERNAL CONTROL ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
1976	3	Individual	The mine would damage the habitat for wildlife.
1982	4	Individual	Most of the mine pit is planned to be on "private" land. The us public owns the Forest System lands which you manage for the citizens of the US. Do NOT allow the mine to destroy the natural plants and animal habitiats by covering large area of OUR land with tailings and waste rock.
1984	2	Individual	I am opposed to this operation for many reasons; such as effect on the environment, wildlife decimation, scenic route on Hwy 83.
2065	2	Individual	Animal rights must be considered. Our natural habitat need protecting consider future generations.
2076	6	Individual	I am very oppose to the existence of an open-pit mine in the Santa Rita Mountains for these reasons: There is every likelihood that the mine at Rosemont Ranch that is being proposed would imperil important wildlife habitat.
2076	11	Individual	Intensive development of the site as an open pit mine will result in loss of a significant portion of the wildlife habitat and movement corridor on the eastern side of the Santa Ritas. This would potentially impact endanged, threatened, and candidate species, in addition to priority vulnerable species or species of special concern.
2077	1	Individual	The foot-print of the Rosemont Mine is stated to come with in 4 miles of Madera Canyon; a world known birding area that harbors several rare species of birds; some endangered.
2077	7	Individual	Has Rosemont contracted biological population studies on all spices of endangered wildlife; and, can they say with certitude that their mine will not endanger the wildlife?
2084	2	Individual	The Sky Islands of the Coronado National Forest are a globally recognized biodiversity hotspot.
2084	9	Individual	Destruction of wildlife and plant habitat would quite likely be the consequence of this project.
2085	2	Individual	The Sky Islands of the Coronado National Forest are a globally recognized biodiversity hotspot.
2085	3	Individual	The Santa Rita Mountains and surrounding desert and grassland seas are globally recognized for the diversity of birds, reptiles, amphibians, bees and plants.
2090	10	Individual	We feel that there are many valid reasons to not approving this project: 1. The negative effect on the fragile fauna of the area.
2091	5	Individual	The Sky Islands of the Coronado National Forest are a globally recognized biodiversity hotspot.
2091	6	Individual	The Santa Rita Mountains and surrounding desert and grassland seas are globally recognized for the diversity of birds, reptiles, amphibians, bees and plants.
2091	11	Individual	Destruction of wildlife habitat, wildlife movement corridors, native plants, and ecosystems.
2094	4	Individual	The Sky Islands of the Santa Rita Mountains.....a magnificent place for so many species. How can any project be considered that will jeopardize this amazing place?
2108	1	Individual	This area still contains many pristine locations of beautiful Sonoran desert habitat that would be very adversely affected by mining in this area.
2142	2	Individual	I write to you as a veteran of the Rosemont battle of 1995 or 1996 whe we thought that our efforts had been successful only to learn that greed has once again raised its ugly head, this time in the form of a local real estate mogul who wished not the best for our beautiful Santa Rita Mopuntains but rather how much money he could get out of a deal on the land he owned there. Instead of taking Pima County's offer for much more than he paid for the land, he held out to sell It to the highest bidder, a foreign copper mining company which is determined to undo all of the hard work that citizens a decade ago did to protect those mountains on our public land.It is clearly a truly unpopular project that will scar forever a beautiful and important wildlife habitat.
2143	12	Individual	The animals in our area, including many endangered, threatened or vulnerable species, should be protected. The habitat in this area, mountains surrounded by desert, is very delicate. It is irreplaceable.

DRAFT PRELIMINARY - FOR REVIEW ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
2144	16	Individual	I am opposed to the mine because that particular part of the US is a deser so beautiful and incredible with unique plants that it shouldn't be ruined for any reason! It is amazing with animal life.
2144	26	Individual	Also, The Santa Rita Mountains are recognized for the biological values and are an Important Birding Area (IBA). In addition, the Sonoran Desert Conservation Plan lists part of the area around Rosemont as part of the Biological Core.
2147	3	Individual	Even if the NEPA process concludes (incredibly) that an open pit mine more than a mile wide, together with its thousands of acres of tailings and maintenance facilities, will not destroy wildlife habitat, it is a foregone conclusion that its steady stream of ore trucks will make Scenic Highway 83 a hellish obstacle course.
2148	8	Individual	The Sky Islands of the Coronado National Forest are a globally recognized biodiversity hotspot.
2148	9	Individual	The Santa Rita Mountains and surrounding desert and grassland seas are globally recognized for the diversity of birds, reptiles, amphibians, bees and plants.
2148	19	Individual	Destruction of wildlife habitat, wildlife movement corridors, native plants, and ecosystems.
2149	6	Individual	We are concerned that we are compromising the continuing diversity of animal life in the region for an enterprise that cannot return to use the quality of life that it will take away with the ore it finds.
2152	3	Individual	The unintended consequences to the environment and the flyway will cause harm to animals.
2153	3	Individual	I do not believe the NFS should be amending its current forest plan to accommodate a mining project which when all told, will contribute to the decline in the health of the wildlife and ecosystems in the Rosemont valley area.
2153	4	Individual	The Sky Islands of the Coronado National Forest are world reknown for the biodiversity within their region. Mining does nothing to benefit the ecological health of the region.
2156	10	Individual	The Sky Islands of the Coronado National Forest are a globally recognized biodiversity hotspot. The Santa Rita Mountains and surrounding desert and grassland seas are globally recognized for the diversity of birds, reptiles, amphibians, bees and plants.
2156	20	Individual	destruction of wildlife habitat, wildlife movement corridors, native plants and ecosystems.
2158	1	Individual	The copper mine you are proposing is too close to Ramsey Canyon-a prime bird habitat. -Please reconsider what you are doing!
2170	5	Individual	The Sky Islands of the Coronado National Forest are a globally recognized biodiversity hotspot.
2170	6	Individual	The Santa Rita Mountains and surrounding desert and grassland seas are globally recognized for the diversity of birds, reptiles, amphibians, bees and plants, and this diversity will be significantly reduced nd endangered by the mine.
2170	16	Individual	There will be destruction of wildlife habitat, wildlife movement corridors, native plants, and ecosystems.
2171	5	Individual	Not only the substantial likelihood of wildlife habitat DIRECTLY DUE TO THE MINE!
2174	9	Individual	The Sky Islands of the Coronado National Forest are a globally recognized biodiversity hotspot.
2174	10	Individual	The Santa Rita Mountains and surrounding desert and grassland seas are globally recognized for the diversity of birds, reptiles, amphibians, bees and plants.
2174	20	Individual	Destruction of wildlife habitat, wildlife movement corridors, native plants, and ecosystems.
2177	2	Individual	We are hikers and concerned about the damage to the wildlife being displaced.
2187	3	Individual	The destruction of habitat for wildlife would be very damaging to the Coronado Forest and to the Santa Rita Mountains.
2188	4	Individual	the wildlife of the area belong to all of us as citizens, not to a foreign company.

DRAFT DELIBERATIVE CONTENT

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
2196	2	Individual	Throughout the region, there are serval watering holes that I presume ranchers built years ago. I haven't seen any cattle, but I have seen deer, crane, coyotes and a variety of other birds and wildlife drinking from these holes.
2199	12	Individual	What wildlife will be affected by the mining operations?
2199	14	Individual	How will habitat be protected and wildlife corridors be maintained as functional?
2200	2	Individual	The process also releases acid, sulfur dioxide, mercury, and lead into the environment.
2201	6	Individual	Not only would these affect the human population, but the wildlife as well, not to mention cattle and other livestock for ranchers.
2208	4	Individual	This mine will destroy wildlife.
2208	8	Individual	It is a unique and important bird and wildlife habitat area.
2209	11	Individual	The quality of human and other life in the area is threatened by the destruction of wildlife habitat, loss of wildlife movement corridors.
2209	20	Individual	The Sky Islands of the Coronado National Forest are a globally recognized biodiversity hotspot. The Santa Rita Mountains and surrounding desert and grassland seas are globally recognized for the diversity of birds, reptiles, amphibians, bees and plants.
2213	2	Individual	The area being considered for mining is prime wildlife habitat for many animals- an open pit mine would forever destroy this habitat to include the great recreational attributes it has today
2214	7	Individual	How will natural habitat and wildlife corridors be affected by the mining proposal and a proposed pipeline and how will these impacts be mitigated?
2242	2	Individual	The Santa Rita mountain range is very small in size compare to other mountain ranges. The wildlife is concentrated in this small area (with a very limited water supply in the summer months) which is extremely affected by development.
2242	4	Individual	The open pit mine would destroy the local wildlife habitat (which is already very limited & surviving on the edge.
2244	5	Individual	What is their positive impact to the local environment ot the animals that inhabit their land and properties that surround their property?
2244	11	Individual	I say their conduct so far shows their inherent distain for the animals that inhabit their land. What about the old growth trees!
2260	5	Individual	The Rosemont mine will be bad for animals.
2262	10	Individual	To add to the argument this is such a particularly beautiful place to pollute, it is not destined for horrendous strip mining complemented with irreplacable wildlife.
2265	17	Individual	Please deatil the effects on animal life especially birds.
2265	20	Individual	Madera Canyon an internationally famous birding area in the Santa Rita Mountains may be directly affected by any distrubance. Will an impact study be completed and published?
2266	7	Individual	Don't let our precious Santa Rita Mountains and desert be destroyed: Protect the wildlife
2272	3	Individual	WATER: There is a great potentiality that toxic heavy metals and other chemicals leach into ground and surface waters draining into Tucson area water supplies, and impacting nearby riparian areas such as Davidson Canyon. This would also imperil wildlife habitat
2272	12	Individual	WILDLIFE AND WILDLIFE HABITAT: The Santa Ritas are recognized for the biological values and are an Important Birding Area (IBA). In addition, the Sonoran Desert Conservation Plan lists part of the area around Rosemont as part of the Biological Core.

DRAFT-DELIBERATIVE-CONFIDENTIAL

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
2274	2	Individual	The proposed mine is right in one of the most important international flyways for birds and butter flies. Madera Canyon is to the SW, Ramsey Canyon is to the SE, and the grasslands and hills north of Sonoita are important stopovers in the flyway.
2290	5	Individual	Reasons for opposing this mine: The Madera Canyon area is heavily supported by bird watchers every weekend, what will the impact be when blasting and heavy trucks enter the area? My guess is, there will be a negative impact to birds, not to mention the noise and dust.
2291	2	Individual	WATER: There is a great potentiality that toxic heavy metals and other chemicals into ground and surface waters draining into Tucson area water supplies, and impacting nearby riparian areas such as Davidson Canyon. This would also imperil important wildlife habitat and future drinking water sources for residential use. More health issues here also…for us all!
2291	13	Individual	WILDLIFE AND WILDLIFE HABITAT: The Santa Ritas are recognized for the biological values and are an Important Birding Area (IBA). In addition, the Sonoran Desert Conservation Plan lists part of the area around Rosemont as part of the Biological Core.
2291	36	Individual	Wildlife: Davidson Canyon is a wildlife corridor connecting the Empire Mountains in the south to the Rincon Mountains in the North. And with it's perennial water flow this riparian is vital to native wildlife along with the needle-spined Pinapple Cactus and Whiptail Lizard.
2292	8	Individual	Last but not least, I would like to bring up the area's precious wildlife. Already with the unfortunate urban sprawl the wildlife has been forced to survive on a fraction of the land that they need to survive. With this mine, they will be forced to forage in populated areas. Again, this increases the risk to residents as well as the risk of injury or death to the animals.
2292	10	Individual	Last but not least, I would like to bring up the area's precious wildlife. With the tainted water supply that is sure to follow the impact upon their environment they will be the hardest hit.
2296	2	Individual	I hope you will consider the wildlife habitat in the decision to open an open pit copper mine.
2303	5	Individual	The impact to the wildlife would be catastrophic.
2305	4	Individual	Nancy Freeman of the groundwater Awareness League, Inc. has commented as follows: Impacts on Water: Maintaining supplies of clean water and protecting watersheds were major reasons why public domain forests and rangelands were reserved. As regions have become more populated and States have failed to protect the valuable resource of water, the imperative for the Federal Government through the Forest Service and other agencies to protect these watersheds for their original intended use. The public can no longer dole out large quantities of water to industry, especially heavy water users such as mining and electro-power plants. If we are going to save the many species of animals that Federal Government has to take on this project to protect the water in the national forests, wildlife refuges, and designated conservation areas.
2318	9	Individual	There are surely other mining locations that do not closely border populated areas and are not located in sensitive habitat.
2323	2	Individual	A present there is an active mine on the Western slopes of the Santa Ritas and the dust generated by the trucks hauling material in and out of the mine area is visible for mines… the entire area around the mine and the road leading out as well as the Santa Rita road area is covered with a sheet of dust. Talk about unhealthy, that is an understatement and no one is doing to reduce the dust, not are there any plans to minimize or eliminate this problem. Allowing another mining operation on the Eastern slopes would only compound the dust situation and all roads in and out MUST be paved and well maintained to reduce habitat problems.
2326	3	Individual	The destruction of wild life habitat will be devastating.

DRAFT DELIBERATIVE CONTENT

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
2331	5	Individual	The proposed Rosemont Copper Proejct should be stopped for many reasons that include but are not limited to: Destruction of portions of the Santa Rita Mountains and surrounding desert and grasslands that are globally recognized for biodiversity.
2335	2	Individual	I am concerned with the health and safety of the wildlife of the Santa Cruz Valley and Santa Rita Mountains.
2337	8	Individual	The Santa Rita Mountains and surrounding desert and grassland seas ae globally recognized for the diversity of birds, reptiles, amphibians, bees and plants. The Forest Service should not allow Augusta to destroy this unique and sky island habitat.
2338	9	Individual	The Santa Rita Mountains and surrounding desert and grassland seas are globally recognized for the diversity of birds, reptiles, amphibians, bees, and plants. The Forest Service should not allow Augusta to destroy this habitat.
2339	7	Individual	Might the mine's ongoing operation obliterate and/or severly damage habitat fo wildlife and birds?
2340	2	Individual	The desecration of this pristine land is akin to drilling for oil in Yellowstone Park. It is unthinkable to allow massive destruction of this natural habitat to occur in this day and age.
2348	15	Individual	The Santa Ritas are recognized by for the biological values and are an Important Birding Area (IBA). In addition, the Sonoran Desert Conservation Plan lists part of the area around Rosemont as part of the Biological Core.
2352	1	Individual	I became concerned when I was told that a huge mining project had been proposed for this area. I have seen other mining operations in Arizona over the years that I have been out there. I even worked for Magma Copper when I lived out there in the 70's. I know that these large operations have large impcts on everything in the area where they are placed. Not just impacts on wildlife, but also roads, water tables, air quality, increased noise levels from operations, and light pollution. All of these things have direct impacts on quality of life for all creatures both human and otherwise.
2354	3	Individual	The habitat everywhere is Arizona is fragile and supports wildlife of all kinds. We prize every square inch of wilderness that we have.
2362	2	Individual	My overarching reason is the loss of habitat as we know it.
2368	4	Individual	The biodiversity that is characteristic of the sky islands in the National Forest deserves special notice. My research indicates that Augusta is untried in the mining industry. But the record of mining in Arizona and elsewhere should guide our expectations; we can expect the loss of biodiversity.
2380	8	Individual	We live in a Wildlife corridor, the kinds of wildlife we have seen in the almost 10 years of living here is extraordinary. We have seen bobcats, coatimundis, fox, deer, javelinas, rattlesnakes, kingsnkes, roadrunners, gila monsters, lizards, bats… the list just goes on and on. As for the birds, we have seen all kinds and species. In the spring and fall, we have the hummingbirds coming through here in the hundreds. We put out seven (7) feeders and go through 300 ounces of food a day during the peak season. We have hummingbirds three plus deep waiting their turn to eat (see attached pictures). The tree next to the feeders are filled with hummingbirds waiting their turn.
2380	9	Individual	We fear for the wildlife and for our lives while we live and play here. This mine would endanger us, our grandchildren, neighbors and the tourist that come here to play. Where will all the wildlife go when they run for their lives when the mine starts operating? They will exit to our backyard and endanger our pets, children and ourselves.
2383	10	Individual	Fifth, mine operations will destroy wildlife habitat and further endanger a number of sensitive species in the area.
2420	3	Individual	The sky island ecosystems of the Santa Ritas are beautiful and unique. They are an important asset to our state, and are significant to animals & humans. They must be cherished, preserved and protected.
2427	4	Individual	It would: disrupt wildlife corridors

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Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
2429	5	Individual	My concerns are: 4. interference with wildlife- meaning cutting of their pathways from Sky Island to Sky Island. Reducing a large natural habitat
2440	7	Individual	The area is also a significant corridor for migrating birds from the northern to southern hemispheres. Brightly colored species, familiar to us prior only from pictures in natural geographic, landed frequently, fed and watered at our residence which was adjacent and south of the mine site for the many years we lived there. We also experienced that the area provides a vital corridor for many large (bear and mountain lion) and small mammals, the former needing to cross between the Santa Rita and Empire and Whetstone mountain ranges to encompass sufficient habitat for successful breeding and sustenance(Sky Mountain Alliance, Ray McBride, Wayne Pruett, Joe Orchides, Bob Bowman(ranchers and cowboys from the area)).
2446	3	Individual	This would also imperil important wildlife habitat
2446	12	Individual	WILDLIFE AND WILDLIFE HABITAT: The Santa Ritas are recognized for the biological values and are an Important Birding Area (IBA). In addition, the Sonoran Desert Conservation Plan lists part of the area around Rosemont as part of the Biological Core.
2449	4	Individual	Damage To: would be devastating a. wildlife habitats
2461	2	Individual	Wild and open spaces are swiftly being obliterated by development and sprawl. I urge you to protect these last bastions of wildlands and the wildlife they sustain.
2468	16	Individual	Impact on wildlife ... habitat, moving corridors, food/water sources!
2470	8	Individual	2] This proposed mine site is home to the endangered lesser longnose bat and pineapple cactus, six species of "special concern", and some threatened. It is also a movement and habitat corridor to the northeast. What impact will the mine and accompanying roads and power lines have? What are the current bat populations? How many reptiles will be lost to road kill? How will whitetail and mule deer populations be affected by loss of habitat and movement corridors? Will the seismic activity harm bat populations?
2470	10	Individual	2] This proposed mine site is home to the endangered lesser longnose bat and pineapple cactus, six species of "special concern", and some threatened. It is also a movement and habitat corridor to the northeast. What impact will the mine and accompanying roads and power lines have? What are the current bat populations? How many reptiles will be lost to road kill? How will whitetail and mule deer populations be affected by loss of habitat and movement corridors? Will the seismic activity harm bat populations?
2470	26	Individual	How much forest will will be lost for the roadways this project will require? How safe will they be for wildlife? Hwy. 83 is not equipped to handle explosives, hazardous materials, large equipment, and constant truck traffic. It will need to be made into a four lane highway, with what impact to wildlife movement and mortality rates?
2470	28	Individual	How much forest will will be lost for the roadways this project will require? How safe will they be for wildlife? Hwy. 83 is not equipped to handle explosives, hazardous materials, large equipment, and constant truck traffic. It will need to be made into a four lane highway, with what impact to wildlife movement and mortality rates?
2473	5	Individual	Please record my opposition to Rosemont Mining for the following reasons: Ruin habitat (look at cananea & Green Valley, Mission mine etc on Google Earth)
2473	10	Individual	Please record my opposition to Rosemont Mining for the following reasons: National land is not intended for tailings & mining, it is your job to protect the habitat & animals not mining interests
2483	7	Individual	What about the destruction of habitat for the desert dwellers?

DRAFT PRELIMINARY CONTENT ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
2484	6	Individual	My opposition is based on the following objections: Permanent destruction of a very special and important natural area that now provides a home to a large population of native animal species.
2489	4	Organization	In particular, the Board believes that: an open pit mine in the area of the Santa Rita Mountains surrounding Rosemont Ranch would undermine the ecological health of the region, resulting in permanent loss of a key area for wildlife habitat and migration
2489	6	Organization	In particular, the Board believes that: the mine would irretrievably impact prime wildlife land used extensively by ranchers, trail riders, hikers, birders, hunters, and nature lovers from throughout Southern Arizona and beyond
2492	7	Individual	What about the destruction of habitat for the desert dwellers?
2500	3	Government	Thank you for the opportunity to comment on the Coronado National Forest's Rosemont Copper Project. This project would occur some 20 miles south of Saguaro National Park's Rincon Mountain District, and has the potential to impact to park resources, including regional wildlife movements and habitat.
2500	4	Government	The mandate of the National Park Service is to preserve and protect natural and cultural resources for public enjoyment. Saguaro National Park was set aside specifically to protect the plants of the region and animals of the Sonoran desert, riparian corridors, and cultural resources of the region. As urbanization and development expand in southeastern Arizona, it is increasing difficult to manage the park as part of an intact ecosystem. The Santa Rita Mountains are crucial links in both the Sonoran desert and Madrean/"Sky Island" ecosystems encompassed by the Park. They are also an important part of the larger context of the Conservation Land System of the Sonoran Desert Conservation Plan. Thus was have concerns about impacts to wildlife, particularly from direct and indirect loss of habitat, changes to surface and ground water, traffic on new and existing roads, and noise and other impacts associated with mining activities..
2510	7	Individual	Why I am opposed to mining in the Santa Ritas 4. Loss of wildlife habitat
2512	7	Individual	I come from the hollistic health community- am well vensed in helping people detoxify their bodies from contaminates. I am also a certified Equine Specialist and work with vets. We are seeing more & more tumors, immune system disorders- allergies in our animals.
2519	7	Individual	What alternatives can be put forth for the following other than denying Augusta's mining plans: destroying wildlife habitat for untold number of years after mining operations cease - reclamation does not take place overnight.
2520	15	Individual	The Santa Ritas are recognized by for the biological values and are an Important Birding Area (IBA). In addition, the Sonoran Desert Conservation Plan lists part of the area around Rosemont as part of the Biological Core.
2524	6	Individual	Also consider: Valuable wildlife habitat destroyed forever.
2530	2	Individual	The habitat will forever be affected for the breif extraction and cash related value of ounces of ore for tons of waste rock.
2541	1	Individual	Please detail your plans requarding NEOTROPICAL MIGTANTS (birds) who migrate from the Neotropics to nest or land adjacent to this very destructive mining operation (Botteris and Cassins Sparrows, etc etc) These migrants are extremely sensitive to environmental pollution.
2542	8	Individual	An open pit mine would adversely affect (even destroy) the natural environment and wildlife.
2544	4	Individual	Wild life habit destroyed
2560	6	Individual	Wildlife impacts.

DRAFT-FOR REVIEW AND COMMENT ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
2564	7	Individual	We live in a Wildlife corridor, the kinds of wildlife we have seen in the almost 10 years of living here is extraordinary. We have seen bobcats, coatimundis, fox, deer, javelinas, rattlesnakes, king snakes, roadrunners, gila monsters, lizards, bats... the list just goes on and o . As for the birds, we have seen all kinds and species. In the spring and fall, we have the hummingbirds coming through here in the hundreds. We put out seven (7) feeders and go through 300 ounces of food a day during the peak season. We have hummingbirds three plus deep waiting their turn to eat. The tree next to the feeders are filled with hummingbirds waiting their turn . We fear for the wildlife and for our lives while we live and play here. This mine would endanger us, our grandchildren, neighbors and the tourist that come here to play. Where will all the wildlife go when they run for their lives when the mine starts operating? They will exit to our backyard and endanger our pets, children and ourselves.
2565	4	Individual	For example night lights and blasting one foot holes are thought to have no impact on wildlife (the Wilderness Area starts next to the proposed mine site).
2584	3	Organization	The mine project site ranges in elevation from 4,400 to 6,300 ft above mean sea level and supports a variety of upland habitat with vegetation characteristics of Madrean Evergreen Woodlands and Semi-desert Grassland. We see the development of this mine seriously and permanently affecting the northern portion of the Santa Rita Mountain (north of Box Canyon), and degrading the habitat of woodland and grassland dependent bird species. Some of these species find their prime habitat in Arizona in this region and habitat within the elevation range the project.
2584	12	Organization	In conclusion, we are against the permitting of this mine. We believe it degrades the overall wildlife value of the Santa Rita Mountain ecosystem and would degrade this scientifically reviewed and independently indentified Santa Rita Mountains Important Bird Area. Given the rapid and widespread human growth in southern Arizona, our public lands are key to the survival of most of our Arizona wildlife legacy in southern Arizona, our public lands are key to the survival of most of our Arizona wildlife legacy in southern and southeastern Arizona, it is thus absolutely critical to manage that the Coronado National Forest within the Santa Catalina, Nogales, Sierra Vista, and Douglas Ranger Districts for wildlife and recreational values as of highest priority within the multiple use mandate of the National Forest. Mine operations of this type would be a single use to the detriment of all other uses, and would significantly impact the wildlife resources and their habitat the Coronado National Forest Management Plan seeks to protect. Arizona citizens would thus be severely negatively affected in their opportunities to enjoy wildlife and benefit from natural ecosystem values.
2591	32	Individual	How would the explosions, noise, dust, light disturbance and ground disturbance affect wildlife and wildlife behavior in being able to use habitat, in wildlife corridors, in breeding, in sleep habits, in ability to thrive, in ability to survive?
2592	83	Individual	The EIS should consider mitigation alternatives to compensate the USFS and surrounding communites for the loss of habitat, species, and tourism that will attend the proposed project.
2592	86	Individual	The Coronado National Forest is the only National Forest that borders Mexico. Specifically, the Santa Rita Mountain, Canelo Hils, Patagonia Mountains, and Huachuca Mountains are a continuous ecosystem that borders Sonora. The EIS should evaluate what special biological systems or species are associated with the unique position of the Coronado National Forest and what impacts the proposed project could have to migratory species with a range that spans the border region. Any interrelationships between the biological systems and the economic opportunities for the region, such as tourism related to being a destination for bird watching, should be explored to evaluate the potential impacts due to the proposed project.
2592	88	Individual	The proposed project area is identified as a biological core management area and a wildlife corridor critical to the integrated regional planning of the Sonoran Desert Conservation Plan (Figures 3 and 4). The EIS should evaluate the impact of the proposed project on the species that use the area as habitat. The evaluation should incorporate site-specifics attritbutes of the area as a link between the Santa Cruz and Rincon Mountains and identify at stressors and potential effects to wildlife and habitat in the larger context of the regional ecosystem.
2593	8	Organization	The Rosemont Valley provides unique habitat for wildlife, recreational opportunities such as hunting, hiking, off-road vehicle riding, horse back riding, bicycle riding, camping and bird watching.

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Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
2593	12	Organization	The EIS should also consider what other nearby areas of the Coronado National Forest provide these same features and opportunities for the wildlife and people of Southern Arizona.
2593	14	Organization	The EIS should also consider what other nearby areas of the Coronado National Forest provide these same features and opportunities for the wildlife and people of Southern Arizona. How would Augusta/Rosemont Copper replace the habitat and recreational opportunities that would be lost during the life of the mine and after? The amount and types of land disturbance that would result from this proposal must be considered.
2593	27	Organization	Important considerations are the impact of air and dust pollution on the health of both employees and area residents, region- wide visual impact on scenery and view sheds and the impact on plant and animal life. The effect on recreational and property values should be established. Furthermore, the consequences of mine operation for ongoing efforts by the City of Tucson and Pima County to meet EPA air quality standards must be considered. The EIS should also consider the following questions and concerns: -What is the current air quality of the area, and how would the mine affect it? -What are the wind velocities (minimum, maximum and average) at the mine site throughout the year? -What is the prevailing wind direction throughout the year? -How far would windblown materials travel from the site and in what directions? -What would be the composition of the windblown materials and what are the associated health risks? -How does this compare to air quality standards? -Does the project meet the State and County air quality control regulations?
2593	36	Organization	- What species currently occur in or depend on the springs and perennial waters in this watershed an in what abundance?
2593	38	Organization	- What are the potentials for damage to the aquatic communities and ecosystems from this project. - Do present biological communities show any evidence of natural or man-made contamination caused by historic mining operations? - If any aquatic species are harmed by this project how would their demise affect the food chain in the area? - What is the potential for water catchments or storage ponds at the mine site to host invasive aquatic species that could harm the native species? - What are the possible impacts to the aquatic resources that could be affected by this project, and how would these impacts be mitigated? - How would the aquatic life and habitat be monitored during the entire project from start of construction to end of reclamation?
2593	51	Organization	Since the mine would require additional electrical power equivalent to the demand from a medium sized city of 130,000 people, several impacts need to be investigated: -Damage to animal and plant life, scenery and property values from the increased infrastructure (transmission lines, substations, etc.) that would be required. -Impacts on planning for future growth in the area. Would sufficient power be available, short term and long term, to accommodate regional growth of homes and businesses? -Environmental effects generated at the power plant site due to the increased power demand from the mine.
2593	62	Organization	HEALTH IMPACTS A number of questions need to be answered with respect to the health risks associated with the proposed mine: -What are the types of chemicals that would be used at the mine, and how would they affect people and animals if they were released into the environment?

DRAFT-FOR INTERNAL USE ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
2593	64	Organization	HEALTH IMPACTS A number of questions need to be answered with respect to the health risks associated with the proposed mine: -What are the types of chemicals that would be used at the mine, and how would they affect people and animals if they were released into the environment? -What are the concentrations proposed for use at the mine and at what concentrations do they become harmful to people or animals?
2593	69	Organization	The mine would cause many land disturbances, including loss of recreational land, loss of wildlife habitat and corridors, loss of open space, and viewsheds.
2593	74	Organization	-Where is the nearest similar location that the displaced wildlife can use for habitat, foraging, breeding or migration?
2593	88	Organization	-How much would the aquifer be drawn down as a result of pit dewatering? -How far from the pit would the effects of dewatering occur? -How would this impact Davidson Canyon and the springs in the area? -How would the dewatering of these local resources be mitigated by Augusta? -How would Augusta compensate the public for the loss of wildlife watering locations, impacts to vegetation from lowering of the water table, and the general loss of riparian areas from pit dewatering?
2593	94	Organization	RECREATIONAL USES The major concern is that elimination of this part of the Forest for recreational purposes will shift activities to already overcrowded places elsewhere in the Forest. -What additional facilities will be made available? -Who will pay for them, taxpayers or the applicant? -What will be the effect on wildlife of this shift?
2593	131	Organization	An additional water consideration should be the effect on plant and animal life of any pipelines that are built to transmit water from well sites to the mine site. The impact from the pipe line construction must also be evaluated and a mitigation plan should be in place.
2593	135	Organization	WILDLIFE According to Kurt Bahti (Arizona Game & Fish) many species of wildlife in the Santa Rita Mountains would be "devastated" by any level of open pit mining in the Rosemont Valley because of loss of habitat, boundary effects of industrialization, loss of corridors and fragmentation of forage and prey opportunities. -What are the wildlife species that are found in the area, or likely to be found, that may be affected by this proposal? -Which ones are threatened, endangered, species of concern, candidates for listing, or have other special status? -What is the current condition and extent of the wildlife habitat in the project area, and the affected watershed? -How would the project affect the wildlife and habitat? -What physical and/or chemical agents would have the potential to cause harm to wildlife directly or indirectly? -Which species were surveyed for and when were the surveys conducted? -Were these surveys conducted over multiple years and seasons to get a true idea of what is there, due to the highly variable rainfall in this area that strongly impacts how species reproduce, and how easily they'll be found? -Will new biological surveys should be conducted over several years to account for population variability from variable rainfall, new listings, etc.
2593	137	Organization	What is the projected wildlife mortality rate from the mine-related increase in traffic on highway 83? Which species are most likely to be impacted by the increased traffic? How would the company mitigate this impact?
2597	3	Individual	There are several reasons why we feel that this is not an appropriate use of forest service land. The noise pollution from the blasting, which will have an effect on neighbors near and far, as well as its effect on wildlife.

DRAFT-DELIBERATIVE DOCUMENT ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
2599	3	Individual	It is my position that extensive biological surveys of the animals resident to and migrating through the areas affected by Rosemont mining activities, including the length of Arizona Highway 83 that will be traversed by mine-related vehicles, should be conducted as part of the NEPA process, and that thorough, impartial analysis of the data acquired be made prior to the completion of the draft EIS for this project. Questions: Which animal species will be affected by the noise, dust, human and traffic movements, vehicular exhaust, light, toxic air and water emissions, physical barriers, water consumption, and seismic disturbances caused by the mine? What will the likely effects be on the behavior, migration patterns, viability and population sizes of each of these species? If any of these species were to be negatively impacted by the mine activities, would they be likely to return to the area and /or recover to pre-mine levels of health and viability after the mine shuts down? If so, how long would it take for their pre-mine conditions to be re-established?
2601	2	Individual	We are deeply concerned about putting in the Rosemont mine for the following reasons: 1. Destruction of the headwaters into Davidson Canyon which would affect the wildlife living in the mountains.
2610	11	Individual	How will the mine operations affect wildlife?
2610	49	Individual	What is the impact on the water flow and quality regarding wildlife in the Cienega creek area due to the infill of mine waste in the Barrel, Wasp, McCleary, and Scholefield canyons?
2617	5	Individual	We own and live on 34 acres just a few miles north of the proposed Rosemont mine and are deeply concerned with the devestating effect that this project would have on: the endangered animal and plant habitat
2617	21	Individual	How will you guarantee that the chemicals used by the mine or the many toxic metals and minerals that would be released from the soil or rock by the mining operation (for example but not limited to: uranium, asbestos, mercury, lead etc.) are not released into the environment causing animal health damage?
2617	41	Individual	We are not the only species on this planet. Every day, the planet looses more species of plants and animals. Are we to add to this list?
2620	8	Business	The Freeport McMoran/Phelps Dodge project at Safford as well as the BHP/RTZ project at Superior are judged as being in the right place at the right time. The Rosemont Copper project is, on the other hand, the wrong place at the wrong time. It is in a pristine area which provides habitat to sensitive flora
2625	6	Individual	If the Federal Government actually carried out the policies spelled out in NEPA it would have to reject this proposed mining plan. These plans need to be upheld. They are: attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences
2625	16	Individual	Other concerns I have are those affecting the wildlife
2625	22	Individual	The mine would likely be operating around the clock. The lights, the noise, the explosive shocks, the dust, the size of the project-all would affect wildlife in the area. Wildlife movement cooridors would be disrupted by this massive enbroachment on their territories; feeding and mating habits would likely be disrupted.
2628	1	Individual	I am concerned about our beautiful natural environment and the desert animals living areas that will be destroyed in the process of building the mine
2629	3	Individual	We want to express our opposition to the Rosemont Mine based on the following considerations: This mine would severely impact the Santa Rita Mountains and could lead to the destruction of the bird habitat for which the mountains are world famous.
2630	2	Individual	I strongly object to the use of forest lands for any purpose supporting mining operations. It is environmentaly degrading
2639	6	Individual	Do we have a detailed, comprehensive impact study on flora and fauna

DRAFT-DELIBERATIVE-CONTINUED

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
2640	4	Individual	My personal concerns encompass land that is dear to my heart, and the numerous wildlife gifts that is has given to those of us who live here
2640	13	Individual	The avialability of water affects all living creatures
2641	8	Individual	Please no species degredation, no raping our beautiful Coronado National Forest
2646	6	Individual	Bad planning for the health of non-human animals
2648	12	Individual	Given all the other active likely potential mining activity in Southern Pima County, what will be the cummulative effect on people & the environment. In particular, wildlife
2648	14	Individual	What effect will the use of chemical dust suppressants on the mine roads have on wildlife
2651	3	Individual	We are against the proposed development of Rosemont Copper Mine because it will significantly and detrimentally impact some of the most biologically important areas and wildlife habitat in Pima County
2651	5	Individual	The project area is part of or adjacent to three potential wildlife linkage zone identified in the Arizona Wildlife Linkages Assessment, completed by the Arizona Game and Fish Department and Arizona Department of Transportation in 2007. These wildlife and natural ecosystems." One of these zones was determined to be a "high priority" linkage zone, meaning it has both high biological value and high threat and opportunity value.
2651	11	Individual	We believe that it would adversely impact: 4. wildlife
2655	6	Individual	However, I also realize that an open pit mine couses desecration of the landscape by totally altering the ecology in the vicinity of the mine.
2658	9	Individual	Consequences direct and indirect may include the following: Displacement or reduction in overall numbers of huntable game within Unit 34A, including but not limited to white-tailed deer, mule deer, javelina, cottontail rabbit, gambel's quail, scaled quail, mourning dove, and white-winged dove.
2658	11	Individual	Adverse impacts to game populations in areas affected by mine operations beyond the limits of the actual footprint and traffic corridors of the proposed project.
2658	18	Individual	Given that the proposed Rosemont Copper Project will permanently destroy habitat in the northern section of the Arizona Game and Fish Department (AZGFD) Hunt Unit 34A the effects of the proposed Rosemont Copper Project need to be mitigated.
2662	3	Individual	First, there are quite a few of us who frequent the Forest on our ATVs, motorcycles, bicycles and foot. We make sure not to disturb the trails that nature has already provided, or the habitat around those trails. The extra truck traffic along these lanes has already impact the wildlife in that it has widened the trails for trucks and equipment.
2662	10	Individual	Four thousand acres of dump, seems awfully large. That's a huge habitat disturbance that will never be recovered if Augusta is not required to remove the debris and bring the area back to its natural state. And to to not have this area as habitat for amlost 20 years is not an acceptable solution to mining.
2663	3	Individual	When will someone have the courage to stand up for the animals, the environment, and most of all the people who live in this fragile desert and stop cramming big business with their deep pockets down our thoughts?
2666	9	Organization	The Memorandum of Understanding requires various experts for the consulting staff. We suggest that a lighting engineer or designer be added to the list. This consultant would help assess the impacts of artificial nighttime lighting on animals as well as the night sky.
2668	14	Individual	No doubt you have plant surveys (you are the FOREST Service after all), animal surveys to calibrate the loss of habitat. So you know what will be lost. The animals will (maybe) find new territories. Displace somebody else. How timely that the Jaguar was just de-listed.

DRAFT FOR INTERNAL USE ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
2671	21	Individual	The Cienegas valley is a unique environment to all southern AZ with its high altitude grasslands and wildlife. It is quiet, peaceful and beautiful.
2671	25	Individual	Please provide an analysis and any related studies on the impact of species distribution due to the effects of blasting. Will the local species such as owls, hawks and antelope currently ranging in the Northeast section of the Cienegas Reserve be displaced? If they are displaces, can it be estimated by how much and how far?
2671	30	Individual	I am concerned about the immediate and long term effects on habitat.
2673	9	Individual	All of the flora associated with the buried Barrel Canyon drainage area will be eliminated or changed forever.
2673	11	Individual	All of the wild life associated with the buried Barrel Canyon drainage area will be eliminated or changed forever.
2675	40	Individual	Further attention should be paid to ensure all appropriate species are included.
2675	41	Individual	Considerable disturbance will be produced by proposed activity on the west side of the Santa Rita Mountains. Analysis of the issues concerning endangered and sensitive species should be undertaken for this area as well.
2677	2	Government	Our preliminary review indicates that despite any and all mitigation measures, this project will result in significant adverse impacts to wildlife, wildlife habitat, and wildlife recreation. We believe that the project will render the northern portion of the Santa Rita Mountains virtually worthless as wildlife habitat and as a functioning ecosystem, and thus also worthless for wildlife recreation. Furthermore, the project has great potential to impact wildlife and habitat off the forest.
2677	4	Government	The mine plan of opertations (Section 3.3.3) states, "is is anticipated that disruption to wildlife habitat and use will be minimal." Further, the mine plan of operations (Section3.5.2.1.2) states, "loss of hunting ground is not expected to have significant impact on hunting in the area." The Department completely disagrees with both of these statements. The amount of land disturbance, traffic, noise, light, and general mining activity will completely disrupt wildlife in the area. Wildlife and hunting impacts will be much greater than the footprint of the active mine area.
2677	26	Government	We understand that Rosemont Copper Company plans to replace their ground water withdrawl with CAP water, but at least for now that replacement water is being provided into the aquifer at Avra Valley, 36 miles away from the withdrawl site. Depositing water into the Avra Valley will do nothing for the water table that supports the wildlife habitats around the Santa Cruz River and the Santa Rita Mountains.
2677	27	Government	If the water table is lowered around the Santa Cruz River or in the Santa Rita Mountains, the impacts to vegetation will adversely impact wildlife (which in turn impacts wildlife recreation).
2677	31	Government	The only way to insure that the mine does not impact wildlife habitat in the Santa Cruz basin is for the mine to use only CAP water and be prohibited from using ground water.
2677	34	Government	This will decrease the ground water and surface water that should flow down Barrel Canyon and into Davidson Canyon and Cienega Creek. Davidson Canyon and Cienega Creek and very important habitats for wildlife, and decreases in water flow to these habitats will adversely impact wildlife. This effect will be occurring off of Forest lands. The Forest should identify how you will insure that this impact does not occur.
2677	37	Government	There is a great concern about spills from the mine polluting the ground water and surface water down-canyon from the mine. Although Rosemont Copper Company states that they will use state-of-the-art technologies to prevents spills and contamination, virtually all mines have had spills. The Forest should identify how you will insure that water is not polluted from the Rosemont Mine. Any pollution of waters into Davidson Canyon and Cienega Creek will have significant adverse impacts to wildlife
2677	40	Government	We also have a concern about failure of reclamation to occur or to be adequte for the needs of wildlife. When this happens, the wildlife are always the losers. One of the problems is the difficulty of establishing vegetation (at the level of a functioning ecosystem) in dry climates.

DRAFT - FOR CONTENT ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
2677	44	Government	As we stated above, we believe that this mine will impact wildlife, wildlife habitat, and wildlife recreation in an area that is much larger than the footprint of the mine. If this mine is permitted, the entire northern portion of the Santa Rita Mountains will be virtually lost of wildlife values.
2677	50	Government	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Loss of game and non-game habitat
2677	52	Government	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Impacts to wildlife corridors that allow wildlife movement from blocks of habitat
2677	57	Government	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Monitoring of wildlife impacts.
2677	59	Government	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Impacts to wildlife from increased vehicular traffic, both on the Forest and off the Forest
2677	60	Government	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Impacts to wildlife from dust and air pollution during construction, during mining operations, and after mining has stopped, both on the Forest and off the Forest
2677	64	Government	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Best Management Practices that protect wildlife, including birds and bats, from being killed by the toxic solutions on the site
2677	65	Government	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Habitat fragmentation
2680	6	Individual	What affect will they have on my animals? How will we even know if we are affected until it is too late?
2683	14	Individual	State Road 83 shows an ecosystem quite different from that of nearby Tucson.
2683	27	Individual	And what effect will this operation have on the wildlife in the area?
2683	30	Individual	If the pollution from tailings would be harmful to people, it would have an even greater effect on wildlife.
2683	31	Individual	Blasting and wildlife are unlikely to be able to coexist
2683	44	Individual	This mine would be far too detrimental to the wildlife of Southern Arizona to allow it to happen without considering every one of the points listed and insisting on solutions that will protect us from all the probable adverse effects.
2685	3	Individual	We are greatly opposed to any activity that has such a high probability of unrepairable damage to wildlife habitat
2687	6	Individual	It seems that the Forest Service is rushing into the Rosemont Copper Project without better studies on how the chemicals from the mines would impact the wildlife in the area.
2688	19	Organization	We are concerned for the fragile flora species unique to our desert climates.
2688	25	Organization	What happens to our wildlife, our birds, our creatures big and small that inhabit the now quiet places that would resound with a din so foreign to their environment.
2689	7	Individual	All the major local and regional political entities (including Pima County, Santa Cruz County, City of Tucson, Patagoina, Vail, Sahuarita and congress people Grijalwa and Giffords) oppose the mine due to negative impacts on wildlife

DRAFT-DELIBERATIVE CONTENT ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
2698	46	Business	Clearly, all animal life on the mine site will be destroyed. Over a much larger surrounding area, the biome will be largely depleted as the various type of pollution take their toll.
2698	49	Business	Even with the best of reclamation efforts, which are rarely attempted and even more rarely achieved, the resulting biome will have much less diversity, as only certain plants and animals specifically adapted to mine tailings with steep slopes, high acid content, and poor soil survive.
2713	25	Organization	The EIS for the proposed Rosemont Copper Mine must consider both the immediate and cumulative impacts fo the proposed action, as required by the National Environmental Policy Act. Specifically, the following types of resouces analyses must be included: A careful consideration of the "big picture" when evaluating cumulative effects of all these activities, including impacts to surrounding biological communities, corridors for wildlife and downstream effects on places such as Las Cienegas, Davidson Canyon, as well as the human communites of Sahuarita, Vail, and Tucson
2719	6	Individual	The effect of the mine on wildlife & wildlife corridors must be addressed.
2721	5	Individual	Animal/Plant – From my observations the greatest impact on animal life in the greater Tucson area has been the ever increasing housing and commercial development. A case in point: the big horn sheep no longer inhabit Pusch Ridge but still exist in the Silver Bell mine area. In fact a picture exists of big horn sheep drinking at the bottom of the Oxide pit. Before the present housing downturn the developers were denuding over 5,000 acres per year while the Rosemont mine will impact less than that over the life of the mine with much of it being reclaimed.
2722	2	Individual	The area proposed for mining is a major wildlife corridor
2723	4	Individual	The proposed Rosemont Mine is located adjacent to and partially overlapping an area designed by the Sonoran Desert Conservation Plan as biological core habitat The mine and associated traffic would put additional stress on wildlife already being impacted by rapid growth in the general area.
2724	8	Individual	Wherever Augusta would get water, an aquifer will be depleted, springs would dry up and people and wildlife would be deprived of H2O resources.
2724	25	Individual	Wildlife corridors and ecosystems that are unique to this area would be affected adversely.
2724	27	Individual	Disturbances of the areas would leave long-lasting impacts on the public land - for example - a mile wide hole in the ground and loss of habitat for sensitive species - for example - 32 sensitive animal species.
2724	56	Individual	I have 14 acres in Vali, 4 1/2 miles South from I-10 and Sonoita Hwy 83. I have a vwell, however there is every liklihood that a mine at Rosemont Ranch as is being proposed would dewater wells currently in use (as has already been done by Augusta Resource Corporation tet wells) and imperil important wildlife habitat
2726	46	Business	Clearly, all animal life on the mine site will be destroyed. Over a much larger surrounding area, the biome will be largely depleted as the various type of pollution take their toll.
2726	49	Business	Even with the best of reclamation efforts, which are rarely attempted and even more rarely achieved, the resulting biome will have much less diversity, as only certain animals specifically adapted to mine tailings with steep slopes, high acid content, and poor soil survive.
2729	19	Organization	We are concerned for the fragile desert fauna, those species unique to our desert climates.
2729	25	Organization	We dread the noise of the blasting, the explosions, the sounds of the heavy equipment, the pervasive clamor that pervades the surroundings when heavy industry encroaches on a bucolic haven. What happens to our wildlife, our birds, our creatures big and small that inhabit the now quiet places that would resound with a din so foreign to their environment.
2735	2	Individual	This land is in the Pima County Conservation plan as sensitive wildlife areas.
2736	11	Government	How will the fauna be impacted by the use of surface and groundwater for mining operations?

DRAFT-FOR INTERNAL USE ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
2736	19	Government	Where are the pipelines from the wells to the mine going to be located? How will they impact future development? How will it impact the fauna of the area?
2736	44	Government	What impact will electrical lines have on the Sahuarita/Green Valley area aesthetically? How will it impact the fauna?
2736	47	Government	What impact will the stand alone proposed wastewater treatment plant have on the fauna?
2742	10	Individual	This brings me to the other point that one doesn't hear much about. We came to this area from all over the states and why did we choose to live here, we should ask. Wasn't the the animals we see of high importance?
2745	11	Individual	The change in water impacts on wildlife need definintion.
2750	9	Individual	The other concerns are: the negative impact on the destruction of wildlife habitats and wildlife
2752	3	Individual	Every year I visit and enjoy the birds.
2752	6	Individual	A copper mine near it would have disastrous consequences for the wildlife
2754	8	Individual	It will disrupt interrupt wildlife corridors in the Cienega Creek
2756	4	Individual	The area projected to be mined and covered with tailings has been prime habitat for wildlife including some endangered and threatened species – lesser long-nosed bats, Mexican long-tongued bats, Bell's vireos amount others – and the size of the impacted area will surely have a large negative effect on the wildlife populations.
2758	3	Individual	Arsenic used in the refining process is injurious to domestic and wild animals.
2760	36	Government	Identify direct, indirect impacts to wildlife as a result of groundwater pumping assoicated with the proposed project.
2760	50	Government	The EIS should also describe the potential impacts to wildlife from open pits, backfilled pits, and partially backfilled pits after closure, as well as the measures that will be taken to prevent these impacts.
2760	62	Government	Poisoning of animals attracted to heap leach and tailings ponds can be a serious problem. The EIS should discuss the mitigation measures that would be taken to prevent exposure of migratory waterfowl and other wildlife to all toxic waters used in or resulting from processing the ore. Identify measures that would be used to prevent poisonings at solution impoundments, including maintenance requirements and monitoring to ensure their effectiveness.
2760	63	Government	the EIS should identify non-jurisdictional wetland and riparian habitat as well as other unique or important habitat areas that could be affected by the project. The EIS should discuss avoidance, minimization, and mitigation of losses or modification of habitat and plant and animal species composition. We recommend that the EIS include a detailed mitigation plan for replacement of important habitat adversely affected by the proposed project.
2761	4	Individual	Damage to riparian areas and other biologically sensitive land, to wildlife corridors - each of these injuries is sufficient ground to reject the proposed Rosemont Copper Project
4474	15	Individual	We are dealing with a forest habitat. Regular dust from mining operations will cover plant foliage that animals have to consume for their survival. This gritty forage could apply to stock animals as well as wildlife.
5012	1	Organization	WHY MINE HERE? -These lands have greater value as wildlife habitat than as an open pit mine,
5012	19	Organization	HOW ARE ENVIRONMENTAL CONCERNS BEING ADDRESSED? -Wildlife corridors and ecosystems that are unique to this area would be affected adversely.
5280	10	Individual	Environmental impacts not adequately addressed: Effects on fauna & flora, wildlife corridors

DRAFT DELIBERATIVE CONTENT ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
5284	12	Individual	As a resident of Elgin, Arizona we are concerned about the following things. Noise: Has anyone done any studies on how this will affect residents and wildlife?
5284	15	Individual	As a resident of Elgin, Arizona we are concerned about the following things. Environment: How will the habitats of the many animals, birds and plants be restored?
5285	7	Individual	Like most citizens my primary concerns center on quantity and quality of water, regional economy, including tourism, and vegetation and wildlife.
6715	3	Individual	Make no mistake about it, I can see only destruction of plant, animal, and people's communities here.
6726	8	Individual	The Cienegas Valley is a unique environment to all Southern Arizona, with its high altitude, grasslands, and wildlife. It is quiet, peaceful, and beautiful. Scenic Highway 83 is the gateway to this environment, which will be impacted forever if this project goes forward. Regular blasting, with the sonic and seismic effects could likely impact local species and their distributions. I know it will affect myself and my neighbors.
6734	2	Individual	Uranium is in the bedrock throughout Arizona, which presents a uiniqe challenge to mining here. The danger is so significant, that when the Washington, D.C., office of EPA published a report in 1999 on the health hazards of Technologically Enhanced Naturally Occuring Radioactive Materials, TENORM, they used only Arizona mines as their examples. All three that are here in Pima County, Cyprus Sierrita, Twin Buttes, and Cyprus Tohono, are under Superfund actions at this time for having polluted the groundwater heavy metals and are radioactive chemicals produced in mining operations. Freeport-McMoran has recently submitted to Department of Environmental Quality a 540-page work plan regarding the mandated cleanup of heavy metals and radioactive materials all in the Cyprus Sierrita Mine. The EPA TENORM report references 14 assessments of uranium levels in Pima County and Santa Cruz Counties. Uranium is practically inert in its natural state. However, when it is ground into powder, and treated with chemicals in copper processing, it is converted into gross alpha, gross beta, Radon, and other components that are regulated by EPA as they are known to be carcinogens. We do not know the effects on our bird and animal population that we should be protected in our National Forest. Even so, it is easy to surmise the consequences of their ingesting chemicals that cause cancer in humans. The Federal Department of Justice cited Morenci, Arizona, Copper Mine for bird deaths on that premises.
6735	4	Individual	This proposed open-pit mine would do irreparable damage in a beautiful mountain, and it would do irreparable damage to its clean air, water, and abundant plant and animal life.
6741	2	Individual	I want to talk about water briefly, but I'm going to emphasize another aspect of the water, and that's the toxin contamination. The toxin runoff help impact -- how will that affect our residential wells, how will that affect our wildlife, and will it affect the health of the wildlife, the reproduction of the wildlife, the birth defect, how will it affect birth defects?
6741	5	Individual	Wildlife, there was -- I'd like to mention wildlife briefly. I have 30 seconds. There's an immediate impact to the footprint wildlife. And also, there's long-term -- and I touched on that about the possible birth defects.
6744	4	Individual	Second, we were concerned about the effect on the delicate ecological systems in the foothils of the Santa Ritas.

DRAFT-DELIBERATIVE CONTENT ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
6765	4	Individual	We're in the wrong place; sticking another mine on this valley. We have got water issues. With have got habitat issues.
6770	5	Individual	No doubt the environment will be destroyed. The mine, milled tailings, roads, pipelines, overhead lines, all of the other support that goes with this mine are going to change things or destroy things relative to wildlife,
6775	5	Individual	Air quality is also an issue. I don't know about the rest of you, but withing the last month I have had to call the EPA on dust from existing mines. It's suppose to be wet on top of those tailings. If it's wet how come we have dust? Guess what? The new mine is suppose to be a dry tailing. It's not going to be wet at all. Think about the dust, the air quality. What about the impact on the plants, the animals in that environment, in that ecosystem. What's going to happen to those?
6781	7	Individual	The noise of the heavy mining equipment, daily blasting seven days a week, air pollution from windblown dust, and sulfuric acid, and diesel fumes,and unlimited pumping of ground water at Rosemont, and destruction of wildlife habitat on the west side, is totally incompatible with the peace and serenity and conservation of the east side.
6781	9	Individual	There will be no peace for anyone in the Sonoita Valley or surrounding communities, nor for the wildlife if this mine is approved by the Forest Service.
6811	4	Individual	Under the guise of mining, Rosemont Company proposes to invade a pristine ecologically and sensitive area, a portion of the Coronado National Forest, and thereby destroy and displace all of the flora, fauna, squander groundwater, cut off all public general recreation use.
6824	7	Individual	what about all the animals that are going to be there? Are they planning on protecting these animals? What are they going to do to stop those beautiful animals from being buried with tons of dirt? They're making it - - turn our forest into a dirt dump.
6834	8	Individual	What are the basic pros and cons of the Rosemont mine? There would be a devastating impact on wildlife; the Santa Ritas are an important corridor between the Sonoran Desert and the surrounding areas.
6834	14	Individual	And think about this, in the entire mining history of Arizona, what percentages of the promises made by mining companies have been kept? How many smoking holes in the ground have not been cleaned up because money ran out? How much habitat has been destroyed?
6853	4	Individual	For the price of 20 years of development, we lost this valley, the wildlife, and the natural springs. There will be a huge hole and many square miles of flat, uninhabitable land. You might call it a landscape pinata: Once you break it, you can't put it back together.
6857	3	Business	The proposed Rosemont mine will have dramatic and irreversible impact; impacts on our water, our wildlife, culture, and archaeology.
6865	2	Organization	Many other things obviously should be talked about. There is wildlife issues. It's near an urban area. There are sensitive areas that are just downstream that need to be protected. All that needs to be carefully talked about at length in the draft EIS.
6867	6	Individual	Health and safety impacts from explosions, excavations, noise, lighting, and tons of dust with particulates, many with contaminates carried by wind unknown numbers of miles affecting the astronomical skies with our world class observatories, affecting -- impacts on wildlife behavior and breeding and ability to survive there or threatened species, affecting possibility of health of humans with increase in respiratory problems, asthma, allergies, emphysema, valley fever, and many more possibilities, valley fever with spores that are stirred up.
6869	3	Individual	Here are some of the endangered who I think in the future, if this mine comes, will be called the disappeared. The archaeological sites in the area, the American Indian graves -- they're supposed to be protected by the American Indian Graves and Protection Act -- Indian holy sites, all the birds, animals, fish and plants. The tourists, they will be endangered too, you know, they won't come. The observatory, which will be endangered by the light and the dust. And the humans, we are all endangered, and the water and the land, and the air.

DRAFT - FOR REVIEW ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
6870	2	Individual	In order to mine, you must extract much more rock than copper. What this means is the there are huge areas of ground and wildlife habitat destroyed during the mining for copper. The excess rock that has no value to the mine is tossed into a pile called tailings. In these tailings, harmful minerals such as asbestos, even radioactive minerals can be found. When rain fails on the tailings, the water reaches the waste material from the copper sulfide mineral, chalcopyrite, to produce sulfuric acid, which then runs into the streams, contaminating the water and harming the fish and life and humans, and this information is from the United States Environmental Protection Agency.
6880	14	Government	In addition, it is quite possible a mining operation would want, or need, to carve new roads or rail lines through the area to service this mine. The environmental impacts of such developments on wildlife habitat and water courses would be very significant.
6882	2	Individual	If the Pit mine goes in, what happens to the wildlife corridor that runs through the Santa Rita Mountains? What will happen to the natural habitat if they begin drilling? What will happen to all the animals and the vegetation?
6884	1	Individual	What prevents the migrating birds and other wildlife from drinking the solutions used from the wastewater ponds?
6884	3	Individual	I propose a study be completed and recommended measures be taken to prevent birds and other wildlife from accessing the contaminated water.
6886	5	Individual	Currently the state of Arizona is in the process of classifying the Davidson wash as as OAW (outstanding Arizona Water) due to its importance in providing vital links for wildlife migration. Will this be considered in the Forest Services final decision?
6892	5	Individual	Experience with Tenorm in Arizona has been these minerals have contaminated the aquifer; and, have been potentially dangerous to man and wildlife.
6899	11	Individual	We need to protect habitat areas for wildlife
6901	2	Organization	In summary, the Coalition requests that the EIS address the following issues: - The proposed activities for the Rosemont Copper Project will significantly and detrimentally impact some of the most biologically important areas and wildlife habitat in Pima County as identified in the County's Sonoran Desert Consevation Plan.
6901	14	Organization	The project area is part of or adjacent to three potential wildlife zones identified in the Arizona Wildlife Linkages Assessment, a collaborative effort of the Arizona Wildlife Linkages Workgroup in 2007. These wildlife linkage zones are defined by the assessment as being "important to Arizona's wildlife and natural ecosystems." One of these zones was determined to be a "high priority" linkage zone, meaning it has both high biological value and high threat and opportunity value. In addition, one of the six "Critical Landscape Linkages" identified in Pima County's SDCP lies just north of the project area (across I-10 and south into Cienega Creek).
6901	27	Organization	Given the presence of multiple critical wildlife linkage zones in or adjacent to the project area, it is essential that the full range of impacts to these linkage zones be considered in the EIS. Possible impacts include: -major habitat fragmentation from the open-pit mine and associated tailings piles and waste facilities;
6901	31	Organization	Given the presence of multiple critical wildlife linkage zones in or adjacent to the project area, it is essential that the full range of impacts to these linkage zones be considered in the EIS. Possible impacts include: -and loss of downstream surface water resources from new dams.
6905	1	Individual	What would be the effect on the native birds and animals and migrator birds on the disruption of their habitat by the proposed mine. An impact study should be done to determine this.

DRAFT - DELIBERATIVE CONTENT

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
6906	2	Individual	What would be the effect of the proposed Rosemont mine on Cienega Creek and the fish living there? A study is needed to determine this.
6918	1	Individual	How will the natural habitats and wildlife corridors be affected by the mining proposal and how will these impacts be mitigated?
6918	3	Individual	The use of 5,000 to 8,000 acre feet of water per year is what Rosemont Mining expects to utilize each year. The use of over 1 billion gallons of water per year from this desert area is going to dry up all the aquifers in the area, springs will also dry up, and wildlife will be deprived of water resources..
6923	7	Individual	What will be the affect on the critical wildlife corridors between the Santa Rita Mountains and Rincon Mountains? If this corridor is shrunken or cut off, how will the health of game species in both ranges be affected?
6924	2	Individual	This area is also home to many plants, animals, birds and reptiles that have already had most of their habitat encroached upon by development. Mining in the Santa Ritas would definitely endanger this desert life even further.
6935	2	Individual	For one, that would disrupt hordes of wildlife, and also greatly impact those who use the area for recreation, such as the airsofters with TAC that have a permit to use the land, and the dirtbikers, quaders and hunters.
6936	1	Organization	IMPACTS TO BIOLOGICALLY-IMPORTANT LANDS: The proposed activities for the Rosemont Copper Project will significantly and detrimentally impact some of the most biologically important areas and wildlife habitat in Pima County as identified in the County's Sonoran Desert Conservation Plan.
6936	6	Organization	IMPACTS TO IMPORTANT WILDLIFE LINKAGES: The project area is part of or adjacent to three potential wildlife linkage zones identified in the Arizona Wildlife Linkages Assessment, completed by the Arizona Game and Fish Department and Arizona Department of Transportation in 2007. These wildlife linkage zones are defined by the assessment as being "important to Arizona's wildlife and natural ecosystems." One of these zones was determined to be a "high priority" linkage zone, meaning it has both high biological value and hugh threat and opportunity value. In addition, one of the six "Critical Landscape Linkages" identified in Pima County's SDCP lies just north of the project area (across I-10 and south into Cienega Creek).
6938	2	Individual	For a governmental agency to knowingly subject the humans and wildlife surrounding the Coronado National Forest to such contamination and thereby jeopardizing the health of all concerned would be unconscionable.
6939	2	Individual	Although the impacts are many: ranging from wildlife habitat destruction to multi-use recreational area destruction to tremendous highway damage to noise and dust generation for local residents, the issue concerning us mostly is water.
6944	9	Individual	I urge you to completely stop this operation from starting up. Let's think of our environment, the animals who inhabit this area and the people who live there and not about the "money".
6955	3	Individual	Wildlife will be displaced, stressed or destroyed.
6956	3	Individual	Wildlife will be displaced, stressed or destroyed.
6957	3	Individual	What will be the costs to wildlife and vegetation?
6957	11	Individual	5. How would Rosemont insure that migrations routes for birds and other wildlife on and over Forest Service lands will not be adversely impacted?
6965	7	Individual	We have great concerns about the Rosemont Copper Project and ask that the following be addressed in great depth by a variety of experts: Impact Upon Wildlife and Wildlife Habitat

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Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
6966	3	Individual	The mine tailings can have profound health and environmental consequences especially for children in nearby communities or for sensitive riparian or wildlife refuge areas due to the metal content amoung other contaminants of the tailings piles that contain from as little as 0.1 percent to as much as 5 percent lead, arsenic, copper and zinc.
6971	3	Individual	Are there homes or/ sensitive habitat at risk by these airborne contaminants?
6982	3	Individual	The unrecoverable destruction of the scenic Santa Ritas, the draining of our water resources, the obliteration of wildlife, the damage to our highways and the myriad of health and safety issues will be the effects felt by hundreds of thousands of southeastern Arizona residents.
6996	2	Individual	2. The Santa Rita's are home to many Beautiful Animals, such as Bear, Deer, Mountain Lions and a host of other smaller animals; where will they relocate?.
6998	3	Individual	The destruction of the area will be destroyed along with nature and wildlife.
7002	3	Individual	The unrecoverable destruction of the scenic Santa Ritas, the obliteration of wildlife, will be the effects felt by hundreds of thousands of southeastern Arizona residents.
7011	1	Individual	Mining not only destroys habitats,
7019	1	Individual	Please do not allow development of the copper mine in the Santa Rita Mountains. It is too close to urban Tucson suburbs.. It will hurt wildlife
7020	3	Individual	There are many animals that live out there that would suffer too.
7021	1	Individual	I believe it would be an absolute disgrace to tear up the natural beauty of our Santa Rita Mountain region. The area hosts an abundance of wildlife, for families who once lived in the area or explore the region for their love of the outdoors.
7021	6	Individual	Arizona needs all the ecological support it can get to keep its indigenous species and sustain human life here as well.
7021	8	Individual	The amount of real estate that has come up in even just the last few years has taken away area for wildlife to thrive in; taking away even more for copper mine seems a huge waste.
7030	9	Individual	*Not acceptable to kill our wildlife,
7031	11	Individual	Increased number of wildlife kills and displaced wildlife-will effect livestock and domestic animals.
7033	3	Individual	What animal corridors will be impacted by the above mentioned pipelines, roads and equipment accesses?
7041	3	Individual	We wonder what will happen to the habitat that will lose their homes and probably their lives.
7042	4	Individual	What about damage to habitat for endangered species?
7048	9	Individual	How will natural habitat and wildlife corridors be affected by the mining proposal (and a proposed pipeline) and how will these impacts be mitigated?

DRAFT PRELIMINARY CONTENT

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7052	1	Individual	I am opposed to the mine for several reasons: It would destroy natural habitat It would be a drain on water supplies It would adversely affect tourism The dust caused would be a health hazard throughout the Tucson area The increase in truck traffic would not only be a health hazard because of emitted pollutants, but also because it would cause dangerous traffic conditions on a narrow, scenic route.
7058	3	Individual	It is your duty to protect national forest areas for flora, fauna, recreation use.
7058	6	Individual	Also, service roads to acces the mining area will ruin habitat for many plants and animals.
7062	3	Individual	I don't have statistics to show how mining has contributed to Southern Arizona's economy. I don't have statistics to show what damage nmining has brought about to Southern Arizona. What I do have is two eyes that see the wide scale and wholesale destruction of mountains, plant life, animal life, and scenic veiws for the sake of raping the land for precious metals in order for the mine owners to get rich.
7063	4	Individual	This may explain why next to zero earthly plants and animals are capable of living or growing in or near a mining waste streams, tailing piles and stacks.
7069	3	Individual	I would like to make a couple comments about the proposed Rosemont mine. First of all, mining damages the environment. In a localized area, where there was once vegetation and animals, there will be a hole in the ground and piels of broken rock.
7079	5	Individual	What about the animals that will be displaced by all this change to their environment. They are already having a hard time with the development of the land for housing, that is destroying their habitat.
7082	2	Individual	I believe that the mining would damage ecosystem including flora and fauna in the immediate and adjoining areas, impact our water, and destroy a beautiful scenic area.
7083	7	Individual	How will the mining affect the plants and animals in the region? What about the wildlife corridors?
7087	2	Individual	Secondly, what will the massive influx of man and machinery have on the predator prey relationship in the area? Coyote and other predator population are already having difficulty maintain their numbers because of the increase in the human population. Rabbits and other small game have flourished in the predator decline. If the predator population declines further, due to the mine, how will the surrounding areas hold up to a rise in rabbit and small game populations?
7088	25	Organization	The effects of all this heavy metal contamination on the local; desert flora and fauna must be examined,
7088	50	Organization	How will natural habitat and wildlife corridors be affected by the mining proposal and a proposed pipeline, and how will these impacts be mitigated?
7088	52	Organization	Pits become toxic lakes that are harmful to wild life and not consistent with a recreational area:
7088	68	Organization	What will be done to protect nearby residents, wildlife, and recreational users in the Coronado National Forest from the deleterious impacts of daily blasting? What will be the cumulative environmental, ecomomic, and cultural impacts of this blasting on nearby wildlife?
7088	72	Organization	Daily blasting is required to remove rock (or overburden) covering the ore body. The impact to wildlife in the National Forest will be equilavent to daily sonic booms and the cumulative effects need to be examined.

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Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7088	78	Organization	Intensive development of the site as an open pit mine will result in loss of a significant portion of the wildlife habitat and movement corridor on the eastern side of the Santa Ritas, potentially impacting endangered, threatened, and candidate species, in addition to priority vulnerable species or species of special concern. The Santa Ritas are recognized for the biological values and are an Important Birding Area (IBA). In addition, the Sonoran Desert Conservation Plan lists part of the area around Rosemont as part of the Biological Core.
7088	81	Organization	The foot-print of the Rosemont Mine is stated to come wihtin four miles of Madera Canyon; a world known birding area that harbors several rare species of birds, some endangered. The wetlands within Madera canyon are spring fed possibly sharing the same source as the springs within the proposed Rosemont Mine area. Since these spring fed wetlands share the same water source will Madera canyon's wetlands suffer from the Rosemont mine; and, what will be the effect of the Rosemont mining project on endangered wildlife and these birds? Has Rosemont contracted biological population studies on all species of endangered wildlife; and, can they say with certitude that their mine will not endanger the wildlife and International tourism to the Santa Cruz valley?
7092	2	Individual	Problem- local flora and fauna and the effects this proposed mine will have on it. The proposed mine is located within 10 miles from the protected Mount Whrightson wilderness area immediately to the South of this proposed project in the same mountain range. What studies have been done to demonstrate that the mining activities will not have an adverse affect on the wildlife habitat in this unique area as is my understanding ther are several threatened and endangered species (jaguar, pineapple cactus, southwestern willow flycatcher, Chiricahua leopard frog, and lesser long-nosed bat) and desirable big game species (pronghorn, mule deer, white-tailed deer, and javelina). These species generate revenue from eco-tourism and hunting.
7095	3	Individual	Problem - The water flow from a changed Barrel Basin has yet to be determined. Per the MPO Summary approximately 75,000 tpd of ore and between 195,000-267,000 tpd of waste rock will be mined each day for 24 hours 365 days a year, the waste rock will be dumped and large berms will be made to "hide" the operations. Those sheer numbers will inexplicably alter the course of the water flow, animal habitat and flora forever.
7102	8	Individual	Prior to reading the Shareholders document, I had the same concerns as others: 1) Use of groundwater, 2) Potential for groundwater contamination / containment dam / etc, 3) Safety concerns for heavy commercial truck use of State Highway 83, (wide load, bus stops, Undersized road, mine traffic, etc 4) Containment of tailings, especially due to the heavy winds that are in this area in Spring, Fall, and Winter, 5) Cumulative impact of Proposed Mine since there are other Proposed Mines in the area (Cal-Port, Seel, and Andrada), 6) Loss of Tourism, 7) Wildfire corridor issues / contradiction of the Sonoran Desert Conservation Plan,
7110	2	Individual	The Las Cienegas conservation area, managed by the BLM, is close to the proposed mining site. The 24/7 activity on such a mine would negatively impact wildlife and visitors to LCCA, with its noise, air pollution, possible withdrawal of ground water (affecting the Cienega watershed and wildlife).
7117	5	Organization	We have a significant interest in the proposed mine and strongly object to its development due to the significant negative and unmitigable impacts it will have on the air, land, wildlife, and water of the area.

¿ what's that?

DRAFT - FOR DISCUSSION ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7117	20	Organization	The Forest Service must also carefully and thoroughly evaluate the impacts on wildlife and wildlife habitat. As the comments from the Arizona Game and Fish Department indicate, the impacts of this mine on the wildlife and the habitat of the area are absolutely unmitigable. Per the agency's comments: "Our preliminary review indicates that despite any and all mitigation measures, this project will result in significant adverse impacts on wildlife, wildlife habitat, and wildlife recreation. We believe that wildlife habitat and as a functioning ecosystem, and thus also worthless for wildlife recreation. Furthermore, the project has great potential to impact wildlife and habitat off the forests. We therefore do not support the development of the Rosemont Mine." The proposed Rosemont Copper Mine Project will also significantly and negatively affect wildlife habitat identified in Pima County's Sonoran Desert Conservation Plan, as indicated by the Coalition for Sonoran Desert Protection in comments dated June 2, 2008. We support and incorporate by reference those comments.
7117	21	Organization	The project area includes Important Riparian Area, Biological Core Management Area, and Multiple Use Management Area per the County's Conservation Lands System, plus it is part of or next to potential wildlife linkages identified in the Arizona Wildlife Linkages Assessment, a collaborative effort of the Arizona Wildlife Linkages Workgroup in 2007.
7117	23	Organization	The sulfuric acid solution leach pad and collection ponds and the process water temporary storage pond also present a direct threat to wildlife, especially birds that might come in contact with them. The sulfuric acid solution fumes are caustic and if inhaled damage lungs. When birds land on these acidic ponds they can directly ingest the polluted water often resulting in their death, plus it 3.removes natural oils from the birds' feathers making it impossible for them to fly resulting in their death via drowning or hypothermia.
7117	31	Organization	The proposed mine with a footprint of approximately 4,415 acres will create significant eyesore and will detrimentally affect the scenic resources of the area, will likely affect many species of wildlife and as stated above significantly and detrimentally affect wildlife habitat in the area.
7117	41	Organization	There are significant negative and unmitigable impacts of this proposed copper mine on the resources of the Coronado National Forest. They include impacts to water quality and quantity, impacts to wildlife, and impacts to recreation, among many others.
7121	1	Individual	The Santa Rita Mountains is a critical area of potential prey base for the jaguar according to a Smithsonian Magazine article of November 2007. It is also home to rare birds such as the spotted owl and the Apache Goshawk. If Rosemont Copper Project is approved over 4,000 acres of land is ruined for the wildlife. What studies have been conducted to determine the affects of blasting on wildlike throughout the Santa Rita Range and the jaguar if it's prey base is affected?
7122	3	Individual	I totally OPPOSE the Rosemont Mine for I believe it will have a negative impact on the envirement, the air quality and the wild live. I certainly don't think it has any long term positive impact on the economy either.
7125	2	Individual	WATER: There is a great potentiality that toxic heavy metals and other chemicals into ground and surface waters draining into Tucson area water supplies, and impacting nearby riparian areas such as Davidson Canyon. This would also imperil important wildlife habitat and future drinking water sources for residential use. More health issues here also…for us all!
7125	13	Individual	WILDLIFE AND WILDLIFE HABITAT: The Santa Ritas are recognized for the biological values and are an Important Birding Area (IBA). In addition, the Sonoran Desert Conservation Plan lists part of the area around Rosemont as part of the Biological Core.
7125	36	Individual	Wildlife: Davidson Canyon is a wildlife corridor connecting the Empire Mountains in the south to the Rincon Mountains in the North. And with it's perennial water flow this riparian is vital to native wildlife along with the needle-spined Pinapple Cactus and Whiptail Lizard.
7126	8	Individual	This is an extremely fragile ecosystem and I believe the threats of such a large scale open pit mining operation to plant life and wildlife in this important natural habitat and wildlife corridor cannot be mitigated.

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7130	1	Individual	I have read through the information posted on Rosemont's web-site, and admit I am impressed with the fact that they plan to voluntarily take steps to minimize their impact on the environment. However, there are several areas I did not see addressed: -The Santa Rita mountains provide habitat for a variety of wild life, some of whom are endangered or threatened. Development of such a large area of the Santa Ritas will further threaten these native creatures by reducing their habitat. While I did see info on Rosemont's site concerning re-establishing plant life, what protections are there for the animals that will be displaced as a result of their operation. Will the EPS address this issue?
7134	46	Business	The Forest Service correctly identified the effects on vegitation and wildlife, including special-status wildlife, as a type of impact that needs evaluation in the EIS. It will, of cource, need to consult with the U.S. Fish and Wildlife Service on a variety of wildlife issues.
7140	1	Individual	Sirs: I am very much concerned about the wonderful birdwatching place - those, about 200 birds, will fly away, scared with the blasting of the mine and never come back.
7143	5	Organization	The proposed Rosemont mine will have significant, detrimental and irreversible impacts on our regional water quality and quantity, our wildlife, cultural and historic resources.
7145	5	Individual	The proposed mine would obstruct a major wildlife corridor and if undertaken would create a permanent scar on the landscape.
7151	5	Organization	It contains a unique ecosystem (mid-elevation oak grassland) that provides habitat for wildlife, valuable watershed features (headwaters of Davidson Canyon/Cienega Creek), critical water supply for Tucson, and important recreational opportunities (hunting, hiking, off-road vehicle riding, horse back riding, bicycle riding, camping, bird watching, etc) for the citizens of Southern Arizona.
7151	16	Organization	Other questions that should be answered by the EIS are: What is the current habitat condition and trend for riparian habitat, benthic, macroinvertibrate, and fish communities in the affected watershed? What species currently occur in or depend on the springs and perennial waters in this watershed and in what abundance?
7151	18	Organization	Other questions that should be answered by the EIS are: What is the current habitat condition and trend for riparian habitat, benthic, macroinvertibrate, and fish communities in the affected watershed? What species currently occur in or depend on the springs and perennial waters in this watershed and in what abundance? Are any of these species listed as threatened, endangered, sensitive, or any other special status? What is their sensitivity to water quality degradation? What level of water quality do they require for survival? What are the potentials for damage to the aquatic communities and ecosystems from this project? Do present biological communities show any evidence of natural or man-made contamination caused by historic mining operations? If any aquatic species are harmed by this project how would their demise affect the food chain in the area? What is the potential for water catchments or storage ponds at the mine site to host invasive aquatic species that could harm native species? What are the possible impacts to the aquatic resources that could be affected by this project, and how would these impacts be mitigated? How would the aquatic life and habitat be monitored during the entire project from start of construction to end of reclamation?

DRAFT DELIBERATIVE - CONFIDENTIAL

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7151	35	Organization	Recreational Uses The major concern is that elimination of this part of the Forest for recreational purposes will shift activities to already overcrowded places elsewhere in the Forest. What additional facilities will be made available to replace existing facilities that could be lost? Who will pay for them, taxpayers or the applicant? What will be the effect on wildlife of this shift?
7151	42	Organization	Concerns regarding the vegetation in the area that should be addressed in the EIS include: What are the short term direct impacts to the vegetation in the area? What are the long term, indirect impacts to the vegetation in the area? What are the important habitat types in the area? What is the current productivity of important habitat types in the area?
7151	53	Organization	Wildlife According to the Arizona Game & Fish, many species of wildlife in the Santa Rita Mountains would be "devastated" by any level of open pit mining in the Rosemont Valley because of loss of habitat, boundary effects of industrialization, loss of corridors and fragmentation of forage and prey opportunities. What are the wildlife species that are found in the area, or likely to be found, that may be affected by this proposal?
7151	55	Organization	Wildlife According to the Arizona Game & Fish, many species of wildlife in the Santa Rita Mountains would be "devastated" by any level of open pit mining in the Rosemont Valley because of loss of habitat, boundary effects of industrialization, loss of corridors and fragmentation of forage and prey opportunities. What are the wildlife species that are found in the area, or likely to be found, that may be affected by this proposal? Which ones are threatened, endangered, species of concern, candidates for listing, or have other special status? What is the current condition and extent of the wildlife habitat in the project area, and the affected watershed? How would the project affect the wildlife and habitat? What physical and/or chemical agents would have the potential to cause harm to wildlife directly or indirectly? Which species were surveyed for and when were the surveys conducted? Were these surveys conducted over multiple years and seasons to get a true idea of what is there, due to the highly valuable rainfall in this area that strongly impacts how species reproduce, and how easily they'll be found? Will new biological surveys should be conducted over several years to account for population variability from variable rainfall, new listings, etc.
7151	57	Organization	New surveys for reptiles should be conducted over several seasons to account for variations in climate that make them more or less abundant. What is the projected wildlife mortality rate from the mine-related increase in traffic on Highway 83? Which species are most likely to be impacted by the increased traffic? How would the company mitigate this impact?
7152	7	Individual	According to Rosemont's own website, "Rosemont will be one of the largest copper mines in the United States." How can this NOT impact the environment, the water supply and its quality, the scenic beauty and recreational values, and the wildlife? Breathing, air quality, light pollution for Mt. Hopkins Observatory must be given high priority.

DRAFT DELIBERATIVE CONTENT ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7153	7	Individual	WILDLIFE AND WILDLIFE HABITAT (1) What sensitive, threatened and endangered species might be affected by the mining proposal, and how will impacts on these species be mitigated? (2) How will natural habitat and wildlife corridors be affected by the mining proposal and a proposed pipeline? How will these impacts be mitigated?
7155	14	Organization	Transportation issues involved with this proposal appear to be overwhelming. There is no way that Scenic Highway 83, in its current condition, an handle the projected volume of traffic that will be generated by an operating mine in the area. Also, the scenic values of the highway will be compromised to the point of irrelevance should the mine be put into operation, and the exponential increase in traffic will have dangerous and far-reaching consequences for both humans and wildlife attempting to travel or cross the highway.
7156	6	Individual	I support withdrawal of my federal lands from mining and, as mentioned above, am opposed to new mining in southeastern Arizona. I love birding and hiking and camping in the Santa Rita and Patagonia Mountains. and believe that the noise, water, and air pollution will detrimentally affect my public lands experience, as well as imperil the habitat of endangered species, increased truck traffic on local roads and highways, negatively affect the wildlife movement corridors and native plants and ecosystems.
7156	8	Individual	I support withdrawal of my federal lands from mining and, as mentioned above, am opposed to new mining in southeastern Arizona. I love birding and hiking and camping in the Santa Rita and Patagonia Mountains. and believe that the noise, water, and air pollution will detrimentally affect my public lands experience, as well as imperil the habitat of endangered species, increased truck traffic on local roads and highways, negatively affect the wildlife movement corridors and native plants and ecosystems.
7163	7	Organization	If the mines are developed, they have the potential to destroy extensive areas of habitat for imperiled wildlife and plants, including the endangered jaguar; degrade air quality; contaminate ground and surface water supplies; negatively impact scenic views; and eliminate current recreational use by a broad cross-section of local residents and visitors alike.
7163	16	Organization	Conservation and Research The proposed activities for the Rosemont Copper Project have the potential to significantly and detrimentally impact some of the most biologically important areas and wildlife habitat in Pima County as identified in the County's Sonoran Desert Conservation Plan. The Project area occurs entirely within the County's Conservation Lands System, including the specific designations of Important Riparian Area, Biological Core Management Area, and Multiple Use Management Area. In Addition, the affected lands contain numerous "Special Elements" Pima County has committed to conserve, including springs, limestone outcrops, intermittent streams, oak/ grass ecotone, mesquite, and un-incised floodplain. It is paramount that impacts to these ecologically sensitive and important lands be fully considered in the EIS.
7163	19	Organization	How will the project impact the native flora and fauna of the area for generations to come?
7163	38	Organization	Questions to be answered in the EIS: What are the potential ecosystem and health-risk effects of contamination and point and nonpoint source pollutions resulting from mine operations, especially with regard to uranium, lead, arsenic, thorium and other hazardous materials used and generated during and after the life of the mine's operations? Which pollutants pose the greatest human and ecosystem health risks, and how much of these will be emitted into the environment? What would be the human and wildlife-health related impacts of increased pollution due to mining operations?
7163	40	Organization	Water pollution Questions to be answered in the EIS: What are the potential risks of surface and groundwater pollution from mining operations? What water contamination prevention measures are proposed, and are they sufficient to safeguard sources of water vital to the health of human and natural communities? Is there a risk that wildlife will drink contaminated water on-site, bringing contaminants off site and into the greater ecosystem?

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7163	41	Organization	Light Pollution Questions to be answered in the EIS: How will light pollution from the mining operations impact the surrounding environment, including avoidance of the area by nocturnal wildlife species, and/or impacts upon foraging behavior and mitigation of birds and bats?
7163	56	Organization	Threatened, Endangered, Vulnerable, Sensitive Species & Habitat The Santa Rita Mountains have long been recognized as an ecologically diverse and sensitive mountain range. The mountains, surrounding grasslands and desert are a globally-important biodiversity hotspot, providing important habitat for many species of birds, reptiles, amphibians, bees and plants. The Santa Rita Mountains are a designated area of biological concern and a wildlife corridor that connects isolated habitats from central Arizona into northern Mexico at a regional scale.
7163	59	Organization	In addition to the proposed Rosemont Mine, there are currently several proposed large new hardrock mines in close proximity to one another on the Coronado National Forest land: the Hardshell mine; the Four Metals mine; the Providencia Project; Humbolt Canyon; and the Margarita Mine. In each of the decision memorandums approving the mining CEs, the Forest Service states that the "District Wildlife Biologist determined that the proposed action would have no effect on Federally listed threatened and endangered species known to occur in the project area." From the information provided, it appears that the Forest Service did not consult with FWS, but instead summarily reached its "no effect" determination. The Forest Service's no effect determination is contradicted by the best scientific data available. The Patagonia Mountains, Santa Rita Mountains and surrounding areas (including the California Gulch area where the proposed Margarita Mine is located) have been identified by leading biologists as "ideal habitat" for the jaguar, and the Arizona Game and Fish Department in 2003 identified the Patagonia Mountains as a "hotspot" for jaguar distribution, noting that it was part of an area where 55% of all historic jaguar sightings had occurred (Hatten 2003). The Patagonia and Santa Rita Mountains were both included within a zone identified as "the most suitable conservation area" for jaguars within the state of Arizona. In addition to the wide-ranging jaguar, additional species listed under the ESA are known to occur in the region and thus may be directly or indirectly affected by concurrent mining projects, including: Chiricahua leopard frog, Gila chub, Gila topminnow, Longfin dace, Lowland leopard frog, Arizona shrew, Swainson's hawk, rufous-winged sparrow, Giant spotted whiptail, Pima pineapple cactus, western red bat, Mexican long-tailed bat, pale Townsend's big-eared bat, Lesser long-nosed bat, Mexican spotted owl and the Sonoran desert bald eagle. Because the road construction, vegetation clearing, habitat destruction and increased traffic resulting from numerous mine exploration and development projects would adversely affect habitat for these species, the Forest Service's failure to initiate section 7 consultations, and its previous determinations that the mining projects would have no effect on listed species, is arbitrary and capricious and unlawful under the ESA.
7163	62	Organization	To comply with Endangered Species Act section 7(a)(2) safeguards, the federal agency taking action and FWS must initiate a cooperative analysis of potential impacts to listed species and their designated critical habitat known as a consultation process. Federal agencies must consult with FWS when their actions "may affect" a listed species or designated critical habitat. 50 C.F.R. ss 402.14(a). Federal agency actions include those projects "authorized, funded, or carried out by such agency." Id. "Action area" is defined broadly under the ESA implementing regulations to include "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." 50 C.F.R. ss 402.02. It is imperative that the EIS consider negative impacts to all species, including species of concern (state), or vulnerable (Pima County). In addition to these "listed species", we anticipate negative impacts to more common species such as white-tailed deer, black bear, mountain lion, bobcat, javelina, northern gray hawk, ornate box turtle, Sonoran desert tortoise, among many others.

Common species

DRAFT - FOR STAFF USE ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7163	63	Organization	The proposed mine operations are projected to significantly increase truck traffic along State Scenic Route 83. This presents another wildlife-related concerns: negative impacts to landscape-level habitat connectivity and wildlife/ vehicle collisions. State Route 83 bisects portions of the "Rincons-Santa Ritas-Whetsons" wildlife linkage indentified in the ADOT-sponsored Arizona Wildlife Linkages Assessment (Nordhaugen et al. 2007). A detailed linkage design and report has been developed in conjunction with Northern Arizona University for this area (Beier et al.2007). This report states: "State Route 83 (Sonoita Highway) lies between the Santa Rita Wildland block and other two Wildland blocks. Only moderate traffic now occurs on this 2-lane road, so it is not a major barrier today. However, if the road is widened or traffic increases significantly, it could become less permeable to wildlife". The EIS must address the potential impact to landscape-level habitat connectivity.
7163	65	Organization	Questions to be answered in the EIS: What direct and indirect impacts to threatened, endangered and sensitive species and their occupied and potential habitats will likely result from numerous proposed hardrock mining operations on the Coronado National Forest? How will mining operations impact core habitat and wildlife linkages in the affected area? Will increased truck traffic on State Route 83 result in increased vehicle-animal accidents, and if so, what is the projected number of increased roadkills per year, and how will vehicle-animal accidents impact wildlife populations, genetic exchange, human safety and economic damages incurred from wildlife-related accidents?
7166	2	Individual	I am writing with concerns I have about the proposed Rosemont Mine. I am a child welfare social worker in Pima County and my elderly parents live in Green Valley near and open pit copper mine. My objections to this mine are based on the following areas of concern. WATER: It's well documented that the Rosemont mine's operations will require a large quantity of precious groundwater. This groundwater pumping will lower the water table and could affect the viability of wells in the surrounding area, as well as creating potential environmental impacts to wildlife corridors and plant life. Will this concern be addressed in the environmental impact study? Also, how can Pima County citizens be sure that Rosemont mine's use of groundwater is a wise choice if our state encounters a long-term, serious drought and this water is needed by people and wildlife?
7166	7	Individual	HEALTH: The environmental hazards of open pit mining are well documented. How will the Augusta Corporation protect the public, wildlife and any threatened animal species, and surrounding natural ecosystem from potential water and air pollution?
7166	20	Individual	QUALITY OF LIFE: I have heard that the blasting and mining operations will go on 24 hours daily at this time. How will the noise, vibration, and lighting from the mine affect people living in the area and what will be the effect on wildlife? I would be very concerned that nearby residents' ability to sleep would be impacted. Will the environmental impact study address such issues?
7167	3	Individual	The billions of gallons of water required for development and operation of the mine, in any configuration, will be delivered at the expense of the environment, including water tables near and far, impacting habitat far beyond the mine's proposed boundaries, including Cienega Creek and even the Babocomari and San Pedro Rivers. The consumption of water and lowering of water tables is certain to greatly impact nearby residents and communities, also, and this impact must be examined. A complete study of the effects of water consumption must be conducted, and conducted comprehensively, realistically, and independently.
7171	3	Individual	The billions of gallons of water required for development and operation of the mine, in any configuration, will be delivered at the expense of the environment, including water tables near and far, impacting habitat far beyond the mine's proposed boundaries, including Cienega Creek and even the Babocomari and San Pedro Rivers. The consumption of water and lowering of water tables is certain to greatly impact nearby residents and communities, also, and this impact must be examined. A complete study of the effects of water consumption must be conducted, and conducted comprehensively, realistically, and independently.
7175	1	Individual	I am writing to identify and discuss an issue that should be addressed in the Environmental Impact Statement (EIS) for the Rosemont Copper Project: the effects of the project on roosts and foraging habitat for bats. In the Notice of Intent, this topic is part of an issue listed in the "Preliminary Identification of Issues:" effects on vegetation and wildlife, including those having special-status designations by the U.S. Fish and Wildlife Service (USFWS), Arizona Game and Fish Department, Forest Service, Region 3 Regional Forester, and Forest Plan.

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Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7175	3	Individual	Most people do not think about bats when considering the effects of a project on wildlife. However, bats are an integral part of the ecosystems in which they live. Unfortunately, many species of bats in the U.S. are declining, primarily from human disturbance to their roost sites and loss of foraging habitats. The Rosemont Copper Project may destroy roost sites, and will certainly destroy foraging habitat. It may also negatively affect reproductive success and drinking water quality. These issues must be addressed in the EIS. -barbara mitigation?
7175	8	Individual	One cannot determine the significance of a roost site by the number of bats or guano present. Surveys for all species of bats should be conducted throughout the action area. The standard accepted protocol for surveying caves and mines, written by Scott Altenbach, is to conduct multiple internal surveys at the same site in different seasons to look for bats or bat sign. External surveys (sitting outside the entrance of a cave or mine waiting for bats to emerge) are safer than internal surveys but can only determine presence, not absence. The recommendation for a site where external surveys have yielded only negative data must be to preserve and protect the site. goodpond Many people think that if bats lose one roost site, they can just fly to another one nearby. In fact, the characteristics of what makes a particular mine or cave suitable for bats is complex, and varies not just among species, but between the sexes of the same species and the time of the year. Most abandoned mines and caves are not used by bats. If roosts are found in the action area and plans are to destroy the area, careful decisions must be made based on knowledge of the species' ecology. The use of roost sites by bats must be looked at from a landscape level, and decisions on closing a particular site must be made with the knowledge of how that species uses all the sites in an area. Closing one particular, even when there are other occupied sites in the area, can cause the bats to abandon the area. A colleague of mine working with Townsend's big-eared bats witnessed this unfortunate situation in Nevada. Foraging areas for insectivorous bats are lost when natural vegetation (harboring insects or being eaten by them) is altered or destroyed. Different species of bats forage on different insects and have different maximum commuting ranges from their day-roosts. The Forest Service should know which species of bats forage in areas where vegetation will be destroyed by mine operations, and how far these foraging areas are from the roost site. The loss of foraging areas close to roosts, particularly maternity roosts, will have a greater negative effect on the bats than those areas farther away. The diversity of bats in the Santa Ritas, the diversity of foraging habitats, and the changing foraging patterns of the bats throughout the year makes it difficult to describe how special-status species and others will be affected by mine operations. However, a determination of effect cannot be made without this information.

DRAFT-DELIBERATIVE

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7175	9	Individual	Other issues concerning bats Reliable water sources for drinking are important to bats in arid climates, particularly during the dry months and when mothers are lactating. It is generally thought that roosts need to be close to water source (Adams 2003). This is particularly true for maternity colonies where mothers must fly out to drink and eat, and then return to nurse their young. Altering or removing water sources could affect the reproduction of local bat populations and possibly their survival. There is some evidence that females and young select water sources that contain the highest amount of dissolved calcium (Adams 2003). Because most bats produce only one young per year, a decline in reproductive success will affect population dynamics, and recovery from a severe decline is slow. Surface water sources ma be affected by mining operations by being buried, contaminated, or through groundwater removal. A simple action such as removing or not maintaining a cattle tank may negatively affect a colony, particularly if there are not other similar sources of water nearby. Altering the size of a water source, or access to it, affects which species can use it; a smaller water-surface area prevents less agile species from drinking. The Forest Service must determine how the project will affect surface water quantity and quality within the project footprint, and throughout the action area. If the mine becomes operative, all water sources must be monitored for quantity and quality throughout the life of the mine, and negative effects corrected promptly and adequately. Bats are sensitive to light and noise. The mine will produce large amounts of both. The effect of artificial light on bats is a complex issue, varies with species, and is not fully understood. However, if the mine operates as planned, 24 hours a day, those bats sensitive to light may avoid former foraging places near lighted areas. Increased traffic on roads and noise from the mine will likely have a negative effect on gleaning bats, such as pallid bats. In a controlled experiment, gleaning bats, which listen for sounds made by their prey, avoided foraging under continous broadband noise, and to some extent, under transient traffic noise. Traffic noise had a negative effect on the foreging success of gleaning bats up to distances of 50 meters (Schaub 2008). Heavy metals associated with mining operations can accumulate in bats; arsenic, copper, lead, mercury, and zinc are among the metals ingested by bats and found in their carcasses (Adams 2003). Insects that feed on plants contaminated by mine operations are ingested by bats. A study of bats living five miles from a copper smelter neat Morenci, Arizona found that the bats had taken up atmospheric mercury accumulated through the terrestrial food chain (Adams 2003).
7175	20	Individual	I have spent considerable time in writing these comments because I think most people are not aware of how difficult it is to obtain information on bats in the field, how different species are in their roosting and foraging requirements, and how vulnerable they are to changes in their environment. Bats as a group, and particularly the endangered and special-status species, must be given the same consideration as other species of wildlife in determining the effects that the proposed project will have on them.
7184	2	Individual	Manganese, selenium, thallium. lead, copper, zinc, cadmium, aluminum, iron, and arsenic are all potential products of acid mine drainage. These toxic substances, together with sulfuric acid which can be 20-300 times more acidic that acid rain, can impact mammals, riparian vegetation, and most importantly, human health. Acid mine drainage can last for thousand of years and cost millions of dollars to manage.
7188	5	Individual	Humans and wildlife would suffer illness and death.
7192	4	Organization	The project as proposed will impact water resources and riparian areas both within and outside the project area. This includes impacts to washes, creeks, springs, and riparian habitat, including Davidson Canyon and Cienega Creek. Both Davidson Canyon and Cienega Creek are within Pima County's Cienega Creek Natural Preserve, while Cienega Creek has been recognized as a national treasure and is protected within the Las Cienegas National Conservation Area. Both areas provide crucial habitat to numerous wildlife species
7192	13	Organization	CAP water is notorious for compiling the contaminants from agricultural and industrial processes throughout the Colorado River Basin, as well as for spreading invasive aquatic species and diseases. Bringing these contaminants into such a relatively pristine basin poses obvious threats to the area's human and wildlife populations.

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Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7192	18	Organization	Impacts to important wildlfe linkages: This project will have significant impacts to wildlife linkage zones present in and adjacent to the project area. A recent important study should be especially considered when evaluating these impacts. The Arizona Wildlife Linkages Workgroup completed the Arizona Wildlife Linkages Assessment (Arizona Wildlife Linkages Workgroup 2007). This statewide assessment identified 152 potential linkage zones in Arizona, three of which are in or adjacent to the project area. Furthermore, the assessment identified important habitat blocks; the project area lies almost completely within one of these blocks. Of particular note is that one of these potential linkage zones (San Xavier to Sierrita - Santa Rita, Zone 92) was classified as one of 28 "high priority" linkage zones. The workgroup assessed both the biological value and threat and opportunity value of each zone and those that fell in the top quarter of both values were designated as "high priority." The biological imprtance score was dependent on the "size and habitat quality of habitat blocks and the ability of the zone to support special status species, aquatic ecosystems, and seasonal migrations." The threat and opportunity score was dependent on the "barrier effect of canals, roads, urbanization, and railroads" (threat) and "ongoing and proposed conservation efforts [along with] whether impending major road projects provide the opportunity to increase permeability of roads" (opportunity). Given the presence of multiple critical wildlife linkage zones in or adjacent to the project area, it is essential that the full range of impacts to these linkage zones be considered in the EIS. Impacts include habitat fragmentation from the open-pit mine and associated tailings piles and waste facilities; excessive noise; road construction; and an increase in large truck traffic on I-10 and SR 83 and related impacts to wildlife crossing areas.
7197	2	Individual	In addition to providing a safe haven for wildlife in their evershrinking frontier, this area is a critical anchor for the humanity of Tucson
7197	6	Individual	The inadequacy of water resources has been eloquently stated by many others - suffice it to say - I am intimately familiar with the fragile balance of water in this watershed from having designed the commemorative poster for the Las Cienegas National Conservation Area, across the highway and in direct path of the impact of the mine, which hosts the best remaining intact populations of native desert fish in the state, such as the longfin dace and the Gila topminnow. For more information on this, you can read the description in that poster on my website at: <http://home.mindspring.com/~matilda/lcncafront.htm>.
7197	11	Individual	From the tailings dust to the road traffic to the sound and light pollutiont to the habitat fragmentation, this mine would destroy the beauty of this valley, and in doing so, the lives and incomes of many who have investing years into building their homes and careers around it.
7198	7	Organization	The company also has committed to create a 25 million dollar endowment to be managed by Arizonans to benefit local communities. In addition, $500,000 will be donated by the company annually during mine operations to be used for the preservation of open space, mitigation of wildlife habitat and to meet other community needs. huh, who?
7200	5	Organization	For the Rosemont Copper EIS, the Environmental Baseline includes a complete list of currently threatened and endangered species of both plants and animals and the current status of each, including whether they are stable, declining or improving. It must also include a full description of the wildlife habitat found in the area and current condition of that habitat, including current fragmentation, presence of invasive species, and other ongoing activities, even those conducted by other agencies that are currently impacting the habitat. It must also include current status of formal species and habitat protections that exist on in the area, most notably the designations under Pima County's Sonoran Desert Conservation Plan (SDCP) Conservation Land System (CLS).
7200	12	Organization	Impacts to Species The EIS must fully outline the impacts to all species present in the project area

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Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7200	14	Organization	Impacts ot Wildlife Linkages The EIS must consider impacts to wildlife linkage zones present in and adjacent to the project area. There are two previous efforts that should be especially considered when evaluating impacts to wildlife linkages. First, Pima County's Sonoran Desert Conservation Plan identified six "Critical Landscape Connections" in Pima County. One of these critical landscape connections, across the I-10 corridor along Cienega Creek, lies due north and adjacent to the project area. Critical landscape connections are defined in section (1) above. Pima Co. embellish Second, in 2007, the Arizona Wildlife Linkages Workgroup completed the Arizona Wildlife Linkages Assessment (Arizona Wildlife Linkages Workgroup 2007). This statewide assessment identified 152 potential linkage zones in Arizona, three of which are in or adjacent to the project area. Furthermore, the assessment identified important habitat blocks; the project area lied almost completely within one of these blocks. Of particular note is that one of these potential linkage zones (San Xavier to Sierrita - Santa Rita, Zone 92) was classified as one of 28 "high priority" linkage zones. The workgroup assessed both the biological value and threat and opportunity value of each zone and those that fell in the top quarter of both values were designated as "high priority." The biological importance score was dependent on the "size and habitat quality of habitat blocks and the ability of the zone to support special status species, aquatic ecosystems, and seasonal migrations." The threat and opportunity score was dependent on the "barrier effect of canals, roads, urbanization, and railroads" (threat) and "ongoing and proposed conservation efforts [along with] whether impending major road projects provide the opportunity to increase permeability of roads" (opportunity). Given the presence of multiple critical wildlife linkage zones in or adjacent to the project area, it is essential that the full range of impacts to these linkage zones be considered in the EIS. Possible impacts include: major habitat fragmentation from the open-pit mine and associated talings piles and waste facilities; excessive noise; construction of new roads; an increase in large truck traffic on SR 83 and related impacts to wildlife crossing areas; and loss of downstream surface water resources from new dams.
7201	9	Organization	It is our position that the United States Forest Service should insist on and participate in an extensive study to reveal the entire spectrum of negative impacts of open-pit mining on the following areas: Water quantity Water quality Depletion of the water table affecting agriculture on the west side of the Santa Rita Mountains Road access, highway safety and highway maintenance Impact on "Scenic Byway" Highway 83 Habitat fragmentation
7202	13	Individual	6. Regarding Davidson Canyon; what is the impact of the decision by the U.S. Army Corps of Engineers to suspend the designation of the Santa Cruz River and its tributaries as a navigable river? Will the resulting ease of the discharge of waste increase the amount of groundwater contamination by Rosemont via Davidson Canyon? How will this decision impact the Davidson Canyon? How will contamination be controlled and who will be responsible for such control? What is the impact on the water flow and quality of water, vegetation, and wildlife in the Cienega Creek area?
7211	7	Individual	Another aspect of pumping ground water for mine use is that it could damage caves in the area (and there are many) by draining water that keeps the caves environments humid. Caves in the region of the proposed Rosemont project have known archaeological sites as well as unique biological communities, and these would be irreparably impacted if water pumping were done to close to the caves, and because of the nature of the caves and the locations in which they occur, localized recharge would not be a viable means of protecting them.
7212	7	Individual	Another aspect of pumping ground water for mine use is that it could damage caves in the area (and there are many) by draining water that keeps the caves environments humid. Caves in the region of the proposed Rosemont project have known archaeological sites as well as unique biological communities, and these would be irreparably impacted if water pumping were done to close to the caves, and because of the nature of the caves and the locations in which they occur, localized recharge would not be a viable means of protecting them.

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Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7222	2	Individual	The proposed mine site is situated in a critical area for wildlife habitat, recreation, and perhaps most importantly, the watershed for Pima County's Davidson Canyon Natural Preserve.
7222	8	Individual	There will be inevitable degradation of air quality, destruction of scenic views , negative impacts on tourism-related business, adverse impact on wildlife and wildlife habitat, and a slap in the face of our Sonoran Desert Conservation Plan.
7223	2	Individual	I am lodging a complaint regarding the proposed Rosemont Mine Project. I have frequently visited Sonoita area from my home is Seattle, Washington, and I have co-facilitated workshops at the Epona Center at the Apache Springs Ranch. I am disturbed to hear that a mine is even being considered in this beautiful historic area, which would be forever marred by the irreparable damage a mine would cause to the landscape, the wildlife, and the environment, much less the rare peace and quiet I have experienced there, which is so unique and such a contrast to the now urbanized desert cities of Phoenix and Tucson.
7228	2	Individual	The problems that will be caused by mining in the Rosemont Ranch area are many, including damage to wildlife and wildlife habitat, increased truck traffic in an area that is a scenic byway and not meant for heavy use by mining equipment.
7230	3	Individual	It is worrying to think of the impact it will have on the wildlife, trees and vegetation that will be destroyed and the pollution that will do doubt affect the surrounding area.
7253	8	Organization	The Rosemont Valley provides unique habitat for wildlife, recreational opportunities such as hunting, hiking, off-road vehicle riding, horse back riding, bicycle riding, camping and bird watching.
7253	12	Organization	The EIS should also consider what other nearby areas of the Coronado National Forest provide these same features and opportunities for the wildlife and people of Southern Arizona.
7253	14	Organization	The EIS should also consider what other nearby areas of the Coronado National Forest provide these same features and opportunities for the wildlife and people of Southern Arizona. How would Augusta/Rosemont Copper replace the habitat and recreational opportunities that would be lost during the life of the mine and after? The amount and types of land disturbance that would result from this proposal must be considered.
7253	27	Organization	Important considerations are the impact of air and dust pollution on the health of both employees and area residents, region- wide visual impact on scenery and view sheds and the impact on plant and animal life.
7253	36	Organization	- What species currently occur in or depend on the springs and perennial waters in this watershed an in what abundance?
7253	38	Organization	- What are the potentials for damage to the aquatic communities and ecosystems from this project. - Do present biological communities show any evidence of natural or man-made contamination caused by historic mining operations? - If any aquatic species are harmed by this project how would their demise affect the food chain in the area? - What is the potential for water catchments or storage ponds at the mine site to host invasive aquatic species that could harm the native species? - What are the possible impacts to the aquatic resources that could be affected by this project, and how would these impacts be mitigated? - How would the aquatic life and habitat be monitored during the entire project from start of construction to end of reclamation?
7253	51	Organization	Since the mine would require additional electrical power equivalent to the demand from a medium sized city of 130,000 people, several impacts need to be investigated: -Damage to animal and plant life, scenery and property values from the increased infrastructure (transmission lines, substations, etc.) that would be required.
7253	62	Organization	HEALTH IMPACTS A number of questions need to be answered with respect to the health risks associated with the proposed mine: -What are the types of chemicals that would be used at the mine, and how would they affect people and animals if they were released into the environment?

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Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7253	64	Organization	HEALTH IMPACTS A number of questions need to be answered with respect to the health risks associated with the proposed mine: -What are the types of chemicals that would be used at the mine, and how would they affect people and animals if they were released into the environment? -What are the concentrations proposed for use at the mine and at what concentrations do they become harmful to people or animals?
7253	69	Organization	The mine would cause many land disturbances, including loss of recreational land, loss of wildlife habitat and corridors, loss of open space, and viewsheds.
7253	74	Organization	-Where is the nearest similar location that the displaced wildlife can use for habitat, foraging, breeding or migration?
7253	88	Organization	-How much would the aquifer be drawn down as a result of pit dewatering? -How far from the pit would the effects of dewatering occur? -How would this impact Davidson Canyon and the springs in the area? -How would the dewatering of these local resources be mitigated by Augusta? -How would Augusta compensate the public for the loss of wildlife watering locations, impacts to vegetation from lowering of the water table, and the general loss of riparian areas from pit dewatering?
7253	94	Organization	RECREATIONAL USES The major concern is that elimination of this part of the Forest for recreational purposes will shift activities to already overcrowded places elsewhere in the Forest. -What additional facilities will be made available? -Who will pay for them, taxpayers or the applicant? -What will be the effect on wildlife of this shift?
7253	131	Organization	An additional water consideration should be the effect on plant and animal life of any pipelines that are built to transmit water from well sites to the mine site. The impact from the pipe line construction must also be evaluated and a mitigation plan should be in place.
7253	135	Organization	WILDLIFE According to Kurt Bahti (Arizona Game & Fish) many species of wildlife in the Santa Rita Mountains would be "devastated" by any level of open pit mining in the Rosemont Valley because of loss of habitat, boundary effects of industrialization, loss of corridors and fragmentation of forage and prey opportunities. -What are the wildlife species that are found in the area, or likely to be found, that may be affected by this proposal? -Which ones are threatened, endangered, species of concern, candidates for listing, or have other special status? -What is the current condition and extent of the wildlife habitat in the project area, and the affected watershed? -How would the project affect the wildlife and habitat? -What physical and/or chemical agents would have the potential to cause harm to wildlife directly or indirectly? -Which species were surveyed for and when were the surveys conducted? -Were these surveys conducted over multiple years and seasons to get a true idea of what is there, due to the highly variable rainfall in this area that strongly impacts how species reproduce, and how easily they'll be found? -Will new biological surveys should be conducted over several years to account for population variability from variable rainfall, new listings, etc.
7253	137	Organization	What is the projected wildlife mortality rate from the mine-related increase in traffic on highway 83? Which species are most likely to be impacted by the increased traffic? How would the company mitigate this impact?

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Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7259	1	Individual	The Tucson Herpetological Society is an organization dedicated to conservation, education, and research concerning the amphibians and reptiles of Arizona and Mexico. The Tucson Herpetological Society on behalf of our membership want to facilitate the Forest Service NEPA precess by voicing our concerns of how the proposed Rosemont Copper mining operation might affect the herpetofauna and other wildlife of the area. It is our opinion that Coronado National Forest as well as the entire Cienega Creek watershed could be adversely affected by an operation of this magnitude.
7259	3	Individual	Fish and amphibians are extremely sensitive to water quality. Further more, these animals are low on the food chain supporting an entire ecosystem.
7259	5	Individual	Invasive Species mozines CAP water A hazardous byproduct of mining operations is water catchments or reservoirs that support invasive aquatic species and could potentially devastate native aquatic ecosystems down stream and throughout the watershed. Many of the worst aquatic invasive species like green sunfish, crayfish, and bullfrogs depend on man made water impoundments to thrive in our arid climate. These populations become breeding sites with dispersal events throughout the wet seasons. Bullfrog dispersals have been documented to cover a radius of 8 miles from the source population in one summer. Piping water from the Central Arizona Project could bring invasive aquatic pests to the facility threatening the entire watershed. The Rio Grande leopard frog is an introduced species to the Colorado River that hybridizes with our native lowland leopard frogs producing sterile offspring. There is potential for these invasive species to be transported via CAP water to the Cienega Creek watershed.
7259	6	Individual	Loss of Habitat The immediate area of the proposed mine and the surrounding National Forest are habitat for many often overlooked reptiles and amphibians as well as other wildlife.
7304	2	Individual	We are deeply concerned about putting in the Rosemont Mine for the following reasons: destruction of the headwaters into Davidson Canyon which would affect water to Cienega creek & the Pantano Wash & cause adverse conditions to the wildlife living in the mountains.
7311	3	Individual	Has there been a study of the ecological impact upon the area's flora and fauna of the proposed mine?
7313	8	Individual	What are the impacts of dust and chemical dust suppressants on the health of the Area residents, wildlife, and vegetation?
7313	12	Individual	4. How will the proposed mine operations affect wildlife and vegetation in the area?
7313	38	Individual	11. There is a concern that Scenic Highway 83 does not have the capacity for mine-related traffic. This highway is narrow with inadequate shoulders and has poor traffic visibility. Without major improvements, Scenic Highway 83 will not be able to safely handle the increased traffic from mine operations. The Highway is especially unsafe from Marker 44 to Interstate 10. Large trucks are routinely encountered driving over the centerline in this area because the roadway is narrow and often has not shoulders on either side of the road. What consideration will be given to the safety of the many bicyclists who enjoy riding along Scenic Highway 83? What measures are being taken by Rosemont to ensure that heavy mining traffic does not damage the pavement or make the road even more dangerous than it now is? Who will be responsible for improving and maintaining the road? What consideration is being given to the fact that free-roaming cattle can oftentimes be found on the "wrong side of the fence"? What planning is being done in consideration of the wildlife whose migratory paths intersect Scenic Highway 83?
7316	10	Organization	2)□The impacts on listed species (Threatened, Endangered, Sensitive, Species of Special Concern) such as losses due to: a.□Habitat fragmentation and migratory routes disrupted by roads, fences, power lines and greatly increased traffic.
7316	15	Organization	f.□Degradation or outright loss of habitat.

DRAFT DELIBERATIVE CONFIDENTIAL

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7323	2	Individual	Please see the attached picture of the deer which are on our property. We've had as many as 30 at one time. This mine will adversely affect the wildlife, including but not limited to mule deer, white-tailed deer and the many species of birds. How will this be mitigated?
7325	2	Individual	I am opposed to the pit mine and would like a reconsideration of the environmental impact on the wildlife, as well as, a second look at how this mine will economically impact tourism and ranching in this specific area.
7327	8	Individual	The loss of wildlife, habitat, and recreation on the proposed mine site and dump.
7327	16	Individual	The loss of hunting, camping and hiking opportunities; wildlife corridors; disruption of runoff waterways; and, potential to harm or disrupt freshwater springs.
7328	7	Individual	What about wildlife and recreational areas nearby?
7329	5	Individual	Imagine wildlife whose home will be destroyed; where will they go? how will they live? What will happen when they disappear?
7334	3	Individual	First, the environmental impact is not negligible. This includes the scenic impact, the impact to wildlife and the impact to water and air quality in the Corona de Tucson and Green Valley area.
7334	7	Individual	It will also likely lead to health impacts to the human and wildlife inhabitants.
7336	26	Individual	Environment- The Rosemont Mine's proposed plan will completely destroy over 4,000 acres of land. Identify all flora and fauna that live here full time, part-time, and migrate through this wild corridor connecting Northern Mexico to the Rincon's , the Catalina's, and central Arizona…
7336	28	Individual	Environment- The Rosemont Mine's proposed plan will completely destroy over 4,000 acres of land. Identify all flora and fauna that live here full time, part-time, and migrate through this wild corridor connecting Northern Mexico to the Rincon's , the Catalina's, and central Arizona… Specifically look at the risk to Tarahumara frogs, recently reintroduced in the Santa Rita's. Copper mine runoff is considered to be the most likely reason for their extirpation from Arizona in 1983, according to the Fish and Wildlife website. How many other threatened or endangered species exist here? How thorough can a handful of wildlife surveys be? How will all of the animal and plant species be affected by crushing, burying, heavy machinery, construction, chemical storage and ore processing facilities, blasting, lights, noise, dust, traffic, exposed contaminated surface water, rock and soil, exhaust, fumes, etc.?
7340	3	Individual	The area aforementioned within the Coronado National Forest are recognized biodiversity hotspot. The Santo Rita Mountains and surrounding desert and grassland areas are globally recognized for the diversity of birds, reptiles, amphibians, bees and plants.
7340	12	Individual	Destruction of wildlife habitat, wildlife movement corridors, native plants and ecosystems.
7343	4	Individual	Streams with high metal concentrations will not support desirable plant and animal life. Streams with a pH less than 4 are usually sterile except for acid tolerant bacteria and algae.
7348	15	Individual	3) Other impacts: A) A vital wildlife corridor, identified by the Sonoran Desert Conservation Plan will be disrupted.
7349	2	Individual	Please don't allow another travesty in beautiful and majestic Arizona to be developed by yet another large corporation which has no concern for your local quality of life for humans or the welfare of local wildlife.
7359	3	Individual	I wonder how it is that you can sell off not only the beauty of this area, but also the communities and their livelihoods to people who, not only don't live in our country, but don't care about the people, the wildlife and the natural beauty and resources of this area. You were entrusted with the stewardship of this land, and to approve this would betray the people, the land, and the history of the area. Once it's gone, it's forever.

DRAFT - INTERNAL DOCUMENT ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7364	7	Individual	Having spent the past year not only working at, but also living at the Espona Center at Apache Springs Ranch, I have had a unique opportunity that few others share. In how many places can one still walk about in the night and be guided only by the light of the full moon, or look up on a clear evening at the wonder of a star filled sky? I've not only had the pleasure of spending hours enjoying the horses of the Espona herd, but have also watched in amazement as a bobcat wandered by in broad daylight, listened as a young mountain lion called for its mom in the late hours of the morning, and watched deer, foxes, and skunk move about the property on a daily basis. To sit and enjoy the setting sun in the company of hawks, owls, woodpeckers, hummingbirds and a multitude of other splendid birds is amazing. Who is it that is looking out for the interests of these magnificent creatures during this process?
7371	4	Individual	Liabilities: 1. Draining potable water supply, which is more precious than copper, to thousands of residents. Contaminating water supply with toxins, that will be there forever, that wildlife and plants need to survive..
7374	2	Individual	This is not even limiting access to preserve the area but permitting a process that has significant impact on the beautiful natural setting and wildlife in the area
7377	2	Individual	Not only would this irreparably scar the land, it would displace the wildlife and destroy the ecosystem.
7379	7	Individual	The noise of heavy mining equipment, the added danger on a two lane scenic highway of 88 roundtrips daily of mine related vehicles, including 56 twenty four ton ore trucks, daily blasting, (seven days a week) air pollution from windblown dust and sulfuric acid and diesel fumes, the unlimited pumping of groundwater, destruction of wildlife habitat on the West side, is totally incompatible with the Peace and Serenity and… Conservation of the East side of Highway 83!
7379	10	Individual	There will be no peace for anyone in the Sonoita Valley and surrounding communities, nor for wildlife, if this mine is approved by the Forest Service… and this government agency will have failed to honor it's motto--"Caring for the Land and Serving the People."
7405	3	Individual	The risk to the wildlife is not worth the monetary human gain. I urge you to put a stop to this travesty before it's too late.
7410	1	Individual	We plead with you to please help this community, including all the wonderful birds, bears, deer, mountain lions that will be sacrificed for a mine owned by foreign companies and investors.
7419	10	Individual	For the wildlife that suffer or are killed, you will be responsible.
7431	2	Individual	Importantly, the general area of the proposed mine is a vital wildlife corridor between the Santa Ritas and the Rincon Mts.
7442	2	Individual	Mining not only destroys habitats, but historically, mining companies have been hit with violations, more often than not. When regulations fail, we are left with those consequences.
7443	3	Individual	One of the places we love to enjoy, relish and share is the Santa Rita mountains, part of the Sky Island bioregion. Designated a World Biodiversity Hotspot by Conservation International, this region is both ecologically rich and imperiled by human development.
7443	14	Individual	And then there's loss of habitat not only for recreationists - the area is heavily used by mountain bikers, hikers, off-highway vehicles, bicyclists, and hunters - but for the wildlife that depends on the landscape for its home, corridor, existence. The Santa Ritas are recognized as an Important Birding Area (IBA) and the Sonoran Desert Conservation Plan lists part of the area around Rosemont as part of its Biological Core.
7451	19	Individual	There are SO many issues and following is just a few to consider: 27. Wildlife Corridors will be blocked-impact as this is project area
7453	19	Individual	There are SO many issues and following is just a few to consider: 27. Wildlife Corridors will be blocked-impact as this is project area

DRAFT - DELIBERATIVE CONTENT

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7456	2	Government	Our preliminary review indicates that despite any and all mitigation measures, this project will result in significant adverse impacts to wildlife, wildlife habitat, and wildlife recreation. We believe that the project will render the northern portion of the Santa Rita Mountains virtually worthless as wildlife habitat and as a functioning ecosystem, and thus also worthless for wildlife recreation. Furthermore, the project has great potential to impact wildlife and habitat off the forest. We therefore do not support the development of the Rosemont Mine.
7456	4	Government	The mine plan of opertations (Section 3.3.3) states, "it is anticipated that disruption to wildlife habitat and use will be minimal." Further, the mine plan of operations (Section3.5.2.1.2) states, "loss of hunting ground is not expected to have significant impact on hunting in the area." The Department completely disagrees with both of these statements. The amount of land disturbance, traffic, noise, light, and general mining activity will completely disrupt wildlife in the area. Wildlife and hunting impacts will be much greater than the footprint of the active mine area.
7456	26	Government	We understand that Rosemont Copper Company plans to replace their ground water withdrawl with CAP water, but at least for now that replacement water is being provided into the aquifer at Avra Valley, 36 miles away from the withdrawl site. Depositing water into the Avra Valley will do nothing for the water table that supports the wildlife habitats around the Santa Cruz River and the Santa Rita Mountains.
7456	27	Government	If the water table is lowered around the Santa Cruz River or in the Santa Rita Mountains, the impacts to vegetation will adversely impact wildlife (which in turn impacts wildlife recreation).
7456	31	Government	The only way to insure that the mine does not impact water resources (and thus wildlife habitat) in the Santa Cruz basin is for the mine to use only CAP water and be prohibited from using ground water.
7456	34	Government	Davidson Canyon and Cienega Creek and very important habitats for wildlife, and decreases in water flow to these habitats will adversely impact wildlife.
7456	37	Government	Any pollution of waters into Davidson Canyon and Cienega Creek will have significant adverse impacts to wildlife, including federally listed and sensitive species.
7456	40	Government	We also have a concern about failure of reclamation to occur or to be adequte for the needs of wildlife. Rosemont Copper Company tells us that mining operations can be completely rehabilitated. However, we have never seen this occur in Arizona's dry habitats. There is always a legitimate reason for the lack of reclamation, e.g., the mine is staying open to extract ore in the future, or the original company declared bankruptcy and is no longer responsible.
7456	44	Government	As we stated above, we believe that this mine will impact wildlife, wildlife habitat in an area that is much larger than the footprint of the mine. If this mine is permitted, the entire northern portion of the Santa Rita Mountains will be virtually lost of wildlife values.
7456	50	Government	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Loss of game and non-game habitat
7456	52	Government	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Impacts to wildlife corridors that allow wildlife movement from blocks of habitat
7456	57	Government	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Monitoring of wildlife impacts.
7456	59	Government	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Impacts to wildlife from increased vehicular traffic, both on the Forest and off the Forest
7456	60	Government	Impacts to wildlife from dust and air pollution during construction, during mining operations, and after mining has stopped, both on the Forest and off the Forest

DRAFT PRELIMINARY DOCUMENT

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7456	64	Government	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Best Management Practices that protect wildlife, including birds and bats, from being killed by the toxic solutions on the site
7456	65	Government	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Habitat fragmentation
7462	1	Organization	The proposed Rosemont Copper Project would destroy or degrade many square miles of habitat in the northern Santa Rita Mountains for the wildlife (1) (2). Impacts from this large-scale mining operation would likely have far-reaching negative consequences for the conservation of wild species--the project area gateways principal habitat linkages in southeastern Arizona, connecting the Tumacacori-Atascosa and Santa Rita-Patagonia mountain ranges with the Rincon Mountains and other ranges to the north
7462	4	Organization	Frankly, this project, if approved, would cause tremendous damage to a vital core area of habitat for wildlife, as well as degrade or destroy what may be the most significant north-south movement corridor for wildlife in southeastern Arizona.
7466	9	Individual	I would like you to address the following issues in the EIS. -How will the mine ensure wildlife does not drink from the tailings pond?
7466	20	Individual	I would like you to address the following issues in the EIS. - What is the effect of blasting on wildlife near the proposed mine?
7474	3	Individual	I would think the mining project would also adversely impact the wildlife
7484	6	Individual	And of course I am opposed to the proposed mine on all the other issues cited by environmentalists: disruption of wildlife
7487	21	Individual	The Cienegas valley is a unique environment to all southern AZ with its high altitude grasslands and wildlife. It is quiet, peaceful and beautiful.
7487	25	Individual	Please provide an analysis and any related studies on the impact of species distribution due to the effects of blasting. Will the local species such as owls, hawks and antelope currently ranging in the Northeast section of the Cienegas Reserve be displaced? If they are displaces, can it be estimated by how much and how far?
7487	30	Individual	I am concerned about the immediate and long term effects on habitat.
7488	3	Individual	It is especially difficult to estimate the impact of open pit mining on wildlife and wildlife habitat. The Santa Ritas are widely recognized as an Important Birding Area (IBA) and as difficult as it is likely to be, we believe that it is essential for the EIS to include multiple scenarios estimating the impact of both traditional and novel approaches to handling the waste materials generated by this form of mining throughout its active life, and for an extended period thereafter. These analyses should be detailed, taking note of the likely impact of this project on specific, highly valued, and especially vulnerable species common to the Rosemont area. We count among them: the lesser long-nosed bat, Chiricacahua leopard frog, and yellow-billed cuckoo.
7491	3	Individual	I have concerns about the the impact on the area's biodiversity
7491	6	Individual	With almost 4,000 acres being involved it will destroy wildlife habitat
7493	9	Individual	My other concerns are: The effect of the mining operations on wildlife corridors in the area.
7495	6	Individual	The Santa Rita's represent a priceless and unique land heritage that deserves to be protected for its natural fauna
7497	2	Individual	This mine is no way helps our country. A legacy of pollution and destruction of habitat, that as public lands we have a right and duty to protect.

DRAFT FOR DEBRIEF CONTEXT ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7500	5	Individual	How is this going to affect the migration and mating habits of our ecosystem?
7502	7	Individual	Questions remain regarding how this mine will affect: 5. habitat
7504	34	7508	The effects of all this heavy metal contamination on the local; desert flora and fauna must be examined, especially in the streams and riparian areas adjacent to this proposed Rosemont mine.
7504	70	7508	The northeastern Santa Rita Mountains receive approximately 18 to 22 inches of rainfall each year, almost twice that received by the adjacent valleys. This rain, fresh and uncontaminated, flows from the mine area via two streams northeastward into Davidson Canyon and then into Cienega Creek and, finally, Pantano Wash, which drains westward toward Tucson. The streams serve the following purposes: 1. They create riparian zones that support healthy vegetation necessary for a diverse ecology and for control of erosion of stream banks. 2. They supply a number of springs and tinajas that are the source of water for countless birds and other animals, large and small, that inhabit the area. 3. They recharge small groundwater basins along their courses - the sources of water for a number of domestic wells. 4. They are a significant source of fresh, uncontaminated water for the Tucson groundwater basin, the source of most of Tucson's potable water. 5. They serve as treasured recreation sites for residents and visitors alike.
7504	91	7508	How will natural habitat and wildlife corridors be affected by the mining proposal and a proposed pipeline, and how will these impacts be mitigated?

DRAFT-DELIBERATIVE CONTENT ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7504	98	7508	Toxic chemicals are used in the Flotation Process to separate the copper and out of the milled powder. Link to a complete explanation of processing copper: http://electrochem.cwru.edu/ed/encycl/art-m02-metals.htm This Flotation Process is the major extraction method where there is poor quality of the ore. Xanthate chemicals produce bubbles that the copper adheres to and the "bad stuff" falls to the bottom. These chemicals used for flotation are hydrocarbons with complex configurations, but some are as simple as kerosene. It is claimed that the volatile organics used in the Flotation Process do not go into the slurry that goes into the tailings impoundment because they are filtered out before the slurry goes to the impoundment. This is not a sound analysis. 1) Filtration is not a treament technology for volatile organics. Treatment is pushing air through the solution, which releases the volatile chemicals into the air, the equivalent of landfilling the waste chemicals in the air. 2) Some are amine compounds that break down into nitrates, so the presence of nitrates in the groundwater is an indicator of travel of these compounds, which can be very mobile in an oxygen solution (H2O). Some of the Chemicals Used in Flotatino Process and in the Thickening Process that takes the water out of the used slurry: Alky Aryl Oxime Petroleum Distillate Sulfosuccinate surfactant Alkyl Xanthate salt Nalco 7873 - no chemical formula given Alcohol/hydrocarbon blend Pits become toxic lakes that are harmful to wild life and not consistent with a recreational area: The operation plans to remediate the tailings and waste rock as it goes along, which means there will be no back-filling of the pit because there will be nothing to fill it with. When the operations cease, the pit will no longer be dewatered. Therefore, the pit will fill with water from the ground and storms. A natural lake has mud and clay lining, whereas the pit will be exposed minerals which will create a significant potential for acid water in the pits once the mining has stopped. What will be the long term and cumulative impacts? How will this be prevented and mitigated?
7504	103	7508	The Forest Service has written a report on the flooding by groundwater of open-pit mines in several abandoned mines in Region 6 pit lake. Water quality in these pit lakes varies from highly acidic to alkaline. Www.fws.gov/pacific/ecoservices/envicon/pim/reports/Reno/PitMines.htm The Berkeley Pit in Butte, Montana is a 1.5 square mile open pit approximately 1,700 feet in depth. Ground water has infiltrated the open pit and created a pit lake about 710 feet in depth containing 30 billion gallon of water with a pH of 2.5. Birds landing these acidic pit lakes can ingest this water which causes severe trauma to their gastrointestinal tracts and eventual death. The acidic water also removes natural oils from the birds' feathers causing them to die by drowning or hypothermia. In 1995, the Berkeley Pit proved lethal to over 300 snow geese which used the pit lake as a migratory stopping place.
7504	138	7508	What will be done to protect nearby residents, wildlife, and recreational users in the Coronado National Forest from the deleterious impacts of daily blasting? What will be the cumulative environmental, economic, and cultural impacts of this blasting on nearby residents, wildlife, and recreational users in the Coronado National Forest?
7504	142	7508	What will be done to protect nearby residents, wildlife, and recreational users in the Coronado National Forest from the deleterious impacts of daily blasting? What will be the cumulative environmental, economic, and cultural impacts of this blasting on nearby residents, wildlife, and recreational users in the Coronado National Forest?

DRAFT DELIBERATIVE CONTENT ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7504	151	7508	Intensive development of the site as an open pit mine will result in loss of a significant portion of the wildlife habitat and movement corridor on the eastern side of the Santa Ritas, potentially impacting endangered, threatened, and candidate species, in addition to priority vulnerable species or species of special concern.
7504	153	7508	The Santa Ritas are recognized for the biological values and are an Important Birding Area (IBA). In addition, the Sonoran Desert Conservation Plan lists part of the area around Rosemont as part of the Biological Core.
7504	157	7508	The foot-print of the Rosemont Mine is stated to come within four miles of Madera Canyon; a world known birding area that harbors several rare species of birds, some endangered. The wetlands within Madera canyon are spring fed possibly sharing the same source as the springs within the proposed Rosemont Mine area. Since these spring fed wetlands share the same water source will Madera canyon's wetlands suffer from the Rosemont mine: and, what will be the effect of the Rosemont mining project on endangered wildlife and these birds? Has Rosemont contracted biological population studies on all species of endangered wildlife; and, can they say with certitude that their mine will not endanger the wildlife and International tourism to the Santa Cruz valley?
7504	159	7508	The foot-print of the Rosemont Mine is stated to come within four miles of Madera Canyon; a world known birding area that harbors several rare species of birds, some endangered. The wetlands within Madera canyon are spring fed possibly sharing the same source as the springs within the proposed Rosemont Mine area. Since these spring fed wetlands share the same water source will Madera canyon's wetlands suffer from the Rosemont mine: and, what will be the effect of the Rosemont mining project on endangered wildlife and these birds? Has Rosemont contracted biological population studies on all species of endangered wildlife; and, can they say with certitude that their mine will not endanger the wildlife and International tourism to the Santa Cruz valley?
7509	4	Individual	Those of us who live here and will be directly impacted by the environmental damage to our landscape, water, wildlife - and perhaps even our abiltiy to remain in our homes- have no voice in this matter.
7510	3	Individual	The proposed mining site is contiguous with the Santa Rita Mountains and I am very concerned about the LOSS OF CONTIGUOUS WILDLIFE HABITAT which is a well-documented concern amongst conservationists (Google :loss of contiguous wildlife habitat: and explore websites such at that of the Vermont Fish and Wildlife Department).
7514	1	Individual	The proposed mine will endanger wildlife in the surrounding areas, especially Madera canyon, Box canyon, Gardner canyon, Davidson canyon, Las Cienegas NCA and Cienega Creek Preserve.
7514	17	Individual	I am extremely concerned about the impact the mine will have on birds and wildlife in the area. Some of the birds and wildlife seen in this area are not seen anywhere else in the United States. People come from all over to view wildlife in this area. The value of tourism is long reaching and not dangerous to the environment. The copper in these mountains is a limited resource that will play out in a few years leaving an environmental hazard in its wake. The damage the mine will cause cannot be undone and the area will never be restored to its former beauty.
7517	6	Individual	However, along with the vast majority of Forest Service Volunteers in Southern Arizona, I want to express my deep concern and negative feelings about a mne in that area. Depletion of water table, diminished air quality due to both mining operation and increased traffic, negative implact on home values, depletion of flora and therefore fauna in the area are some of the concerns.
7523	8	Individual	In the PRISTINE environment of the proposed mine site, the earth itself would be killed, to say nothing of its flora and wildlife, who with each such undertaking have less and less habitat.

DRAFT FOR PARTIE CONFER ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7540	3	Individual	The mearns habitat needs to be protected at all cost.
7546	7	Individual	People travel from all over the United States and Arizona to hunt Mearns quail in the Santa Ritas. Southern Arizona is one of the only places to hunt these quail, the other being a small part of New Mexico. The proposed tailings area would destroy thousands of acres of prime Mearns habitat - rolling hills of oak with grassy cover. This is also ideal habitat for Coues whitetail deer. Because the area is relatively accessible from FS 62 (or "Box Canyon road"), it is a favority destination for sportsmen. I regularly travel down to the area in quail season to hunt. The economic benefit to the community provided by hunters like myself and others should be considered.
7546	9	Individual	Additionally, the Arizona Fish and Game Department along with local chapters of the National Wild Turkey Federation recently has reintroduced Gould's turkey in the area. Arizona is the only state in which these turkey may be legally hunted. The hills in the proposed area are vegetated with oak and grass, which are ideal winter and fall habitat for wild turkey populations. There are also canyons that contain pools and perennial water sources, as well as several springs in the area. The mining developers propose to bury these areas in tailings, thus completely eliminating and negatively impacting areas where dispersing turkey populations could eventually establish themselves. The operation of the mine also presents a threat to the turkey populations due to noise, light, and dust. The footprint of the operations will likely exceed beyond the large tailings piles. The US Forest Service in cooperation with the Arizona Game and Fish Department should study the impact of the mine on the Gould's reintroduction program and the ability for growing populations to reproduce and disperse prior to issuing any EIS or draft EIS.
7550	4	Individual	Intensive development of the site as an open pit mine will result in loos of a significant portion of the wildlife habitat and movement corridor on the eastern side of the Santa Rita's, potentially impacting endangered, threatened, and candidate species, in addition to priority vulnerable species or species of special concern. The Santa Rita's are recognized for the biological values and are an Important Bird Area (IBA). In addition,the Sonoran Desert Conservation Plan lists part of the area around Rosemont as part of the Biological Core.
7550	6	Individual	Intensive development of the site as an open pit mine will result in loos of a significant portion of the wildlife habitat and movement corridor on the eastern side of the Santa Rita's, potentially impacting endangered, threatened, and candidate species, in addition to priority vulnerable species or species of special concern. The Santa Rita's are recognized for the biological values and are an Important Bird Area (IBA). In addition,the Sonoran Desert Conservation Plan lists part of the area around Rosemont as part of the Biological Core.
7562	3	Individual	These site diagrams also show that the tailings piles will be 600 to 1000 feet (southern end to northern end) higher than the current exisiting terrain. This increase is the equivalent of a wall of 60 to 100 story buildings over a length of approximately three miles of the western side of the Sonoita Hwy. All of the flora, fauna, wildlife and recreation associated with the buried Barrel Canyon drainage area will be eliminated or changed forever.
7563	2	Individual	We are land owners near the proposed mine. This is a terrible idea. It will ruin the area and destroy the habitat. Mines can be placed further from city limits. Not near homes.
7566	2	Individual	Do not build the mine. Save our animals!
7571	11	Individual	This proposal would disturb extensive amounts of Forest Service land. The EIS should analyze the amounts and types of land disturbances that would result from this proposal. Many existing land uses would never be replaced if this mine were approved, including loss of recreational land, loss of wildlife habitat, loss of wildlife corridors and foraging opportunities, loss of watershed functions, loss and damage to water resources, loss of soil and plant resources, loss of open space, and loss of viewshed. The EIS should determine whether these losses are worth the benefits from this mine, and determine how these extensive land disturbances should be mitigated.

DRAFT-FOR DRAFT COMMENT ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7571	32	Individual	Many studies have shown that the Santa Rita Mountains contain important wildlife habitat and serve as a key migration corridor from Mexico to the Rincon/Santa Catalina Mountains. The EIS should determine which wildlife species are found in the area, or are likely to be found, that may be affected by this proposal. It should determine which ones are threatened, endangered, species of concern, candidates for listing, or have other special status. The EIS should determine how these species use the area, and how far the displaced wildlife must go to find similar habitat for foraging, breeding or migration. Surveys must be conducted to determine the presence, absence and abundance of each of these species. Similar information and surveys must be conducted for plants species, also. For example, the Rosemont Talussnail (Sonorella rosemontensis) is likely to be found here as it is endemic to the Santa Ritas. The Arizona Game & Fish Heritage Database states that the type locality for this species is "the Santa Rita Mountains, North end at Station 49 near Rosemont, Pima County; elevation not given, but collected later at ca 5,500 ft" (Bequaert, J.C., and W.B. Miller 1973. The Mollusks of the Arid Southwest. The Univeristy of Arizona Press, Tucson, Arizona). At least four species of State protected reptiles are known to reside at this site: ridge-nosed rattlesnake, rock rattlesnake, desert tortoise and the Gila monster. Surveys must be conducted to determine whether these species are present in the area, and in what abundance. Surveys for reptiles, and all wildlife and plant species should be conducted over several seasons over multiple years to account for variations in climate that affect population abundance.
7579	11	Individual	Wildlife and Wildlife habitat: With intensive development of the site as an open pit mine this will result in a significant portion of the wildlife habitat and movement corridor on the eastern side of the Santa Rita's. This could impact endangered species. This is a wonderful birding area and this would be impacted.
7579	13	Individual	Wildlife and Wildlife habitat: With intensive development of the site as an open pit mine this will result in a significant portion of the wildlife habitat and movement corridor on the eastern side of the Santa Rita's. This could impact endangered species. This is a wonderful birding area and this would be impacted.
7582	13	Individual	We believe that the Rosemont mine would negatively impact the air, water, scenic view, recreation, wildlife, plantlife and traffic within a far reaching area surrounding the mine and that these negative long term impacts for many US citizens should not be overlooked so a few can gain financial reward for the short term.
7587	5	Individual	Other concerns are that mining activities will negatively impact the abundant wildlife habitat of animals and plants, including that of endangered species such as the Pima Pineapple cactus.
7588	7	Individual	We regularly have 20-30 mule deer on our property and 4 white tailed deer, along with many, many different types of birds. There is no question that all of these animals will not be handing around while this mine is constructed and operated 24/7 every single day of the year.
7590	1	Individual	My biggest question is if the rosemont mine were in place how can you assure that the protected creatures and habitat of these areas would stay a viable life sustaining home. The measures proposed do not prove that these areas would stay safe from pollution, how would a clean up bill restore the habitat, water and delicate balance to the vital and unique area?
7592	41	Individual	A cursory examination of listings by the US Fish and Wildlife Service resulted in an endangered species, the Pima Pineapple Cactus, whose range is well within the proposed project area. Further attention should be paid to ensure all appropriate species are included.
7592	42	Individual	Considerable disturbance will be produced by proposed activity on the west side of the Santa Rita Mountains. Analysis of the issues concerning endangered and sensitive species should be undertaken for this area as well.
7595	4	Individual	Just a few of the reasons that generate the most concensus include: The impact on the local roads/traffic, the tremendous waste of water and what that will mean for local residents, the destruction of the environment including plants, animals, forests, etc, the eyesore it will create, and the fact that this is an endeavor owned and operated primarily by foreign concerns.

DRAFT - NOT FOR PUBLIC RELEASE

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
7598	30	Individual	The Cienegas valley is a unique environment to all southern AZ with its high altitude grasslands and wildlife. It is quiet, peaceful and beautiful. Scenic Hwy 83 is the gateway to this environment which will be impacted forever if this project goes forward. Regular blasting with the sonic & seismic effects could likely impact local species and their distribution.
7598	31	Individual	Please provide an analysis and any related studies on the impact of species distribution due to the effects of blasting. Will the local species such as owls, hawks, and antelope currently ranging in the Northeast section of the Cienegas Reserve be displaced? If they are displaced, can it be estimated by how much and how far?
7598	40	Individual	a) Please provide analysis of air constituents as a function of distance and direction from mining operations and year of operation. Analysis should include all stimulus factors such as dust generation from blasting, shoveling, hauling, dumping, and grading, emissions from power generation and vehicles both onsite and in transit, use of chemical volatiles in the course of operations, effectiveness of dust control techniques, variability of the local climate and winds, and changes in the local micro-climate due to effects created by mining operations such as wind pattern changes created from the pit and waste tailing mounds. Please provide an uncertainty analysis on these predicted effects. B) Please provide the long term health effects of item a above. C) Please provide the plant and animal effects of item a above.
7600	2	Individual	This whole area is truly a natural sanctuary for the vast amount of wildlife that inhabit this very blessed spot on Mother Earth.
7620	3	Individual	Has there been a study of the ecological impact upon the area's florn and fauna of the proposed mine?
7630	4	Individual	There will be the destruction of animals, birds.
7632	4	Individual	Water will go into hole in ground, will impact Cienega Creek bought also for wildlife habitat
7642	4	Individual	It will harm too many animals
7648	2	Individual	This is NOT a "not in my backyard" situation. To say this is to be little wildlife issues.
7650	14	Individual	We live in the Sonoran Desert, with limited water. Water dictates life here. It is absolutely critical for human, animal
7651	9	Individual	Myself and friends and family have enjoyed this area for over 40 years. It has a lot of wildlife, whitetail and mule deer javelina. Coati's, bobcats and mountain lions,etc. If they are hunted they are a renewable resource. If you take their home away they will be gone forever.
7652	8	Individual	How does Rosemont mine plan to protect the animals of the Coronado National Forest from being buried alive under the hundreds of tons of dirt which they plan to cover the 4,400 acres with?
7654	3	Business	OUR WILDLIFE,
7655	3	Individual	In order to mine copper you must extract much more rock than copper. What this means is that there are huge areas of ground and wildlife habitat destroyed during the mining for copper.
7692	1	Organization	The Santa Rita Mountains are an important range within the sky island region, providing important habitat for a wide array of wildlife species.
7694	1	Organization	All aspects of mining compromise & destroy the environment and sensitive wildlife habitats. Unless these issues are adequately addressed, we hope the Rosemont Mine.
7698	2	Organization	This mine is counterproductive to the conservation goals of this community and would result in habitat destruction, fragmentation.
7809	3	Business	THE PROPOSED ROSEMONT MINE WILL HAVE DRAMATIC AND IRREVERSABLE IMPACTS: IMPACTS ON OUR WATER, OUR WILDLIFE, CULTURE AND ARCHAEOLOGY---

DRAFT DELIBERATIVE CONFIDENTIAL

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
8594	6	Individual	I really think that the impact on the wildlife and the scenic values there do not make it worth this mine.
8604	1	Individual	I just wanted to oppose the Rosemont Mine for the environmental reasons as far a the animals, the pollution, air pollution, and noise pollution and, uh, draining the water table. Also for the health hazards it's going to cause for the people in the area.
8622	2	Individual	the Santa Ritas are home to many beautiful animals, bear, deer, lions and where will they relocate.
8642	3	Individual	I live in Benson, which is a short ways away from where the Rosemont Mine has been proposed. That is absolutely total destruction of a beautiful area. The environment, the animals, the people that live nearby, and the biggest issue is the water and the traffic that will be generated by this absolute horrendous idea of running trucks, working 24 hours, 7 days a week is absolutely insane.
8663	3	Individual	Cienega Creek, which by the way Augusta wants to fill (unintelligible) Canyons, yet claims no impact to the Cienega Creek water shed. And Davidson Canyon and not only wildlife habitats as well as Rosemont are decreasing water tables, peace, beauty, solitude and scenic (unintelligible) for thousands of out of state tourists all in seeious peril of becoming a beautiful memory our children will only have heard of.
8680	5	Individual	With so many people living in Southern Arizona now, water has become a precious commodity. Far more valuable than copper or other minerals in the earth. Regardless of how many EIP's are conducted, the Rosemont Mine poses a potential threat to our water table, the wells, the wildlife and the scenic beauty of the Santa Rita Mountains.
8703	4	Individual	The animal life there, the beauty the fact that it is in a very pristine and lovely area close to the Tucson area, which is growing, is not an auspicious place to have the mine.
8704	4	Individual	The animal life there, the beauty the fact that it is in a very pristine and lovely area close to the Tucson area, which is growing, is not an auspicious place to have the mine.
8715	4	Individual	A hundred years from now, nobody will know the difference as far as the shape of the mountain is concerned or the effects of the mining of the remedial aspects that are in play now will not damage anything over the long run and the wildlife will benefit as they have from the former AMAMAX mine. That mine being alive with deer heards and coyotes and bobcats and other wildlife.
8730	2	Individual	I'm against open pit mining for copper, and it's too close to Tucson, for one. And I don't like it. I'm not against it in the state, but I'm against being so close to Tucson, and mostly because of the way it affects the animals and the water.
8740	2	Individual	Ecologically, it has a very negative effect on the wildlife and many other aspects of ecology.
8784	2	Individual	And I want you to know that I have spent quite a bit of time in the area that the Rosemont Mine is going to be. It is a beautiful and in many ways pristine area with unique land and in -- unique plants and animals that simply can't be found any place else. It's an area where many people go for recreation and spend time.
8802	2	Individual	Animal life and ecosystems will be harmed if the mine is built.
8806	4	Individual	I think that it is of very, very deep concern to me related to what it will do to our water table, and the impact on wildlife,
8806	11	Individual	and we will have a disruption of the wildlife.
8865	6	Individual	It's a sky island and there are many plants and animals that I think should be preserved.
8874	5	Individual	I would like to go on record strongly objecting to the Rosemont Mine project. The reasons are inadequate water, and water contamination, air pollution, destruction of habitat and other safety issues.
8882	3	Individual	We're also concerned that it will ruin the environment for the wildlife.
8883	3	Individual	I'm concerned about how the toxins from the road that isn't going to be kept dust free by water but by chemicals, how that will affect the terrestrial species such as snakes and lizards, horny toads, turtles, or the tortoises, how that will be affected. That needs to be studied and the affects of that also need to be made known to the public.

DRAFT FOR REVIEW ONLY

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
8896	5	Individual	What planning is being done in consideration of the wildlife whose migratory paths intersect Scenic Highway 83?
8903	5	Individual	Regarding Davidson Canyon; what is the impact of the decision by the U.S. Army Corps of Engineers to suspend the designation of the Santa Cruz River and its tributaries as a navigatable river? Will the resulting ease of the discharge of waste increase the amount of groundwater contamination by Rosemont via Davidson Canyon? How will this decision impact the Davidson Canyon? How will the contamination be controlled and who will be responsible for such a control? What is the impact on the water flow and quality of water, vegetation and wildlife in Cienega Creek area?
8906	5	Individual	Have studies been done to compare "mine" vs. "no mine" and the impacts on the economy, tourism, recreation, the ecosystems, vegitation, wildlife, groundwater, surface water, water quality and availability, roadways and emergency services? If so, are the studies available for public scrutiny? If studies have not been done, what is the reason for this inaction?
8922	3	Organization	STOP MAKING WILDLIFE LOOK FOR A PLACE TO EXIST!!!!!!
8933	1	Organization	Wildlife should rate over a mine!
8987	2	Organization	The loss of this beautiful area would be staggering. For those of us who live nearby, the loss of wildlife is just unthinkable.
9147	5	Organization	It is sad day to think that our county and state leadership would approve destroying the wildlife.
9155	1	Organization	We have so little left as legacy to our future generations, so little that indicates our respect for the land whose biodiversity assures the future of the earth on which all living things depend for survival.
9236	1	Organization	There is too much destruction in the proposed mining proposal and would destroy too much of a delicate habitat of the Sonoran Desert.
9265	1	Organization	A large mine at Rosemont would imperil biological values in Davidson Canyon and Cienega Creek.
9299	2	Organization	Stop destroying what's left of scarce wildlife
9346	3	Organization	This is home to a large diversity of fauna.
9394	2	Organization	The area is biologically important and should be protected from the deleterious impacts that a copper pit mine would have on the area.
9462	1	Organization	Mining will be a travesty for the biodiversity- just say NO!
9488	4	Organization	I urge the US Forest Service to do the right thing -- protect this landscape important to wildlife by rejecting Augusta's Mining Plan of Operations and withdrawing these lands from Mineral Entry to ensure their permanent protection from mining.
9510	1	Organization	save the wildlife
9532	2	Organization	The Santa Ritas are our favorite areas for exploring. I have seen may different types of wildlife.
9599	1	Organization	Preserve wildlife for future generations.
9629	1	Organization	I am strongly opposed to any further degradation of wildlife habitat
9641	3	Organization	I oppose the loss of such a wonderful area to such a greedful and useless need this area has FAR TOO many Copper mines as it is and I see no reason to ruin the habitat and the wildlife corridor for a developer who not only is NOT a citizen of our country (and should have no right to buy it) nor are they acting in the best interest of the area and its residents.
9659	2	Organization	This land is far more valuable to the residents of Arizona as it is - a home for wildlife - then it would be degraded as a mine. Please to not allow this to happen to this beautiful land.

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Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
9671	4	Organization	It is a disgrace to rob future generations of this beautiful area with such a rich history. Furthermore, it would be a shame to lose the Rosemont area to a short-sighted, greed driven lot with no true regard for the land, much less the animals. I believe that only a huge outcry from the public will put a halt to Canadian-based, Augusta Mining's "fifty billion dollar dream".
9698	1	Organization	We have to protect our natural habitats!!!
9718	1	Organization	We are required, as citizens of the Earth, to protect nature and preserve what little balance there is between man and the environment, including all of what the environment encompasses. When we take all native habitat away from the organisms that have survived there, where will they go? Will we continue to exterminate these "pests" when they have no other choice but to survive in our houses and yards? This land is a corridor and vital territory for millions of animals. It is bad enough that new hoursing developments are encroaching on this beautiful wilderness, the last thing it needs is a mine.
9844	1	Organization	This land is too precious of a wild life area to be mined
9849	2	Organization	Please save all the animals, This can not be replaced, we our the caretakers of this earth.
9918	3	Organization	There is nothing positive which can come from mining the Santa Rita Mountains -- only a detrimental & destructive impact to the wildlife. Who benefits? only the mining companies and then they move on. This must not happen.
9967	1	Organization	There are numerous unique fauna that occur in the Santa Ritas and to consider mining them is a travesty. Particularly with the Bush Administration working harder every day to loosen or remove any ecological operational mandates that promote preserving the surrounding areas and watersheds. Together, allowing this mining to go through under the rule of the current administration is a time bomb the US Forest service will regret.
10092	2	Organization	Please consider carefully the cost to our natural habitat, to our diminished wildlife sanctuaries.
10110	1	Organization	This area is too valuable to scar. Our wildlife depend on this unspoiled area.
10115	2	Organization	Save the habitat & open space for society & wildlife.
10116	2	Organization	Save some wildlife habitat! Do we have to destroy everything? Stop the mine!
10140	3	Organization	The needs of wildlife should take precedence over the economic benefits to a private enterprise.
10161	2	Organization	This area represents an irreplaceable wildlife resource. The long term benefits of managing the area as such, far outweighs the short term benefits of its use for mineral extraction.
10255	3	Organization	Only if there were an ecologically friendly way to mine, which didn't kill the animals would I even consider any mines.
10255	5	Organization	I love precious stones and copper and other beautiful minerals, but I would rather do without them than endanger animals and ruin the earth.
10279	1	Organization	This is a unique and important bird and wildlife habitat area that should remain undeveloped by extractive industries.
10296	1	Organization	I would just like to say that Rosemont is my favorite place to bowhunt for deer. Ive seen alot of deer in their, to include some trophy bucks, Up, until they started cutting roads there. And now I don't see nearly the deer I use to. Before I could go in there every wekend and see deer. Now, youre lucky if you see a deer. Especially the bucks! Ive also seen alot of other wildlife in there too, some people hardly ever see or it is rare to see in the wild. Such as Mountain Lion, and seen a badger in there one time. Two coyotes were chasing it, I would imagine the coyotes, would be in for a big surprise once they caught up to the badger.
10304	1	Organization	Our natural habitats are more precious than a handful of short-term jobs. Join the fight!
10347	1	Organization	preserve habitat for future generations

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Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
10352	1	Organization	This propsed mine will be a disaster to the Santa Ritas and surrounding areas in terms distruction of habitat and eco systems.
10370	1	Organization	I oppose the mine due to environmental concerns. This area has high wildlife value.
10405	1	Organization	There is already encroachment by houses, mining would decimate the area which is rich in birdlife and other important species particular to this habitat which I visit frequently. Because of the this important bird area and sky island, many visitors from all over the world come and provide ongoing revenue for the state and local merchants. The mining would be a one shot deal and give revenue to the industry. It is not sustainable and would not be renewable. Mining would change the area forever. Please do not let this happen. Thanks.
10559	3	Organization	The impacts to the animals by mining operation is completely unacceptable.
10584	1	Organization	Pronghorns! YEAH! YEAH!! YEAH!!!!!
10706	3	Organization	They won't care about what they distroy let alone the wild life!
10777	2	Organization	This area is not suitable for mining due to the inevitable harm and degradation it will do to the wildlife
10798	2	Organization	landowner near mine concerned about environment
10799	2	Organization	Please save our wildlife
10807	1	Organization	Please don't let one of the best birding areas in the World be desecrated.
10809	2	Organization	save our wildlife...PLEASE!!
10810	2	Organization	save our wildlife
10819	5	Organization	I strongly oppose any mining activity in the Rosement Ranch area. It would have devastating long term negative impact on the animals in the area.
10839	3	Organization	Save our animal life!
10877	3	Organization	More damage to the planet, irreversible destruction to the wild life and natural fauna.
10905	2	Organization	It is important to preserve wildlife corridors.
10924	2	Organization	Stop the destruction of our wildlife in our state by big corporate businesses and corrupt politicians who are destroying our planet and the future of generations.
10928	1	Organization	I feel the value of biodiversity in the area and preservation of habitat are critical so that mining should not be allowed in this area.
10960	2	Organization	This is a bad idea for the residents who live in the area, not to mention the destruction of a diverse animal preservation.
10978	1	Organization	Save the enviroment and it's wildlife, don't allow the mining.
10997	1	Organization	Bad choice for a location. Too much biodiversity is lost to outweight the gain in copper ore.
11000	1	Organization	It would be an extreme shame to destroy such diversity of wildlife.
11023	1	Organization	Habitat destruction must be stopped.
11047	14	Individual	As the dry tailings, according to my understanding, have not been tried in a climate with this high of a rainfall, what will happen if the suppressant is sprayed, and then it all runs off in the rain? What happens to the wildlife (to include insects, amphibious creatures and so forth if they drink water with chemical suppressnts?)

DRAFT DELIBERATIVE CONFIDENTIAL

Wildlife and Habitat

01 General

Record ID	Comment Number	Commenter Type	Comment Text
11047	20	Individual	How will the project prevent wildlife from trying to access these poison water areas? Will there be walls? Fences? I have miniature cattle and have done extensive research with the USDA on how to keeps Mountian Lions away from my cattle. There really is no fencing to keep out big cats so we use a combination of 6-7 foot stock flimsy stock fence with a cattle guard dog. How does Rosemont propose to keep Big Cats away from the water that has chemicals in it? I suggest two tiers of protection. One layer of electric flagged fence and then a ten foot deer fence around any potential areas of poisonous water. This should keep deer and cats out.
11055	1	Individual	How will natural habitat and wildlife corridors be affected by the mining proposal (and a proposed pipeline) and how will these impacts be mitigated?
11055	3	Individual	How will the wildlife on our property in the attached pictures be protected in our immediate area? How will the impacts on these species be mitigated?
11068	41	Individual	A cursory examination of listings by the US Fish and Wildlife Service resulted in an endangered species, the Pima Pineapple Cactus, whose range is well within the proposed project area. Further attention should be paid to ensure all appropriate species are included.
11068	42	Individual	Considerable disturbance will be produced by proposed activity on the west side of the Santa Rita Mountains. Analysis of the issues concerning endangered and sensitive species should be undertaken for this area as well.
11073	2	Individual	There is some truth to the reasons given for not opening the mine. First of all, the scenery will be changed forever. This is unavoidable, but the disturbed area will be contained and regulated with some of the most strict environmental laws around. There is going to be a forced relocation of of the animals that live in the area along with water that becomes polluted. However, the animals will be able to adapt as they have for millions of years (this time they will have human help to care for any that are sick and wounded before the mine opens so some will actually live longer) and the water contaminants must be below the guidelines set by our government.
11078	1	Individual	How will natural habitat and wildlife corridors be affected by the mining proposal (and a proposed pipeline) and how will these impacts be mitigated?
11078	3	Individual	How will the wildlife on our property in the attached pictures be protected in our immediate area? How will the impacts on these species be mitigated?
11082	5	Individual	"A stormwater diversion ditch along the planned mine access road will divert water…" I would like to know how exactly. Is it going to run off the access road which is used by concentrate trucks, delivery trucks and other misc. vehicles which have tires with chemicals and so forth, engines that leak oil? What other potential pollutants from other locations will run off the planned main access road? The main storm water diversion drainage tunnel is quite large according to the Tetra Tech Dry Tailing Facilities Design Book I read this evening. Who will maintain this (The large culvert, not the book) and keep it free of debris and Undocumented Immigrants? As you may know, Border Patrol is quite active in the area. I have also heard from a Rancher in the area that the CNF has been releasing bear and mountain lion secretely into the Santa Ritas. How does Rosemont Copper intend to keep these animals out out of the storm water diversion drainage? Also, Africanized bees are an issue in the area and can make places such as this their home.

DRAFT - FOR INTERNAL CONTENT ONLY

" See attachment " comments are pointless while going through comments, unless indicated

Comments by Commenter Type

Government

Arizona Game and Fish Department

ID	Comment Text	Category	Code
7456 Comment 1	The Arizona Game and Fish Department is ~~responsible for the management of the wildlife~~ on all lands in Arizona, and thus we request cooperating agency status so that we can provide expert advice throughout the evaluation process as to the impacts to wildlife, habitat, and recreation. The Department also requests to work with the Forest as a member of the ID team as the EIS is developed and analyzed.	PRP ☐ Attachment	04

ID	Comment Text	Category	Code
7456 Comment 2	Our preliminary review indicates that despite any and all mitigation measures, this project will result in significant adverse impacts to wildlife, ~~wildlife habitat, and wildlife recreation~~. We believe that the project will render the northern portion of the Santa Rita Mountains virtually worthless as wildlife habitat and as a functioning ecosystem, and thus also worthless for wildlife recreation. Furthermore, the project has great potential to impact wildlife and habitat off the forest. We therefore do not support the development of the Rosemont Mine.	WL ☐ Attachment	01

ID	Comment Text	Category	Code
7456 Comment 3	We therefore do not support the development of the Rosemont Mine.	OTH ☐ Attachment	02

DRAFT PRELIMINARY - INTERNAL USE ONLY

I read these Government comments 10/26-10/27/2009

10/27/2009

Government

Arizona Game and Fish Department

ID	Comment Text	Category	Code
7456 Comment 4	The mine plan of opertations (Section 3.3.3) states, "it is anticipated that disruption to wildlife habitat and use will be minimal." Further, the mine plan of operations (Section3.5.2.1.2) states, "loss of hunting ground is not expected to have significant impact on hunting in the area." The Department completely disagrees with both of these statements. The amount of land disturbance, traffic, noise, light, and general mining activity will completely disrupt wildlife in the area. Wildlife and hunting impacts will be much greater than the footprint of the active mine area.	WL ☐ Attachment	01

ID	Comment Text	Category	Code
7456 Comment 5	The mine plan of operations states that a biological report has been completed, called the Biological Resources and Mitigation Concept. We request a copy of this document for our review. We know that Pima County has recommended that the Forest should require peer review of scientific studies written to evaluate the impacts of the mine. We concur that this is a reasonable request, given that we disagree so completely with the report on biological resources. The Forest must insure that the scientific analysis upon which they base their decisions is sound. peer review of Rosemont-wetland	PRP ☐ Attachment	01

ID	Comment Text	Category	Code
7456 Comment 6	The Department seeks clarification on the purpose and need for the proposed action. The NOI states: "The purpose of the proposed Forest Service action is to grant permission to the Company (Rosemont Copper Company) to use NFS land for certain activities related to operation of the Rosemont Mine." It seems that the appropriate purpose should be to evaluate whether to issue a permit to Rosemont Copper Company to mine mineral resources from Forest Lands, and whether to issue a permit to dump mining waste on Forest lands, and whether to issue a permit to allow mining and other related rights of way across Forest land to facilitate mining on adjacent patented mining claims, and further to determine the appropriate management practices and mitigation to protetct forest and surrounding land resources if the permits are issued.	PRP ☐ Attachment	06

ID	Comment Text	Category	Code
7456 Comment 7	The primary responsibility of the Forest, if the permits are issued, should be to protect Forest resources and surrounding lands and waters. The Forest should identify how you inttend to protect those resources.	PRP ☐ Attachment	07

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Arizona Game and Fish Department

ID	Comment Text	Category	Code
7456	The Department has a number of questions regarding the Forest's management and permitting responsibility in the action: -Must the Forest Service issue a permit for mining on Forest Land? -Must the Forest Service allow dumping of mine waste on Forest Land?	PRP	06
Comment 8		☐ Attachment	

ID	Comment Text	Category	Code
7456	The Department has a number of questions regarding the Forest's management and permitting responsibility in the action: -Should the Forest allow acid leaching of mineralized rock on Forest land?	PRP	01
Comment 9		☐ Attachment	

ID	Comment Text	Category	Code
7456	The Department has a number of questions regarding the Forest's management and permitting responsibility in the action: -Could the Forest require the operator to place all mineralize rock and mining waste off Forest land (on private and patented claims)?	PRP	01
Comment 10		☐ Attachment	

ID	Comment Text	Category	Code
7456	The Department has a number of questions regarding the Forest's management and permitting responsibility in the action: -Can the Forest evaluate the validity of the unpatented mining claims before it permits mining use, and can the Forest deny the permit if the unpatented mining claims are not valid?	MLO	01
Comment 11		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Arizona Game and Fish Department

ID	Comment Text	Category	Code
7456 Comment 12	The Department has a number of questions regarding the Forest's management and permitting responsibility in the action: -Can the Forest deny the permits if they determine that the environmental landscape of the proposed action to Forest lands and surrounding lands are unacceptable?	PRP ☐ Attachment	06

ID	Comment Text	Category	Code
7456 Comment 13	The Department has a number of questions regarding the Forest's management and permitting responsibility in the action: -Does the No Action Alternative mean that no mine will be built? It would clarify the decision that the Forest must make if you clarified what the No Action Alternative encompasses.	PRP ☐ Attachment	03

ID	Comment Text	Category	Code
7456 Comment 14	The Department has a number of questions regarding the Forest's management and permitting responsibility in the action: -Is the Forest required to allow this one use - a mining operation, with associated ore-processing plant, tailings, waste rock and leach facilities, new roads, ore transportation systems, and test reclamation plots - if it will exclude all other forest uses? Because of the surface disturbance, allowing the use of Forest land for this mine will eliminate all other legitimate use of this Forest land. We believe that the Forest should clearly understand, state, and evaluate that this one use will exclude all other uses of the public's multiple-use land.	LU ☐ Attachment	01

ID	Comment Text	Category	Code
7456 Comment 15	The Department has a number of questions regarding the Forest's management and permitting responsibility in the action: -Is the Forest required to allow this one use if it permanently damages Forest lands and surrounding non-Forest lands forever?	PRP ☐ Attachment	06

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Arizona Game and Fish Department

ID	Comment Text	Category	Code
7456	The Department has a number of questions regarding the Forest's management and permitting responsibility in the action: -Pretending that this forest land will be returned to a functioning ecosystem in 20 years is fantasy.	RCL	01
Comment 16		☐ Attachment	

ID	Comment Text	Category	Code
7456	There are so many demands on land in Arizona. Human population and urban and rural development are growing at such a rate that there will soon be a time when the only land left for the public to use for recreation will be the public land. The Forest Service should consider that the highest value of Arizona public land is for public recreation	REC	99
Comment 17		☐ Attachment	

ID	Comment Text	Category	Code
7456	There are so many demands on land in Arizona. Human population and urban and rural development are growing at such a rate that there will soon be a time when the only land left for the public to use for wildlife, will be the public land. The Forest Service should consider that the highest value of Arizona public land is for and wildlife.	WL	99
Comment 18		☐ Attachment	

ID	Comment Text	Category	Code
7456	There are so many demands on land in Arizona. Human population and urban and rural development are growing at such a rate that there will soon be a time when the only land left for the public to use for wildlife, will be the public land. The Forest Service should consider that the highest value of Arizona public land is for wildlife. Same	WLD	01
Comment 19		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Arizona Game and Fish Department

ID	Comment Text	Category	Code
7456	Because the Arizona Game and Fish Department is charged with the management and protection of Arizona's wildlife, we cannot support any action that will mean the loss of a significant piece of wildlife habitat on public land.	OTH	02
Comment 20		☐ Attachment	

ID	Comment Text	Category	Code
7456	We visited the Santa Rita Management Area during the period when the test drilling was occurring, and we were greatly concerned at the amount of noise disturbance that occurred.	NO	01
Comment 21		☐ Attachment	

ID	Comment Text	Category	Code
7456	We visited the Santa Rita Management Area during the period when the test drilling was occurring, and we were greatly concerned at the amount of light disturbance that occurred.	LGT	01
Comment 22		☐ Attachment	

ID	Comment Text	Category	Code
7456	Wildlife recreationists complained to our personnel about the damage to wildlife and habitat and the damage to their wildland experience. The impact of the testing phase will be miniscule compared to the impact of the actual mine operation.	REC	01
Comment 23		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Arizona Game and Fish Department

ID	Comment Text	Category	Code
7456	We understand that Rosemont Copper Company plans to drill for water in Sahuarita, near the junction of the Santa Rita Road and Sahuarita Road. We are concerned about the cone of depression that will result, both in the Santa Cruz Valley and in the Santa Rita Mountains.	WR	03
Comment 24		☐ Attachment	

ID	Comment Text	Category	Code
7456	We understand that Rosemont Copper Company plans to drill for water in Sahuarita, near the junction of the Santa Rita Road and Sahuarita Road. We are concerned about the cone of depression that will result, both in the Santa Cruz Valley and in the Santa Rita Mountains. Same	SOL	01
Comment 25		☐ Attachment	

ID	Comment Text	Category	Code
7456	We understand that Rosemont Copper Company plans to replace their ground water withdrawl with CAP water, but at least for now that replacement water is being provided into the aquifer at Avra Valley, 36 miles away from the withdrawl site. Depositing water into the Avra Valley will do nothing for the water table that supports the wildlife habitats around the Santa Cruz River and the Santa Rita Mountains.	WL	01
Comment 26		☐ Attachment	

ID	Comment Text	Category	Code
7456	If the water table is lowered around the Santa Cruz River or in the Santa Rita Mountains, the impacts to vegetation will adversely impact wildlife (which in turn impacts wildlife recreation).	WL	01
Comment 27		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Arizona Game and Fish Department

ID	Comment Text	Category	Code
7456	If the water table is lowered around the Santa Cruz River or in the Santa Rita Mountains, the impacts to vegetation will adversely impact wildlife (which in turn impacts wildlife recreation).	REC	01
Comment 28	Same	☐ Attachment	

ID	Comment Text	Category	Code
7456	There is a concern that CAP water may not be available throughout the entire life of this mine, so replacement may not occur at all times.	WR	05
Comment 29		☐ Attachment	

ID	Comment Text	Category	Code
7456	The only way to insure that the mine does not impact water resources (and thus wildlife habitat) in the Santa Cruz basin is for the mine to use only CAP water and be prohibited from using ground water.	WR	01
Comment 30		☐ Attachment	

ID	Comment Text	Category	Code
7456	The only way to insure that the mine does not impact water resources (and thus wildlife habitat) in the Santa Cruz basin is for the mine to use only CAP water and be prohibited from using ground water.	WL	01
Comment 31	Same	☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Arizona Game and Fish Department

ID	Comment Text	Category	Code
7456	We also are concerned about the impacts that will occur and could occur to the surface on the east side of the proposed mine. Normal rainfall that will fall in Barrel Canyon will be diverted for 20+ years (or forever?). This will decrease the surface water that should flow down Barrel Canyon and into Davidson Canyon and Cienega Creek.	WR	04
Comment 32		☐ Attachment	

ID	Comment Text	Category	Code
7456	We also are concerned about the impacts that will occur and could occur to the ground water on the east side of the proposed mine. Normal rainfall that will fall in Barrel Canyon will be diverted for 20+ years (or forever?). This will decrease the ground water that should flow down Barrel Canyon and into Davidson Canyon and Cienega Creek.	WR	03
Comment 33		☐ Attachment	

Surface

ID	Comment Text	Category	Code
7456	Davidson Canyon and Cienega Creek and very important habitats for wildlife, and decreases in water flow to these habitats will adversely impact wildlife.	WL	01
Comment 34		☐ Attachment	

ID	Comment Text	Category	Code
7456	Davidson Canyon and Cienega Creek and very important habitats for wildlife, and decreases in water flow to these habitats will adversely impact wildlife. This effect will be occurring off of Forest lands. The Forest should identify how you will insure that this impact does not occur.	PRP	07
Comment 35		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Arizona Game and Fish Department

ID	Comment Text	Category	Code
7456	There is a great concern about spills from the mine polluting the ground water and surface water down-canyon from the mine. Although Rosemont Copper Company states that they will use state-of-the-art technologies to prevents spills and contamination, virtually all mines have had spills. The Forest should identify how you will insure that water is not polluted from the Rosemont Mine.	WR	06
Comment 36		☐ Attachment	

ID	Comment Text	Category	Code
7456	Any pollution of waters into Davidson Canyon and Cienega Creek will have significant adverse impacts to wildlife, including federally listed and sensitive species.	WL	01
Comment 37		☐ Attachment	

ID	Comment Text	Category	Code
7456	Any pollution of waters into Davidson Canyon and Cienega Creek will have significant adverse impacts to wildlife, including federally listed and sensitive species. Same	SSS	01
Comment 38		☐ Attachment	

ID	Comment Text	Category	Code
7456	We also have a concern about failure of reclamation to occur or to be adequte for the needs of wildlife. Rosemont Copper Company tells us that mining operations can be completely rehabilitated. However, we have never seen this occur in Arizona's dry habitats. There is always a legitimate reason for the lack of reclamation, e.g., the mine is staying open to extract ore in the future, or the original company declared bankruptcy and is no longer responsible. When this happens, the wildlife and the public who enjoy that wildlife are always the losers. One of the problems is the difficulty of establishing vegetation (at the level of a functioning ecosystem) in dry climates. The vegetative communities of the projected area developed over hundreds of years. It is virtually impossible to establish that same vegetation in short time frame. Reclamation is not successful if the result is a low-seral stage habitat (e.g. grasses and forbs) and lack mature habitat values. Those low-seral stage habitats may hold soil, but they do no provide the same functions and values for wildlife.	RCL	01
Comment 39		☐ Attachment	

DRAFT DELIBERATIVE CONTENT ONLY

Government

Arizona Game and Fish Department

ID	Comment Text	Category	Code
7456 Comment 40	We also have a concern about failure of reclamation to occur or to be adequte for the needs of wildlife. Rosemont Copper Company tells us that mining operations can be completely rehabilitated. However, we have never seen this occur in Arizona's dry habitats. There is always a legitimate reason for the lack of reclamation, e.g., the mine is staying open to extract ore in the future, or the original company declared bankruptcy and is no longer responsible.	WL ☐ Attachment	01

ID	Comment Text	Category	Code
7456 Comment 41	We also have a concern about failure of reclamation to occur or to be adequte for the needs of wildlife. Rosemont Copper Company tells us that mining operations can be completely rehabilitated. However, we have never seen this occur in Arizona's dry habitats. There is always a legitimate reason for the lack of reclamation, e.g., the mine is staying open to extract ore in the future, or the original company declared bankruptcy and is no longer responsible. When this happens, the wildlife and the public who enjoy that wildlife are always the losers.	REC ☐ Attachment	01

ID	Comment Text	Category	Code
7456 Comment 42	One of the problems is the difficulty of establishing vegeation (at the level of a functioning ecosystem) in dry climates. The vegatative communites in the project area developed over hundreds of years. It is virtually impossible to establish that same vegetation in short time frame. Reclamation is not successful if the result is a low-seral stage habitat (e.g. grasses and forbs) that lack mature habitat values. Those low-seral stage habitats may hold soil, but they do not provide the same functions and values for wildlife.	VEG ☐ Attachment	01

ID	Comment Text	Category	Code
7456 Comment 43	One of the most significant deficiencies of other mining operations on public land is inadequacy of the reclamation bond.Too often the original or subsequent operator finds default on the bond to be less expensive than completing the required reclamation. One of essentail requirements of this project would be to require a very generous reclamation, based on dollar amount at the time of reclamation. Furthermore, the Forest should find a way to prevent reclamation delays due to calims of future interest in mining.	RCL ☐ Attachment	02

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Arizona Game and Fish Department

ID	Comment Text	Category	Code
7456	As we stated above, we believe that this mine will impact wildlife, wildlife habitat in an area that is much larger than the footprint of the mine. If this mine is permitted, the entire northern portion of the Santa Rita Mountains will be virtually lost of wildlife values.	WL	01
Comment 44		☐ Attachment	

ID	Comment Text	Category	Code
7456	As we stated above, we believe that this mine will impact wildlife recreation in an area that is much larger than the footprint of the mine. If this mine is permitted, the entire northern portion of the Santa Rita Mountains will be virtually lost of wildlife values. Same	REC	01
Comment 45		☐ Attachment	

ID	Comment Text	Category	Code
7456	We fear that the Coronado National Forest will no longer accept the northern portion of the Santa Rita Mountains as a functioning ecosystem management area and will seek to dispose of the whole portion of the range north of Box Canyon. The Forest could not possibly be expected to manage the fringes of this habitat, with the heart extracted.	LU	01
Comment 46		☐ Attachment	

ID	Comment Text	Category	Code
7456	Because of this management issue, if this mine is permitted, we believe one piece of the mitigation package should be the acquisition of a block of land (an ecosystem) contiguous to the Coronado National Forest equal in size and equal in wildlife values to all the Forest land north of Box Canyon. We would not support purchase of small inholdings for exchange for Santa Rita land. The Forest should require a large contiguous ecosystem to replace the public land that has been destroyed.	PRP	11
Comment 47		☐ Attachment	

DRAFT DELIBERATIVE CONTENT ONLY

Government

Arizona Game and Fish Department

ID	Comment Text	Category	Code
7456 Comment 48	Because of this management issue, if this mine is permitted, we believe one piece of the mitigation package should be the acquisition of a block of land (an ecosystem) contiguous to the Coronado National Forest equal in size and equal in wildlife values to all the Forest land north of Box Canyon. We would not support purchase of small inholdings for exchange for Santa Rita land. The Forest should require a large contiguous ecosystem to replace the public land that has been destroyed. Since we cannot imagine where that piece of land could be found and purchased, we do not believe it is in the best public interest to permit this mine.	OTH ☐ Attachment	02

ID	Comment Text	Category	Code
7456 Comment 49	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Loss of hunting opportunity	REC ☐ Attachment	01

ID	Comment Text	Category	Code
7456 Comment 50	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Loss of game and non-game habitat	WL ☐ Attachment	01

ID	Comment Text	Category	Code
7456 Comment 51	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Loss of springs and streams	RIP ☐ Attachment	01

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Arizona Game and Fish Department

ID	Comment Text	Category	Code
7456	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	WL	01
Comment 52	-Impacts to wildlife corridors that allow wildlife movement from blocks of habitat	☐ Attachment	

ID	Comment Text	Category	Code
7456	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	SSS	01
Comment 53	-Impacts to threatened and endangered species and special status species	☐ Attachment	

ID	Comment Text	Category	Code
7456	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	WR	02
Comment 54	- Monitoring of impacts to ground and surface water (quality and quantity), and actions that will be taken if adverse impacts are shown	☐ Attachment	

ID	Comment Text	Category	Code
7456	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	WR	04
Comment 55	- Monitoring of impacts to ground and surface water (quality and quantity), and actions that will be taken if adverse impacts are shown	☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Arizona Game and Fish Department

ID	Comment Text	Category	Code
7456	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	WR	03
Comment 56	- Monitoring of impacts to ground and surface water (quality and quantity), and actions that will be taken if adverse impacts are shown	☐ Attachment	

ID	Comment Text	Category	Code
7456	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	WL	01
Comment 57	-Monitoring of wildlife impacts.	☐ Attachment	

ID	Comment Text	Category	Code
7456	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	PRP	01
Comment 58	-Funding for scientific monitoring for the life of the mine and beyond	☐ Attachment	

ID	Comment Text	Category	Code
7456	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	WL	01
Comment 59	-Impacts to wildlife from increased vehicular traffic, both on the Forest and off the Forest	☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Arizona Game and Fish Department

ID	Comment Text	Category	Code
7456	Impacts to wildlife from dust and air pollution during construction, during mining operations, and after mining has stopped, both on the Forest and off the Forest	WL	01
Comment 60		☐ Attachment	

ID	Comment Text	Category	Code
7456	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Noise effects of wildlife and recreationists	NO	01
Comment 61		☐ Attachment	

ID	Comment Text	Category	Code
7456	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -light effects on wildlife and recreationists	LGT	01
Comment 62		☐ Attachment	

ID	Comment Text	Category	Code
7456	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Impacts to wildlife habitat off-site	WL	99
Comment 63		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Arizona Game and Fish Department

ID	Comment Text	Category	Code
7456	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	WL	01
Comment 64	-Best Management Practices that protect wildlife, including birds and bats, from being killed by the toxic solutions on the site	☐ Attachment	

ID	Comment Text	Category	Code
7456	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	WL	01
Comment 65	-Habitat fragmentation	☐ Attachment	

ID	Comment Text	Category	Code
7456	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	REC	01
Comment 66	-Public access for wildlife recreation	☐ Attachment	

ID	Comment Text	Category	Code
7456	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	HZ	99
Comment 67	-Potential impacts to wildlife from accidental spills of toxic materials, both on the Forest and off-forest	☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Arizona Game and Fish Department

ID	Comment Text	Category	Code
7456	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	OTH	01
Comment 68	-Non-mining waste, such as sanitary waste and tires	☐ Attachment	

ID	Comment Text	Category	Code
7456	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	VRM	01
Comment 69	-Visual impacts of the mine to wildlife recreationists	☐ Attachment	

ID	Comment Text	Category	Code
7456	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	LU	01
Comment 70	-State Trust Land north of Las Cienegas NCA is part of the Sonoita Valley Acquisition Planning District and may be given protected status in the State Land Initiative. This land and its wildlife could be adverely impacted by the mine.	☐ Attachment	

Arizona State Land Department, Deputy State Land C

ID	Comment Text	Category	Code
7416	At this stage of the Environmental Impact Statement (EIS) process, the Arizona State Land Department (Department) is primarily concerned that the Forest Service institutes all available public information and participation procedures as soon as possible. For instance, the Department would have preferred if the Forest Service had already designated at least some Cooperating Agencies, consistent with Council on Environmental Quality regulations which advocate the participation of Cooperating Agencies "at the earliest possible time." The Department strongly recommends that the Forest Service designate Cooperating Agencies to contribute to the evaluation of the public comments already presented and to the determination of the final scope of the EIS, with the understanding that the Forest Service retains final responsibility for this determination.	PRP	03
Comment 1		☐ Attachment	

DRAFT DELIBERATIVE CONTENT ONLY

Government

Arizona State Land Department, Deputy State Land C

ID	Comment Text	Category	Code
7416 Comment 2	Opening the EIS process to the direct participation and assistance of State and local representatives will also allow for the comprehensive collection and evaluation of information relative to what needs to happen prior to the initiation and ultimate operation of the proposed project. To date, the available information has been sporadic, for instance, with respect to the off-site infrastructure and resources needed to support the project. This lack of material information has hindered the ability of the public and State and local governments to evaluate accurately the impact of the project on Tucson residents and business.	PRP ☐ Attachment	01

ID	Comment Text	Category	Code
7416 Comment 3	The Department holds in trust, for the benefit of public schools and other state institutions, hundreds of thousands of acres of land in the vicinity of the proposed Rosemont project. As noted in the Forest Services' Notice, some of that land may be needed for infrastructure to support the proposed project should it receive approval. At the same time, a significant amount of that land to the north and west of the proposed project is being planned for future, near- and long-term development. Because of the proposed project's proximity to existing urban development (and even greater proximity to future urban development), the environmental and social impacts of the mine are intertwined with a broad variety of issues. These impacts will evolve and require evaluation of not only existing conditions, but also future growth. The impact of the proposed project on water resources within the Tucson Active Management Area is only the most obvious example.	PRP ☐ Attachment	99

ID	Comment Text	Category	Code
7416 Comment 4	Ultimately with respect to the Rosemont project, the accomplishment of the Department's mission and the safeguarding of the value of the land held in trust depend on decisions that strike the best balance for the community. To achieve that balance in the Environmental Impact Statement process, the Department believes that a fully-informed and fully-open process will result in the appropriate decisions regarding the proposed Rosemont project, and any alternatives and mitigation methods which may be adopted. In this manner, the residents of Pima County can have the fullest possible confidence regarding the future of the proposed project.	PRP ☐ Attachment	03

Civil Engineering Squadron at D-M

ID	Comment Text	Category	Code
7264 Comment 1	Just received an interesting call from the Civil Engineering Squadron at D-M. Karen Odin called for the lat/long of the proposed mine. Turns out they have a military training route right over Rosemont, with flight levels as low as 300 ft above the ground. They are concerned that blasting in the area may require this route to be changed. Also, military aircraft emit a lot of electromagnetic (EM) radiation that is not desirable near a radio controlled blasting cap.	TRA ☐ Attachment	01

National Park Service

DRAFT DELIBERATIVE CONTENT ONLY

Government

National Park Service

ID	Comment Text	Category	Code
7276	The National Park Service has no comments at this time on: ER-08/0357 - Rosemont Copper Project, Coronado National Forest	OTH	01
Comment 1		☐ Attachment	

Pima County Administrator

ID	Comment Text	Category	Code
7269	As you know, Pima County wishes to be actively involved to the fullest extent possible in the National Environmental Policy Act (NEPA) process for the Rosemont Copper Project. We have previously requestd, and you have previously agreed to grant Pima County cooperator status (Attachment 1).	PRP	04
Comment 1		☑ Attachment	

While we are pleased to hear of the extension of comment period and addition of meetings, we are concerned by the Forest Service's intention to delay designating cooperators until after you have drafted the summary report of the public scoping period. We understand you believe that public scoping comments will allow you to determine which public agencies need to be invited. We had previously understood the the County would be a cooperator with the Service in this matter.

A successful scoping process needs as many interested stakeholders participating as possible. Getting obvious and identifiable cooperating agencies involved as soon as possible would allow us, and others to have an effective role. An early commitment of resources from other agencies can help the Forest Service succeed.

The cooperator status delay also has acted to preclude meaningful involvement by Pima County in other aspects of NEPA. Because of the delay in designating cooperating agencies, neither Pima County nor any other agency was afforded an opportunity to help the Forest Service define the proposed action and need, select the Environmental Impact Statement (EIS) consultant, or develop the schedule. All of these are currently viewed as collaborative opportunities under NEPA (excerpt in Attachment 2).

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Government

Pima County Administrator

ID	Comment Text	Category	Code
2577 Comment 1	The purpose of the scoping period under NEPA is to notify those who may be affected by a proposed government action that the Forest Service is beginning the EIS process. This notice requirement is to ensure that interested parties are aware of, and are able to participate meaningfully in, the entire EIS process from start to finish. The scoping period should also identify the issues that need to receive in-depth treatment in the EIS and in determining the range of actions, alternatives, and impacts from the proposed government action. The duty of the Forest Service during the scoping period is to provide adequate notice and begin a meaningful dialogue (40 CFR 1501.7) . From the publication of Federal Register Notice this process has not met this required standard. Your Federal Register Notice of February 28, 2008, finally mentions the word "scoping" on Page 5 of the internet printed notice. It states, "Following the 30-day scoping period announced in this notice, the Forest Service will prepare a draft environmental impact statement (DEIS)." However, on Page 1 of the notice it states that comments "... concerning the scope of the environmental impact statement (EIS) analysis must be received by the Coronado National Forest (Forest) within 30 days following the publication of this notice in the Federal Register." And again on Page 5, it states "Although comments are welcome at any time during the NEPA review, they will be most useful to use if they are received within 30 days following the publication of this notice."	PRP ☐ Attachment	03

ID	Comment Text	Category	Code
2577 Comment 2	As a fairly sophisticated public agency, we are somewhat confused about this notice. The general public must be completely confused as evidenced by the hostility expressed in early public meetings on this matter. In the early meetings it is obvious the public simply did not understand what they were being asked to provide. I am sure that they have little understanding of the "scoping process." Your notice states "within 30 days" in one location and "comments are welcome anytime" in another, and finally, "following the 30-day scoping period." The public must be confused as to what they are being asked to provide. There cannot be meaningful participation when the public is confused.	PRP ☐ Attachment	03

ID	Comment Text	Category	Code
7269 Comment 2	As mentioned in our letter of September 14, 2007 (Attachment 3), we continue to believe that initiation of the scoping process is premature. Augusta is continuing to conduct exploration and define its project components. This results in considerable uncertainty in the project description and therefore in understanding just where the affected communities might be. Furthermore, the mining plan of operation itself is still incomplete in many important details, such as water and smelting. Also, more time is needed to collect data so that it can be incorporated into the Draft EIS. Premature scoping increases the likelihood that a supplemental effort at scoping will be needed. This seems particularly true given the project description in the Federal Register notice dated March 13, 2008. Amendments to the project description and supplemental scoping will be both confusing and stressful to citizens, if not to the Forest Service. Another possible consequence could be the need for a supplemental EIS. We reiterate our concerns that the community is not receiving adequate information about this proposed mining action from the proponents or Forest Service. Question and answer sessions are a respectful way to foster group learning and better issue identification for the scoping. Multiple methods of accessing information are needed. The communities of interest also need better access to more detailed information than is available on Rosemont Copper's website.	PRP ☑ Attachment	02

DRAFT DELIBERATIVE CONTENT ONLY

Government

Pima County Administrator

ID	Comment Text	Category	Code
7269	In conclusion, we continue to request greater involvement in the planning process. We offer these additional comments as constructive advice, and look forward to establishing an agreement with you concerning planning on public and private lands.	PRP	04
Comment 3		☐ Attachment	

ID	Comment Text	Category	Code
2577	Finally, in the "ACTION: Notice of intent to prepare an Environmental Impact Statement" there is no indication of a scoping process being initiated, except for that section in the notice under "dates." We believe there should be re-notice in the Federal Register that is specific regarding scoping and specific regarding the purpose of the early informational meetings, which could not have been construed as scoping meetings given this notice. The new or amended notice should also include the extension of the comment period to at least the July 14, 2008 date, as announced by the Forest Service in response to Congresswoman Gifford's request, and the additional three public hearings being held currently.	PRP	03
Comment 3		☐ Attachment	

ID	Comment Text	Category	Code
2577	In the Federal Register Notice of February 28, 2008, on Page 3 of the internet-produced copy of the notice, the purpose of and need for action is defined as "The purpose of the proposed Forest Service action is to grant permission to the Company to use NFS land for certain activities related to operation of the Rosemont Mine, "while on Page 5 of the notice there are at least three decision alternatives listed, including no action. If the no action alternative is selected, how can permission be granted? Forest Service officals have stated on multiple occasions, dating back to the Congressional Field hearing held in Tucson on February 24, 2007, that the Forest Service cannot deny this mine. How can the Forest Service sufficiently analyze a no action alternative after making such statements?	PRP	03
Comment 4		☐ Attachment	

ID	Comment Text	Category	Code
2577	Another flaw in the purpose and need statement is that it is only for activities relating to operation of the mine. Does the Forest Service intend not to make any decisions with regard to closure or pose-closure activities?	PRP	03
Comment 5		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Pima County Administrator

ID	Comment Text	Category	Code
2577 Comment 6	This purpose statement as it is currenly written is inadequate, misleading, and unfairly constrains alternatives. Pima County requests that the purpose be modified to state what the project is intended to accomplish, such as "to provide copper from the mineral estate of the United States and to ensure compliance with all state, local and federal laws during and after operation of any activities relating to mining. see gfd about purpose & need statement	PRP ☐ Attachment	01

ID	Comment Text	Category	Code
2577 Comment 7	This EIS would clearly benefit from a Tiering Process. We are concerned with the development of our limited national resources. Alternatives to the proposed action are too limited or not adequately described. In the alternatives analysis, alternatives should be included that indicate the benefits derived from exploitation of the mineral estate of the nation could be accomplished at different locations and in different manners such that the adverse environmental impacts are significantly less than the Rosemont alternative. Producing copper at another location must be a real alternative. The Forest Service decision should be reviewed at the national level among competing alternatives requiring the preparation of a programmatic EIS (PEIS). At this time there are multiple proposals to develop copper from state, federal and private mineral estates in Arizona (see Attachment 1). At a minimum there should be a regional EIS, which at a regional level evaluates regional considerations. There should be completed before the site specific EIS. This process has been used by the Federal Aviation Administration to evaluate choices and alternatives to providing national aviation services. cumulative effects?	PRP ☑ Attachment	01

ID	Comment Text	Category	Code
2577 Comment 8	We believe that such an alternatives analysis is certainly contemplated within the National Environmental Policy Act (NEPA). However, we also understand that such an interpretation would be fertile ground litigation. Nevertheless, we believe such an alternatives analysis is exactly what was contemplated in the Act - to arrive at the least environmental harm for the same benefit. The concept of the alternatives analysis described above is clearly relevant in today's global economy. By what means will alternative proposals for copper extraction from the nation's mineral estate be weighed?	PRP ☐ Attachment	03

ID	Comment Text	Category	Code
2577 Comment 9	The Upper Santa Cruz River groundwater basin is not in equilibrium and is in serious jeopardy due to the groundwater overdraft proposed by Rosemont. This is an irreversible and irretrievable commitment of vital water resources.	WR ☐ Attachment	03

DRAFT DELIBERATIVE COMMENT ONLY

Government

Pima County Administrator

ID	Comment Text	Category	Code
2577	There are numerous news reports of Rosemont extending a distribution pipeline to convey CAP surface water to a recharge site yet to be defined without specifics, contracts or financial commitments by Rosemont. This pipeline is of little or no benefit without recharge facilities that must be directly interrelated to the groundwater that is proposed to be withdrawn by Rosemont.	WR	05
Comment 10		☐ Attachment	

ID	Comment Text	Category	Code
2577	In addition, the quality of the surface water being replaced to offset Rosemont groundwater depletion is vastly inferior in quality to the groundwater being proposed for withdrawal by Rosemont.	WR	04
Comment 11		☐ Attachment	

ID	Comment Text	Category	Code
2577	Water impacts to urban and agricultural users are a major adverse environmental impact of the Rosemont proposal, consisting of an irreversible and irretrievable commitment of resources, which would not be necessary except for the action of Rosemont. What specific studies will the Forest Service commission to evaluate water resource needs, impacts, and alternatives?	WR	01
Comment 12		☐ Attachment	

ID	Comment Text	Category	Code
2577	The responsible agency must thoroughly examine water resources, water quality, air quality, biological resources, economic effects, locally generated plans and cumulative impacts. This project clearly has complex impacts in all these categories, requiring expert analysis and review. Peer review of technical documents has been recommended as a means of improving environmental outcomes, based on a review of NEPA's inadequacies in predicting and mitigating water quality impacts (Attachment 3).	PRP	03
Comment 13		☑ Attachment	

DRAFT - DELIBERATIVE CONTENT ONLY

Government

Pima County Administrator

ID	Comment Text	Category	Code
2577 Comment 14	We would suggest that the Service institute an independent peer review process. The County benefitted significantly from a scientifically valid and independent peer review process when developing the sometimes contoversial Sonoran Desert Conservation Plan. We believe that the scientific and technical studies necessary for defining the environmental imapcts of the Rosemont proposal would also benefit from a valid and independent expert peer review process. Will the Forest Service establish such a process to validate the studies and other information provided by Rosemont? Anything less will be inadequate.	PRP ☐ Attachment	01

ID	Comment Text	Category	Code
2577 Comment 15	Perhaps the most important component of the public review process for EIS development is related to information development control and release. As previously mentioned, 40 CFR section 1501.7 mandates that the scoping process bring about meaningful dialogue with affected parties. This process must be honest and completely transparent. To date, release of techincal information to the general public has been largely controlled by Rosemont. The Forest Service receives documents months before they have been made available to the public. One document cited in the Plan of Operations, Westland (2007) Biological Resources and Mitigation Concept: Rosemont Project still has not been released to the public. Nor has the public has access to the Forest Service record of correspondence. This is not acceptable.	PRP ☐ Attachment	01

ID	Comment Text	Category	Code
2577 Comment 16	Meaningful dialogue requires the availability of relevant information. The Service must take control of this process to ensure transparency and accountability in developing the EIS of the proposed Rosemont action.	PRP ☐ Attachment	03

ID	Comment Text	Category	Code
2577 Comment 17	Rosemont has initiated a slight-of hand solution to this program by recharging Central Arizona Project (CAP) surface water. However, they are recharging this water in the Avra hydrogeologic basin 36 miles away and 800 feet below the proposed well fields. The proposed well fields are located in a different hydrogeologic basin where the aquifer is shared by residents of the Town of Sahuarita, City of Tucson, San Xavier District of Tohono O'odham Nation, and unincorporated Pime County (Attachment 2). This replenishment is of no beneift to the affected area and would not in any way offset the groundwater depletion contemplated by Rosemont. It merely displaces CAP water that would otherwise be stored by the Arizona Water Bank in Marana.	WR ☑ Attachment	05

Water Quality Division of the AZ Dept of Env. Qual

DRAFT DELIBERATIVE CONTENT ONLY

Government

Water Quality Division of the AZ Dept of Env. Qual

ID	Comment Text	Category	Code
7150 Comment 1	The Arizona Department of Environmental Quality Water Quality Division (ADEQ) submits the following comments, which should be evaluated in the development of the Environmental Impact Statement (EIS) for the Rosemont Copper Project. The proposed mining project would be located on 995 acres of private land and 3,300 acres of National Forest System land about 30 miles southeast of Tucson, Arizona, in Pima County, AZ. Land under the jurisdiction of the U.S. Department of the Interior (3300 acres), Bureau of Land Management (15 acres), and the State of Arizona trust lands (75 acres) may be affected by certain activities associated with the proposed project, which is anticipated to produce ore over a period of approximately 20 years.	OTH ☐ Attachment	01

ID	Comment Text	Category	Code
7150 Comment 2	The Rosemont copper deposit consists of both sulfide and oxide ore types which require separate processing methods to recover the copper and associated metals. Waste rock storage areas will be placed in Barrel Canyon. The sulfide ore will be processed using a mill and flotation method. The waste material from this process will be deposited in tailings storage areas in lower Barrel Canyon. The oxide ore will be processed using heap-leaching and solvent extraction electowinning. Ancillary facilities will include administration buildings, warehouse, laboratory, truck stop and fuel depot, powder magazines and ammonium nitrate storage silos. Operational infrastructure will include roads, power, water, septic systems and stormwater controls.	PRP ☐ Attachment	01

ID	Comment Text	Category	Code
7150 Comment 3	Project-related activities to be addressed in the EIS include, but are not be limited to, the following: Construction, operation and reclamation of an open-pit copper, silver and molybdenum mine; Construction, operation, and reclamation of an ore-processing plant, tailings, waste rock and leach facilities; Construction and operation of infrastructure, such as utilities, and their corridors;	PRP ☐ Attachment	03

ID	Comment Text	Category	Code
7150 Comment 4	Project-related activities to be addressed in the EIS include, but are not be limited to, the following: Construction, operation and reclamation of an open-pit copper, silver and molybdenum mine; Construction, operation, and reclamation of an ore-processing plant, tailings, waste rock and leach facilities; Construction and operation of infrastructure, such as utilities, and their corridors; Construction of a new access road, leach field, retention structures, wells and water supply pipeline, ore transportation systems, and test reclamation plots;	TRA ☐ Attachment	01

DRAFT DELIBERATIVE CONTENT ONLY

Government

Water Quality Division of the AZ Dept of Env. Qual

ID	Comment Text	Category	Code
7150 Comment 9	Project-related activities to be addressed in the EIS include, but are not be limited to, the following: Construction, operation and reclamation of an open-pit copper, silver and molybdenum mine; Construction, operation, and reclamation of an ore-processing plant, tailings, waste rock and leach facilities; Construction and operation of infrastructure, such as utilities, and their corridors; Construction of a new access road, leach field, retention structures, wells and water supply pipeline, ore transportation systems, and test reclamation plots; Use of existing roads and new road construction; Implementation of mitigation measures to avoid or minimize impacts; and	PRP ☐ Attachment	11

ID	Comment Text	Category	Code
7150 Comment 10	Project-related activities to be addressed in the EIS include, but are not be limited to, the following: Construction, operation and reclamation of an open-pit copper, silver and molybdenum mine; Construction, operation, and reclamation of an ore-processing plant, tailings, waste rock and leach facilities; Construction and operation of infrastructure, such as utilities, and their corridors; Construction of a new access road, leach field, retention structures, wells and water supply pipeline, ore transportation systems, and test reclamation plots; Use of existing roads and new road construction; Implementation of mitigation measures to avoid or minimize impacts; and Closure, reclamation and maintenance of the mine and related facilities.	RCL ☐ Attachment	01

ID	Comment Text	Category	Code
7150 Comment 11	Based on a review of the Mine Plan of Operations, the following ADEQ water quality permitting and other requirements will be applicable to this project. Mine Construction & Operation Groundwater quality in Arizona is protected under ADEQ's Aquifer Protection Permit (APP) Program. All aquifers in Arizona are protected as a drinking water source. An area-wide individual APP, meeting Best Available Demonstrated Control Technology requirements and Aquifer Water Quality Standards at the point of compliance, will be needed for any and all categorical discharging facilities and activities that may result in the discharge of pollutants to the aquifer, including but not limited to: construction, operation and reclamation of ore-processing; and tailings, waste rock and leaching facilities. For questions regarding the APP for mine operations, please contact Michele Robertson at 602-771-4827 or by email at mir@azdeq.gov.	WR ☐ Attachment	01

DRAFT-DELIBERATIVE CONTENT ONLY

Water Quality Division of the AZ Dept of Env. Qual

ID	Comment Text	Category	Code
7150 Comment 5	Project-related activities to be addressed in the EIS include, but are not be limited to, the following: Construction, operation and reclamation of an open-pit copper, silver and molybdenum mine; Construction, operation, and reclamation of an ore-processing plant, tailings, waste rock and leach facilities; Construction and operation of infrastructure, such as utilities, and their corridors; Construction of a new access road, leach field, retention structures, wells and water supply pipeline, ore transportation systems, and test reclamation plots;	PRP ☐ Attachment	03

ID	Comment Text	Category	Code
7150 Comment 6	Project-related activities to be addressed in the EIS include, but are not be limited to, the following: Construction, operation and reclamation of an open-pit copper, silver and molybdenum mine; Construction, operation, and reclamation of an ore-processing plant, tailings, waste rock and leach facilities; Construction and operation of infrastructure, such as utilities, and their corridors; Construction of a new access road, leach field, retention structures, wells and water supply pipeline, ore transportation systems, and test reclamation plots;	WR ☐ Attachment	01

ID	Comment Text	Category	Code
7150 Comment 7	Project-related activities to be addressed in the EIS include, but are not be limited to, the following: Construction, operation and reclamation of an open-pit copper, silver and molybdenum mine; Construction, operation, and reclamation of an ore-processing plant, tailings, waste rock and leach facilities; Construction and operation of infrastructure, such as utilities, and their corridors; Construction of a new access road, leach field, retention structures, wells and water supply pipeline, ore transportation systems, and test reclamation plots;	PRP ☐ Attachment	03

ID	Comment Text	Category	Code
7150 Comment 8	Project-related activities to be addressed in the EIS include, but are not be limited to, the following: Construction, operation and reclamation of an open-pit copper, silver and molybdenum mine; Construction, operation, and reclamation of an ore-processing plant, tailings, waste rock and leach facilities; Construction and operation of infrastructure, such as utilities, and their corridors; Construction of a new access road, leach field, retention structures, wells and water supply pipeline, ore transportation systems, and test reclamation plots; Use of existing roads and new road construction;	TRA ☐ Attachment	01

Water Quality Division of the AZ Dept of Env. Qual

ID	Comment Text	Category	Code
7150 Comment 12	Stormwater discharges associated with construction activities (including clearing, grading, or excavating), which disturb one acre or more must obtain a permit for such discharges under the Arizona Pollutant Discharge Elimination.System (AZPDES) program. A general permit is available for this activity. A Stormwater Pollution Prevention Plan (SWPPP) must be prepared and implemented during the course of construction. If general permit coverage is applicable, the SWPPP must comply with the SWPPP requirements of the Construction Stormwater General Permit, and must identify such elements as the project scope, anticipated acreage of land disturbance, and the best management practices, or BMPs, that would be implemented to reduce soil erosion and contain and/or minimize the pollutants that might be released to waters of the U.S. In addition to preparing the SWPPP, the project proponent would need to file for permit coverage prior to construction. The Construction General Permit, SWPPP checklist, and associated forms are available on ADEQ's website at: http://www.azdeq.gov/environ/water/permits/stormwater.html#const. For questions regarding the Construction Stormwater General Permit, please contact Christopher Henninger at 602-771-4508 or by email at cph@azdeq.gov. In addition, an AZPDES Multi-Sector General Permit (MSGP) is a separate stormwater permit that is required of any operator that conducts mining activities, including the exploration and construction phase as well as the active and reclamation phases. Operators of these facilities must develop and implement SWPPPs, which includes BMPs that would be implemented to reduce soil erosion and contain and/or minimize the pollutants that might be released to waters of the U.S. The mining operator is required to implement the appropriate sector-specific requirements as described in the MSGP, which is Sector G: Metal Mining (Ore Mining and Dressing) activates. The most recent MSGP is the MSGP 2000, which expired October 30, 2005. The Environmental Protection Agency (EPA) has not issued a new MSGP yet. Facilities with coverage under MSGP 2000 before it expired are granted an administrative continuance. Those facilities already covered under MSGP 2000 must continue to implement their SWPPP and comply with the requirements in the MSGP 2000. The administrative continuance will remain in effect until a new permit is issued. Facilities that did not obtain coverage under MSGP 2000 before its expiration will not have general permit coverage until EPA or ADEQ issues a new general permit. In the interim, in general, ADEQ requests that any facilities that did not have coverage under MSGP 2000 still use the SWPPP and BMPs recommended for that sector. Information on the MSGP can be found at: http://www.azdeq.gov/environ/water/permits/msgp.html. For questions on the MSGP coverage for this project, please contact Dennis Turner at 602-711-4501 or e-mail at dt1@azdeq.gov. ADEQ may require an industrial facility to apply for an individual stormwater permit.	WR ☐ Attachment	07

ID	Comment Text	Category	Code
7150 Comment 13	Sanity Waste Management The planned actions include installation of onsite wastewater treatment systems, which will require Aquifer Protection Permits. The Aquifer Protection Permit program had general permits for both conventional and alternative on-site systems that have design flows of less than 3,000 gallons per day (gpd) or for multiple systems on a site under common ownership with flows of less than 24,000 gpd. ADEQ has delegated the review and approval of these Type 4 general permits to Pima County Department of Environmental Quality. If the flows are in excess of 24,000 gpd, and individual permit will be issued by ADEQ from the Phoenix Office. For questions about general permits for onsite wastewater treatment systems, please contact Kwame Agyare at 602-771-4664 or email at ka2@azdeq.gov. or the Pima County Department of Environmental Quality.	WR ☐ Attachment	01

Government

Water Quality Division of the AZ Dept of Env. Qual

ID	Comment Text	Category	Code
7150 Comment 14	Water Supply and Delivery Pipeline Rosemont has decided to obtain its water supply from the Santa Cruz basin to the west of project site. Rosemont has committed to the local community to use available CAP water to recharge the aquifer to offset the production withdrawals. The total life-of-mine usage is estimated at 100,000 AF. Rosemont began recharging CAP water in state-permitted facilities the Santa Cruz basin in 2007. As available storage capacity may be limited for existing facilities, Rosemont is evaluating construction of a new recharge facility in close proximity to its production site.	WR ☐ Attachment	05

ID	Comment Text	Category	Code
7150 Comment 15	ADEQ has issued a Mitigation Order on Consent (Mitigation Order) to Freeport-McMoRan Sierrita Inc. (formerly Phelps Dodge Sierrita Inc.) to address sulfate contamination in groundwater in the vicinity of the Sierrita mine in Green Valley, Arizona. The Mitigation Order requires Freeport-McMoRan Sierrita Inc., among other things, to characterize the full extent of the sulfate contamination, conduct studies regarding the fate, transport, and containment of the sulfate contamination, and ultimately, ensure that drinking water in private and public water system wells impacted by sulfate meets the secondary Maximum Contaminant Level of 250 mg/L for sulfate. Freeport-McMoRan Sierrita Inc. presently is studying the feasibility of options to mitigate the sulfate contamination. Any groundwater withdrawal or recharge associated with the Rosemont mine project must not adversely impact current and planned activities related to the study and mitigation of the sulfate contamination and the provision of drinking water from private and public water system wells in compliance with the Mitigation Order. For questions regarding the Mitigation Order, please contact Cynthis Campbell at 602-771-2209 or by email at csc@azdeq.gov.	WR ☐ Attachment	06

ID	Comment Text	Category	Code
7150 Comment 16	The production water dilivery system will consist of 20-inch ductile iron pipe, pump stations and associated power lines. Installation of the pipeline and related infrastructure will likely disturb greater than one acre of ground and, as noted above, will require coverage under the Arizona Pollutant Discharge Elimination System (AZPDES) program. A Stormwater Pollution Prevention Plan (SWPPP) must be prepared and implemented during the course of construction and can be written to cover all applicable discharges. Activities such as hydrostatic testing of pipeline segments and aquifer testing that discharge to surface waters will require coverage under the AZPDES permitting program. Depending on the activity, location and volume of the discharge and the known quality of the water, an individual AZPDES permit may be required. Alternately, authorization for such activities that will result in de minimus discharges to surface waters may be available under the AZPDES De Minimus General Permit. The De Mimimus General Permit requires filing of a Notice of Intent to Discharge and preparation and implementation of a best management practices (BMP) plan to ensure surface water quality standards are met. Further information on these permits can be found at http://www.azdeq.gov/environ/water/permits/azpdes.html. In addition, the Aquifer Protection Permit program has a General Permit Type 1.02 that allows discharges from the hydrostatic testing of new pipelines subject to certain conditions (See A.A.C. R18-9-B301(B)).	WR ☐ Attachment	01

DRAFT DELIBERATIVE CONTENT ONLY

Government

Water Quality Division of the AZ Dept of Env. Qual

ID	Comment Text	Category	Code
7150 Comment 17	Surface Water Protection Surface water quality standards are based on the state-adopted beneficial uses of the surface water. These are defined and classified in the Arizona Administrative Code (A.A.C.) Title 18, Chapter 11, Article 1. Most of the surface waters directly impacted by the proposed project are ephemeral waters that carry aquatic & wildlife ephemeral water and partial body contact designed uses and associated standards. However, discharges to surface waters flowing north and east may result in impacts to both Cienega Creek and to Davidson Canyon Creek. Cienega Creek is protected under the Clean Water Act and Arizona law as an outstanding resource water. Additionally, Davidson Canyon Creek is expected to receive an outstanding resource water designation under the Clean Water Act and Arizona law by this Fall. As outstanding resource waters, these surface waters are protected from any degradation of existing water quality. Both Cienega and Davidson Canyon Creeks are perennial surface waters and carry the following designated uses and associated standard found in AAC Title 18, Chapter 11, Article 1: Cienega Creek — aquatic & wildlife, warm water; full body contact; fish consumption; agricultural livestock watering Davidson Canyon Creek — aquatic & wildlife, warm water; full body contact; fish consumption; agricultural livestock watering In order to facilitate our review of the EIS, it should identify potential impacts caused directly, indirectly and cumulatively to Arizona surface waters and what steps will be taken by the project proponent and the Forest Service to ensure the applicable and appropriate water quality standards will be met and maintained if the project goes forward.	WR ☐ Attachment	02

ID	Comment Text	Category	Code
7150 Comment 18	Surface Water Protection Surface water quality standards are based on the state-adopted beneficial uses of the surface water. These are defined and classified in the Arizona Administrative Code (A.A.C.) Title 18, Chapter 11, Article 1. Most of the surface waters directly impacted by the proposed project are ephemeral waters that carry aquatic & wildlife ephemeral water and partial body contact designed uses and associated standards. However, discharges to surface waters flowing north and east may result in impacts to both Cienega Creek and to Davidson Canyon Creek. Cienega Creek is protected under the Clean Water Act and Arizona law as an outstanding resource water. Additionally, Davidson Canyon Creek is expected to receive an outstanding resource water designation under the Clean Water Act and Arizona law by this Fall. As outstanding resource waters, these surface waters are protected from any degradation of existing water quality. Both Cienega and Davidson Canyon Creeks are perennial surface waters and carry the following designated uses and associated standard found in AAC Title 18, Chapter 11, Article 1: Cienega Creek — aquatic & wildlife, warm water; full body contact; fish consumption; agricultural livestock watering Davidson Canyon Creek — aquatic & wildlife, warm water; full body contact; fish consumption; agricultural livestock watering In order to facilitate our review of the EIS, it should identify potential impacts caused directly, indirectly and cumulatively to Arizona surface waters and what steps will be taken by the project proponent and the Forest Service to ensure the applicable and appropriate water quality standards will be met and maintained if the project goes forward.	WR ☐ Attachment	99

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Water Quality Division of the AZ Dept of Env. Qual

ID	Comment Text	Category	Code
7150 Comment 19	If project activities will occur inside the ordinary high water mark of any water of the U.S., an U.S. Army Corps of Engineers-issued Clean Water Act (CWA) section 404 permit (a.k.a. dredge and fill permit) may be required. If a 404 permit is required for the project, a state-issued CWA section 401 certification of the permit will be required. The U.S. Army Corps of Engineers will include the conditions of the CWA 401 certification as requirements of the Section 404 permit to ensure that the permitted activites will not result in a violation of the State's surface water quality standards. For questions relating to CWA 401/404 please contact Bob Scalamera at 602-771-4502 or by e-mail at RS3@azdeq.gov. The CWA 401 application form can be downloaded from the agency website at: http://www.azdeq.gov/function/forms/appswater.html#dredge	WR ☐ Attachment	01

ID	Comment Text	Category	Code
7150 Comment 20	ADEQ has no record of receiving an invitation to participate in the scoping of this EIS. Please ensure future notices regarding the EIS for this project are sent to my attention at the following address: Joan Card, Director Water Quality Division Arizona Departmnet of Environmental Quality 1110 W. Washington Street Phoenix, AZ 85007	PRP ☐ Attachment	04

Mayor of Patagonia

ID	Comment Text	Category	Code
1632 Comment 1	As mayor of Patagonia, AZ I am very concerned that mining in the Santa Rita mountains will result in serious degradation of the quality of life in the town of Patagonia.	SOC ☐ Attachment	05

ID	Comment Text	Category	Code
1632 Comment 2	The increased vehicle & particularily the resulting truck traffic	TRA ☐ Attachment	02

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Mayor of Patagonia

ID	Comment Text	Category	Code
1632	The increased vehicle & particularily the resulting truck traffic trhough the town as trucks travel to the East side of the Santa Ritas will be a safety hazard and be disturbing to the community.	TRA	05
Comment 3		☐ Attachment	

ID	Comment Text	Category	Code
1632	I am also concerned about potential degradation of the town water supply.	WR	01
Comment 4		☐ Attachment	

Tohono O'Odam Nation

ID	Comment Text	Category	Code
8857	My name is Saso Villegas, Director of Natural Resources, Tohono O'Odahm Nation. I'm requesting that we would like to send a place holder letter, because we intend to submit any comments as soon as possible.	PRP	01
Comment 1		☐ Attachment	

ID	Comment Text	Category	Code
6831	I just want to say at the end of this process that I continue, as I mentioned, wondering what will the Forest Service do, but I'm hoping that they've listened to the citizens that have come out time and time again and spoke from their heart, not from some greed, but from their heart, not from some corporate talking points list, not from some company line that has been fed to them time and time again at what they should say and how they should say it at these types of hearings, and lastly, I've never been fooled by the type of people that would actually round up the economically vulnerable of our community, tell them what to say, and bus them to meetings like this. That was despicable.	PRP	08
Comment 1		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

ID	Comment Text	Category	Code
6776 Comment 1	I'll tell you what, I'm glad to be here. But I'm kind of surprised that there weren't any signs pointing to this auditorium on the road. Weren't you? You know, it doesn't surprise me. You know, sometimes I think that the whole process has been largely controlled by Rosemont Copper Company here. And, you know, it isn't us or them, it isn't us or them when I look at it.	PRP ☐ Attachment	02

ID	Comment Text	Category	Code
6831 Comment 2	So I stand with the people in this audience who are smiling at my comments, who are saing this is how we feel, not with those that are coming down and telling us that the terrorists are going to win if we don't allow this mine in southern Arizona.	OTH ☐ Attachment	02

ID	Comment Text	Category	Code
6776 Comment 2	You know, we're hd to protest, agitate, harass the U. S. Forest Service from county, state, and federal elective offices to get this type of an open hearing. But we also had to remind them that in Green Valley we do not hold land use meetings between the months of May to October, that this thing should be delayed. Because if they could get 300 people in Elgin, they should be able to get 3,000 people in Green Valley because of the type of thing that the lady mentioned with the dust that we have experienced, with the water reduction, and the groundwater experience that we have had due to the mines. Now I want you to know that I have met with the Forest Service representatives, and I expressed that. And I hope that as they say we will impact the process, that we will have meetings in October for people who are well spoken and well thought to speak in Green Valley sometime soon. And October would be great. Any time around those months between October and May suit me just fine, and I know they suit the people fine who represent Green Valley through the Community Coordinating Counsel and other political offsets.	PRP ☐ Attachment	02

ID	Comment Text	Category	Code
6831 Comment 3	Another -- another failed attempt at appealing to out -- it's like the person at the last meeting down in Sahuarita who said where are Iraq and Afghanistani veterans going to work when they come back from the war? Well, certainly not in the the near future at any mine in the Santa Ritas, I hope.	OTH ☐ Attachment	02

DRAFT DELIBERATIVE CONTENT ONLY

Government

ID	Comment Text	Category	Code
6831	Please, leave our natural resources intact and leave the Santa Ritas as they are. They're holy places, they're divine, and they need to be protected and they need to be worshipped, not destroyed and put asunder.	OTH	02
Comment 4		☐ Attachment	

ID	Comment Text	Category	Code
6712	This is a technically, very complex issue, and it's an emotionally charged issue. So it's critical that the review process be transparent and fully open to public input.	PRP	01
Comment 1		☐ Attachment	

ID	Comment Text	Category	Code
6712	These meetings are a critical part of the Scoping Process. And I came here tonight to emphasize the importance of listening to members of the community about the Proposed Mining Operation.	PRP	02
Comment 2		☐ Attachment	

ID	Comment Text	Category	Code
6712	I commend the Forest Service for extending the Scoping Process from 30 days to 120 days. Thank you. An undertaking of this significance requires sufficient tiem for all the issues to be identified before the Environmental Impact Statement, or the EIS, is prepared, and 30 days simply was not long enough.	PRP	03
Comment 3		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

ID	Comment Text	Category	Code
6712 Comment 4	Additionally, it's important that the community and every relevant agency be included in the review of all aspects of the impact this Proposed Mine will have on the area and on its residents.	PRP ☐ Attachment	01

ID	Comment Text	Category	Code
6712 Comment 5	The Forest Service has made the right decision to establish work groups to participate in the review of the analysis that's going to be identified through the EIS. The involvement of citizens and agency experts will be critical to the credibility of the process. So I urge the Forest Service to move as quickly as possible to establish these work groups, to ensure that memberhsip is diverse, and that we will truly have a representative voice from the community that will speak to how the mine will affect their way of life and the community in which we live. Now to have maximum benefit from these work groups, they should be brought into the process, in my opinion, during the Scoping Process so we get all the voices at the table as soon as possible. These work groups will further enhance the credibility of the Scoping Process, and will show the community that their interests will be -- continue to be considered as the EIS's are reviewed.	PRP ☐ Attachment	05

ID	Comment Text	Category	Code
6712 Comment 6	We know that hard rock mines and hard rock minerals provide essential components to our lives, from the vehicles we drive, to the technology that we use, to the electronics and computers. But not just additionally these minerals, we know that good jobs and economic opportunities have come with mining. But here in Arizona, known as the copper state, we've also had a negative legacy with mining, as well, and we can't ignore that fact. In Southern Arizona we know that negative impacts have affected our community, and they have to be taken into consideration.	OTH ☐ Attachment	01

ID	Comment Text	Category	Code
6712 Comment 7	So the Scoping Process, which is now underway, must ensure that all potential impacts of the mine must be identified and properly analyzed.	PRP ☐ Attachment	02

DRAFT-DELIBERATIVE CONTENT ONLY

Government

ID	Comment Text	Category	Code
6712	I have a list of questions that I'm going to leave here ranging from water, air pollution, noise pollution, safety, energy needs, roads, economic impacts, restoration. I'm sure you're going to hear a lot about this from the public tonight.	WR	01
Comment 8		☐ Attachment	

ID	Comment Text	Category	Code
6712	I have a list of questions that I'm going to leave here ranging from water, air pollution, noise pollution, safety, energy needs, roads, economic impacts, restoration. I'm sure you're going to hear a lot about this from the public tonight.	AQ	01
Comment 9		☐ Attachment	

ID	Comment Text	Category	Code
6712	I have a list of questions that I'm going to leave here ranging from water, air pollution, noise pollution, safety, energy needs, roads, economic impacts, restoration. I'm sure you're going to hear a lot about this from the public tonight.	NO	01
Comment 10		☐ Attachment	

ID	Comment Text	Category	Code
6712	I have a list of questions that I'm going to leave here ranging from water, air pollution, noise pollution, safety, energy needs, roads, economic impacts, restoration. I'm sure you're going to hear a lot about this from the public tonight.	PHS	01
Comment 11		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

ID	Comment Text	Category	Code
6712	I have a list of questions that I'm going to leave here ranging from water, air pollution, noise pollution, safety, energy needs, roads, economic impacts, restoration. I'm sure you're going to hear a lot about this from the public tonight.	OTH	01
Comment 12		☐ Attachment	

ID	Comment Text	Category	Code
6712	I have a list of questions that I'm going to leave here ranging from water, air pollution, noise pollution, safety, energy needs, roads, economic impacts, restoration. I'm sure you're going to hear a lot about this from the public tonight.	TRA	01
Comment 13		☐ Attachment	

ID	Comment Text	Category	Code
6712	I have a list of questions that I'm going to leave here ranging from water, air pollution, noise pollution, safety, energy needs, roads, economic impacts, restoration. I'm sure you're going to hear a lot about this from the public tonight.	SOC	01
Comment 14		☐ Attachment	

ID	Comment Text	Category	Code
6712	I have a list of questions that I'm going to leave here ranging from water, air pollution, noise pollution, safety, energy needs, roads, economic impacts, restoration. I'm sure you're going to hear a lot about this from the public tonight.	RCL	01
Comment 15		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

ID	Comment Text	Category	Code
6712	Again, just to ensure that the EIS covers all the relevant questions and concerns, I want to reiterate that the Forest Service should work with working groups, pull the community together, accountability is everything. And I want to thank everyone for being here tonight. Thank you.	PRP	05
Comment 16		☐ Attachment	

ID	Comment Text	Category	Code
6854	What are the operations and alternatives to this site? And why not places like Ajo, Kingman, Ruby, San Manuel, Bisbee? There's a lot of opportunity in those communities for -- and they'd more than welcome these investment bankers that want to go after copper. Why not these locations? Well, that leads us to our second question. Will the Augusta investors be satisfied? No. Why? Why not? Their business plan has been sold to the investment bankers and they're not going to be satisfied with going to a lovely community like Ajo and working on a business plan for Ajo or San Manuel if they could crush that mother lode up there and still have plenty of resource for copper.	OTH	01
Comment 1		☐ Attachment	

ID	Comment Text	Category	Code
6854	will our Pima County voters be satisfied? No. Three out of four of them are not going to be satisfied. They do not think this site is an appropriate area for private self-interests of specifically investment bankers. These investment bankers have no experience in Arizona; they're here for their taste of globalism. And that's -- that's the sad commentary about where we're going with this -- with this issue.	TEC	01
Comment 2		☐ Attachment	

ID	Comment Text	Category	Code
6854	politicians need to represent citizen taxpayers 80 percent of the time, not 20. And this is an issue of taxation where our citizen taxpayers are representing themselves, believe me.	OTH	01
Comment 3		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

ID	Comment Text	Category	Code
6868	The state of Arizona is not equipped to have a federal agency come into the state to establish a copper mining operation. We need state hydrology studies from our own water resource department. We should also have immediate statistics as to the depth of the aquifer and the amounts of water that is in the aquifer right now. The water resources department needs more state funds to help us be better informed. Even the Arizona Chamber of Commerce thinks that this is true, and that we should -- and that they should have more funds.	WR	03
Comment 1		☐ Attachment	

ID	Comment Text	Category	Code
6868	I can understand that the mining industry has more environmental credentials today, and they perhaps do it.	OTH	01
Comment 2		☐ Attachment	

ID	Comment Text	Category	Code
6785	And I want to address the subject of something green. And I'm not talking about the green sludge that will run off the tainted mine pilings into our groundwater, I'm talking about money. They talk jobs. I was just driving up and down Sahuarita Road and I saw ASARCO miners on strike for quite some time because their wages hadn't been increased in years, and they were losing their benefits. So I can't imagine that Augusta is going to be kinder to their employees than ASARCO folks were.	SOC	06
Comment 1		☐ Attachment	

ID	Comment Text	Category	Code
6782	My big concern here is the use of U.S. 83, which is a designated scenic highway, as an industrial corridor for mining operations.	TRA	03
Comment 1		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

ID	Comment Text	Category	Code
6782 Comment 2	My big concern here is the use of U.S. 83, which is a designated scenic highway, as an industrial corridor for mining operations. In the last 27 years I have been to some accidents down on U.S. 83 that you would not want to know the grim details of. And we get those quite frequently. I don't believe that hazardous materials, sulfuric acid tankes, explosives, and 23 ton ore trucks are compatible with school buses, motorcyclists, and tourist, and the residents of U.S. 83.	TRA ☐ Attachment	05

ID	Comment Text	Category	Code
6785 Comment 2	But our medics and our fire fighters will be required to respond to accidents along U.S. 83. And when we talk about Mr. Sturgess, about recompense, or what they're planning on doing about emergency services out there, he assured us they would have first aid at the mine site. I'm not sure first aid at the mine site was of utmost concern to the tax payers in my fire district.	PHS ☐ Attachment	01

ID	Comment Text	Category	Code
6782 Comment 3	The water issue is on everybody's mind too. And as firefighters we need fire flow. And we would really hate to see the water problem be any worse than it is now.	FIR ☐ Attachment	01

ID	Comment Text	Category	Code
6785 Comment 3	What we're concerned about is the money it's going to cost us to fund emergency responses on U. S. 83. And I think that needs to be considered by the Forest Service. I think that needs to be considered by all of the other government agencies, because I can assure you my government agency is extremely concerned about it.	PHS ☐ Attachment	01

DRAFT-DELIBERATIVE CONTENT ONLY

Government

ID	Comment Text	Category	Code
6782 Comment 4	But my big concern is the safety of the drivers on U.S. 83. And we are, by default, unfortunately, the first due rescue squad from I-10 and U.S. 83 to milepost 43 on U.S. 83, which we have a nickname for, dead man's curve. And dead man's curve earned that reputation, and I don't want any more dead man curves on U.S. 83. So I encourage the Forest Service to consider this.	TRA ☐ Attachment	05

ID	Comment Text	Category	Code
6880 Comment 1	I write to you on the official comment record under the scoping process of the Environmental Impact Statement for the proposed Rosemont Copper Mine Project. I urge the Coronado National Forest to reject the proposed project.	OTH ☐ Attachment	02

ID	Comment Text	Category	Code
6880 Comment 2	One serious unresolved issue is whether the applicant has a valid mining claim on Forest Service land when the preliminary plan of operations shows this land being used only for the dumping of mine overburden, not for removal of a mineral of value.	MLO ☐ Attachment	01

ID	Comment Text	Category	Code
6880 Comment 3	I will focus next on the two most critical aspects of the proposal - its impact on our precious limited water resources, and its impact on our transportation system.	WR ☐ Attachment	01

DRAFT DELIBERATIVE CONTENT ONLY

Government

ID	Comment Text	Category	Code
6880	I will focus next on the two most critical aspects of the proposal - its impact on our precious limited water resources, and its impact on our transportation system.	TRA	01
Comment 4		☐ Attachment	

ID	Comment Text	Category	Code
6880	The Canada-based applicant has not be definitive about the amount of water the proposed mine would require, but any such open-pit copper mine of this size will require the use of a substantial amount of water in a region with a shortage so profound that we are pumping Colorado River water more than 330 miles to address it.	WR	03
Comment 5		☐ Attachment	

ID	Comment Text	Category	Code
6880	The applicant has obtained access to Central Arizona Project water, but it plans to recharge it far from the mine site in, or near, Sahuarita while pumping fresh ground water from under and near the Rosemont mine site for use with the mine.	WR	05
Comment 6		☐ Attachment	

ID	Comment Text	Category	Code
6880	The use of many thousands of acre-feet annually of this pristine water from under the Santa Rita Mountains foothills would have a significant detrimental impact on tributaries to the Santa Cruz River under which Tucson Water and other purveyors draw water downstream for existing urban and suburban uses.	WR	03
Comment 7		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

ID	Comment Text	Category	Code
6880 Comment 8	The Santa Cruz has been classified since statehood in 1912 as a navigable stream and therefore actions that impact it and its tributaries require intense scrutiny to protect this invaluable resource.	WR ☐ Attachment	01

ID	Comment Text	Category	Code
6880 Comment 9	The mine's water use and consumption would more directly impact Davidson Canyon, which is nominated with Pima County support for state "unique waters" designation and Cienega Creek, around which Pima County has a designated "natural preserve." Both of these are tributary to the Santa Cruz River.	WR ☐ Attachment	01

ID	Comment Text	Category	Code
6880 Comment 10	Mines use several toxic chemicals and expose heavy metals in their processes. Under the conditions of active mining and natural storm events over several decades it would defy sound science to assume these substances would not enter underground and surface waters in the region of the proposed Rosemont mine and move down-gradient.	WR ☐ Attachment	06

ID	Comment Text	Category	Code
6880 Comment 11	The applicant has not been specific about where the mine operation will haul the ore for smelting, or how it will be transported. There is not doubt, however, that very large trucks must use Scenic State Route 83, Interstate 10, and probably other Arizona highways to haul ore away and to haul hundreds of thousands of gallons of toxic chemicals and heavy equipment into the mine site.	TRA ☐ Attachment	01

DRAFT-DELIBERATIVE CONTENT ONLY

Government

ID	Comment Text	Category	Code
6880	This would create significant safety danger on these highways for ordinary motorists, school buses and the like, and would have severe detrimental impacts on the roadway surfaces, creating a very great need for intensive highway maintenance.	TRA	05
Comment 12		☐ Attachment	

ID	Comment Text	Category	Code
6880	This would create significant safety danger on these highways for ordinary motorists, school buses and the like, and would have severe detrimental impacts on the roadway surfaces, creating a very great need for intensive highway maintenance.	TRA	04
Comment 13		☐ Attachment	

ID	Comment Text	Category	Code
6880	In addition, it is quite possible a mining operation would want, or need, to carve new roads or rail lines through the area to service this mine. The environmental impacts of such developments on wildlife habitat and water courses would be very significant.	WL	01
Comment 14		☐ Attachment	

ID	Comment Text	Category	Code
6880	In addition, it is quite possible a mining operation would want, or need, to carve new roads or rail lines through the area to service this mine. The environmental impacts of such developments on wildlife habitat and water courses would be very significant.	WR	01
Comment 15		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

ID	Comment Text	Category	Code
6880	There are many other serious concerns about allowing the mine to be developed. New power lines would have to be extended through pristine areas to provide electricity to the mine site. This would impact the environment and could affect other power users.	OTH	04
Comment 16		☐ Attachment	

ID	Comment Text	Category	Code
6880	Blasting and many other major mine operations would have a negative impact on regional air quality that already is under stress from existing automobile-oriented urban and suburban development. Airborne toxics from the mine operations would directly affect residents of nearby communities.	AQ	01
Comment 17		☐ Attachment	

ID	Comment Text	Category	Code
6880	Environmental justice issues are of concern as aspects of the proposed mine's operations would directly or indirectly affect negatively several colonias of largely low-income Latinos. These include: South Nogales Highway Colonia of 5,420 residents; Helmet Peak Colonia of 1,232 residents; Littletown Colonia of 854 residents; Sahuarita Colonia of 180 residents; and Continental Colonia of 38 residents.	JUS	01
Comment 18		☐ Attachment	

ID	Comment Text	Category	Code
6880	Finally, all of these and other legitimate concerns that have been raised about this mine proposal should be analyzed for their cumulative impacts on surrounding communities, wildlife, water quality, water quantity, and air pollution.	PRP	99
Comment 19		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

ID	Comment Text	Category	Code
6880	Finally, all of these and other legitimate concerns that have been raised about this mine proposal should be analyzed for their cumulative impacts on surrounding communities, wildlife, water quality, water quantity, and air pollution.	WL	99
Comment 20		☐ Attachment	

ID	Comment Text	Category	Code
6880	Finally, all of these and other legitimate concerns that have been raised about this mine proposal should be analyzed for their cumulative impacts on surrounding communities, wildlife, water quality, water quantity, and air pollution.	WR	99
Comment 21		☐ Attachment	

ID	Comment Text	Category	Code
6880	Finally, all of these and other legitimate concerns that have been raised about this mine proposal should be analyzed for their cumulative impacts on surrounding communities, wildlife, water quality, water quantity, and air pollution.	AQ	99
Comment 22		☐ Attachment	

ID	Comment Text	Category	Code
6880	It is my assessment that if this scientific scrutiny is done, the proposed mine would prove to be a net loss for the forest and for this region and should be denied.	OTH	01
Comment 23		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

ID	Comment Text	Category	Code
1609	See attachment. I can't say I need all attachments	WR	03
Comment 1		☑ Attachment	

ID	Comment Text	Category	Code
7282	I write to you, as a native Tucsonan, who is currently living in Sonoita and who is extremely concerned about the proposed Rosemont Mine. As a child, our family had very little money so we found camping on Mt. Lemmon to be a very inexpensive family vacation. I always thought that our National Forests were for the enjoyment of the taxpayers. Apparently, I am wrong. The Coronodo National Forest will become a dumping site of waste rock and tailings. Hundreds of acres paid for and enjoyed by American taxpayers will be destroyed by a foreign registered company scheduled to ship the majority of the mine copper outside of the United States.	OTH	01
Comment 1		☐ Attachment	

ID	Comment Text	Category	Code
7282	I continue to hear, as I did throughout my entire childhood, how precious our water supply is; so precious that we had peak hours that we shouldn't water during. I now read, in Augusta's Rosemont Mine feasibility study that "Water quantities are limited and environmentally sensitive in the region of the Rosemont mine". Further, the study says: fresh water makeup is 4.8 million gallons per day". Wow! It seems to me that the wells in the surrounding areas/towns will quickly run dry. Their study goes on to say " Property for other well locations are currently being acquired for the other 2,000 gpm requirement".	WR	01
Comment 2		☐ Attachment	

ID	Comment Text	Category	Code
7282	The study also states that "State Route 83 can be used to gain access to the plan road" and "This system of interstates and highway will allow for quick access to the site". I beg to differ. It will be far from "quick" access. Hwy. 83, as you know, is a two lane road with several windy areas. One such curve has one of the highest accident rates and, I believe, the highest rate in the State for motorcycles. We already have 18 wheelers using Hwy. 83 as a detour route because the bridge on I-10 to the East of Hwy. 83 is too short. We currently have many wide loads which require us to pull off to the side of the road and "wait". Last week, I had to pull over for four separate wide loads and that was just between Rosemont Junction & I-10. Several of our highway patrol cars are involved with these wide loads. Augusta said for the first two (or thereabouts) years, they will be running wide loads every 10 minutes. Nobody will be able to use this section of Hwy. 83. It will make travel impossible. The school busses will not be able to get the kids to school. The Patagonia-Sonoita Scenic (2nd oldest in Arizona) Hwy. sign will need to be taken down.	TRA	02
Comment 3		☐ Attachment	

DRAFT - LIBERATIVE CONTENT ONLY

Government

ID	Comment Text	Category	Code
7282	Nobody, including bicyclists, motorcyclists and tourists will be able to travel from Tucson to the wineries, Tombstone, Parker Lake, Patagonia Lake or Patagonia, via Hwy. 83, thus, hurting tourism and the revenues of small businesses.	SOC	02
Comment 4		☐ Attachment	

ID	Comment Text	Category	Code
7282	This mine, if built, will be seen from many miles away and their tailings will actually be located in the backyard of an existing neighborhood on Coronado National Forest property. Additionally, per their feasebility study, the mine will be "working two 12-hour shifts per day, seven days per week, 52 weeks per year". Property values in Sonoita, Patagonia and all of the surrounding areas, for hundreds of miles will plummet.	SOC	04
Comment 5		☐ Attachment	

ID	Comment Text	Category	Code
7282	This mine, if built, will be seen from many miles away and their tailings will actually be located in the backyard of an existing neighborhood on Coronado National Forest property. Additionally, per their feasebility study, the mine will be "working two 12-hour shifts per day, seven days per week, 52 weeks per year". Property values in Sonoita, Patagonia and all of the surrounding areas, for hundreds of miles will plummet. Add to the above, that this mine will only employ 327 people and a mine life of 18.2 years.	SOC	06
Comment 6		☐ Attachment	

ID	Comment Text	Category	Code
7282	Not to mention that there's no guarantee, of course, that the mine won't go belly up in tow years like some recent mine in the U.S. have.	TEC	02
Comment 7		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

ID	Comment Text	Category	Code
7282	The proposed mine property contains many very, very old Oak trees and is one of the most pristine lands we have. If anyone believes that the mine can put this land back to anything close to what it is now, they are just dead wrong. It's impossible. The proposed mining site will destroy this area forever.	OTH	01
Comment 8		☐ Attachment	

ID	Comment Text	Category	Code
7282	Contrary to what Augusta would have you believe, there is huge opposition to this mine. I urge you to consider the destruction of the Santa Ritas and Coronado National Forest by this open pit copper mine, as a travesty of the public trust and to reject the Rosemont Coppper proposal.	OTH	02
Comment 9		☐ Attachment	

Arizona Department of Environmental Quality

ID	Comment Text	Category	Code
1897	The Air Quality Division has concluded that a General Conformity Determination is not required for this project for the following reason: Not in a Nonattainment or Maintenance area	AQ	01
Comment 1		☐ Attachment	

ID	Comment Text	Category	Code
1897	While the proposed Rosemont Copper Project is in an attainment area, the size and duration of the project and potential urban expansion in the region may affect Pima County air quality planning areas via southerly winds. To comply with other applicable air pollution control requirements and minimize potential adverse impacts on public health and welfare, the following information is provided for consideration: REDUCE DISTURBANCE of PARTICULATE MATTER during CONSTRUCTION This action, plan or activity may temporarily increase particulate matter (dust) levels. Particulate matter 10 microns in size and smaller can penetrate the lungs of human beings and animals and is subject to a National Ambient Air Quality Standard (NAAQS) to protect public health and welfare. Particulate matter 2.5 microns in size and smaller is difficult for lungs to expel and has been linked to increases in death rates; heart attacks and cardiopulmonary obstructive disease (COPD) aggravation. It is also subject to a NAAQS.	AQ	03
Comment 2		☐ Attachment	

DELIBERATIVE CONTENT ONLY

Government

Arizona Department of Environmental Quality

ID	Comment Text	Category	Code
1897	The following rules applicable to reducing dust during construction, demolition and earth moving activities are enclosed: Arizona Administrative Code R18-2-604 through -607 Arizona Administrative Code R18-2-804 Pima County Code Chapter 17.16 Article III	AQ	01
Comment 3		☑ Attachment	

Arizona Department of Transportation

ID	Comment Text	Category	Code
7278	Please note that any access permit from the Arizona Department of Transportation will require mitigation of traffic impacts. In this case, this will most likely entail a paved access, acceleration and deceleration lanes at the access point, safety shoulders and/or passing lanes at key locations due to the large increase in truck traffic.	TRA	01
Comment 1	Cost sharing for road design, environmental and traffic impact studies, road building and ongoing road maintenance will be a key discussion point for any plans involving state and county roads impacted by the mine.	☐ Attachment	

Arizona Department of Water Resources

ID	Comment Text	Category	Code
7277	The Arizona Department of Water Resources (Department) has reviewed the "Notice of intent to prepare an Environmental Impact Statement" for the Rosemont Copper Project and we submit the following comments.	WR	01
Comment 1	Under Arizona law: "The director [Department of Water Resources] has general control and supervision of surface water, its appropriation and distribution, and of groundwater to the extent provided by this title, except distribution of water reserved to special officers appointed by courts under existing judgements or decrees." Arizona Revised Statutes SS 45-103 The Department of Water Resources is thus the appropriate state authority for the Forest Service to work with regarding water resources in development of the Rosemont Copper Project Environmental Impact Statement.	☐ Attachment	

DRAFT DELIBERATIVE CONTENT ONLY

Government

Arizona Department of Water Resources

ID	Comment Text	Category	Code
7277 Comment 2	The Department believes that presentation of alternatives analyzed in the Environmental Impact Statement should include a description of water use by all elements of each alternative, including ancillary facilities, and should include best water conservation strategies for the technology used, by alternative. Analysis of alternatives should include direct, indirect, and cumulative effects to water supplies and rights to water.	ALT ☐ Attachment	01

ID	Comment Text	Category	Code
7277 Comment 3	The Department suggests that the Forest Service maintain close coordination with the Department as it develops the subject Environmental Impact Statement. Thank you for the opportunity to participate in this process. If you have any questions, please contact Mr. Bill Werner at 602-771-8412.	PRP ☐ Attachment	01

Arizona Geological Survey

ID	Comment Text	Category	Code
2678 Comment 1	The Arizona Geological Survey (AZGS) is the State of Arizona's primary agency for providing objective scientific information on the geology and mineral resources of Arizona, and as such, requests to be considered as a cooperating agency in the proposed Rosemont Copper project scoping process.	PRP ☐ Attachment	04

ID	Comment Text	Category	Code
2678 Comment 2	By statute (ARS 27-152), the objectives of the Arizona Geological Survey are to: 1. Serve as a primary source of geologic information in this state to enhance public understanding of the state's geologic character, geologic hazards, and limitations and mineral resources. 2. Inform, advise and assist the public in matters concerning the geologic processes, materials and landscapes and the development and use of the mineral resources of this state. 3. Encourage the wise use of the lands and mineral resources of this state toward its development. 4. Provide technical advice and assistance in the geolgy to other state and local governmental agencies engaged in projects in which the geologic setting, character or mineral resources are involved. 5. Provide technical advice and assistance in geology to industry toward the wise development and use of the mineral and land resources of the state.	PRP ☐ Attachment	06

DELIBERATIVE CONTENT ONLY

Government

Arizona Geological Survey

ID	Comment Text	Category	Code
2678	For 127 years, the Arizona Geological Survey and its predecessor incarnations (e.g. Arizona Bureau of Mines) have provided objective, timely, scentific information about the geologic character of the State. AZGS is also tasked by statute to "Map and characterize energy and mineral resources and identify areas that may have potential for future discoveries." In 2007, the AZGS published a detailed geologic map of the area of the proposed Rosemont mine site to serve as a baseline scientific reference (Geologic Map of the Rosemont Area, Northern Santa Rita Mountains, Pima County, Arizona, v. 1.1, by Bradford J. Johnson and Charles A. Ferguson, 2007, Arizona Geological Survey, DGM-59). Copies were previously provided to your office. The AZGS is preparing to begin geologic mapping of three additional 1:24,000 quadrangles (Helvetia, Empire Ranch, and Spring Water Canyon) in the Rosemont area with the specific intent of deciphering and documenting geologic features that affect the groundwater resources that may be used or impacted by the mine. This project is cooperatively funded by the U.S. Geological Survey under the provisions of the National Cooperative Geologic Mapping Act of 1992. The AZGS is prepared to provide scentific information, review of geologically-related materials and advice on the geology and geologic framework for groundwater in the Rosemont project area.	OTH ☐ Attachment	01
Comment 3			

City of Tucson Mayor and Council

ID	Comment Text	Category	Code
1688	"Relating to the City of Tucson's Opposition to the Proposed Rosemont Mine." See Attachment.	PRP ☑ Attachment	06
Comment 1			

Congress of the United States

ID	Comment Text	Category	Code
2571	The public scoping process will be extended from the original 30 days to 120 days. The closing date for the public scoping process will be extended to July 11th 2008. This expanded window will ensure that the public has ample opportunity to learn about the IIS process and provide their comments to the Forest Service. It also demonstrates that the Forest Service is serious about collecting public comments.	PRP ☐ Attachment	02
Comment 1			

DRAFT DELIBERATIVE CONTENT ONLY

Government

Congress of the United States

ID	Comment Text	Category	Code
2571 Comment 2	Three additional open-house meetings will be scheduled. To ensure ample opportunity for the public to educate themselves about the EIS process and provide comments, three (3) additional open-house meetings will be scheduled. In our meeting you indicated that one has already been scheduled for April 5 in Vail and another is in the planning stages for Sahuarita. A third will be scheduled in the Sonoita area in the coming weeks.	PRP ☐ Attachment	02

ID	Comment Text	Category	Code
2571 Comment 3	All future open-house meetings will begin with an explanation of the process. The remaining open-house meetings will begin with an oral and written explanation of the process. This introduction will provide an overview of the EIS process; the purpose of the open-house meeting format; the type of comments being solicited; the role of the Forest Service; and the identification of officials from the Forest Service, Augusta Resources, and other relevant organizations in attendance at the meeting. The introduction will also explain that the open-house is not intended as a public hearing, and that the public hearings will be held on dates and at locations which will be announced at each open house.	PRP ☐ Attachment	03

ID	Comment Text	Category	Code
2571 Comment 4	Three public hearings will be scheduled. In addition to the open-house meetings mentioned above, the Forest Service will also schedule three (3) public hearings during the 120 day comment period to allow Southern Arizonans to express their views in an open public forum. As we discussed, these three hearings will be held in Central Tucson, the Green Valley/Sahuarita area, and the Sonoita/Patagonia area.	PRP ☐ Attachment	04

ID	Comment Text	Category	Code
2571 Comment 5	The selection process for the EIS contractor will be reviewed. As we discussed, concerns have been raised about the process employed by the Forest Service to select SWCA as the primary contractor to perform the EIS, and that firm's ability to evaluate the Rosemont proposal objectively. To address these concerns, the Forest Service has agreed to conduct a review of the selection process.	PRP ☐ Attachment	09

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Congress of the United States

ID	Comment Text	Category	Code
2571 Comment 6	A community work group will be established to participate in the EIS process. A work group will be convened to provide community and technical input throughout the process. This group will include representatives of appropriate public agencies, members of affected communities, and my staff. The group will be charged with assuring that all specific public concerns relevant to the project are raised and addressed in the EIS.	PRP ☐ Attachment	05

ID	Comment Text	Category	Code
2576 Comment 1	We write to you today regarding the scoping process for the Augusta Resources, Inc. proposal to mine for copper on or adjacent to the Rosemont Ranch in the Santa Rita Mountains. We respectfully request that the Forest Service suspend the current EIS scoping process pending receipt of a complete Mine Plan of Operations for this project. A new scoping process should then be initiated at that time. We make this request for a number of reasons.	PRP ☐ Attachment	02

ID	Comment Text	Category	Code
2576 Comment 2	We are troubled by correspondence from our constituents and local government officials reporting confusion as to the purpose of scoping, deadlines for submitting comments, and the delayed or curtailed release of important studies and documents to the public.	PRP ☐ Attachment	02

ID	Comment Text	Category	Code
2576 Comment 3	The first announcement of the scoping process, published by the Forest Service in the Federal Register on March 13, 2008, contained confusing information regarding the purpose and need for the project, as well as a limited range of alternatives to be examined. Specifically, we are concerned by the statement that the purpose of the proposed Forest Service action is "to grant permission to the Company to us NFS land for certain activities related to operation of the Rosemont Mine." Under the statutory process, one of the alternatives that must be considered is "no action." We do not believe the Forest Service can adequately consider a "no action" alternative if its stated purpose at the outset is to grant permission for the project. Therefore we believe the project purpose should be redefined more broadly.	PRP ☐ Attachment	03

DRAFT DELIBERATIVE CONTENT ONLY

Government

Congress of the United States

ID	Comment Text	Category	Code
2576 Comment 4	In addition, we are concerned by the failure to release important studies and other documentationto both local government officials and to the public at large, which appears to have inhibited meaningful dialogue and commentary from these entities on the potential scope of impacts of this project. We are aware, for example, of a Freedom of Information Act request, filed by the non-profit group Save the Scenic Santa Ritas, that has still not been fulfilled and without which that group cannot adequately participate in the scoping process.	FOI ☐ Attachment	01

ID	Comment Text	Category	Code
2576 Comment 5	We second concerns raised by Pima County officials, in their letter to you of May 19, 2008, about the need for exhaustive studies on the water demands, impacts and alternatives associated with this project due to the lifeblood link of water to the fragile nature of this region of the Sonoran Desert.	WR ☐ Attachment	01

ID	Comment Text	Category	Code
2576 Comment 6	Additionally, we concur with Pima County officials that, due to the highly complex impacts of this project, a peer review process should be extablished for technical documents submitted by Rosemont or independently commissioned by the Forest Service.	PRP ☐ Attachment	03

ID	Comment Text	Category	Code
2576 Comment 7	Furthermore, the Forest Service agreed to establish working groups that included citizens and cooperating agencies. We are now less than two months from the end of the extended scoping period and there has been no apparent movement on this commitment.	PRP ☐ Attachment	05

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Congress of the United States

ID	Comment Text	Category	Code
2576 Comment 8	While we appreciate the Forest Service's willingness to extend the comment period and to hold additional public hearings on the matter, We strongly believe, as a result of the issues raised above, that the scoping process has been flawed from the beginning and should be restarted. In our view, re-noticing the scoping process and beginning scoping anew at that time, with objectives more clearly described, would greatly benefit the community and the Forest Service in this case.	PRP ☐ Attachment	02

County Administrator's Office

ID	Comment Text	Category	Code
1880 Comment 1	I was surprised to hear that the Forest Service has sent out a press release announcing the beginning of the Environmental Impact Statement process for evaluation of the Rosemont Mine project. I expected that you or your staff would have notified the County of our agreed upon Cooperative Agency Representative prior to sending out a press release. I assume this was just an oversight since I know you know how much of an important issue this is to Pima County,	PRP ☐ Attachment	04

ID	Comment Text	Category	Code
1880 Comment 2	The press release lists three public open houses. However, none of the open houses are scheduled in Vail or Sonoita. Residents of the Cienega and Vail areas will be the most impacted by this proposed mine. It is of the utmost importance that these residents have effective input into the public process associated with the evaluation of this mine proposal, and that community views and values be properly evaluated during this process. Without input from the more impacted communities there will be a serious limit to their constructive participation.	PRP ☐ Attachment	02

Office Of the Sahuarita Town Manager

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Office Of the Sahuarita Town Manager

ID	Comment Text	Category	Code
2409 Comment 1	We received on Aril 7, 2008, an invitation to an Open House regarding the proposed Rosemont Copper Project. The problem is the meeting took place two days earlier on April 5, 2008. I am certain you are aware of the importance of this proposed project to the Town of Sahuarita. The notice was addressed to our previous P.O. Box. We contacted the offices of Coronado National Forest to update our address, but apparently this has not taken place. However, even if the address was correct, the postmark on the envelope was April 1, 2008; barely enough time for it to be delivered and for us to make arrangements for a Town representative to attend. The Town has a profound interest in this proposed project, and needs timely notice of any meetings concerning the discussion and outcome of this project. We ask your office to please update your files and computers to reflect our new address of: 375 W. Sahuarita Center Way Sahuarita, AZ 85629	PRP ☐ Attachment	02

Pima County Administrator

ID	Comment Text	Category	Code
2379 Comment 1	The purpose of the scoping period under NEPA is to notify those who may be affected by a proposed government action that the Forest Service is beginning the EIS process. This notice requirement is to ensure that interested parties are aware of, and are able to participate meaningfully in, the entire EIS process from start to finish. The scoping period should also identify the issues that need to receive in-depth treatment in the EIS and in determining the range of actions, alternatives, and impacts from the proposed government action. The duty of the Forest Service during the scoping period is to provide adequate notice and begin a meaningful dialogue. From the publication of Federal Register Notice this process has not met this required standard. Your Federal Register Notice of February 28, 2008, finally mentions the word "scoping" on Page 5 of the internet printed notice. It states, "Following the 30-day scoping period announced in this notice, the Forest Service will prepare a draft environmental impact statement (DEIS)." However, on Page 1 of the notice it states that comments "... concerning the scope of the environmental impact statement (EIS) analysis must be received by the Coronado National Forest (Forest) within 30 days following the publication of this notice in the Federal Register." And again on Page 5, it states "Although comments are welcome at any time during the NEPA review, they will be most useful to use if they are received within 30 days following the publication of this notice."	PRP ☐ Attachment	03

ID	Comment Text	Category	Code
2572 Comment 1	Because of the potential of the proposed Rosemont Copper Mine to alter flow of groundwater to Davidson Canyon and Cienega Creek outside the National Forest, Pima County has commissioned the attached second phase of the hydrogeological study. The purpose of this report is to explore how much, how far and how fast the open pit could alter groundwater movements to these two areas A numerical groundwater model was developed to probe these questions, based on the concepts presented in the first phase report, as well as the sparse existing data. The resulting model suggests that impacts to springs and groundwater levels near the pit would be profound and relatively quick. The model suggests that draw down of the water table at Upper Cienega Creek in the Las Cienegas National Conservation Area would be small at first, taking thousands of years to fully expand into these areas. After 8000 years, the lowered water table created by open pit mining would extend through much of the Davidson Canyon area. Water levels near Cienega Creek would decrease less than a foot in several thousand years;	WR ☑ Attachment	03

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Pima County Administrator

(overlap w/ earlier from Pima Co. Administrator, some same comments, diff ID s) These are mostly dupes

ID	Comment Text	Category	Code
2573 Comment 1	As you know, Pima County wishes to be actively involved to the fullest extent possible in the National Environmental Policy Act (NEPA) process for the Rosemont Copper Project. We have previously requested, and you have previously agreed to grant Pima County cooperator status (Attachment 1). dupl	PRP ☑ Attachment	04

ID	Comment Text	Category	Code
2379 Comment 2	As a fairly sophisticated public agency, we are somewhat confused about this notice. The general public must be completely confused as evidenced by the hostility expressed in early public meetings on this matter. In the early meetings it is obvious the public simply did not understand what they were being asked to provide. I am sure that they have little understanding of the "scoping process." Your notice states "within 30 days" in one location and "comments are welcome anytime" in another, and finally, "following the 30-day scoping period." The public must be confused as to what they are being asked to provide. There cannot be meaningful participation when the public is confused. dupl	PRP ☐ Attachment	03

ID	Comment Text	Category	Code
2573 Comment 2	While we are pleased to hear of the extension of comment period and addition of meetings, we are concerned by the Forest Service's intention to delay designating cooperators until after you have drafted the summary report of the public scoping period. We understand you believe that public scoping comments will allow you to determine which public agencies need to be invited. We had previously understood that the County would be a cooperator with the Service in this matter. dupl	PRP ☐ Attachment	04

ID	Comment Text	Category	Code
2572 Comment 2	The model suggests that draw down of the water table at Upper Cienega Creek in the Las Cienegas National Conservation Area would be small at first, taking thousands of years to fully expand into these areas. After 8000 years, the lowered water table created by open pit mining would extend through much of the Davidson Canyon area. Water levels near Cienega Creek would decrease less than a foot in several thousand years; the net effect would be to make this groundwater -dependent ecosystem slightly more susceptible to effects of drought and global warming.	WR ☐ Attachment	99

DRAFT DELIBERATIVE CONTENT ONLY

Government

Pima County Administrator

ID	Comment Text	Category	Code
2379	Finally, in the "ACTION: Notice of intent to prepare an Environmental Impact Statement" there is no indication of a scoping process being initiated, except for that section in the notice under "dates." We believe there should be re-notice in the Federal Register that is specific regarding scoping and specific regarding the purpose of the early informational meetings, which could not have been construed as scoping meetings given this notice. The new or amended notice should also include the extension of the comment period to at least the July 14, 2008 date, as announced by the Forest Service in response to Congresswoman Gifford's request, and the additional three public hearings being held currently.	PRP	03
Comment 3	dupe	☐ Attachment	

ID	Comment Text	Category	Code
2573	A successful scoping process needs as many interested stakeholders participating as possible. Getting obvious and identifiable cooperating agencies involved as soon as possible would allow us, and others to have an effective role. An early commitment of resources from other agencies can help the Forest Service succeed.	PRP	04
Comment 3	dupe	☐ Attachment	

ID	Comment Text	Category	Code
2572	As I requested in my letter to the Forest Service dated September 7, 2007, there are still substantial uncertainties about groundwater movements which should be reduced by further investigations. Uncertainties in how much and how connected the water is within the bedrock must be reduced through data collection, not just modeling.	WR	01
Comment 3	dupe	☐ Attachment	

ID	Comment Text	Category	Code
2379	In the Federal Register Notice of February 28, 2008, on Page 3 of the internet-produced copy of the notice, the purpose of and need for action is defined as "The purpose of the proposed Forest Service action is to grant permission to the Company to use NFS land for certain activities related to operation of the Rosemont Mine, "while on Page 5 of the notice there are at least three decision alternatives listed, including no action. If the no action alternative is selected, how can permission be granted? Forest Service officals have stated on multiple occasions, dating back to the Congressional Field hearing held in Tucson on February 24, 2007, that the Forest Service cannot deny this mine. How can the Forest Service sufficiently analyze a no action alternative after making such statements?	PRP	03
Comment 4	dupe	☐ Attachment	

DRAFT DELIBERATIVE CONTENT ONLY

Government

Pima County Administrator

ID	Comment Text	Category	Code
2573 Comment 4	The cooperator status delay also has acted to preclude meaningful involvement by Pima County in other aspects of NEPA. Because of the delay in designating cooperating agencies, neither Pima County nor any other agency was afforded an opportunity to help the Forest Service define the proposed action and need, select the Environmental Impact Statement (EIS) consultant, or develop the schedule. All of these are currently viewed as collaborative opportunities under NEPA (excerpt in Attachment 2). dupe	PRP ☑ Attachment	04

ID	Comment Text	Category	Code
2572 Comment 4	As I requested in my letter to the Forest Service dated September 7, 2007, there are still substantial uncertainties about groundwater movements which should be reduced by further investigations. Uncertainties in how much and how connected the water is within the bedrock must be reduced through data collection, not just modeling. Other key uncertainties revolve around understanding a fault northeast of the pit dupe	SOL ☐ Attachment	01

ID	Comment Text	Category	Code
2572 Comment 5	As I requested in my letter to the Forest Service dated September 7, 2007, there are still substantial uncertainties about groundwater movements which should be reduced by further investigations. Uncertainties in how much and how connected the water is within the bedrock must be reduced through data collection, not just modeling. Other key uncertainties revolve around understanding a fault northeast of the pit and being sure that there are no other features missing from the model that might alter groundwater movements. It is also essential to determine the extent of the high transmissivity fracture zone encountered by Montgomery.	WR ☐ Attachment	01

ID	Comment Text	Category	Code
2379 Comment 5	Another flaw in the purpose and need statement is that it is only for activities relating to operation of the mine. Does the Forest Service intend not to make any decisions with regard to closure or pose-closure activities? dupes	PRP ☐ Attachment	03

DRAFT DELIBERATIVE CONTENT ONLY

Government

Pima County Administrator

ID	Comment Text	Category	Code
2573 Comment 5	As mentioned in our letter of September 14, 2007 (Attachment 3), we continue to believe that initiation of the scoping is premature. Augusta is continuing to conduct exploration and define its project components. This results in considerable uncertainty in the project description and therefore in understanding just where the affected communities might be. Furthermore, the mining plan of operation itself is still incomplete in many important details, such as water and smelting. Also, more time is needed to collect data so that it can be incorporated into the Draft EIS.	PRP ☑ Attachment	03

ID	Comment Text	Category	Code
2379 Comment 6	This purpose statement as it is currenly written is inadequate, misleading, and unfairly constrains alternatives. Pima County requests that the purpose be modified to state what the project is intended to accomplish, such as "to provide copper from the mineral estate of the United States and to ensure compliance with all state, local and federal laws during and after operation of any activities relating to mining.	PRP ☐ Attachment	01

ID	Comment Text	Category	Code
2572 Comment 6	The Forest Service should require additional data collection and studies be done in time for the preparation of the draft Environmental Impact Statement by the mining proponents. This report makes specific recommendations for needed data and studies to the Forest Service on page 51. Future studies would address not only groundwater movement, but groundwater contamination and alteration of surface water hydrology. The timing and funding of the EIS should be long enough to allow for answers to these questions to emerge.	PRP ☐ Attachment	03

ID	Comment Text	Category	Code
2573 Comment 6	Premature scoping increases the likelihood that a supplemental effort at scoping will be needed. This seems particularly true given the project description in the Federal Register notice dated March 13, 2008. Amendments to the project description and supplemental scoping will be both confusing and stressful to citizens, if not to the Forest Service. Another possible consequence sould be the need for a supplemental EIS.	PRP ☐ Attachment	03

DRAFT DELIBERATIVE CONTENT ONLY

Government

Pima County Administrator

ID	Comment Text	Category	Code
2572 Comment 7	Because such data are highly technical and past experience has shown that the National Environmental Policy Act (NEPA) process consistently underestimates water-related impacts of mining, the Forest Service should also require that any studies funded by Rosemont Copper, are reviewed by independent subject matter experts.	PRP ☐ Attachment	03

ID	Comment Text	Category	Code
2379 Comment 7	This EIS would clearly benefit from a Tiering Process. We are concerned with the development of our limited national resources. Alternatives to the proposed action are too limited or not adequately described. In the alternatives analysis, alternatives should be included that indicate the benefits derived from exploitation of the mineral estate of the nation could be accomplished at different locations and in different manners such that the adverse environmental impacts are significantly less than the Rosemont alternative. Producing copper at another location must be a real alternative. The Forest Service decision should be reviewed at the national level among competing alternatives requiring the preparation of a programmatic EIS (PEIS). At this time there are multiple proposals to develop copper from state, federal and private mineral estates in Arizona (see Attachment 1). At a minimum there should be a regional EIS, which at a regional level evaluates regional considerations. There should be completed before the site specific EIS. This process has been used by the Federal Aviation Administration to evaluate choices and alternatives to providing national aviation services.	PRP ☑ Attachment	01

ID	Comment Text	Category	Code
2573 Comment 7	We reiterate our concerns that the community is not receiving adequate information about this proposed mining action from the proponents or Forest Service. Question and answer sessions are a respectful way to foster group learning and better issue identification for the scoping. Multiple methods of accessing information are needed. The communities of interest also need better access to more detailed information than is available on Rosemont Copper's website.	PRP ☐ Attachment	01

ID	Comment Text	Category	Code
2379 Comment 8	We believe that such an alternatives analysis is certainly contemplated within the National Environmental Policy Act (NEPA). However, we also understand that such an interpretation would be fertile ground litigation. Nevertheless, we believe such an alternatives analysis is exactly what was contemplated in the Act - to arrive at the least environmental harm for the same benefit. The concept of the alternatives analysis described above is clearly relevant in today's global economy. By what means will alternative proposals for copper extraction from the nation's mineral estate be weighed?	PRP ☐ Attachment	03

DRAFT DELIBERATIVE COMMENT ONLY

Government

Pima County Administrator

ID	Comment Text	Category	Code
2572	Because such data are highly technical and past experience has shown that the National Environmental Policy Act (NEPA) process consistently underestimates water-related impacts of mining, the Forest Service should also require that any studies funded by Rosemont Copper, are reviewed by independent subject matter experts. Pima County can assist the Forest Service by drafting scopes of work for such studies. In particular, our Flood Control District is preparing a scope of work specifying the type of investigations needed to quantify the likely effects of the mine upon flood frequency, travel time, magnitude, infiltration rates, natural overbank storage, and streambed recharge in downstream areas.	PRP	04
Comment 8		☐ Attachment	

ID	Comment Text	Category	Code
2572	In addition, effects of mine-related pumping and recharge in the Tucson basin also need to be explored and	WR	01
Comment 9		☐ Attachment	

ID	Comment Text	Category	Code
2379	The Upper Santa Cruz River groundwater basin is not in equilibrium and is in serious jeopardy due to the groundwater overdraft proposed by Rosemont. This is an irreversible and irretrievable commitment of vital water resources.	WR	03
Comment 9		☐ Attachment	

ID	Comment Text	Category	Code
2379	There are numerous news reports of Rosemont extending a distribution pipeline to convey CAP surface water to a recharge site yet to be defined without specifics, contracts or financial commitments by Rosemont. This pipeline is of little or no benefit without recharge facilities that must be directly interrelated to the groundwater that is proposed to be withdrawn by Rosemont.	WR	05
Comment 10		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Pima County Administrator

ID	Comment Text	Category	Code
2572	In addition, effects of mine-related pumping and recharge in the Tucson basin also need to be explored and we will be providing a specific request to the Forest Service for an independent study of potential pumping and recharge effects in the Green Valley-Sahuarita area.	PRP	01
Comment 10		☐ Attachment	

ID	Comment Text	Category	Code
2572	We look forward to continuing to work with the Forest Service and developing a cooperative agreement soon so that we can be of greater assistance in the EIS scoping process.	PRP	04
Comment 11		☐ Attachment	

ID	Comment Text	Category	Code
2379	In addition, the quality of the surface water being replaced to offset Rosemont groundwater depletion is vastly inferior in quality to the groundwater being proposed for withdrawal by Rosemont.	WR	04
Comment 11		☐ Attachment	

ID	Comment Text	Category	Code
2379	Water impacts to urban and agricultural users are a major adverse environmental impact of the Rosemont proposal, consisting of an irreversible and irretrievable commitment of resources, which would not be necessary except for the action of Rosemont. What specific studies will the Forest Service commission to evaluate water resource needs, impacts, and alternatives?	WR	01
Comment 12		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Pima County Administrator

ID	Comment Text	Category	Code
2379 Comment 13	The responsible agency must thoroughly examine water resources, water quality, air quality, biological resources, economic effects, locally generated plans and cumulative impacts. This project clearly has complex impacts in all these categories, requiring expert analysis and review. Peer review of technical documents has been recommended as a means of improving environmental outcomes, based on a review of NEPA's inadequacies in predicting and mitigating water quality impacts (Attachment 3).	PRP ☑ Attachment	03

ID	Comment Text	Category	Code
2379 Comment 14	We would suggest that the Service institute an independent peer review process. The County benefitted significantly from a scientifically valid and independent peer review process when developing the sometimes contoversial Sonoran Desert Conservation Plan. We believe that the scientific and technical studies necessary for defining the environmental imapcts of the Rosemont proposal would also benefit from a valid and independent expert peer review process. Will the Forest Service establish such a process to validate the studies and other information provided by Rosemont? Anything less will be inadequate.	PRP ☐ Attachment	01

ID	Comment Text	Category	Code
2379 Comment 15	Perhaps the most important component of the public review process for EIS development is related to information development control and release. As previously mentioned, 40 CFR section 1501.7 mandates that the scoping process bring about meaningful dialogue with affected parties. This process must be honest and completely transparent. To date, release of techincal information to the general public has been largely controlled by Rosemont. The Forest Service receives documents months before they have been made available to the public. One document cited in the Plan of Operations, Westland (2007) Biological Resources and Mitigation Concept: Rosemont Project still has not been released to the public. Nor has the public has access to the Forest Service record of correspondence. This is not acceptable.	PRP ☐ Attachment	01

ID	Comment Text	Category	Code
2379 Comment 16	Meaningful dialogue requires the availability of relevant information. The Service must take control of this process to ensure transparency and accountability in developing the EIS of the proposed Rosemont action.	PRP ☐ Attachment	03

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Pima County Administrator

ID	Comment Text	Category	Code
2379 Comment 17	Rosemont has initiated a slight-of hand solution to this program by recharging Central Arizona Project (CAP) surface water. However, they are recharging this water in the Avra hydrogeologic basin 36 miles away and 800 feet below the proposed well fields. The proposed well fields are located in a different hydrogeologic basin where the aquifer is shared by residents of the Town of Sahuarita, City of Tucson, San Xavier District of Tohono O'odham Nation, and unincorporated Pime County (Attachment 2). This replenishment is of no beneift to the affected area and would not in any way offset the groundwater depletion contemplated by Rosemont. It merely displaces CAP water that would otherwise be stored by the Arizona Water Bank in Marana.	WR ☑ Attachment	05

Pima County Administrator's Office

ID	Comment Text	Category	Code
6881 Comment 1	This letter is part of the County's continuing comments during the scoping period for the Environmental Impact Statement for the proposed Rosemont Copper Mine project. The Pima County Board of Supervisors approved the submittal of these comments at their July 1, 2008 meeting. Furthermore, at the meeting the Board asked that the Forest Service hold a public hearing in Vail, as the Vail community and surrounding communities will be directly impacted by this proposed mine. Five members of the audience addressed the Board during this item, the audiio of which is enclosed on compact disk.	PRP ☐ Attachment	02

ID	Comment Text	Category	Code
6881 Comment 2	Flawed Scoping Process This scoping process for the proposed Rosemont Copper Mine has been fundamentally flawed from the beginning. The duty of the Forest Service during the scoping period is to provide adequate notice and begin a meaningful dialogue. However, the notice in the Federal Register was confusing. It was premature of the Forest Service to initiate the scoping process based on an incomplete mine plan of operations. Not only does this present an incomplete set of information for evaluation, but it prevents any real assessment of the cumulative impacts of the project.	PRP ☐ Attachment	02

ID	Comment Text	Category	Code
6881 Comment 3	Cooperative agencies should have been invited to participate early on in the scoping process such that they could inform the scoping process and the selection of the EIS consultant.	PRP ☐ Attachment	04

DRAFT DELIBERATIVE CONTENT ONLY

Government

Pima County Administrator's Office

ID	Comment Text	Category	Code
6881	The purpose stated in the Federal Register notice for the proposed action is too narrow and essentially precludes the consideration of possible alternatives, including the no-action alternative.	PRP	03
Comment 4		☐ Attachment	

ID	Comment Text	Category	Code
6881	I have sent three letters to the Forest Service since the beginning of the scoping period, expressing these concerns (attached). In addtion, for similar reasons, Congressman Grijalva and Congresswoman Giffords requested that the Forest Service suspend the current EIS scoping process pending receipt of a complete mine plan of operations. These issues have still not been addressed.	PRP	02
Comment 5		☑ Attachment	

ID	Comment Text	Category	Code
6881	Validity of Claims	MLO	01
Comment 6	A question that shoud have been answered before the Forest Service initiated this scoping process is whether the unpatented mining claims on Forest Service land included in the mine plan of operations for waste rock disposal, are in fact valid claims. Questions have been raised about the validity of these claims, and if they are in fact not valid, then significant time and dollars spent on evaluating and commenting on this project could be saved. By letter dated December 19, 2006, I requested that the Forest Service request that Augusta Resources submit the necessary information proving the validity of the claims prior to accepting the mine plan of operations. As Forest Supervisor, you repliede on February 11, 2007 that it is not common practice, nor Forest Service policy, to challenge mining claim validity except in a couple of limited circumstances. I think many would not agree that just because it is not common practice or standard policy, does not mean that the Forest Service could not choose to challenge the validity of claims when dealing with such a significant mining proposal such as this. Again, I am making this request. The EIS process could take years - years of which could be saved if the claims were found to be invalid.	☑ Attachment	

ID	Comment Text	Category	Code
6881	Need for Programmatic or Regional EIS	PRP	03
Comment 7		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Pima County Administrator's Office

ID	Comment Text	Category	Code
6881 Comment 8	I clearly understand our continued economic need for copper. I also clearly understand the need for the Federal government to manage copper resources in a way enables the development of this resource to meet our economic needs. What I don't understand is how the Federal government can manage such a resource without a comprehensive assessment of where such resources are likely to be located and where they can be developed with the least impacts.	MLO ☐ Attachment	01

ID	Comment Text	Category	Code
6881 Comment 9	The confrontation occuring over the proposed Rosemont Copper Mine is caused by a lack of comprehensive planning by the Federal government. Ideally on a national level, but at least on a statewide or regional level, we need a comprehensive assessment of copper resources and the encouragement of the development of those resources in areas that do not threaten water resources, do not compromise in the quality fo life for 1 million residents, meets applicable environmental laws and policies, and do not impact wildlife and scenic areas that support a thriving eco-based tourism sector of the local economy.	OTH ☐ Attachment	01

ID	Comment Text	Category	Code
6881 Comment 10	This raises the issue of social justice - this region and community will bear the brunt of negative and perpetual impacts from the Rosemont Mine. How will the permanent and broad impacts from this mine be mitigated by Augusta Resources who will receive the greatest benefits? How will our region be afforded fair treatment and an impartial share of the benefits of this undertaking?	JUS ☐ Attachment	01

ID	Comment Text	Category	Code
6881 Comment 11	The Forest Service needs to revise the purpose for this EIS and expand the scope of this EIS so that the environmental, social, and economic impacts of an action providing for the development of copper on Federal lands to meet our economic needs can be assessed on a regional level.	PRP ☐ Attachment	03

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Pima County Administrator's Office

ID	Comment Text	Category	Code
6881	There may be several other ore bodies in the region that the Forest Service could support development of, that have fewer impacts than this mine proposed in the Santa Rita Mountains.	OUT	01
Comment 12		☐ Attachment	

ID	Comment Text	Category	Code
6881	Staff Report	OTH	01
Comment 13	Attached is a compilation of comments from County departments. Although some of the issues raised in the staff report have previously been raised with the Forest Service over the past two years, they are repeated in order to make sure they are part of the current administrative record for the development of the EIS. Others specify in greater detail the level of analysis that we believe is necessary for an adequate understaning of potential impacts.	☐ Attachment	

ID	Comment Text	Category	Code
6881	Attachment 10 to the staff report includes two draft scopes of works for studies we think will be necessary to sufficiently determine the environmental impacts of this proposed project. Specifically, these draft scopes of work call for an analysis of hydrological impacts to the Upper Santa Cruz Basin in the Sahuarita/Green Valley area, and to the Davidson Canyon watershed.	WR	01
Comment 14		☑ Attachment	

ID	Comment Text	Category	Code
6881	The sooner the County and others are invited into this process as cooperting agencies, the sooner these scopes of work and others can be finalized and the studies can begin.	PRP	04
Comment 15		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Pima County Administrator's Office

ID	Comment Text	Category	Code
6881	Military Pilot Training Impacts	LU	01
Comment 16	The staff report raises a potential issue regarding the possibility of this mine interfering with military training operations. The area proposed for the Rosemont Copper Mine is within a low-level military air-training route that spans an area from the Las Cienegas National Conservation Area to the Buenos Aires National Wildlife Refuge. The attached graphic represents the military air training routes. Notably, one of the routes crosses the Santa Rita Mountains just north of the Rosemont ore deposit. The proposed mine by Augusta Resources represents a potential encroachment into the low-level pilot trainig routes in our area. Two aspects of the mine can affect the training routes: the first are physical encroachments, such as the power poles which would be constructed over the crest of the Santa Rita Mountains to bring electricity to the site. Second, the military may be even more concerned with radio communication bandwidth encroachments. Radio transmissions or other electronic devices, which might direct the flow of electricity, water or ore slurry might have the potential to interfere with bandwidths and communication systems currently used by the military. The Forest Service should consult with the Defense Department to investigate these potential impacts.	☐ Attachment	

ID	Comment Text	Category	Code
6881	In summary, the scoping process for the proposed Rosemont Copper Mine is a flawed process. Scoping should be halted and started agan when a complete mine plan of operations is available so that direct, indirect, and cumulative impacts can be assessed, and when cooperative agencies have been invited into the process to contributed needed expertise.	PRP	02
Comment 17		☐ Attachment	

ID	Comment Text	Category	Code
6881	In summary, the scoping process for the proposed Rosemont Copper Mine is a flawed process. Scoping should be halted and started agan when a complete mine plan of operations is available so that direct, indirect, and cumulative impacts can be assessed, and when cooperative agencies have been invited into the process to contributed needed expertise.	PRP	04
Comment 18		☐ Attachment	

ID	Comment Text	Category	Code
6881	In addition, the "purpose and need" for the project is so narrow that it precludes alternatives that would still meet the need of the Federal government to provide for the development fo copper resources in locations that would result in far fewer environmental, social, and economic impacts.	PRP	03
Comment 19		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Pima County Administrator's Office

ID	Comment Text	Category	Code
6881	Finally, before any more time and effort is spent on analyzing the impacts of this propose mining project, the Forest Service should investigate whether Rosemont's mining claims are valid.	MLO	01
Comment 20		☐ Attachment	

Pima County Board of Supervisors

ID	Comment Text	Category	Code
1691	"Resolution of the Pima County Board of Supervisors Opposing the Proposed Rosemont Mine" See Attachement.	PRP	06
Comment 1		☑ Attachment	

Santa Cruz County - Supervisor

ID	Comment Text	Category	Code
2479	I am writing you regarding the proposed Rosemont Copper project to voice my concerns about negative impacts I believe the citizens of Southeastern Arizona will face if this project is approved for development.	OTH	01
Comment 1		☐ Attachment	

ID	Comment Text	Category	Code
2479	As you are well aware, the Santa Cruz County Board of Supervisors voted unanimously last year to support the Pima County Board of Supervisor's Resolution 2007-15, opposing the proposed Rosemont Mine. Although the mine itself is not situated within our area of jurisdiction, we nevertheless share Pima County's concerns for the potential environmental and economic impacts this project will have upon both of our counties.	OTH	02
Comment 2		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Santa Cruz County - Supervisor

ID	Comment Text	Category	Code
2479	As the County Supervisor representing the district in Santa Cruz County most likely to be impacted by this proposal, I have grave concerns regarding the potentially negative impacts upon water quality and quantity.	WR	02
Comment 3		☐ Attachment	

dupe

ID	Comment Text	Category	Code
2479	As the County Supervisor representing the district in Santa Cruz county most likely to be impacted by this proposal, I have grave concerns regarding the potentially negative impacts upon water quality and quantity.	WR	03
Comment 4		☐ Attachment	

ID	Comment Text	Category	Code
2479	I am aware of plans to utilize CAP water to supplement the operational needs of this project; however, that is CAP water that could be used by both of our counties to support existing residents.	WR	05
Comment 5		☐ Attachment	

ID	Comment Text	Category	Code
2479	Mining in Arizona has a legacy of not protecting groundwater. Although there are currently operations in our region following federal regulations related to environmental protection, the record of past project have made many of us skeptical, at best, of what may lie ahead of us if this operation were to come to fruition. Groundwater contamination, once it occurs, takes many years to clean up.	WR	06
Comment 6		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Santa Cruz County - Supervisor

ID	Comment Text	Category	Code
2479 Comment 7	The area of Santa Cruz County most likely to realize the impacts of this proposed project will be the Sonoita Valley. This part of our county relies heavily upon tourism as an economic stimulant. A mining operation will not help tourism in our county and that will have a negative impact upon the valley's residents who depend upon it to support their families. This is a negative socio-economic impact that could occur in Pima County as well.	SOC ☐ Attachment	03

ID	Comment Text	Category	Code
2479 Comment 8	Thank you for the opportunity to comment on the proposed Rosemont Copper Project. I do appreciate the job you and your staff are doing with one of our nations greatest resources: our National Forests. Please remember, they were set aside by our fore fathers for the use and enjoyment of our nation's citizens and they are the constituents we are both accountable to, for the decisions we make everyday, as public servants.	OTH ☐ Attachment	01

Santa Cruz County Board of Supervisors

ID	Comment Text	Category	Code
1692 Comment 1	"A Resolution of the Santa Cruz County Board of Supervisors Requesting the Permanent Withdrawal of Mining Exploration and Extraction from All Federal Lands within the US Coronado National Forest in Eastern Santa Cruz County" See Atachment.	PRP ☑ Attachment	06

State of AZ Game and Fish Department - Region 5

Dupes

ID	Comment Text	Category	Code
2677 Comment 1	The Arizona Game and Fish Department is responsible for the management of the wildlife on all lands in Arizona, and thus we request cooperating agency status so that we can provide expert advice throughout the evaluation process as to the impacts to wildlife, habitat, and recreation. The Department also requests to work with the Forest as a member of the ID team as the EIS is developed and analyzed.	PRP ☐ Attachment	04

DRAFT-DELIBERATIVE CONTENT ONLY

Government

State of AZ Game and Fish Department - Region 5

ID	Comment Text	Category	Code
2677	Our preliminary review indicates that despite any and all mitigation measures, this project will result in significant adverse impacts to wildlife, wildlife habitat, and wildlife recreation. We believe that the project will render the northern portion of the Santa Rita Mountains virtually worthless as wildlife habitat and as a functioning ecosystem, and thus also worthless for wildlife recreation. Furthermore, the project has great potential to impact wildlife and habitat off the forest.	WL	01
Comment 2		☐ Attachment	

ID	Comment Text	Category	Code
2677	We therefore do not support the development of the Rosemont Mine.	OTH	02
Comment 3		☐ Attachment	

ID	Comment Text	Category	Code
2677	The mine plan of opertations (Section 3.3.3) states, "is is anticipated that disruption to wildlife habitat and use will be minimal." Further, the mine plan of operations (Section3.5.2.1.2) states, "loss of hunting ground is not expected to have significant impact on hunting in the area." The Department completely disagrees with both of these statements. The amount of land disturbance, traffic, noise, light, and general mining activity will completely disrupt wildlife in the area. Wildlife and hunting impacts will be much greater than the footprint of the active mine area.	WL	01
Comment 4		☐ Attachment	

ID	Comment Text	Category	Code
2677	The mine plan of operations states that a biological report has been completed, called the Biological Resources and Mitigation Concept. We request a copy of this document for our review.	PRP	01
Comment 5	We know that Pima County has recommended that the Forest should require peer review of scientific studies written to evaluate the impacts of the mine. We concur that this is a reasonable request, given that we disagree so completely with the report on biological resources. The Forest must insure that the scientific analysis upon which they base their decisions is sound.	☐ Attachment	

DRAFT DELIBERATIVE CONTENT ONLY

Government

State of AZ Game and Fish Department - Region 5

ID	Comment Text	Category	Code
2677	The Department seeks clarification on the purpose and need for the proposed action. The NOI states: "The purpose of the proposed Forest Service action is to grant permission to the Company (Rosemont Copper Company) to use NFS land for certain activities related to operation of the Rosemont Mine." It seems that the appropriate purpose should be to evaluate whether to issue a permit to Rosemont Copper Company to mine mineral resources from Forest Lands, and whether to issue a permit to dump mining waste on Forest lands, and whether to issue a permit to allow mining and other related rights of way across Forest land to facilitate mining on adjacent patented mining claims, and further to determine the appropriate management practices and mitigation to protetct forest and surrounding land resources if the permits are issued.	PRP	06
Comment 6		☐ Attachment	

ID	Comment Text	Category	Code
2677	The primary responsibility of the Forest, if the permits are issued, should be to protect Forest resources and surrounding lands and waters. The Forest should identify how you inttend to protect those resources.	PRP	07
Comment 7		☐ Attachment	

ID	Comment Text	Category	Code
2677	The Department has a number of questions regarding the Forest's management and permitting responsibility in the action: -Must the Forest Service issue a permit for mining on Forest Land? -Must the Forest Service allow dumping of mine waste on Forest Land?	PRP	06
Comment 8		☐ Attachment	

ID	Comment Text	Category	Code
2677	The Department has a number of questions regarding the Forest's management and permitting responsibility in the action: -Should the Forest allow acid leaching of mineralized rock on Forest land?	PRP	01
Comment 9		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

State of AZ Game and Fish Department - Region 5

ID	Comment Text	Category	Code
2677	The Department has a number of questions regarding the Forest's management and permitting responsibility in the action: -Could the Forest require the operator to place all mineralize rock and mining waste off Forest land (on private and patented claims)?	PRP	01
Comment 10		☐ Attachment	

ID	Comment Text	Category	Code
2677	The Department has a number of questions regarding the Forest's management and permitting responsibility in the action: -Can the Forest evaluate the validity of the unpatented mining claims before it permits mining use, and can the Forest deny the permit if the unpatented mining claims are not valid?	MLO	01
Comment 11		☐ Attachment	

ID	Comment Text	Category	Code
2677	The Department has a number of questions regarding the Forest's management and permitting responsibility in the action: -Can the Forest deny the permits if they determine that the environmental landscape of the proposed action to Forest lands and surrounding lands are unacceptable?	PRP	06
Comment 12		☐ Attachment	

ID	Comment Text	Category	Code
2677	The Department has a number of questions regarding the Forest's management and permitting responsibility in the action: -Does the No Action Alternative mean that no mine will be built? It would clarify the decision that the Forest must make if you clarified what the No Action Alternative encompasses.	PRP	03
Comment 13		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

State of AZ Game and Fish Department - Region 5

ID	Comment Text	Category	Code
2677 Comment 14	The Department has a number of questions regarding the Forest's management and permitting responsibility in the action: -Is the Forest required to allow this one use - a mining operation, with associated ore-processing plant, tailings, waste rock and leach facilities, new roads, ore transportation systems, and test reclamation plots - if it will exclude all other forest uses? Because of the surface disturbance, allowing the use of Forest land for this mine will eliminate all other legitimate use of this Forest land.	LU ☐ Attachment	01

ID	Comment Text	Category	Code
2677 Comment 15	The Department has a number of questions regarding the Forest's management and permitting responsibility in the action: - We believe that the Forest should clearly understand, state, and evaluate that this one use will exclude all other uses of the public's multiple-use land.	PRP ☐ Attachment	06

ID	Comment Text	Category	Code
2677 Comment 16	The Department has a number of questions regarding the Forest's management and permitting responsibility in the action: -Is the Forest required to allow this one use if it permanently damages Forest lands and surrounding non-Forest lands forever? Pretending that this forest land will be returned to a functioning ecosystem in 20 years is fantasy.	RCL ☐ Attachment	01

ID	Comment Text	Category	Code
2677 Comment 17	There are so many demands on land in Arizona. Human population and urban and rural development are growing at such a rate that there will soon be a time when the only land left for the public to use for recreation, and the only land left for wildlife, will be the public land. The Forest Service should consider that the highest value of Arizona public land is for public recreation,	REC ☐ Attachment	99

DRAFT-DELIBERATIVE CONTENT ONLY

Government

State of AZ Game and Fish Department - Region 5

ID	Comment Text	Category	Code
2677	There are so many demands on land in Arizona. Human population and urban and rural development are growing at such a rate that there will soon be a time when the only land left for the public to use for recreation, and the only land left for wildlife, will be the public land. The Forest Service should consider that the highest value of Arizona public land is for wildlife.	WL	99
Comment 18		☐ Attachment	

ID	Comment Text	Category	Code
2677	There are so many demands on land in Arizona. Human population and urban and rural development are growing at such a rate that there will soon be a time when the only land left for the public to use for recreation, and the only land left for wildlife, will be the public land. The Forest Service should consider that the highest value of Arizona public land is for wildlife.	WLD	01
Comment 19		☐ Attachment	

ID	Comment Text	Category	Code
2677	Because the Arizona Game and Fish Department is charged with the management and protection of Arizona's wildlife, we cannot support any action that will mean the loss of a significant piece of wildlife habitat on public land.	OTH	02
Comment 20		☐ Attachment	

ID	Comment Text	Category	Code
2677	We visited the Santa Rita Management Area during the period when the test drilling was occurring, and we were greatly concerned at the amount of noise disturbance that occurred.	NO	01
Comment 21		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

State of AZ Game and Fish Department - Region 5

ID	Comment Text	Category	Code
2677	We visited the Santa Rita Management Area during the period when the test drilling was occurring, and we were greatly concerned at the amount of light disturbance that occurred.	LGT	01
Comment 22		☐ Attachment	

ID	Comment Text	Category	Code
2677	Wildlife recreationists complained to our personnel about the damage to wildlife and habitat and the damage to their wildland experience. The impact of the testing phase will be miniscule compared to the impact of the actual mine operation.	REC	01
Comment 23		☐ Attachment	

ID	Comment Text	Category	Code
2677	We understand that Rosemont Copper Company plans to drill for water in Sahuarita, near the junction of the Santa Rita Road and Sahuarita Road. We are concerned about the cone of depression that will result, in the Santa Cruz Valley	WR	03
Comment 24		☐ Attachment	

ID	Comment Text	Category	Code
2677	We understand that Rosemont Copper Company plans to drill for water in Sahuarita, near the junction of the Santa Rita Road and Sahuarita Road. We are concerned about the cone of depression that will result, in the Santa Rita Mountains.	WR	04
Comment 25		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

State of AZ Game and Fish Department - Region 5

ID	Comment Text	Category	Code
2677	We understand that Rosemont Copper Company plans to replace their ground water withdrawl with CAP water, but at least for now that replacement water is being provided into the aquifer at Avra Valley, 36 miles away from the withdrawl site. Depositing water into the Avra Valley will do nothing for the water table that supports the wildlife habitats around the Santa Cruz River and the Santa Rita Mountains.	WL	01
Comment 26		☐ Attachment	

ID	Comment Text	Category	Code
2677	If the water table is lowered around the Santa Cruz River or in the Santa Rita Mountains, the impacts to vegetation will adversely impact wildlife (which in turn impacts wildlife recreation).	WL	01
Comment 27		☐ Attachment	

ID	Comment Text	Category	Code
2677	If the water table is lowered around the Santa Cruz River or in the Santa Rita Mountains, the impacts to vegetation will adversely impact wildlife (which in turn impacts wildlife recreation).	REC	01
Comment 28		☐ Attachment	

ID	Comment Text	Category	Code
2677	There is a concern that CAP water may not be available throughout the entire life of this mine, so replacement may not occur at all times.	WR	05
Comment 29		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

State of AZ Game and Fish Department - Region 5

ID	Comment Text	Category	Code
2677	The only way to insure that the mine does not impact water resources in the Santa Cruz basin is for the mine to use only CAP water and be prohibited from using ground water.	WR	01
Comment 30		☐ Attachment	

ID	Comment Text	Category	Code
2677	The only way to insure that the mine does not impact wildlife habitat in the Santa Cruz basin is for the mine to use only CAP water and be prohibited from using ground water.	WL	01
Comment 31		☐ Attachment	

ID	Comment Text	Category	Code
2677	We also are concerned about the impacts that will occur and could occur to the surface and ground water on the east side of the proposed mine. Normal rainfall that will fall in Barrel Canyon will be diverted for 20+ years (or forever?). This will decrease the ground water that should flow down Barrel Canyon and into Davidson Canyon and Cienega Creek. Davidson Canyon and Cienega Creek and very important habitats for wildlife, and decreases in water flow to these habitats will adversely impact wildlife. This effect will be occurring off of Forest lands. The Forest should identify how you will insure that this impact does not occur.	WR	04
Comment 32		☐ Attachment	

ID	Comment Text	Category	Code
2677	We also are concerned about the impacts that will occur and could occur to the surface and ground water on the east side of the proposed mine. Normal rainfall that will fall in Barrel Canyon will be diverted for 20+ years (or forever?). This will decrease the surface water that should flow down Barrel Canyon and into Davidson Canyon and Cienega Creek. Davidson Canyon and Cienega Creek and very important habitats for wildlife, and decreases in water flow to these habitats will adversely impact wildlife. This effect will be occurring off of Forest lands. The Forest should identify how you will insure that this impact does not occur.	WR	03
Comment 33		☐ Attachment	

DRAFT - LIBERATE CONTENT ONLY

Government

State of AZ Game and Fish Department - Region 5

ID	Comment Text	Category	Code
2677 Comment 34	This will decrease the ground water and surface water that should flow down Barrel Canyon and into Davidson Canyon and Cienega Creek. Davidson Canyon and Cienega Creek and very important habitats for wildlife, and decreases in water flow to these habitats will adversely impact wildlife. This effect will be occurring off of Forest lands. The Forest should identify how you will insure that this impact does not occur.	WL ☐ Attachment	01

ID	Comment Text	Category	Code
2677 Comment 35	We also are concerned about the impacts that will occur and could occur to the surface and ground water on the east side of the proposed mine. Normal rainfall that will fall in Barrel Canyon will be diverted for 20+ years (or forever?). This will decrease the ground water and surface water that should flow down Barrel Canyon and into Davidson Canyon and Cienega Creek. Davidson Canyon and Cienega Creek and very important habitats for wildlife, and decreases in water flow to these habitats will adversely impact wildlife. This effect will be occurring off of Forest lands. The Forest should identify how you will insure that this impact does not occur.	PRP ☐ Attachment	07

ID	Comment Text	Category	Code
2677 Comment 36	There is a great concern about spills from the mine polluting the ground water and surface water down-canyon from the mine. Although Rosemont Copper Company states that they will use state-of-the-art technologies to prevents spills and contamination, virtually all mines have had spills. The Forest should identify how you will insure that water is not polluted from the Rosemont Mine. Any pollution of waters into Davidson Canyon and Cienega Creek will have significant adverse impacts to wildlife, including federally listed and sensitive species.	WR ☐ Attachment	06

ID	Comment Text	Category	Code
2677 Comment 37	There is a great concern about spills from the mine polluting the ground water and surface water down-canyon from the mine. Although Rosemont Copper Company states that they will use state-of-the-art technologies to prevents spills and contamination, virtually all mines have had spills. The Forest should identify how you will insure that water is not polluted from the Rosemont Mine. Any pollution of waters into Davidson Canyon and Cienega Creek will have significant adverse impacts to wildlife	WL ☐ Attachment	01

DRAFT DELIBERATIVE CONTENT ONLY

Government

State of AZ Game and Fish Department - Region 5

ID	Comment Text	Category	Code
2677 Comment 38	There is a great concern about spills from the mine polluting the ground water and surface water down-canyon from the mine. Although Rosemont Copper Company states that they will use state-of-the-art technologies to prevents spills and contamination, virtually all mines have had spills. The Forest should identify how you will insure that water is not polluted from the Rosemont Mine. Any pollution of waters into Davidson Canyon and Cienega Creek will have significant adverse impacts to federally listed and sensitive species.	SSS ☐ Attachment	01

ID	Comment Text	Category	Code
2677 Comment 39	We also have a concern about failure of reclamation to occur or to be adequte for the needs of wildlife. Rosemont Copper Company tells us that mining operations can be completely rehabilitated. However, we have never seen this occur in Arizona's dry habitats. There is always a legitimate reason for the lack of reclamation, e.g., the mine is staying open to extract ore in the future, or the original company declared bankruptcy and is no longer responsible.	RCL ☐ Attachment	01

ID	Comment Text	Category	Code
2677 Comment 40	We also have a concern about failure of reclamation to occur or to be adequte for the needs of wildlife. When this happens, the wildlife are always the losers. One of the problems is the difficulty of establishing vegetation (at the level of a functioning ecosystem) in dry climates.	WL ☐ Attachment	01

ID	Comment Text	Category	Code
2677 Comment 41	We also have a concern about failure of reclamation to occur or to be adequte for the needs of wildlife. When this happens, the public who enjoy that wildlife are always the losers.	REC ☐ Attachment	01

DRAFT-DELIBERATIVE CONTENT ONLY

Government

State of AZ Game and Fish Department - Region 5

ID	Comment Text	Category	Code
2677 Comment 42	One of the problems is the difficulty of establishing vegetation (at the level of a functioning ecosystem) in dry climates. The vegetative communities of the projected area developed over hundreds of years. It is virtually impossible to establish that same vegetation in short time frame. Reclamation is not successful if the result is a low-seral stage habitat (e.g. grasses and forbs) and lack mature habitat values. Those low-seral stage habitats may hold soil, but they do no provide the same functions and values for wildlife.	VEG ☐ Attachment	01

ID	Comment Text	Category	Code
2677 Comment 43	One of the most significant deficiencies of other mining operations on public land is inadequacy of the reclamation bond.Too often the original or subsequent operator finds default on the bond to be less expensive than completing the required reclamation. One of essentail requirements of this project would be to require a very generous reclamation, based on dollar amount at the time of reclamation. Furthermore, the Forest should find a way to prevent reclamation delays due to calims of future interest in mining.	RCL ☐ Attachment	02

ID	Comment Text	Category	Code
2677 Comment 44	As we stated above, we believe that this mine will impact wildlife, wildlife habitat, and wildlife recreation in an area that is much larger than the footprint of the mine. If this mine is permitted, the entire northern portion of the Santa Rita Mountains will be virtually lost of wildlife values.	WL ☐ Attachment	01

ID	Comment Text	Category	Code
2677 Comment 45	As we stated above, we believe that this mine will impact wildlife recreation in an area that is much larger than the footprint of the mine. If this mine is permitted, the entire northern portion of the Santa Rita Mountains will be virtually lost of wildlife values.	REC ☐ Attachment	01

DRAFT-DELIBERATIVE CONTENT ONLY

Government

State of AZ Game and Fish Department - Region 5

ID	Comment Text	Category	Code
2677	We fear that the Coronado National Forest will no longer accept the northern portion of the Santa Rita Mountains as a functioning ecosystem management area and will seek to dispose of the whole portion of the range north of Box Canyon. The Forest could not possibly be expected to manage the fringes of this habitat, with the heart extracted.	LU	01
Comment 46		☐ Attachment	

ID	Comment Text	Category	Code
2677	Because of this management issue, if this mine is permitted, we believe one piece of the mitigation package should be the acquisition of a block of land (an ecosystem) contiguous to the Coronado National Forest equal in size and equal in wildlife values to all the Forest land north of Box Canyon. We would not support purchase of small inholdings for exchange for Santa Rita land. The Forest should require a large contiguous ecosystem to replace the public land that has been destroyed. Since we cannot imagine where that piece of land could be found and purchased, we do not believe it is in the best public interest to permit this mine.	PRP	11
Comment 47		☐ Attachment	

ID	Comment Text	Category	Code
2677	Because of this management issue, if this mine is permitted, we believe one piece of the mitigation package should be the acquisition of a block of land (an ecosystem) contiguous to the Coronado National Forest equal in size and equal in wildlife values to all the Forest land north of Box Canyon. Since we cannot imagine where that piece of land could be found and purchased, we do not believe it is in the best public interest to permit this mine.	OTH	02
Comment 48		☐ Attachment	

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Loss of hunting opportunity	REC	01
Comment 49		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

State of AZ Game and Fish Department - Region 5

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	WL	01
Comment	-Loss of game and non-game habitat	☐ Attachment	
50			

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	RIP	01
Comment	-Loss of springs and streams	☐ Attachment	
51			

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	WL	01
Comment	-Impacts to wildlife corridors that allow wildlife movement from blocks of habitat	☐ Attachment	
52			

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	SSS	01
Comment	-Impacts to threatened and endangered species and special status species	☐ Attachment	
53			

DRAFT-DELIBERATIVE CONTENT ONLY

Government

State of AZ Game and Fish Department - Region 5

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	WR	02
Comment 54	- Monitoring of impacts to ground and surface water (quality and quantity), and actions that will be taken if adverse impacts are shown	☐ Attachment	

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	WR	04
Comment 55	- Monitoring of impacts to ground and surface water (quality and quantity), and actions that will be taken if adverse impacts are shown	☐ Attachment	

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	WR	03
Comment 56	- Monitoring of impacts to ground and surface water (quality and quantity), and actions that will be taken if adverse impacts are shown	☐ Attachment	

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	WL	01
Comment 57	-Monitoring of wildlife impacts.	☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

State of AZ Game and Fish Department - Region 5

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	PRP	01
Comment 58	-Funding for scientific monitoring for the life of the mine and beyond	☐ Attachment	

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	WL	01
Comment 59	-Impacts to wildlife from increased vehicular traffic, both on the Forest and off the Forest	☐ Attachment	

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	WL	01
Comment 60	-Impacts to wildlife from dust and air pollution during construction, during mining operations, and after mining has stopped, both on the Forest and off the Forest	☐ Attachment	

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	NO	01
Comment 61	-Noise effects of wildlife and recreationists	☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

State of AZ Game and Fish Department - Region 5

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. - light effects on wildlife and recreationists	LGT	01
Comment 62		☐ Attachment	

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Impacts to wildlife habitat off-site	WL	99
Comment 63		☐ Attachment	

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Best Management Practices that protect wildlife, including birds and bats, from being killed by the toxic solutions on the site	WL	01
Comment 64		☐ Attachment	

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -Habitat fragmentation	WL	01
Comment 65		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

State of AZ Game and Fish Department - Region 5

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	REC	01
Comment	-Public access for wildlife recreation	☐ Attachment	
66			

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	HZ	99
Comment	-Potential impacts to wildlife from accidental spills of toxic materials, both on the Forest and off-forest	☐ Attachment	
67			

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	OTH	01
Comment	-Non-mining waste, such as sanitary waste and tires	☐ Attachment	
68			

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following.	VRM	01
Comment	-Visual impacts of the mine to wildlife recreationists	☐ Attachment	
69			

DRAFT-DELIBERATIVE CONTENT ONLY

Government

State of AZ Game and Fish Department - Region 5

ID	Comment Text	Category	Code
2677	As stated above, we are providing only preliminary comments in this letter. Other issues that we expect to be analyzed in the EIS include the following. -State Trust Land north of Las Cienegas NCA is part of the Sonoita Valley Acquisition Planning District and may be given protected status in the State Land Initiative. This land and its wildlife could be adverely impacted by the mine.	LU	01
Comment 70		☐ Attachment	

The Hopi Tribe

ID	Comment Text	Category	Code
2759	Thank you for your correspondence dated June 13, 2008, regarding the Forest Service developing an Environmental Impact Statement for Rosemont Copper's plans to develop a large open pit mine on 995 acres of private land and 3,670 acres of Forest land in the Santa Rita Mountains south of Tucson. Because the Hopi Tribe claims cultural affiliation to prehistoric cultural groups in Coronado National Forest and Hopi Cultural Preservation Office supports the identification and avoidance of archaeological sites and Traditional Cultural Properties, we appreciate your continuing solicitation of our input and your efforts to address our concerns.	PRP	01
Comment 1		☐ Attachment	

ID	Comment Text	Category	Code
2759	As your March 14, 2008 correspondence indicated, the Hopi Cultural Preservation Office was informed of this proposal in September, 2006, and it was discussed at our last administrative meeting in 2007. We understand that nearly all of the project area was investigated in the 1970's and 1980's by Arizona State University, including cultural resource surveys, testing, and data recovery resulting in the recovery of at least 75 sets of human remains. We further understand that these investigations identified 130 archaeological sites within the current project area or one mile of it. Therefore, in our April 4, 2008, response to your March 14, 2008, correspondence, we stated that we have immediate concerns regarding this proposal, and we anticipate that the proposed project will have additional adverse effects on cultural resources significant to the Hopi Tribe. And therefore, we further stated that we appreciate that the Forest plans the completion of an ethno history review and evaluation, a new cultural resources survey of the area of potential effect, reconciliation of the new survey data with the previous testing and data recovery excavations, review of new and previously investigated sites to develop a mitigation plan, and re-initiation of opportunities to repatriate the remains previously excavated. In our April 4, 2008, letter we further stated that we understand the Forest Service published a Federal Register Notice for the 75 sets of human remains from the previous investigations currently at the Arizona State Museum, but that a claim has not yet ben filed for these remains. Therefore, pursuant to the Native American Graves Protection and Repatriation Act and Hopi Tribal Council Resolution H-70-94, the Hopi Cultural Preservation Office hereby claims these sets of human remains for repatriation, reburial, and protection in perpetuity on the Coronado National Forest.	CUL	01
Comment 2		☐ Attachment	

DRAFT FOR DELIBERATIVE CONTENT ONLY

Government

The Hopi Tribe

ID	Comment Text	Category	Code
2759	We understand that SWCA Environmental Consultants is preparing an ethnohistory of the proposed Rosemont Copper Mine project area. We reiterate that we look forward to participating in extensive consultations on this proposal and that we will be supporting the "No Action" alternative in the draft Environmental Impact Statement.	PRP	03
Comment		☐ Attachment	
3			

Town of Marana Mayor and Council

ID	Comment Text	Category	Code
1705	Marana Resolution No. 2007-212 "Relating to Development; Opposition to Development of the Rosemont Mine in the Santa Rita Mountains" See Attachment.	PRP	06
Comment		☑ Attachment	
1			

Town of Oro Valley Mayor and Council

ID	Comment Text	Category	Code
1694	"A Resolution of the Mayor and Council of the Town of Oro Valley, Arizona, Strongly Opposing the Proposed Rosemont Mine" See Attachment.	PRP	06
Comment		☑ Attachment	
1			

Town of Patagonia Mayor and Council

DRAFT DELIBERATIVE CONTENT ONLY

Government

Town of Patagonia Mayor and Council

ID	Comment Text	Category	Code
1693	"A Resolution of the Mayor and Council of the Town of Patagonia, Arizona, Opposing the Proposed Rosemont Mine" See Attachment.	PRP	06
Comment		☑ Attachment	
1			

Town of Sahuarita

ID	Comment Text	Category	Code
2736			
Comment		☐ Attachment	

ID	Comment Text	Category	Code
2736	Even though the Town of Sahuarita has received no formal communication from the US Forest Service regarding its request to act as a cooperating agency, by virtue of its being a cooperative agency, the the Town inends to fulfill expectations and assumptions on the Council on Environmental Quality's approach to using such cooperative agencies in the NEPA process, mainly:	PRP	04
Comment		☐ Attachment	
1	To provide peer review of the NEPA activities with regard to the needs and operations of the local systems within the purview of the cooperating agency; To provide for public input at all levels on how a NEPA activity affects local needs and operations; To provide input to the "cumulative impact" assesment which is an integral part of the NEPA activity, and which is the most difficult to produce and usually the least authoritative because the NEPA agency cannot effectively judge these impacts on the local systems which cooperative agencies routinely do.		

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita

ID	Comment Text	Category	Code
2736	The town also takes note of the fact that the US Corps of Engineers has has a similar lack of response on th epart of Forest Service to what its role as a cooperating agency might be, although it has some jurisdiction of "navigable water bodies" and their tributaries, the Santa Cruz River, when it is flowing, is one of those tributaries.	PRP	04
Comment 2		☐ Attachment	

ID	Comment Text	Category	Code
2736	What will be the consequences of using surface resources for mining operations? Will private and public wells be impacted?	WR	04
Comment 3		☐ Attachment	

ID	Comment Text	Category	Code
2736	What will be the consequences of using groundwater resources for mining operations? Will private and public wells be impacted?	WR	03
Comment 4		☐ Attachment	

ID	Comment Text	Category	Code
2736	What will be the impact on both quality of the groundwater at the mine extraction areas?	WR	02
Comment 5		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita

ID	Comment Text	Category	Code
2736	What will be the impact on both quantity of the groundwater at the mine extraction areas?	WR	03
Comment 6		☐ Attachment	

ID	Comment Text	Category	Code
2736	What will be the impact on both quality and quantity of the surface runoff at the mine extraction areas?	WR	07
Comment 7		☐ Attachment	

ID	Comment Text	Category	Code
2736	How will the usage of groundwater impact current and future residential growth of the county and local jurisdictions?	SOC	02
Comment 8		☐ Attachment	

ID	Comment Text	Category	Code
2736	How will the use of groundwater impact current and future economic development for State, county and local jurisdictions?	SOC	01
Comment 9		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita

ID	Comment Text	Category	Code
2736	How will the flora be impacted by the use of surface and groundwater for mining operations?	VEG	01
Comment 10		☐ Attachment	

ID	Comment Text	Category	Code
2736	How will the fauna be impacted by the use of surface and groundwater for mining operations?	WL	01
Comment 11		☐ Attachment	

ID	Comment Text	Category	Code
2736	How will the use of surface and groundwater impact the Davidson Canyon and Cienega Creek watershed	RIP	01
Comment 12		☐ Attachment	

ID	Comment Text	Category	Code
2736	What conservation and recycling techniques does the mining operation plan to put in place, if any, to reduce the amount of surface and groundwater being extracted? What agency will be responsible	PRP	07
Comment 13		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita

ID	Comment Text	Category	Code
2736	How many well heads (now and in the future) are in the scope of the Mining Operations Plan? Where will the well heads be located?	WR	01
Comment 14		☐ Attachment	

ID	Comment Text	Category	Code
2736	Where are the pipelines from the wells to the mine going to be located?	OTH	01
Comment 15		☐ Attachment	

ID	Comment Text	Category	Code
2736	Where are the pipelines from the wells to the mine going to be located? How will they impact future development?	SOC	01
Comment 16		☐ Attachment	

ID	Comment Text	Category	Code
2736	Where are the pipelines from the wells to the mine going to be located? How will they impact future development? How will it impact the natural environment,	OTH	01
Comment 17		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita

ID	Comment Text	Category	Code
2736	Where are the pipelines from the wells to the mine going to be located? How will they impact future development? How will it impact the flora of the area?	VEG	01
Comment 18		☐ Attachment	

ID	Comment Text	Category	Code
2736	Where are the pipelines from the wells to the mine going to be located? How will they impact future development? How will it impact the fauna of the area?	WL	01
Comment 19		☐ Attachment	

ID	Comment Text	Category	Code
2736	Will the use of groundwater for mine operations create a subsidence issue?	SOL	02
Comment 20		☐ Attachment	

ID	Comment Text	Category	Code
2736	If subsidence begins, who will provide abatement to those residents and businesses affected by the use of excessive groundwater being drawn for mining activities? What about the stress created on municipal infrastructure?	SOC	01
Comment 21		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita

ID	Comment Text	Category	Code
2736	In examining the structure of the aquifer, what are the geophysical characteristics like karst formation, lens aquifer layers, channeling and underground basin interconnections, which can enhance subsidence? Has the aquifer been mapped?	WR	01
Comment 22		☐ Attachment	

ID	Comment Text	Category	Code
2736	Where does Rosemont Copper plan to physically locate the CAP water line? Where will the infiltration basins be located?	WR	05
Comment 23		☐ Attachment	

ID	Comment Text	Category	Code
2736	What are the physical, chemical and biological criteria for acceptable CAP waters? How are these monitored? Do these criteria reflect the best water quality possible given basic environmental problems of nutrient enrichment (nitrates and phosphates in waste effluents from treatment plants), toxic chemicals of industrial origin (notably organics like TCE, and various pesticides like atrazine, which can pass through treatment plants unprocessed in spite of their theoretical biodegradability and amenability to chemical treatment)?	WR	05
Comment 24		☐ Attachment	

ID	Comment Text	Category	Code
2736	CAP water is not the same quality as groundwater. What is the effect of replenshing the aquifer with CAP water in the aquifer in the short and long term?	WR	02
Comment 25		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita

ID	Comment Text	Category	Code
2736	Could Rosemont use CAP water directly instead groundwater? What would be the effect?	ALT	01

Comment

26

☐ Attachment

ID	Comment Text	Category	Code
2736	Currently, there is a sulfate plume in the aquifer related to other unrelated mining mining operations.	WR	99

Comment

27

☐ Attachment

ID	Comment Text	Category	Code
2736	How will mining activities impact the aquifer?	WR	02

Comment

28

☐ Attachment

ID	Comment Text	Category	Code
2736	How will you prevent aquifer contamination? Sulfate Plumes?	PRP	07

Comment

29

☐ Attachment

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita

ID	Comment Text	Category	Code
2736 Comment 30	Sulfate plumes can originate in several ways. The sulfate content of minerals in the aquifer can leach or dissolve. The level of sulfate in waters is an important quality parameter. The mining operation involves sulfur-based minerals, which under appropriate conditions of either oxygen or anaerobic microorganism activity can generate sulfate. How will these processes be measured and quantified?	WR ☐ Attachment	06

ID	Comment Text	Category	Code
2736 Comment 31	In some cases the sulfate in groundwater can be related to sulfate plumes in air. While desert soils may trap sulfate deposited on the land, these soils do have a saturation level for the sulfate. During monsoon season, it is possible for the sulfate to percolate down to groundwater. Since air pollution is not being studied by themine and sulfate is a criterion air pollutant, and a major cause of haze how will the air-groundwater sulfate connection be quantified and its effect factored into the EIS?	AQ ☐ Attachment	01

ID	Comment Text	Category	Code
2736 Comment 32	If Rosemont directly used CAP water, where would the pipeline be located? What if Rosemont used CAP water directly and pumped groundwater when CAP water is not available.	ALT ☐ Attachment	01

ID	Comment Text	Category	Code
2736 Comment 33	If Rosemont directly used CAP water, where would the pipeline be located? What if Rosemont used CAP water directly and pumped groundwater when CAP water is not available. What would the cumulative effect be?	WR ☐ Attachment	99

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita

ID	Comment Text	Category	Code
2736	Augusta Resources/Rosemont Copper has requested an easement from the State Land Department; what is the location of the easement? The State Land Department may decide the easement is located so as to service future growth; will Augusta Resources/Rosemont Copper be willing to accommodate the State Land Department requirement?	PRP	01
Comment 34		☐ Attachment	

ID	Comment Text	Category	Code
2736	What is Augusta Resources/Rosemont Copper's backup plan if the State Land Department or other land owners say no to the easement request? What are the alternative easement options? Could private property be used or forced to be used?	PRP	01
Comment 35		☐ Attachment	

ID	Comment Text	Category	Code
2736	What other well field locations are being explored?	WR	01
Comment 36		☐ Attachment	

ID	Comment Text	Category	Code
2736	Is direct use of CAP water being considered?	WR	05
Comment 37		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita

ID	Comment Text	Category	Code
2736	What are the configurations for recharge?	WR	05
Comment 38		☐ Attachment	

ID	Comment Text	Category	Code
2736	Since protection of groundwater is one of the most urgent needs here, the Groundwater Monitoring plan is basically your first line of defense. There is currently no Groundwater Monitoring plan, a major deficiency. Since groundwater sampling requires considerable expertise and is often not properly addressed, how will Rosemont sample the groundwaters for geochemical constituents? It is one thing to talk of "chain of custody of the samples" and the use of "certified laboratories," and approved methods, but if the sampling is not appropriate from the start, the data and findings are highly suspect. The equipment that is used, especially the pumps, tubes, boring and drilling devices, collection bottles, etc. are often not properly selected, prepared, and tested before use and as a result the samples become contaminated during the sampling process. Different sampling procedures and equipment modifications are needed depending on the nature of the geochemical constituents being considered -- with the three major classes of different sampling needs associated with inorganic materials, organic materials, and radioactive materials. While large samples of groundwaters are needed, the differences associated with these classes of parameters requires that single samples not be subdivided for three kinds of analyses, but that three different sampling protocols be developed. And of course, it is also necessary to test groundwaters for biological components -- notably bacteria, viruses, and micro invertebrates, which often show up when a test well is drilled, and initially put into service.	PRP	07
Comment 39		☐ Attachment	

ID	Comment Text	Category	Code
2736	How will the mine access electricity?	OTH	04
Comment 40	Will there be new power lines created to serve the property? Where will the electrical line easements be located?	☐ Attachment	

ID	Comment Text	Category	Code
2736	What impact will electrical lines have on the Sahuarita/Green Valley area aesthetically?	VRM	01
Comment 41		☐ Attachment	

DRAFT-DELIBERATIVE DOCUMENT ONLY

Government

Town of Sahuarita

ID	Comment Text	Category	Code
2736	What impact will electrical lines have on the Sahuarita/Green Valley area aesthetically? How will it impact the natural environment?	OTH	04

Comment

42

☐ Attachment

ID	Comment Text	Category	Code
2736	What impact will electrical lines have on the Sahuarita/Green Valley area aesthetically? How will it impact the flora ?	VEG	01

Comment

43

☐ Attachment

ID	Comment Text	Category	Code
2736	What impact will electrical lines have on the Sahuarita/Green Valley area aesthetically? How will it impact the fauna?	WL	01

Comment

44

☐ Attachment

ID	Comment Text	Category	Code
2736	How will power lines and easements impact public and private land?	LU	01

Comment

45

☐ Attachment

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita

ID	Comment Text	Category	Code
2736	What impact will the stand alone proposed wastewater treatment plant have on the flora ?	VEG	01
Comment 46		☐ Attachment	

ID	Comment Text	Category	Code
2736	What impact will the stand alone proposed wastewater treatment plant have on the fauna?	WL	01
Comment 47		☐ Attachment	

ID	Comment Text	Category	Code
2736	What if any, odors will occur because of the wastewater treatment plant? What mitigation plan does the mine have in place to address any odor issues?	AQ	01
Comment 48		☐ Attachment	

ID	Comment Text	Category	Code
2736	How will mining operations impact air quality? What what pollution controls will be put into place to monitor pollution from both the mining and vehicular traffic associated with the mine?	AQ	02
Comment 49		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita

ID	Comment Text	Category	Code
2736	The physical legacy of mines is contaminated soil. What happens after the mining operation ends? Who will maintain the tailings?	RCL	01
Comment 50		☐ Attachment	

ID	Comment Text	Category	Code
2736	What are the consequences if Augusta Resources simply entitles the land and another entity purchases the rights operates the mine? Or the mine is operated by more than one company? Or a foreign company?	PRP	01
Comment 51		☐ Attachment	

ID	Comment Text	Category	Code
2736	How does Rosemont Copper/Augusta Resources guarantee reclamation if other entities are operating the mine?	RCL	01
Comment 52		☐ Attachment	

ID	Comment Text	Category	Code
2736	If foreign-owned, what are the implications for the country as well as local jurisdictions?	PRP	06
Comment 53		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita

ID	Comment Text	Category	Code
2736	What are the implications to the area if reclamation does not occur?	RCL	01
Comment 54		☐ Attachment	

ID	Comment Text	Category	Code
2736	Historically, mines have not necessarily been interested or cooperative in future or regional issues; what is Rosemont's position? Why should we believe anything would be any different?	PRP	08
Comment 55		☐ Attachment	

ID	Comment Text	Category	Code
2736	The Santa Ritas are used by many people for recreational purposes; hunting, hiking, camping, horseback riding, off-road vehicles. The Rosemont Mine will be in close proximity to populatin centers will limit or negate altogether their access to many outdoor pursuits. How does the mine plan to minimize the negative impacts on the residents access to the mountains ?	REC	01
Comment 56		☐ Attachment	

ID	Comment Text	Category	Code
2736	The Santa Ritas are used by many people for recreational purposes; hunting, hiking, camping, horseback riding, off-road vehicles. The Rosemont Mine will be in close proximity to population centers will limit or negate altogether their access to many outdoor pursuits. How does the mine plan to minimize the negative impacts on the residents and their quality of life?	SOC	05
Comment 57		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita

ID	Comment Text	Category	Code
2736	What is Augusta Resources/Rosemont Copper's position on diminishing a portion of recreational activities?	REC	01
Comment 58		☐ Attachment	

ID	Comment Text	Category	Code
2736	Regarding the view shed implications; does Augusta Resources/Rosemont Copper really plan to mine only on the east side of the ridgeline, or will operations eventually spill over the ridge onto the west side of the ridge and impact the view? What guarantee is in place to assure the public that this does not occur?	VRM	99
Comment 59		☐ Attachment	

ID	Comment Text	Category	Code
2736	What are the implications for State and private land values and usability if the views are spoiled by mining operations?	SOC	04
Comment 60		☐ Attachment	

ID	Comment Text	Category	Code
2736	The proposed mining operation is within very close proximity to world-class astronomical observation opportunities, i.e., Whipple Observatory, and is considered a huge asset to the area. What is Augusta Resources/Rosemont Copper's position on protecting the areas dark skies so as not to negatively impact the work being conducted at the observatory?	LGT	01
Comment 61		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita

ID	Comment Text	Category	Code
2736	What impacts will the mine have on noise levels, specifically, the blasting that will occur?	NO	01
Comment 62		☐ Attachment	

ID	Comment Text	Category	Code
2736	What is the potential for this mine to interfere with military operations? The area proposed for the Rosemont Copper Mine is within a low-level military air training route that spans an ara from the Las Cienegas National Conservation Area to the Buenos Aires National Wildlife Refuge. One of the routes crosses the Santa Rita Mountains just north of the Rosemont ore deposit. The proposed mine by Augusta Resources represents a potential encroachment into the low-level pilot training routes in our area. Two aspects of the mine can affect the training routes: the first are physical encroachments, such as the power poles which would be constructed over the crest of the Santa Rita Mountains to bring communication bandwidth encroachments. Radio transmissions or other electronic devices, which might direct the flow of electricity, water or ore slurry, might have th potential to interfere with bandwidths and communication systems currently used by the military.	OTH	04
Comment 63		☐ Attachment	

ID	Comment Text	Category	Code
2736	Radio transmissions or other electronic devices, which might direct the flow of electricity, water or ore slurry, might have th potential to interfere with bandwidths and communication systems currently used by the military. The Forest Service should consult with the Defense Department to investigate these potential impacts.	PRP	04
Comment 64		☐ Attachment	

ID	Comment Text	Category	Code
2736	What roads will all mine traffic use? Sahuarita Road? Santa Rita Road? If the mine spills over the ridgeline, will mining operations begin using Santa Rita Road? Even if there is no spill-over, does the Mining Operations Plan call for Santa Rita Road to become an alternative or emergency access? Does the Mining Operation Plan address possible usage of I-19/Sahuarita Road as an alternative route?	TRA	01
Comment 65		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita

ID	Comment Text	Category	Code
2736	How does Augusta Resources/Rosemont Copper plan to mitigate the damage to municipal infrastructure because of the mining traffic?	TRA	04
Comment 66		☐ Attachment	

ID	Comment Text	Category	Code
2736	What will be the physical impacts of truck traffic on the infrastructure?	TRA	01
Comment 67		☐ Attachment	

ID	Comment Text	Category	Code
2736	Augusta Resources/Rosemont Copper is indicating an employee base of up to 1,000 in th early years of the mining operations. Will that traffic go north to I-10, and then east and west; or, will the mine employees travel west to I-19 through the Sahuarita Town center and then north to I-10?	TRA	01
Comment 68		☐ Attachment	

ID	Comment Text	Category	Code
2736	Hazardous chemicals are currently trucked into the existing mines; how will such chemicals be transported to the rosemont copper mining operation? What roads will be utilized? In th eevent of a hazardous chemical spill, what emergency management plan does Augusta Resources/Rosemont Copper have in place?	HZ	01
Comment 69		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita

ID	Comment Text	Category	Code
2736	The mining operations will generate a large variety of toxic and hazardous chemicals. The major toxic chemical associated with copper mining is arsenic, which is present in significant quantities in Arizona mineral strata, and has become a major concern for drinking water usage because the natural levels of this material often exceed the new limits which EPA has placed on th euse of waters for human consumption and agriculture. What will Rosemont Copper do to prevent the release of arsenic, a human carcinogen in both air and water, to the environment from mining operations and its tailing storage?	HZ	01
Comment 70		☐ Attachment	

ID	Comment Text	Category	Code
2736	Will the mining operation use the railroad lines paralleling Nogales Highway? If yes, what, if any, discussion has occurred with rail officials?	TRA	01
Comment 71		☐ Attachment	

ID	Comment Text	Category	Code
2736	How will traffic on Sonoita Highway be impacted? How will residents living within close proximity to the mining operations have egress and ingress in the event of a hazardous chemical accident? What are the alternatives? Benson Highway? Nogales Highway? Box Canyon Road? Whitehouse Canyon Road?	TRA	01
Comment 72		☐ Attachment	

ID	Comment Text	Category	Code
2736	How are medical emergencies south of the mine to be dealt with?	PHS	01
Comment 73		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita

ID	Comment Text	Category	Code
2736	What impact will heavy vehicles have on Sonoita Highway, and how do you plan to mitigate those impacts? What financial mechanism is in place to address infrastructure damage to this historical highway.	TRA	04
Comment 74		☐ Attachment	

ID	Comment Text	Category	Code
2736	What are the positive implications for the employment in our region? Does Augusta Resources/Rosemont Copper Mine project development and growth in Sahuarita, or in Vail? In what proportions? What taxes, if any, will be generated? Property taxes?	SOC	02
Comment 75		☐ Attachment	

ID	Comment Text	Category	Code
2736	Augusta Resources/Rosemont Mining Comopany and now investment partner Silver Wheaton, Inc. are Canadian businesses. What is the history of both of these companies, and specificially, the history of their mining experience?	TEC	01
Comment 76		☐ Attachment	

ID	Comment Text	Category	Code
2736	What provisions will the Rosemont Copper Mine provide to protect human health from the risks of diseases, notably cancer, reproductive problems, neurological problems, associated with materials release during the mining and procesing of copper ores? In particular, what provisions will be made to assure that commonly found trace contaminants in the ores, notably copper, zinc, arsenic, lead, flouride, cadmium, nickel and beryllium, will not become public health problems or toxicity problems to domestic animals and wildlife? What provisions will Rosemont Copper Mine provide to meet the requirements of the Toxic Substances Control Act with respect to emissions of these materials to the environment?	PRP	07
Comment 77		☐ Attachment	

Town of Sahuarita - Town Clerk Office Assistant

DRAFT DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita - Town Clerk Office Assistant

ID	Comment Text	Category	Code
2410	The Town of Sahuarita municipal operations have moved. Please update your mailing list to reflect the following changes: Sahuarita Town Hall 375 W. Sahuarita Center Way Sahuarita, AZ 85629 Sahuarita Police Department 315 W. W. Sahuarita Center Way Sahuarita, AZ 85629 Sahuarita Municipal Court 360 W. W. Sahuarita Center Way Sahuarita, AZ 85629	PRP	01
Comment 1		☐ Attachment	

Town of Sahuarita Mayor and Council

ID	Comment Text	Category	Code
1706	"A Resolution of the Mayor and Council of the Town of Sahuarita, Arizona, Opposing the Proposed Rosemont Mine" See Attachment.	PRP	06
Comment 1		☑ Attachment	

Town of Sahuarita Office of the Mayor and Council

ID	Comment Text	Category	Code
1683	The Mayor and Council of the Town of Sahuarita, Arizona, by a majority vote, respectfully request the Forest Service suspend the current EIS scoping process for the proposed Rosemont Mine and initiate a new EIS scoping process.	PRP	03
Comment 1		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita Office of the Mayor and Council

ID	Comment Text	Category	Code
1683 Comment 2	Your office requested additional information from Augusta Resource Corporation in a letter dated October 19, 2007. Until such a time as your requests have been fully satisfied and the requested new Mining Plan of Operations is issued, we believe the current scoping process will yield an incomplete product. We agree with Congressman Grijalva and Congresswoman Giffords in their letter dated May 22, 2008, that there is a great deal of confusion and lack of clarity regarding deadlines, reports and documents for public consumption, and the public hearing process.	PRP ☐ Attachment	03

ID	Comment Text	Category	Code
1683 Comment 3	We have serious concerns regarding the public information and hearing processes. The scoping process is deisgned to elicit questions and comments, yet hearings have been disrupted and cancelled. We realize this is an emotionally charged issue; however public discussion must take place. Arrangements must be found to ensure all participants are heard in an equitable and courteous manner, and the rights and security of the venures are guaranteed.	PRP ☐ Attachment	02

ID	Comment Text	Category	Code
1683 Comment 4	Our Congressional Representatives further assert that the Forest Service agreed to establish working groups of citizens and cooperating agencies to weigh in on Augusta's proposed operation. However, working groups have not yet been organized and the scoping process is scheduled for completion in less than two months. The Town of Sahuarita maintains the Forest Service must honor that agreement and wants to be a part of that discussion.	PRP ☐ Attachment	05

ID	Comment Text	Category	Code
1683 Comment 5	Sahuarita, its neighbors, and the entire region have a vested interest in potential water use, the environment-especially te control and monitoring of air pollution and land usage by the proposed mine. These are not merely academic questions for us; these issues directly impact our lives and our community.	WR ☐ Attachment	03

DRAFT-DELIBERATIVE CONTENT ONLY

Government

Town of Sahuarita Office of the Mayor and Council

ID	Comment Text	Category	Code
1683	Sahuarita, its neighbors, and the entire region have a vested interest in potential water use, the environment-especially te control and monitoring of air pollution and land usage by the proposed mine. These are not merely academic questions for us; these issues directly impact our lives and our community.	AQ	01
Comment 6		☐ Attachment	

ID	Comment Text	Category	Code
1683	Sahuarita, its neighbors, and the entire region have a vested interest in potential water use, the environment-especially te control and monitoring of air pollution and land usage by the proposed mine. These are not merely academic questions for us; these issues directly impact our lives and our community.	LU	01
Comment 7		☐ Attachment	

US Dept of Interior Bureau of Reclamation

ID	Comment Text	Category	Code
2574	1. Background on Community Water Company proposed CAP pipeline and recharge facility	WR	05
Comment 1		☐ Attachment	

ID	Comment Text	Category	Code
2574	4. Analysis of impacts resulting from recharge of Rosemont-acquired CAP water at proposed Green Valley recharge site -is this part of the proposed mine plan? -will it be analyzed as part of the FS EIS? -is it possible the FS will require recharge at the Green Valley location as a condition of approving the mine plan? 5. Scope of analysis of the CWC EA -construction of a pipeline and construction and operation of a recharge facility -recharge includes the recharge of Rosemont-acquired water, as well as long term use by CWC; should EA assume the approval of the mine, and analyze impacts of recharge accordingly?	WR	05
Comment 2		☑ Attachment	

DRAFT DELIBERATIVE CONTENT ONLY

Government

US Dept. of the Interior - Superintendent

ID	Comment Text	Category	Code
2500 Comment 1	Thank you for the opportunity to comment on the Coronado National Forest's Rosemont Copper Project. This project would occur some 20 miles south of Saguaro National Park's Rincon Mountain District, and has the potential to impact to park resources, including viewsheds.	VRM ☐ Attachment	01

ID	Comment Text	Category	Code
2500 Comment 2	Thank you for the opportunity to comment on the Coronado National Forest's Rosemont Copper Project. This project would occur some 20 miles south of Saguaro National Park's Rincon Mountain District, and has the potential to impact to park resources, including air quality.	AQ ☐ Attachment	01

ID	Comment Text	Category	Code
2500 Comment 3	Thank you for the opportunity to comment on the Coronado National Forest's Rosemont Copper Project. This project would occur some 20 miles south of Saguaro National Park's Rincon Mountain District, and has the potential to impact to park resources, including regional wildlife movements and habitat.	WL ☐ Attachment	01

ID	Comment Text	Category	Code
2500 Comment 4	The mandate of the National Park Service is to preserve and protect natural and cultural resources for public enjoyment. Saguaro National Park was set aside specifically to protect the plants of the region and animals of the Sonoran desert, riparian corridors, and cultural resources of the region. As urbanization and development expand in southeastern Arizona, it is increasing difficult to manage the park as part of an intact ecosystem. The Santa Rita Mountains are crucial links in both the Sonoran desert and Madrean/"Sky Island" ecosystems encompassed by the Park. They are also an important part of the larger context of the Conservation Land System of the Sonoran Desert Conservation Plan. Thus was have concerns about impacts to wildlife, particularly from direct and indirect loss of habitat, changes to surface and ground water, traffic on new and existing roads, and noise and other impacts associated with mining activities..	WL ☐ Attachment	01

DRAFT DELIBERATIVE CONTENT ONLY

Government

US Dept. of the Interior - Superintendent

ID	Comment Text	Category	Code
2500	The Park is also concerned about viewsheds, especially within its Wilderness.	VRM	01
Comment 5		☐ Attachment	

ID	Comment Text	Category	Code
2500	The Park is also concerned about air quality, especially within its Wilderness, which is a class 1 airshed under the Clean Air Act amendments. Maintaining visibility and preventing pollution by particulates, sulfates and toxics are two of our most important Air Quality Related Values. We are concerned that activities associated with the proposed action may negatively impact air quality in the region.	AQ	01
Comment 6		☐ Attachment	

US Dept. of the Interior Bureau of Reclamation

ID	Comment Text	Category	Code
2570	The attached July 12, 2007 Letter of Intent between Community Water Company of Green Valley and Augusta Resource (Arizona) Corporation, together with its Appendix A, reflect preliminary concepts and alternatives being discussed by the parties at that time. The fact that an alternative is discussed or potential third party participant identified is not intended to imply that any determination has been made concerning any given alternative or that any understanding has been reached with any identified potential participant. The documents were designed and intended to identify an array of options and possible participants that warranted further inquiry and discussion. Efforts to date have determined that some identified options are not feasible and others require further investigation and refinement. An example of the former is that instream recharge has been eliminated for technical reasons. Examples of the latter include the possible use of State Lands, the method by which CSP water may be used by and among the participants, and the form of final agreements to construct and operate the project and the regulatory role of the Arizona Corporation Commission concerning those matters. All these issues, among others, remain the subject of ongoing discussion, investigation and review. Accordingly, it must be recognized while reviewing the Letter and the Appendix that they reflect only the initial step in an ongoing process. That process continues to narrow available options and to clarify and specify relationships and regulatory frameworks that may be incorporated into any final project.	WR	05
Comment 1		☑ Attachment	

US Environmental Protection Agency - Region IX

DRAFT DELIBERATIVE CONTENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760	The Environmental Impact Statement (EIS) should demonstrate that all reasonable alternatives to proposed actions have been examined and that appropriate mitigation measures have been thoroughly considered and incorporated into the project.	PRP	11
Comment 1		☐ Attachment	

ID	Comment Text	Category	Code
2760	The EIS should provide substantial detail on the means of implementing mitigation measures to ensure compliance and assess effectiveness of mitigation.	PRP	11
Comment 2		☐ Attachment	

ID	Comment Text	Category	Code
2760	The EIS should provide substantial detail on the means of identify how monitoring would be established to ensure compliance and assess effectiveness of mitigation.	PRP	07
Comment 3		☐ Attachment	

ID	Comment Text	Category	Code
2760	In accordance with 40 CFR 1502.24, agencies are required to insure the professional integrity, including scientific integrity, of the discussions and analyses in the EIS. Any methodologies used should be identified, and the scientific and other sources relied upon for conclusions in the statement be explicity referenced.	PRP	03
Comment 4		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760 Comment 5	In accrodance with 40 CFR 1502.13, the EIS needs to "specify the underlying purpose and need to which the agency is responding the alternatives including the proposed action." We not that the Forest Service's March 13, 2008, Notice of Intent states: "The purpose of the propsed Forest Service action is to grant permission to the Company to use NFS land for certain activities related to operation of the Rosemont Mine. The agency's need for action is based on statutes and policy that govern mining on NFS land." Rather than the purpose being to grant permission to operate the mine on Forest lands, it appears that the underlying project purpose is to profitably recover copper, silver, and molybdenum reserves, and the need is to meet the prevailing market demand for these commodities. A clear purpose and need for the project sets the stage for thorough consideration of a range of alternatives. EPA recommends the EIS include a clear description of the project's purpose and need. Each alternative should be analyzed to demonstrate how the project's purpose will or will not be achieved.	PRP ☐ Attachment	03

ID	Comment Text	Category	Code
2760 Comment 6	The EIS should rigorously explore and objectively evaluate all reasonable alternatives, including reasonable alternatives not within jurisdiction of your agency. 40 CFR 1502.14. Project alternatives (with the exception of the no action alternative) should correspond to the basic pupose and need. The EIS should provide a clear discussion of the reasons for the elimination of alternatives which were not evaluated in detail. The document should discuss potential environmenta impacts of the alternatives in comparative form, thus sharply defining the issues among the options for decision makers and the public. 40 CFR 1502.14	PRP ☐ Attachment	03

ID	Comment Text	Category	Code
2760 Comment 7	Reasonable alternatives could include, but are not necessarily limited to, alternative sites or alternative designs for major mining facilities (e.g. waste rock piles or tailings impoundments), smaller project, other viable ore bodies, different pit geometries, and pit backfilling; as well as any alternatives evaluated for purposes of obtaining a Clean Water Act Section 404 permit, pusuant to 40 CFR Part 230.	ALT ☐ Attachment	01

ID	Comment Text	Category	Code
2760 Comment 8	Alternatives, including the No Action Alternative, may also depend on the validity of mining claims.	PRP ☐ Attachment	03

DRAFT-DELIBERATIVE CONTENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760	The EIS should identify the lode and mill site claims that are included in the poposed project and discuss their validity.	MLO	01
Comment 9		☐ Attachment	

ID	Comment Text	Category	Code
2760	The EIS should discuss the alternativs in the context of the validity of claims and the U.S. Forest Service's authorities under the Mining law, the National Forest Management Act, and other releant statutes and regulations.	PRP	03
Comment 10		☐ Attachment	

ID	Comment Text	Category	Code
2760	The EIS should describe the applicable state-adopted, EPA-approved water quality standards, including beneficial uses, and discuss each alternative's compliance with these standards. The EIS should describe and discuss the permits that would be required by State and Federal agencies for water resources related to the project.	WR	02
Comment 11		☐ Attachment	

ID	Comment Text	Category	Code
2760	The EIS should identify the existing water quality of surface waters in the project area, including any waters that are impaired under Section 303(d) of the Clean Water Act. Streams that are already impaired are particularly sensitive to addional discharge loadings will require a thorough impacts analysis.	WR	04
Comment 12		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760	The EIS should describe the potential effects of all project discharges on surface water quality, such as thermal changes, increased suspended solids, toxicity, salinity, and pH,	WR	04
Comment 13		☐ Attachment	

ID	Comment Text	Category	Code
2760	The EIS should describe the potential effects of all project discharges on surface water quality, such as thermal changes, increased suspended solids, toxicity, salinity, and pH, including cumulative impacts over time.	WR	99
Comment 14		☐ Attachment	

ID	Comment Text	Category	Code
2760	The project's impacts on designated beneficial uses of affected streams should be thoroughly described and considered.	WR	04
Comment 15		☐ Attachment	

ID	Comment Text	Category	Code
2760	The EIS should include a map depicting locations of all discharge outfalls	PRP	03
Comment 16		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760 Comment 17	The EIS should describe all surface water discharges from the site, including storm water and mine drainage and discuss whether a National Pollution Discharge Elimination System (NPDES) permit (individual and/or gneral) would be required, including during closure or post-closure.	WR ☐ Attachment	07

ID	Comment Text	Category	Code
2760 Comment 18	Discuss the applicability of Arizona'sGeneral Permit for Sormwater Discharges Assoicated with Industrial Activity from Metal Mining Activities to this project. The EIS should include a storm water pollution prevention plan and discuss specific best management practices that may be necessary.	WR ☐ Attachment	07

ID	Comment Text	Category	Code
2760 Comment 19	Discuss whether any discharges would be classified as "mine drainage" and required to meet technology based effluent limitations prior to discharge. See: 40 CFR 122.44(a) (regarding the inclusion of technology-based limitations in permits); and 40 CFR 440.102(a) (establishing effluent limitation guidelines pertaining to mine drainage). See also, 40 CFR 440.132(h) ("Mine drainage' means any water drained, pumped or siphoned from a mine."). The EIS should describe how the project will either achieve zero discharge or meet permitting requirements for discharges to surface waters.	WR ☐ Attachment	07

ID	Comment Text	Category	Code
2760 Comment 20	The EIS should completely describe the pre-mining drainage patterns in the project area, as well as the drainage patters of the area during project operations and following reclamation. Include hydrologic and topographic maps of the areas. This discussion should encompass effects fo the project on erosion potential and sedimentation.	WR ☐ Attachment	01

DRAFT-DELIBERATIVE CONTENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760	Identify any components of the proposed project that would fall within 25- or 100-year flood plains.	WR	01
Comment 21		☐ Attachment	

ID	Comment Text	Category	Code
2760	Discuss the potential for flash floods to transport sediment from distrubed areas at the mine to stream channels.	RIP	01
Comment 22		☐ Attachment	

ID	Comment Text	Category	Code
2760	Describe the designs of the heap leach facilities, tailings dams, seepage collection systems, and pumpback systems under the proposed project.	WR	01
Comment 23		☐ Attachment	

ID	Comment Text	Category	Code
2760	Discuss the potential for contamination of surface flows (perennial, intermittent, or ephemeral) and meteoric water that pass through waste rock dumps, ore stockpiles, tailings pit high walls, or other mine facilities.	WR	06
Comment 24		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760	Describe mitigation measures to prevent this contaminations, including the construction of run-on/run-off channels, additional of neutralizing material, collection or sedimentation ponds, and any necessary treatment or disposal of these solutions.	PRP	11
Comment 25		☐ Attachment	

ID	Comment Text	Category	Code
2760	Describe flow velocities of all discharges to surface waters and discuss whether these discharges could contribute to scouring and sedimentation in these channels.	WR	04
Comment 26		☐ Attachment	

ID	Comment Text	Category	Code
2760	Discuss how accidental releases of hazardous materials, including overflow from ponds would be handled. Identify the potential impacts resulting from failure of components of the solution containment systems, methods for discovering such failures, and the degreee to which impacts would be reversible.	WR	06
Comment 27		☐ Attachment	

ID	Comment Text	Category	Code
2760	The EIS should identify all sources of water needed for the project, and describe the potential environmental impacts associated with using these sources. If dewatering will be necessary, the EIS should describe the dewatering system and the potential direct, indirect, impacts on groundwater , estimated rates of dewatering and water use by the proposed project, as well as all other water use in the vicinity.	WR	03
Comment 28		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760	The EIS should identify all sources of water needed for the project, and describe the potential environmental impacts associated with using these sources. If dewatering will be necessary, the EIS should describe the dewatering system and the potential direct, indirect, impacts on surface water, estimated rates of dewatering and water use by the proposed project, as well as all other water use in the vicinity.	WR	04
Comment 29		☐ Attachment	

ID	Comment Text	Category	Code
2760	The EIS should identify all sources of water needed for the project, and describe the potential environmental impacts associated with using these sources. If dewatering will be necessary, the EIS should describe the dewatering system and the potential direct, indirect, and cumulative impacts on groundwater and surface water, estimated rates of dewatering and water use by the proposed project, as well as all other water use in the vicinity.	WR	99
Comment 30		☐ Attachment	

ID	Comment Text	Category	Code
2760	Identify direct, indirect impacts to surface water flow,resources as a result of groundwater pumping assoicated with the proposed project.	WR	04
Comment 31		☐ Attachment	

ID	Comment Text	Category	Code
2760	Identify direct, indirect impacts to water supply wells, resources as a result of groundwater pumping assoicated with the proposed project.	WR	03
Comment 32		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760	Identify direct, indirect impacts to surface wetlands, resources as a result of groundwater pumping assoicated with the proposed project.	RIP	01
Comment 33		☐ Attachment	

ID	Comment Text	Category	Code
2760	Identify direct, indirect impacts to surface water flow, water supply wells, wetlands, springs and seeps, vegetation, wildlife, and other grounwater-dependent resources as a result of groundwater pumping assoicated with the proposed project.	WR	01
Comment 34		☐ Attachment	

ID	Comment Text	Category	Code
2760	Identify direct, indirect impacts to vegetation as a result of groundwater pumping assoicated with the proposed project.	VEG	01
Comment 35		☐ Attachment	

ID	Comment Text	Category	Code
2760	Identify direct, indirect impacts to wildlife as a result of groundwater pumping assoicated with the proposed project.	WL	01
Comment 36		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760	Identify direct, indirect and cumulative impacts to surface water flow, water supply wells, wetlands, springs and seeps, and other grounwater-dependent resources as a result of groundwater pumping assoicated with the proposed project.	WR	99
Comment 37		☐ Attachment	

ID	Comment Text	Category	Code
2760	Identify direct, indirect and cumulative impacts to wildlife as a result of groundwater pumping assoicated with the proposed project.	WL	99
Comment 38		☐ Attachment	

ID	Comment Text	Category	Code
2760	Identify direct, indirect and cumulative impacts to vegetation as a result of groundwater pumping assoicated with the proposed project.	VEG	99
Comment 39		☐ Attachment	

ID	Comment Text	Category	Code
2760	Discuss the mineralogy and acid generation/neutralization potential of waste rock, spent ore, and pit walls at the site. Describe the static and, if appropriate, kinetic tests that have been conducted on ore and waste rock and provide the results for each test. The EIS should include cross-sections showing locations of static and/or kinetic test samples and describe and discuss the representativeness.	HZ	01
Comment 40		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760	Describe the quality of waters at nearby mining sites, particularly older mines, which may be used to predict future acid generation at the proposed project site.	HZ	99
Comment 41		☐ Attachment	

ID	Comment Text	Category	Code
2760	The EIS should discuss whether there are adequate materials available to neutralize all acid-generating waste rock that might occur, and identify a source of neutrailizing material on or off-site should it be deemed necessary in the future. Describe and commit to measures to ensure isolation of potentially acid generating waste rock, prevention of acid generation from mine waste and pit walls, and any additional mitigation measures that may be necessry should prevention measures fail.	HZ	01
Comment 42		☐ Attachment	

ID	Comment Text	Category	Code
2760	The EIS should include the Waste Rock Charachterization and Disposal Plan, or an appropriate summary. The waste rock plan should describe how waste rock will be charachterized, handled, and disposed. The plan should describe procedures for water quality monitoring and reporting as well as monitoring and functioning of the waste rock dumps in controlling contact between waste rock and surface or meteoric water (e.g., maintenance of run on/runoff channels, underdrains, and collection areas at base of dumps; ponding on top of dump; etc.). The waste rock plan should describe the Forest Service's implementation monitoring procedures and enforcement mechanisms should the mine operator fail to properly follow the plan. The plan should also include a contingency plan in the event of unintentional releases of acid drainage or other contaminants from the site.	RCL	01
Comment 43		☐ Attachment	

ID	Comment Text	Category	Code
2760	The EIS should describe in detail the proposed facility design and operation, including liner and cover specifications, ditches and ponds, and maintenance and monitoring activities to ensure interity of facilities throughout project operations, closure, and post-closure.	PRP	07
Comment 44		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760	The EIS should include the surface water quality monitoring that will be required to ensure compliance with water quality standards. Describe the locations of all monitoring wells and points of compliance on the site. The screening intervals, parameters to be monitored, and monitoring frequencies should be identified.	WR	04
Comment 45		☐ Attachment	

ID	Comment Text	Category	Code
2760	Provide projected chemical charachterization of water in open ponds located at the site, including projected water quality in open pits following closure.	WR	04
Comment 46		☐ Attachment	

ID	Comment Text	Category	Code
2760	The potential for and effects of movement of any contaminated surface water to the subsurface should also be discussed, as well as means to prevent it.	WR	06
Comment 47		☐ Attachment	

ID	Comment Text	Category	Code
2760	The EIS should also describe the potential impacts to surface water from open pits, backfilled pits, and partially backfilled pits after closure, as well as the measures that will be taken to prevent these impacts.	WR	04
Comment 48		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760	The EIS should also describe the potential impacts to groundwater from open pits, backfilled pits, and partially backfilled pits after closure, as well as the measures that will be taken to prevent these impacts.	WR	03
Comment 49		☐ Attachment	

ID	Comment Text	Category	Code
2760	The EIS should also describe the potential impacts to wildlife from open pits, backfilled pits, and partially backfilled pits after closure, as well as the measures that will be taken to prevent these impacts.	WL	01
Comment 50		☐ Attachment	

ID	Comment Text	Category	Code
2760	It appears from the Rosemont Mine Plan of Operations that the leach pad, tailings, waste rock dump, and pit are all proposed to be located in stream courses. The Forest Service should coordinate with the Army Corps of Engineers to determine if the proposed project requires a Clean Water Act Section 404 permit. Section 404 regulates the discharge of dredged or fill materials into waters of the United States, including wetlands and other "special aquatic sites." The EIS should describe all waters of the U.S. that could be affected by the project, including past impacts. The discussion should include acreages and channel lengths, habitat types, values, and functions of these waters. All required Federal and State permits for work potentially affecting wetlands or waters of the U.S. should be identified. The EIS should address opportunities for improving the quality and quantitiy of wetlands in the study area in designing facilities.	RIP	01
Comment 51		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760 Comment 52	If a permit is requried, EPA will review the project for compliance with Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Materials (40 CFR 230), promulgated pursuant to Section 404(b)(1) of the Clean Water Act ("404(b)(1) Guidelines"). Pursuant to 40 CFR 230, any permitted discharge into waters of the U.S. must be the least environmentally damaging practicable alternative available to achieve the project purpose. The EIS should include an evaluation of the project alternatives in this context in order to demonstrate the project's compliance with the 404(b)(1) Guidelines. If, under the proposed project, dredged or fill material would be discharged into waters of the U.S., the EIS should describe the potential environmental impacts and discuss alternatives to avoid or minimize those discharges. If a discharge is permitted, required mitigation for impacts to waters of the U.S. should be identified and commited to in the EIS for evaluation by the public and decision makers. Mitigation should be implemented in advance of the impacts to avoid habitat losses due to the lag time between the occurrence of the impact and successful mitigation. The discussion should include the following information: * acreage and habitat type of waters of the the U.S. that would be created or restored; * water sources to maintain the mitigation area; *the revegetation plans including the numbers and age of each species to be planted; *maintenance and monitoring plans, including performance standards to determine mitigation success; *the size and location of mitigation zones; *the parties that would be ultimately responsible for the plan's success; and *contingency plans that would be enacted if the original plan fails.	RIP ☐ Attachment	01

ID	Comment Text	Category	Code
2760 Comment 53	The EIS should describe existing air quality in the project vicinity. The EIS should also discuss the National Ambient Air Quality Standards (NAAQS) and Prevention of Significant Deterioration (PSD) increments applicable to air quality in the project area. PSD increments exist for sulfur dioxide, nitrogen dioxide, and PM10 (particulates smaller than 10 microns in diameter). Specifically, for Class II Areas, the annual PSD increment for nitrogen dioxide is 25 microns per cubic meter (ug/m3); the annual PM10 increment is 17 ug/m3; and the 24-hour PM10 increment is 30ug/m3.	AQ ☐ Attachment	01

DRAFT-DELIBERATIVE CONTENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760 Comment 54	The EIS should estimate project emissions from all facilites and roads related to the mine's operations, including any off-site processing that may be planned. Discuss whether a PSD permit would be required for the proposed project. If a PSD permit is required, the mining company will need to determine increment consumption as well. If a PSD permit would not be required, the EIS should indicate whether the baseline data has been triggered for minor sources in a specified area. Once the minor source baseline data has been triggered for a certain pollutant in a specified area, all emissions from minor sources of that pollutant consume increment. The EIS should discuss impacts to the NAAQS and PSD increments from projected emissions of the project and alternatives, considering the effects from all aspects of mine excavation, construction, operation, and support activities, such as vehicle traffic, as well as cumulative emissions from other sources in the project area. The Forest Service should closely coordinate with the Pima County Department of the Environmental Quality regarding regulatory requriements and controls. PSD increments are highly protective of air quality in Class I areas such as wilderness areas and national parks. The PSD increments for PM10 in Class I areas are 4 ug/m3 and 8ug/m3, for the annual and 24-hour standards, respectively; and the nitrogen dioxide annual increment is 2.5ug/m3. The EIS should identify all Class I PSD areas located within 100 kilometers of the proposed project site. Class I areas even further away could potentially be affected as well. The Forest Service should consult with the Bureau of Land Management and the National Park Service for a determination of which areas could be adversely affected by the proposed action. Potential impacts to Class I PSD areas, including visibility impacts, should be discussed	AQ ☐ Attachment	02

ID	Comment Text	Category	Code
2760 Comment 55	The EIS should describe mitigation measures to minimize air pollutant emissions from the mine. Convential fugitive dust source controls include water application or use of chemical binders or wetting agents on roads and stockpiles, and revegetation of disturbed areas. Additional measures exist that could be used to control PM10 emissions, as well as diesel particulate matter (DPM) and other criteria pollutants, from fugitive sources at the mine. We recommend the following additional emissions reduction measures. *use particle traps and other appropriate controls to reduce emissions of DPM and other air pollutants. *Use diesel fuel with the lowest sulfur content available, or other suitable alternative diesel fuel, which substantially reduces DPM emissions. *Minimize construction-related trips of workers and equipment, including trucks and heavy equipment. *Lease or buy newer, cleaner equipment (1996 or newer model) *Employ periodic, unscheduled inspections to ensure that construction equipment is properly maintained at all times and does not unnecessarily idle, is turned to manufacturer's specifications, and is not modified to increase horsepower except in accordance with established specifications.	AQ ☐ Attachment	02

ID	Comment Text	Category	Code
2760 Comment 56	We also recommend the Forest Service coordinate with the Pima County Department of Environmental Quality regarding other fugative dust and DPM control measures.	PRP ☐ Attachment	04

DRAFT DELIBERATIVE CONTENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760	The EIS should discuss whether air quality monitoring would be implemented to ensure project compliance with all applicable air quality standards and permits.	PRP	07
Comment 57		☐ Attachment	

ID	Comment Text	Category	Code
2760	The EIS should estimate releases of hazardous air pollutants (HAPs) from the proposed project to air, soil, or water resources, and identify all sources of HAPs at the mine.	HZ	01
Comment 58	The EIS should list major processing equipment, including any autoclave or roaster, stripping units, electrowinning units, retorts, refining furnaces, and carbon regeneration kilns. Illustrations depicting the processing circuits would be helpful. The EIS should list in detail and depict all possible sources of HAPs and the unit processes that generate this material. The EIS should discuss how all HAPs would be controlled to reduce their emissions as much as possible, and the equipment included in the system to condense, capture, and/or treat HAPs, including mercury, and reduce their emissions. A description of this equipment should be included in the EIS with a discussion on how these meausres are effective in removing HAPs and making it unavialable for release into the environment. The EIS should describe and quanitfy mercury concentrations in the ore, waste rock, and tailings. If any ore to be processed would contain mercury, the EIS should identify the processes that could potentially release it, describe mercury controls that would be needed, and estimate the potential mercury emissions from the project. It should also indicate how any condensed or captured mercury would be recycled, sold, or disposed. If any mercury would be released, the EIS should describe the likely fate and transport of the mercury air emissions from the proposed project as well as the cumulative amount of mercury that is annually emitted to the air from all mining operations within the cumulative impact area.	☐ Attachment	

ID	Comment Text	Category	Code
2760	If any mercury would be released, the EIS should describe the likely fate and transport of the mercury air emissions from the proposed project as well as the cumulative amount of mercury that is annually emitted to the air from all mining operations within the cumulative impact area. This discussion need not be in great detail or based on site specific modeling studies, but acknowledge what is know nationally abou the problems of atmospheric deposition of mercury and how it is affecting the country's water bodies.	HZ	99
Comment 59		☐ Attachment	

DRAFT-DELIBERATIVE CONTENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760 Comment 60	The Forest Service should work closely with the U.S. Fish and Wildlife Service (USFWS) and the Arizona Game and Fish Department to determine potential impacts of the project on plant and wildlife species, especially species classified as rare, threatened, or endangered on either state or federal lists.	PRP ☐ Attachment	04

ID	Comment Text	Category	Code
2760 Comment 61	The EIS should include the following information: *identify all petitioned and listed threatened and endangered species and critical habitat that might occur within the project area; *identify which species or critical habitat might be directly or indirectly affected by each alternative; *include the biological assessment by reference or as an appendix, if one is prepared; *discuss how and when the Forest Service intends to meet its obligations under Section 7 of the Endangered Species Act; and *If a biological opinion is prepared by the USFWS, it should be summarized or included as an appendix in the Final EIS to demonstrate that the preferred alternative is consistant with the biological opinion.	SSS ☐ Attachment	01

ID	Comment Text	Category	Code
2760 Comment 62	Poisoning of animals attracted to heap leach and tailings ponds can be a serious problem. The EIS should discuss the mitigation measures that would be taken to prevent exposure of migratory waterfowl and other wildlife to all toxic waters used in or resulting from processing the ore. Identify measures that would be used to prevent poisonings at solution impoundments, including maintenance requirements and monitoring to ensure their effectiveness.	WL ☐ Attachment	01

ID	Comment Text	Category	Code
2760 Comment 63	the EIS should identify non-jurisdictional wetland and riparian habitat as well as other unique or important habitat areas that could be affected by the project. The EIS should discuss avoidance, minimization, and mitigation of losses or modification of habitat and plant and animal species composition. We recommend that the EIS include a detailed mitigation plan for replacement of important habitat adversely affected by the proposed project.	WL ☐ Attachment	01

DRAFT - DELIBERATIVE CONTENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760	The EIS should discuss any measures to be taken at the proposed project site to ensure compliance with applicable Resource Conservation and Recovery Act Regulations	PRP	06
Comment 64		☐ Attachment	

ID	Comment Text	Category	Code
2760	The EIS should discuss the following componets of waste management and reclamation plans: *A detailed accout of measures taken to decommission mine operations, stabilize slopes, and neutralize and cap waste rock, tailings, and leach heaps; *Identification (including estimated acreage) of the areas targeted for reclamation, and description of the intended degree of treatment in each area; *Estimation of all irrigation requirements; *timing of reclamation relative to mining operations and duration of reclamation treatment; *standards for determining and means of assuring successful reclamation; and *means of assuring that all maintenance required for reclaimed areas would continue after operations cease or while operations are suspended.	RCL	01
Comment 65		☐ Attachment	

ID	Comment Text	Category	Code
2760	The EIS should describe the availability, properties, and sources of growth medium, discuss how growth medium will be applied to distrubed areas, and identify any additional measures (e.g. amendments) that may be needed to ensure successful reclamation and revegetation of the project site.	RCL	01
Comment 66		☐ Attachment	

ID	Comment Text	Category	Code
2760	Executive Order 13112 on Invasive Species calls for the restoration of native plant and tree species. The EIS should describe how the project will meet the requirements of Executive Order 13112. We recommend revegetation be accomplished with native species indigenous to the area in order to restore the ecosystem to as natural a state as possible after mine closure. We also recommend that revegetation success be monitored and enforced for at least five years following revegetation efforts. First or second year success in meeting the revegetation standards is not necessarily indicative of long-term success.	RCL	01
Comment 67		☐ Attachment	

DRAFT DELIBERATIVE CONTENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760 Comment 68	The EIS should discuss provisions that would be made for post-operation surveillance to ensure that neutralization and/or stabilization of mining waste sites has been effective. Describe the mitigation actions that would be taken should destabilization or contamination be detected and identify who would be responsible for these actions.	RCL ☐ Attachment	01

ID	Comment Text	Category	Code
2760 Comment 69	EPA recommends the EIS identify the bond amounts for each closure and reclamtion activity at all of the proposed project facilities. The EIS provides the public the opportunity to weigh in on the adequacy of the bond amount, and the viability of the bnod can be a critical factor in whether a project is environmentally acceptable. The EIS should also discuss how the Forest Service can modify the bond during the course of operations if temporary, long-term, or perpetual treatment and/or remediation needs are discovered during operations. Identify who would be responsible for any post-closure cleanup actions should they be necessary. In addition to determining the actual cost of reclamation, the bond calculation should consider the extra expense of taking over reclamation at a critical time during operations, such as when the water balance is high and surplus water must be treated, or when environmental or reclamation measures have not been successful in controlling pollution and must be redone. The EIS should descrive bonding requirements or other measures that the Forest Service has in place to ensure funds would be immediately available should the mine operator or its insurer be unable to fund the requried reclamation or clousure activities.	RCL ☐ Attachment	02

ID	Comment Text	Category	Code
2760 Comment 70	The EIS should discuss whether long-term post-closure operations and maintenance may be necessary, describe these activities, indicate the projected costs for these activities, and discuss any requriements the Forest Service would impose on the mine operator to establish a trust fund or other funding mechanism to ensure post-closure care. The financial assurance necessary to fund post-closure activities must be kept current as conditions change at the mine, and the Forest Service should ensure that the form of the financial assurance does not depend on the continued financial health of the mine operator or its parent corporation. The EIS should include a general description of the trust fund. The amount and mechanics of the fund are critical to determining whether sufficient funds would be avialable to implent the post-closure plan and reduce the possibility of long-term contamination problems. The discussion in the EIS should include the following information: * projected costs for long-term post-closure activities; *requirements for timing of payments into the trust fund; *how the Forest Service would ensure the trust fund would be bankruptcy remote; *acceptable financial instruments; *tax status of the fund; *indentify the trust fund beneficiaries; and *indentify the operator with responsiblitiy/liablity for financial assurance at this site. If a long-term trust fund will be part of the proposed project, EPA believes this information is essential in the EIS because it could make the difference between a project sufficiently managed over the long-term by the site operator, or an unfunded/under-funded contaminated site that becomes a liablity for the Federal government. In the absence of an appropriate guarantee, EPA could consider a project unacceptable if it could result in an unmitigated exceedence of environmental standards on a long-term basis.	RCL ☐ Attachment	02

DRAFT-DELIBERATIVE COMMENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760 Comment 71	Executive Order 12898 on Environmental Justice addresses disproportionate adverse impacts of federal actions on minority and low-income populations. The EIS should identify minority and low-income populations, and address whether the alternatives would cause any disproportionate adverse impact, such as displacement, changes in existing resources or access, or community disription. The document should also explore potential mitigation measures for any adverse environmental justice effects. The EIS should desribe the measures taken by the Forest Service to: (1) fully analyze the environmental effects of the proposed Federal action on minority communites and low-income populations; and (2) present opportunities for affected communites to provide input into the NEPA process. The EIS should state whether the analysis meet requirements of your agency's environmental justice strategy.	JUS ☐ Attachment	01

ID	Comment Text	Category	Code
2760 Comment 72	We recommend the EIS discuss the Forest Services's consultaion with all Native American tribal governments that could be potentially affected by the proposed project or may have resources (e.g., traditional cultural properties, groundwater resources) that could be affected. The principles for interactions with tribal governments are outlined in an April 29, 1994, presidential memorandumand Executive Order 13175, dated November 6, 2000. It is important that formal government-to-government consultation take place early in the scoping phase of the project to ensure that all issues are adequately addressed in the EIS.	PRP ☐ Attachment	04

ID	Comment Text	Category	Code
2760 Comment 73	If the project area is currently grazed, the EIS should describe the potential impacts to livestock grazing in the project vicinity and discuss whether reduction in forage would necessitate a reduction in livestock grazing in the area for the duration of the project and/or after mine closure and reclamation. Indentify any other special uses that would be displaced by the proprosed project and discuss the proposed project's specific potential impacts to these uses.	GRA ☐ Attachment	01

ID	Comment Text	Category	Code
2760 Comment 74	Pursuant to the Pollution Prevention Act of 1990, "pollution should be prevented or reduced at the source whenever feasible; pollution that cannot be prevented should be recycled in an environmentally safe manner, whenever feasible; pollution that cannot be prevented or recycled should be treated in an environemntally safe manner whenever feasible; and disposal or other release into the environment should be employed only as a last resort and should be conducted in an environmentally safe manner. There are significant opportunties for industry to reduce or prevent pollution at the source through cost-effective changes in production, operation, and raw material use. Such changes offer mining companies substantial savings in reduced risks to worker health and safety. New pollution prevention techniques are being developed that have promising applications to the mining industry. We recommend that the Forest Service and the mining company actively pursue effective pollution prevention techniques to prevent or reduce pollution at the proposed mine.	PRP ☐ Attachment	06

DRAFT DELIBERATIVE CONTENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760 Comment 75	EPA recommends that the EIS identify the cumulative contributions to greenhouse gas emissions that will result from implemntation of the project. In addition, we recommend the EIS discuss the potential impacts of climate change on the project. The EIS should also identify any specific mitigation meaures needed to 1) protect the project from the effects of climate change (e.g., changes to storm magnitude or frequency), 2) reduce the project's adverse air quality effects, and/or 3) promote pollution prevention and environmental stewardship. Any sustainable design and operation measures that can be identified as reducing greenhouse gases should be identifited in the EIS with an estimate of the greenhouse gas emissions reductions that would result if measures were implemented.	CC ☐ Attachment	99

ID	Comment Text	Category	Code
2760 Comment 76	According to the Council on Environmental Quality (CEQ) regulations implementing NEPA, a cumulative impact is "...the impact on the environment which resuls from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." {40 CFR 1508.7}. Cumulative impacts analyses are important to the EIS as they describe the threats to resources as a whole. Understanding cumulative impacts can illuminate opportunties for minimizing those threats. The EIS should describe the potential cumulative impacts associated with the proposed project and alternatives, as well as the methodology used to assess them. Guidance on how to analyze cumulative impacts has been published by the CEQ and the EPA. In addition, you may also wish to refer to http://www.dot.ca.gov/ser/cumulative_guidance/purpose.htm This cumulative impact guidance was prepared by the California Department of Transportation, the Federal Highway Administration, and EPA Region 9 for transportation projects in California. However, the principles and the 8-step process in this guidance can be applied to other types of projects, both within and outside of California. We recommend the principles and steps in this guidance to other agencies as a systematic way to analyze cumulative impacts for their projects. We have the following recommendations for structuring cumulative impact analyses: *The description of the affected environment should focus no each affected resource or ecosystem. Determination of the affected environment should not be based on a predetermined geographic area, but rather on perception of meaningful impacts and natural boundaries. *Focus on resources of concern, i.e., those resources that are "at risk" and/or are not significantly affected by the proposed project, before mitigation. Identify which resources are analyzed, which ones are not, and why; *Identify all other on-going, planned, and reasonable foreseeable projects in the study area, not just mining projects, which may contribute to cumulative impacts. Where studies exist on the environmental impacts of these other projects, use these studies as a source for quantifying cumulative impacts; *include appropriate baselines for the resources of concern with an explanation as to why those baselines were selected; and *when cumulative impacts occur, mitigation should be proposed. Clearly stat who will be responsible for mitigation mearues and how mitigation implementation will be ensured.	PRP ☐ Attachment	03

DRAFT FOR REVIEW AND COMMENT ONLY

Government

US Environmental Protection Agency - Region IX

ID	Comment Text	Category	Code
2760	Please send a copy of the Draft EIS to this office when it is officially filed with our Washington, D.C., office.	OTH	05

Comment

77

☐ Attachment

DRAFT-DELIBERATIVE CONTENT ONLY

Larry Jones /R3/USDAFS
07/06/2010 04:28 PM

To mreichard@swca.com
cc gsoroka@swca.com
bcc Larry Jones/R3/USDAFS
Subject folder for biological resources

Hi Me~~linda~~ issa (Sent her apology note)--

Just checking to make sure you got my folder of hardcopies for the project record for Rosemont, to be put with the rest of my biological resources info. I was there last week and one of the SWCA employees (sorry, I didn't catch her name) made copies of everything, whilst I met with Geoff S.

Thanks!

Larry Jones
Wildlife, Fish, and Rare Plants
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Tucson, AZ 85701

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ljones02@fs.fed.us

Larry Jones /R3/USDAFS
07/06/2010 12:07 PM

To gsoroka@swca.com
cc mreichard@swca.com, Richard A Gerhart/R3/USDAFS@FSNOTES, Deborah K Sebesta/R3/USDAFS@FSNOTES
bcc Larry Jones/R3/USDAFS
Subject clarification of bird lists to use

Hi Geoff--

Following up on our telephone call today about the lists of birds to use for the migratory bird report and the biologist's report.

1. Per Executive Order 13186, we are supposed to use the "Migratory non-game birds of management concern in the United States" for our "species of concern list." The latest version is 1995.
2. An email from our Regional Office states, the "USFWS [the report in #1, above] list is the list we work under." So lets use that as part of our list, using FWS Region 2 sublist.
3. The executive order also states we may use other established plans to come up with "species of concern" lists, and these may include "Bird Conservation Regions the North American Bird Conservation Initiative or Partners in Flight physiographic areas."
4. In the past, we have used the Partners in Flight physiographic areas, and this has been a regional recommendation, so we will follow suit.
5. In an email with Carol Beardmore (USFWS, Sonoran Joint Venture, PIF), she strongly recommended we use the national, rather than regional PIF. So lets also use the national PIF list for physiographic areas 81 and 82.
6. We are to incorporate information on nearby Important Birding Areas, per regional direction.
7. We are to incorporate information on the effects to important overwintering bird habitat, per regional direction.
8. I have been doing some review of requirements of the Bald and Golden Eagle Protection Act, so we need to include information on that in the migratory bird report, also.
9. The MOU between the Forest Service and Fish and Wildlife Service does not supercede the executive order, and reference for using the USFWS 2008 Birds of Conservation Concern report is for doing management plans, rather than projects.

Hope this clarifies things. Go ahead and build a table for the specialist report as we discussed, in the format of the other species tables.

Melissa--please put this in the project record under biological resources.

Larry Jones
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United States Department of Agriculture
Forest Service
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Deaf & Hearing Impaired 711

File Code: 1950-3/2810
Route To:

Date: October 22, 2009

Subject: Review of Public Comments

To: Rosemont Copper Project Record

By my signature below, I, Larry Jones, certify that I have reviewed the public scoping comments relative to my assigned roles and responsibilities for this project, except I could not locate tribal comments or attachments to other public comments.

, Biologist 11/3/2009

Signature, Title Date

Charles B
McDonald/R3/USDAFS
07/27/2010 02:06 PM

To Larry Jones/R3/USDAFS@FSNOTES
cc Deborah K Sebesta/R3/USDAFS@FSNOTES, gsoroka@swca.com, Marcia_Radke@blm.gov, mima_falk@fws.gov, tfurgason@swca.com
bcc
Subject Re: rare plants in rosemont

Dear Larry,

Here is what I did to generate the list of FS TES plants given below. I went to SEINET and did a geographic specimen search by creating a rectangle around the Santa Rita Mts (boundaries were about lat. 31.56 and 31.91 and lon. 110.96 and 110.64). I selected only ASU, UA, and DBG herbaria. This gave me 6,783 hits. I scanned through only the ASU specimen records (the first 1,800) for TES plants. I don't know where in the mountain range the plants occur or their habitats, but some may have been collected in similar habitats to the project area. Also, even if not in the project area, some should probably be looked at for indirect effects.

The plants are:
Amoreuxia gonzalezii
Carex chihuahuensis
Coryphantha robustispina
Desmodium matcalfei
Erigeron arisolius
Heterotheca rutteri
Hexalectris spicata (this is probably var. arizonica)
Lilaeopsis schaffneriana var. recurva
Lupinus huachucanus
Muhlenbergia elongata
Samolus vagans
Sisyrinchium cernuum

Anyone can do the same kind of SEINET search I did and then ask why plant X that occurs in or near the Santa Rita Mts was not addressed in the analysis. It is probably best to include all these in the BE and then exclude from detailed analysis any that have no potential for direct or indirect impacts. You also might repeat my SEINET search with more herbaria and/or with different boundaries. I actually only did the ASU records.

****
Charlie McDonald, Regional Botanist
U.S. Forest Service, Southwestern Region
333 Broadway Blvd., SE, Rm. 209
Albuquerque, NM 87102
Phone: (505) 842-3228
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E-mail: cbmcdonald@fs.fed.us
****

Larry Jones/R3/USDAFS

Larry Jones /R3/USDAFS
07/07/2010 11:32 AM

To Deborah K Sebesta/R3/USDAFS@FSNOTES, Charles B McDonald/R3/USDAFS@FSNOTES, mima_falk@fws.gov, Marcia_Radke@blm.gov
cc gsoroka@swca.com, tfurgason@swca.com
Subject rare plants in rosemont

Debbie-Mima-Charlie-Marcia:

For the proposed Rosemont Copper Mine Project, we may have a DEIS prior to getting thorough species analyses in the form of a final Biological Evaluation. So, I want to make sure I don't miss anything important, like if any species might warrant a "likely to have a downward trend that will contribute to federal listing [as threatened or endangered] or cause population viability concerns." [that probably isn't the canned language for the effects determination, but you get the point].

I am all over *Hexalectris colemanii*, of course, and just received the petition for *Pectis imberbis* and *Graptopetalum bartramii*), so they have my attention. Are there any other species on our lists that should be given priority for a thorough BE analysis that I can make sure are addressed in the DEIS? And do you have any input on the latter two plants I mentioned with regards to conservation, threats, and rarity?

Thanks!

Larry Jones
Wildlife, Fish, and Rare Plants
Coronado National Forest
300 W Congress
Tucson, AZ 85701

520-388-8375
ljones02@fs.fed.us

Charles B McDonald/R3/USDAFS
05/25/2010 09:49 AM

To Larry Jones/R3/USDAFS@FSNOTES, Deborah K Sebesta/R3/USDAFS@FSNOTES, Richard A Gerhart/R3/USDAFS@FSNOTES
cc Duane A Bennett/R3/USDAFS@FSNOTES
bcc
Subject Re: Fw: a permit from Coronado National Forest to collect a voucher specimen of Hexalectris colemanii and other Hexalectris if found in new localities

Dear Larry,

The correct permit is FS-2400-8, Forest Product Free Use Permit. It can be issued to the principal investigator and individuals under his/her direct supervision. It can be issued for a single species or for collecting the general flora. Although Hexalectris colemanii vouchers are the principal species being collected, the investigators may want to collect some of the associated species to document the habitat. I am attaching an example of a permit issued by the RO to collect in multiple Forests in the Region. Since this collecting will be only on the Coronado NF, the Forest should issue the permit with whatever special conditions are appropriate. You can consult Ron Coleman on the safest way to collect Hexalectris.

There is no NEPA documentation for these permits because they fall under a categorical exclusion with no project file or decision memo required (FSH 1909.12, Ch 31.12(8)). However, there is still an obligation under the NFMA (1982 planning rule provision Sec. 219.19) to ensure viable populations of wildlife and plants are maintained and we are required to analyze the effects to population viability before plant collecting permits are issued. I recommend that a brief BAE be done and attached to the file copy of the permit.

Forest Service Sensitive plants can be collected and this is the appropriate permit for doing so. We just have to be sure we are meeting our obligation to maintain viable populations.

Sincerely,
Charlie

Fillin the blank permit.doc XXX_wilderness_botanical_permit.doc Fillin the blank transmittal ltr.doc

****
Charlie McDonald, Regional Botanist
U.S. Forest Service, Southwestern Region
333 Broadway Blvd., SE, Rm. 209
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****

Duane A Bennett/R3/USDAFS

Duane A Bennett/R3/USDAFS
05/24/2010 06:09 PM

To Larry Jones/R3/USDAFS@FSNOTES
cc Charles B McDonald/R3/USDAFS@FSNOTES, Deborah K Sebesta/R3/USDAFS@FSNOTES, Richard A Gerhart/R3/USDAFS@FSNOTES
Subject Re: Fw: a permit from Coronado National Forest to collect a voucher specimen of Hexalectris colemanii and other Hexalectris if found in new localities

Actually, this would fall under a Forest Products permit, which I don't handle. No special use permit needed.

Duane A. Bennett
Zone Lands & Special Uses Staff
Coronado National Forest
5990 S. Hwy. 92, Hereford, AZ 85615
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Fax: (520) 378-0519
E-mail: dabennett@fs.fed.us
Larry Jones/R3/USDAFS

Larry Jones /R3/USDAFS
05/24/2010 04:16 PM

To Richard A Gerhart/R3/USDAFS@FSNOTES, Deborah K Sebesta/R3/USDAFS@FSNOTES, Duane A Bennett/R3/USDAFS@FSNOTES, Charles B McDonald/R3/USDAFS@FSNOTES
cc
Subject Fw: a permit from Coronado National Forest to collect a voucher specimen of Hexalectris colemanii and other Hexalectris if found in new localities

see below...WestLand wanting to collect herbarium vouchers of *Hexalectris colemanii*. any suggestions on how to proceed? of course, this work is actually in support of the bio investigations being done for Rosemont project. I personally have no problem with vouchers (e.g., one per site) if there is an apparently healthy population. or is this even our call?

Larry Jones
Wildlife, Fish, and Rare Plants
Coronado National Forest
300 W Congress
Tucson, AZ 85701

520-388-8375
ljones02@fs.fed.us
----- Forwarded by Larry Jones/R3/USDAFS on 05/24/2010 04:11 PM -----

Bob Schmalzel <bschmalzel @westlandresources.com>
05/24/2010 04:00 PM

To 'Larry Jones' <ljones02@fs.fed.us>
cc 'Ron Coleman' <ronorchid@cox.net>, Amanda Best <abest@westlandresources.com>, Brian Lindenlaub <blindenlaub@westlandresources.com>, 'Holly Lawson' <hlawson@rosemontcopper.com>
Subject a permit from Coronado National Forest to collect a voucher specimen of Hexalectris colemanii and other Hexalectris if found in new localities

Hi Larry,

Ron Coleman, Holly Lawson, and I went to the Dragoon Mountains last Friday (May 21st) to look for flowering stalks of Hexalectris colemanii. We found about 70 stalks, most only in bud stage, a few flowering, and about one-third eaten by an herbivore (very likely deer). Ron and I discussed the lack of voucher specimens for this locality. Over the last ten or more years after Ron located the Dragoon population, he had seen only about 5 stalks of this species in the Dragoon Mountains on any given year. As such, Ron did not feel it was prudent until now to collect a voucher specimen. We believe it would be valuable for us to collect one or two flowering stalks of this species from this locality (without disturbing the rhizome), photograph the site, GPS the site, describe the site, photograph the plant in flower, and deposit this voucher material at the University of Arizona herbarium.

It is possible that we will locate "new" populations of H. colemanii or other Hexalectris species while surveying for this species. And vouchers would be very useful in documenting these additional localities.

Would you help facilitate an application for me (as part of WestLand Resources) to obtain voucher specimens of new or unvouchered localities of Hexalectris? I recognize that this taxon is a Forest Sensitive taxon. I am not actually sure of which Forest Service permit is needed. Any assistance in this matter will be much appreciated.

I will be in and out of the office this week (mostly in the field). Perhaps you could 'reply to all' so that Brian and Amanda can take the next steps in procuring the application or in answering any questions.

To catch you up on the other results of this first week of surveys....

During this last week (May 18-21), the WestLand field crew located 23 flowering stalks in McCleary Canyon and extended the distribution of H. colemanii in this canyon about 800 m farther downstream. On Saturday while in McCleary Canyon, Ron carefully described to us the localities he had found farther up-stream from the current 'best' patch of H. colemanii. Based on our surveys and Ron's almost 15 years of monitoring, there is now almost 1 km of McCleary Canyon that has or has been known to have flowering stalks of this species. On Saturday in Sawmill Canyon, Ron was able to take us through the slopes where he has found H. colemanii stalks in flower. This year we located about 25 stalks flowering.

We have sketched diagrams of the occurrence of the flowering stalks in the canyons. Our intention is to return and map with greater precision the placement of each stalk with respect to a set of mapped trees so that monitoring from year to year can track the placement of flowering stalks.

I am sorry you weren't able to make the field trip on Saturday to Sawmill and McCleary canyons. Ron shared a lot of perspectives on this orchid and related orchids. His long-term observations of the populations of this orchid made this trip very interesting.

I hope you are able to give us some guidance as to how to obtain the Forest Service permit(s). I have approached the Arizona Department of Agriculture regarding applying for a permit as well.

Bob

Bob Schmalzel | Senior Scientist
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Guidance on Specialist Reports to Support NEPA Documents

Region 3 Environmental Coordination
June 2008

Introduction

The purpose of this white paper is to assist interdisciplinary team specialists in developing resource reports that support NEPA documents.

Specialist reports describe what was observed on the project site regarding a given resource, what analysis methodologies were used, and the predicted results of the various alternatives. The results or conclusions of the specialist report are summarized in the NEPA document with a citation to the resource report (e.g., Smith 2008). The report displays for the Responsible Official and the public what the predicted effects on that resource will be by alternative.

Specialists are often referred to as "agency experts" in court proceedings because their education and relevant experience give their analysis and written evaluations more deference in the eyes of courts as well as higher-level reviewers.

The strongest and best-documented resource reports have the most impact if they are based on:

- Evidence from the actual site where the project is proposed (i.e., site-specific information);
- Evidence that is recent, pertinent, backed up by literature citations and local scientific research; and
- Local knowledge of resource.

Tests of a good specialist report include:

- Is the report following regional protocol or standards? Would it pass an in-house review?
- Is it site-specific? Does it adequately describe the existing conditions?
- Are there recent monitoring surveys? Were results evaluated and interpreted?
- Does it consider the best available science and use latest methodology?
- Are the expected impacts and differences among alternatives clear to the reader?
- Are effects consistent with forest plan requirements? Would an amendment be needed to make alternative(s) consistent?
- Is the report understandable? Is it well written?
- Is the report based on professional judgment not personal bias?
- Was the analysis conducted in an interdisciplinary fashion so that reports from different specialists do not contradict each other?

Sample Outline

This outline is not intended to replace requirements of biological assessments and evaluations or heritage resource reports. Those reports require content and format required by agency policy or national direction.

Specialist reports need not duplicate full descriptions of the purpose and need, proposed action, decision framework, alternatives, etc., found in the NEPA document itself but there should be enough information in the report to connect with the NEPA description. It might be worthwhile for teams to come up with a standard section with PA, P&N, and Alternative descriptions to insert into each resource report.

I. Analysis Questions to be answered.

Analysis questions for each resource should be developed by the ID Team in an "interdisciplinary fashion," with applicable specialist involvement, and approved by the Responsible Official. The Responsible Official can act as a barometer for what resource areas need extensive analysis, versus those that only need cursory analysis (non-significant environment effects areas) with the goal of creating a focused analysis.

For all specialists, the analysis questions must identify and address effects to all issues identified as needing analysis and disclosure, required analyses (such as TES, MIS) and effects relating to public concerns identified during scoping. If the EA/EIS has comparison criteria for your resource in the purpose and need, objectives or significant issues, include these here. For project proponents from outside the agency, analysis questions must address whether, or to what degree, the project meets purpose and need objectives.

Some reports cannot be written until another one is finished, so it is beneficial to discuss this "sequencing" of analysis and put into applicable timelines and due dates (e.g., wildlife needs vegetation analysis, water quality needs soils, etc.). Examples for a Recreation Resource Report for a typical thinning with popular recreation use might include:

- *How would project activities affect dispersed recreation (Camping, Hunting, Fishing, Berry Picking, Firewood Gathering, etc.)?*
- *What effect would new road construction and other disturbances (e.g., skid trails) have on off-road vehicle use in the project area?*
- *How would project activities affect Snowmobile Users?*

II. Description of Affected Environment's Existing Conditions

Briefly describe the existing condition of the environment that would be affected (relevant to the analysis questions).

- Key components should reflect analysis of reaching the purpose and need statement, e.g., if there is a need for reducing flame length or basal area, describe them.
- What past activities or natural disturbance events have determined the existing condition? For instance, a wildland fire may have shaped the existing condition. A map, graphics or pictures are helpful to describe the current state of the resource.

What is the affected resource area? Size? Describe if the analysis area is different from the project area and why (where do effects go?).

- Use references that help describe the existing condition and the processes at work. Use background information, larger broad scale assessments, watershed assessments, surveys, non-Agency surveys, or other reports. Consider referencing other analyses such as Forestwide or watershed scale roads analyses, or Forestwide Management Indicator Species report habitat reports.
- Look at resource processes such as erosion, in-migration, etc.
- Do not forget existing Environmental Impact Statements that have useful information. Use older analyses (past actions or similar projects) in the same area to describe past condition or actions. Private, local, county, or State analyses should be reviewed for applicable information, value, validity or usefulness.

III. Describe Relevant Laws, Regulations and Policy that Apply

- Be specific about the Federal and state law, regulation and policy affecting the resource (such as State requirements under the Clean Water Act).
- Briefly describe Management Areas from the Forest Plan with guidelines that apply and any Congressional designations in the affected area.
- There may be District policies such as administrative road closures in place, or fire levels restricting activities that would dictate policy in day-to-day activities that may need to be explained.

IV. Summarize Alternatives and Mitigation Measures

- Each report must use the same set of alternatives, design features, mitigation measures, etc. Specialists may not add their own to mitigate effects or describe what they think should be added. If completely unacceptable effects show up in analysis, the specialist must go to team leader and the team and discuss any changes. The Line Officer would then have to approve such changes and the whole team would use the new version.
- Describe alternatives enough to emphasize the actions and effects on the resource. Reports do not need to duplicate descriptions found in the EA or EIS, but should give enough information so that the reader understands causes and effects for the alternatives.
- List mitigation measures that will be required, and describe "ability to implement" and "effectiveness." If you have a long list (e.g., BMPs), put this information in an appendix.
- Describe what the mitigation measures are designed to accomplish. The effectiveness of the mitigation measures need to be discussed.
- Use observation, field tests, references, or monitoring results to back up discussions on the effectiveness of mitigation.
- When mitigation is included as part of an alternative's design, the alternative's effects analysis includes the required mitigation. Be sure to coordinate the mitigation list with the interdisciplinary team members so they are looking at effects based on the same mitigation.
- If mitigation is new or untested, it may require monitoring in the decision.
- Adaptive management options need to have the monitoring requirements described here in detail so that if a change is needed in the future the monitoring data can back up the change in the implementation of the project.

V. Methodology and Analysis Process

Describe models used, GIS analysis used, field visits, monitoring similar actions, discussions with other experts, etc.

- If a model was used, give a reference in the record to a description of how the model works and what it is supposed to show.
- If other agency work is relied on, such as Natural Resource Conservation Service (NRCS) soils inventory, give a complete citation in the report and put it in the record.
- Factors used for analysis should be linked to the current condition description. There should be a basis for comparison between the current condition of the resource and the effects from alternatives.
- Quantitative measures are preferred. An analysis and interpretation of measurements is important and helps the reader follow the train of thought (scientific methodology). Sometimes social effects must rely on qualitative analysis; however there still are standard methods, etc., used in the social sciences that should be explained.

VI. Effects Analysis

Describe effects with all required mitigation measures applied. Effects discussions must answer the Analysis Questions listed at the beginning of the report, and must address compliance with Forest Plan standards and any other laws, regulations, executive orders, or policies that apply.

1. **Effects of not implementing the project actions (No Action).** Describe what the effect would be if we fail to achieve the purpose and need. The No Action is often referred to as the "baseline" but that does not mean no effect. If we do not take a "needed" action, there should be very definite effects (negative or positive).

2. **Effects Common to the All Action Alternatives.** Start with a rather general discussion (e.g., "Logging causes soil compaction. Compaction decreases moisture holding capacity which reduces tree growth") then move to more site-specific discussion (e.g., "Under all action alternatives, Unit 1 would be tractor logged, resulting in 15% of the area being compacted"). Strive to say it once only; do not repeat the same discussion for each alternative.

   If the effects of alternatives are similar, then lump the alternatives together. Do not needlessly duplicate one paragraph to the next. Copying text over and over is harder to read, easier to make mistakes, and it does not help explain effects. If there are differences in effects between alternatives, explain them. If there are no differences among alternatives, maybe the resource, or the measure used to display the effects to the resource, is a minor issue among the alternative actions.

3. **Effects unique to each action alternative, and the differences among the action alternatives.** Describe differences among the alternatives here. If your analysis questions require a comparison among the alternatives, this is the place to calculate the numbers and display the results in a table or chart.

   Put the conclusion first in your effects analysis discussion, followed by the evidence to back it up. Do not make the resource report a mystery novel. Do not allow people to go off track following data, analysis, evidence and conclusions. It is better to give the reader the conclusion at the beginning of the discussion, and then support the conclusion. Displaying effects by alternative in tables or charts is very effective and should be done so for all important effects.

   - Direct, indirect and cumulative effects must be analyzed.
   - Direct and indirect effects should be kept together in their own section since it is difficult to draw the line between them. Indirect effects are farther away in distance and time from direct effects, and may display duration and intensity of effects.
   - Effects are expressed in cause-effect relationships and are site-specific where possible.
   - Use appropriate measures (indicators) to describe and display the environmental impacts of the alternatives. Where possible use quantitative measures, as opposed to qualitative or relative measures.
   - Remember to talk about natural disturbance events and patterns. If a wildfire or periodic flooding is the overriding cause of effects in the area, then describe it as part of the baseline (existing condition). Some past events occurred so long ago that the effect is permanent, while some are recent enough to require explanation. The actions proposed may be minor in comparison to natural events, but the total effects of the past events and the proposed activity are additive to them (sediment from project compared to flooding).
   - Factors to evaluate under NEPA include irreversible or irretrievable effects, short-term versus long-term effects, and any adverse environmental effects that cannot be avoided (40 CFR 1502.16). One aid in doing this is to look at what the Forest Plan identified in these effect categories.

4. Cumulative Effects Analysis

- The cumulative effects analysis should follow the direct and indirect effects analysis immediately in the effects section of the text.
- Cumulative effects analysis is merely an additive process. Add the effects from past, present or foreseeable projects to the project's alternatives' effects then analyze and interpret them. Just saying "50 acres + 50 acres = 100 acres is not 'analysis.'"
- To initiate the cumulative effects analysis, make a list of all past, present and reasonably foreseeable actions that will contribute to cumulative effects of the resource. Include the title of the project, date of implementation, and some measure (such as acres, miles, etc.). Narrative descriptions are not necessary. The list should cover the important past or ongoing projects. Use judgment as to how far back in time the list should go (i.e., is the condition permanent now from grazing 100 years ago? Or is their current grazing affecting the resource?). In most cases the continuation of past actions or natural events should be described in the baseline condition, so they would be covered.
- Cumulative effects analysis does not differentiate between private and public land ownership. If there are projects going on other land ownerships, they should be listed and addressed (State projects on State land; other Federal land projects; private property projects, such as subdivisions, etc.).
- If you report that there are no direct or indirect impacts to your resource from the project, there are likely no cumulative impacts since there is nothing to add up. This is fairly rare, since most land had at least past actions. However, it is possible that all effects to a resource were mitigated, such as effects to cultural sites, but be very careful in making this pronouncement.
- There is some debate about whether the No Action can have cumulative effects since we are not proposing an action. However, consider what would happen to an outside proponent if we took no action and then determine if something should go under cumulative effects. Not giving a permit could cause financial effects so you'd need to see if there were other financial effects.
- If the cumulative effects analysis is so generic or meaningless that it can describe any project anywhere on the forest, then it doesn't disclose to the public the hard look under NEPA that is required.
- If using GIS analysis or model, explain the steps from what is on the ground, through the calculations, to the mapping output and what it means. This process or methodology should be in the record. It cannot be modified or fixed in court later if it was not disclosed.

5. Conclusions about Alternatives' Effects

- Do the predicted effects approach, fall within, or exceed thresholds set forth in law, regulation or policy? Describe what this means to the resource – is 10% over threshold important or not?
- Do the effects of the alternatives fall within Forest Plan standards and guidelines?
- Will a Forest Plan amendment be needed to implement a given alternative because it is not consistent with the Plan? If an amendment is needed, include the rationale on why the amendment is needed.
- As the final step, look at your description of effects. Is the report clear enough that the public and the decision maker know what the tradeoffs among alternatives are?

- Know the facts and reasons and spell out the effects on the resource. Facts will speak louder than speculations or opinions. Analysis should be clear so that a judgment can be made by the reader.
- Significance determination (FONSI; for EAs only). Make sure to address the ten Significance Factors that apply (see FSH 1909.15, Section 05, under definition of "Significantly"). However, do not draw any conclusions as to whether effects are actually significant (that is the Responsible Official's job to reach conclusions regarding significance). Just display the effects in relation to law, regulation, or policy (e.g., forest plan S&G's) (see first bullet above). Make sure the record includes documentation to make significance determination in FONSI.
- In general, the word "significant" should not appear in any specialist report or NEPA document as that would be a judgment call left for the Responsible Official to make in the decision and/or FONSI. Your analysis and conclusions about effects should be subjective and comparative with enough detail for the reader to understand the magnitude, duration, and extent of the effects.

VII. Discussion of literature relevant to the Analysis Questions to be answered and Literature Cited in the Report.

- Include opposing viewpoints. This needs to be a discussion. Simply listing literature you consulted is not adequate. If you are discussing a subject that the public is likely to question or dispute your conclusions, you must include a literature discussion. However, if there is no dispute or contention, you can omit this discussion.
- Include a list of all citations from the report, such as journal articles, books, government documents, published papers, and personal communications referenced (from researchers, other specialists in the field, state agencies, etc.).
- All references used in the report should be in the project record. Where references are lengthy, as in a complete hardcover book, include a photocopy of the key pages referenced in the report. Be sure to have the reference readily available upon appeal or litigation.
- Be careful about citing reference that cite other references if you cannot find them since they may not be accurate and may be difficult to find it needed for litigation.

VIII. Sign and Date Report for the Record

Sign and date the original report and put it in the project record. Keep a copy in the resource files. Supply a signed and electronic copy to the writer/editor along with a copy of the data, field notes, correspondence, any modeling calculations, email, maps, and other information used in the report. The final signed and dated report should be used for the report and NEPA document, not a draft.

Make sure pages are numbered and there is a document title in footer or header.

IX. Revised Report in Response to Public Comments on Draft

A specialist report is written prior to the release of the NEPA document to the public for comment. It is summarized and cited in the EA (or proposed action) or in the DEIS. Once all comments are received, the ID Team should meet, conduct the content analysis, and determine what comments need responses in the final NEPA document. Follow standard regional protocols for this content analysis (unless contracted out). Responses to comments often consist of clarified or expanded analyses, additional alternatives, appendix material, etc. This may or may not require the specialist report to be revised; if it is, it should be labeled as such with new date and signature. The original should always be kept in the record since it was used for the comment version of the NEPA document. An EIS requires a display of how this process was done and is usually in an appendix. This can be a major time factor in preparing an FEIS. Since a draft or summary EA is sent for comment, responses are used to create the final EA. Something should exist in the EA record to document the content

analysis process for responding to comments. After public comments are responded to, specialists may want to revise, append, clarify, or add information to their report (adding a new date and new signature). The final document should then cite this final report (e.g., a DEIS may cite one version and the FEIS may cite the revised report, but they should both be signed and dated and in the record).

This review of public comment is an opportunity to analyze criticisms of the report prior to the project being final, and to fix any problems or vague discussions in the report. Coordinate with interdisciplinary team members so no conflict arises with other responses.

Beverley A Everson/R3/USDAFS
06/14/2010 03:44 PM

To Debby Kriegel/R3/USDAFS@FSNOTES
cc Larry Jones/R3/USDAFS@FSNOTES, Melinda D Roth/R3/USDAFS@FSNOTES
bcc
Subject Re: DEIS schedule and specialist reports for biology

Debby,

As we just discussed a little while ago, you're free to discuss your concerns. I also hope that you, Larry, and other team members will feel comfortable in talking about your concerns with Reta in the IDT team meeting on Wednesday, to better understand her strategy with the schedule and the existing data gaps.

Bev

Beverley A. Everson
Forest Geologist
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Debby Kriegel/R3/USDAFS

Debby Kriegel /R3/USDAFS
06/10/2010 08:05 AM

To Larry Jones/R3/USDAFS@FSNOTES, Melinda D Roth/R3/USDAFS@FSNOTES, Beverley A Everson/R3/USDAFS@FSNOTES
cc
Subject Re: DEIS schedule and specialist reports for biology

Larry: Great letter!

Mindee and Bev: I feel exactly the same way. IDT members and SWCA resource specialists need to focus our efforts on getting the needed specialist work done and specialist reports completed. Writing DEISs without specialist reports and reviewing incomplete DEISs is a waste of our limited time. Would it be useful for others to put similar letters in the record? If so, I'd be happy to do one. Please let me know.

Thanks.

Larry Jones/R3/USDAFS

Larry Jones /R3/USDAFS
06/10/2010 07:38 AM

To Beverley A Everson/R3/USDAFS@FSNOTES, Melinda D Roth/R3/USDAFS@FSNOTES
cc mreichard@swca.com
Subject DEIS schedule and specialist reports for biology

Mindee and Bev--

Following up on some discussions from yesterday's ID team meeting and some concerns we expressed. See attached. Melissa...please put in project record under usual spot (Biological Resources, or similar). Thanks! FYI, I'm meeting with Teresa Ann this morning for the Forest Plan compliance task. I met before, but some follow up is still needed.

Thanks!

Document flow for Biology reports and DEIS RCC proposal.pdf

Larry Jones
Wildlife, Fish, and Rare Plants
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Rosemont

1.1 SEEDBED PREPARATION

The seedbed was ripped using a motor grader and/or scarified to a depth of 8 to 12 inches using tractor mounted steel shanks. Scarification was performed running parallel to the contours.

1.2 SEEDING

The seed was applied by drilling and broadcasting simultaneously using a modified rangeland drill with depth control bands, packer wheels, agitators and augers, and picker wheels. Light and fluffy seed was dribbled behind the drill and chain drags were used to cover the broadcasted seeds. Seeding was not performed under windy conditions.

1.3 SEED MIX

The seed mixture was supplied by the seeding contractor Rocky Mountain Reclamation (RMR) and is listed below. The seed mix deviated from the primary seed mix in Appendix C of the MMD permit to accommodate the availability of seed and requests from the New Mexico Department of Game and Fish and the MMD.

Seed Mix:

Common Name	Scientific Name	PLS lbs. per acre
Blue grama	*Bouteloua gracilis*	0.25
Sideoats grama	*Bouteloua curtipendula*	1.25
Galleta grass	*Hilaria jamesii*	0.40
Green sprangletop	*Leptochloa dubia*	0.15
Sand dropseed	*Sporobolus cryptandrus*	0.05
Bottlebrush squirreltail	*Elymus elymoides*	1.25
Indian rice grass	*Oryzopsis hymenoides*	1.75
Streambank wheatgrass	*Agropyron riparium*	1.50
Rubber rabbitbrush	*Chrysothamnus nauseosus*	0.15
Mountain mahogany	*Cercocarpus montanus*	1.00
Winterfat	*Certoides lanata*	0.60
White Prairie Clover	*Dalea candida*	0.20
Blue flax	*Linum lewisii*	0.15
Prairie coneflower	*Ratibida columnifera*	0.20

Rate of application: 8.9 PLS pounds per acre
PLS = pure live seed

1.4 MULCHING

Certified weed-free, long-stem, hay mulch originating from Kansas and Nebraska was supplied by RMR. The mulch was uniformly spread over the designated areas at the rate of about 2.0 tons per acre. Mulching did not proceed during windy conditions and was completed following seeding operations.

1.5 CRIMPING

The mulch was anchored in the soil by crimping. Straight coulter discs were used to anchor the mulch 3 to 4 inches into the cover material. These coulters were spaced approximately 6 to 8 inches apart. Crimping operations were performed parallel to the contours where appropriate.

1.6 FERTILIZERS

As approved by the MMD, no fertilizers were applied on the Dam 3X project based on the recommendations of the project soil scientist. Fertilizers are thought to encourage weedy species, discourage the promotion of diversity, and provide limited long-term benefits.

"Melissa Reichard "
<mreichard@swca.com>
07/12/2010 10:47 AM

To "Larry Jones" <ljones02@fs.fed.us>
cc "Geoff Soroka" <gsoroka@swca.com>
bcc
Subject RE: folder for biological resources

No problem! I did get your hard copies. I reviewed them and gave some of them to the management team. Some of the items that you sent to me presented more global questions that they need to help the entire IDT with. For example, email chains- we all need direction as to whether and/or how to put those in the record. So, you may have already heard back from them on all of that by now. If not, I will do what I can to get you answers/feedback.

I REALLY commend the fact that you have been so conscientious about the record and things that you want documented. Thanks a bunch!!
Mel

From: Larry Jones [mailto:ljones02@fs.fed.us]
Sent: Wednesday, July 07, 2010 7:17 AM
To: Melissa Reichard
Cc: Geoff Soroka
Subject: Re: folder for biological resources

OK...I know you are actually Melissa...I work with a Melinda, but most people call her Melissa...life is difficult for us dyslexians...

Larry Jones
Wildlife, Fish, and Rare Plants
Coronado National Forest
300 W Congress
Tucson, AZ 85701

520-388-8375
ljones02@fs.fed.us

Larry Jones/R3/USDAFS

07/06/2010 04:28 PM

To mreichard@swca.com
cc gsoroka@swca.com
Subject folder for biological resources

Hi Melinda--

Just checking to make sure you got my folder of hardcopies for the project record for Rosemont, to be put with the rest of my biological resources info. I was there last week and one of the SWCA employees (sorry, I didn't catch her name) made copies of everything, whilst I met with Geoff S.

Thanks!

Larry Jones
Wildlife, Fish, and Rare Plants
Coronado National Forest
300 W Congress
Tucson, AZ 85701

520-388-8375
ljones02@fs.fed.us

LARRY JONES Meeting/Field Notes if RCC, SWCA, Westland present

LLCJones compiled 2/24/2010

SUBJECT DATE

1 July 2008
Rosemont Mine project (day 1)
Horst is w/ CEQ.
→ 202-395-0827

We should look at mining stopped by endangered species.

0800 E side fed building near fountain.

hiking boots
water
sunscreen
hat.

need to go to PLT, hydrology exec day - so need to find out which of 2 days that is.

We should get AGFD on ID team + FWS.

There will be working groups

Order No. 483-341

SUBJECT 7/16/2008 DATE

(4) Use of surrogates for trapping?
(5) What about all vehicles being pool

L side Main drug area
(K) + bus stop - low stung.

7/22/2008 Forest Plan meeting at Catalina V.C.
Need to talk to Ernie about S+GS. MSO - NGO
Also I need to work on Forestwide S+GS.

~~7/29/2008~~
Jamie Sturgeon
Kathy Arnold
SWCA → us → Westland
Chain of command →
AGFD ~~[illegible]~~ to the coop agency. Not
Document everything
Be careful; deal w/ biology
cc: to

Order No. 483-341

SUBJECT DATE

Biological Response + Mitigation
Consider - not done yet
prob. couple of weeks
listed + sensitive species
they were contacted by BAE
- done this fall

There
main species
LLNB - found feeding there
(n=1) + doing acoustic surveys.

PPC - utility corridor
Tom Strong is Westland lead
bio.

* send demo/th species
cc: Bay - to rev
Debbie

Kendra
Bougart
Talus snail

Bob in Rosemont
UA Rentfrow

→ geoff to do letter

SUBJECT 10/27/2008 DATE

Wildlife Corridor Workshop
(#2)
(waste of my time)

11/12/2008 Rosemont Mine
Project, NAFRI
"Tech Transfer meeting - full house
lots of people.

Tom
L. Ann > SWCA

* check Heritage website
Oxide dip - hemp lunch
onsite
Sulfide - blow

Mostly geo-technical stuff
as usual - this stuff doesn't
help me.

Springs w/ sustained flow
Rosemont Spring
MC-2 McCleary Cyn
Deering Spring
Questa Spring

No SWCA presentations at all, mid.
- MIS, ALESSL, MIGHAP,
"visual" quality

SUBJECT DATE

FOR BLM

Special Uses
- 1. Enviro Checklist form
2. Policy - restrictions, rules, etc
3. Our role - oversight
4. Letter vs. SUP
(or just sign off?)

1. Checklist - Dichotomous key (or checklist form)
- will this affect any:
MIS (the plans tell you if it isn't)
T&E (use ESA language)
Migratory Birds
RFSSL

Till new FSM/directives 2670 etc
- Attach lists of species
- No, take of any of these w/o direct justification
- use terms (NLAA, trend toward listing, critical habitat)
if so, we need those documents by end user.

have links

- Admin study or access?
or contract/co-project
→ then review
end result: ~~needs~~ approval for letter
" " SUP
needs biodocumentation
" ESA - formal / informal > consultation
modified - denied -

Guide me in what do I do?

Order No. 483-341

SUBJECT DATE

Phase I - Lane McClung
Crayon wheel

Phase II Bill is the
director and McClung

* What is the inherent economic value to wildlife + natural resources lost? Can we get this back from Rosemont to be used for mitigation of natres values lost?

* We were able to give comments to Ben at the meeting front - not very useful to the others concerned with natural resource management. This was not really an ID Team meeting - no FS people on the agenda. Of course BLM was unprepared

Tim Troy + Rosemont says they know what we are trying all these studies. Should have really been consolidated focus

Too many presentations

Notes

8/5/2009 UCJones

Rosemont - FWS meeting
Rosemont
BLM
FS
SWCA
Westland (?)
AGFD (Windus)

(Add Corps of Engineers

1 agency lead - US - CNF
1 action area + "The Project"
directly
indirectly
CLF cnt. Hab
early 2011
Conference on the proposed rule Oct 2010

early consultation
Back map 135 days
+possible +60 day Lead agency extension
=195 days

DESK CONTEMPORARY NOTE PAGES

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Notes

245/265

Draft EIS Nov

Final July

Spp.

Los Osos nearest breeding sites

2-3mi

there were some frogs

Utility Corridors - probably

Pond Santa Rita

Helvetia has some springs

but not considered in bounds

of analysis, cuz not affected.

Helvetia

Cherry Springs

~~Zacatecas~~

Big w B-T Primrose

look up

Site visit - Rosemont

Site visit

Notes

Late Aug

Talus/snail Early Sept
Frog/
Bat
PPC

+ site visit some time

Add Mike Martinez for
bird survey

LOTAS pic needs 8/9/2009

CRBI female (I have, not gravid)
DHGO juvie • ASSC J
• SCME juvie ~~ASVE J~~
• SCPO juvie ASVE J
SCSL juvie (at home?) XAAR J
SCUN juvie XABE J
UMNO juvie XAGR J
URNI juvie (from) XASI J + better
• COBR juvie (•) SCLA J
• CORE juvie
ASAR juvie
• ASDI juvie (I have older juvie)
(•) ASGY juvie
• ASIN juvie 10/23
• ASMA juvie
ASPA juvie

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Rosemont Snail Trip
9/18/2009

Heather Swanson NRS - BLM heather_swanson@blm.gov
Marcia Radke W. Bio - BLM marcia_radke@blm.gov
Larry Jones
Bob Schmalzel
Mike Martinez
Jeff Sorensen
John Windes
Jeff Surofsky
Gail Crawford

1st stop not rd 231 at stn 48

Down below this point there think is the Rosemont Camp - not the town. Long the mines were here when they were mining at the time.
Stn 48 Vamoose Spur - Mikes personal Ferris - magdalena

Milly 1978 - surveys by inventor
part of Brown pic. 1.7 hours
plants of UA

Mr. Clemy has a couple

Notes

11/18/2009

Roseroot Field Trip Overview

Meet Time Place

Overview of the site

" " water dynamics

" " riparian resources

" " wildlife resources

Stops

Barnel Canyon + View / meet MP 44

~~[illegible]~~

Spring - McClung

discussion pts.

downstream

mining prody

volume of our riparian areas

drive by preview

Linda Perry

Kelly

Imp

(1) MP 44

(2) Roseroot

(3) McClung Spring

through Roseroot

DESK CONTEMPORARY NOTE PAGES

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NOTES 1/29/2010 LLC Jones

At SWCA to talk to
Geoff Sroka + Ken Restell

Dream
Hexalechis
5 documents
schedule
process
DRAFT1 → APPROVAL

SWCA → Me → SWCA → Rick/Debbie → R.O.

→ Me + SWCA → Approval

2/8/2010 Morn staff meeting

POW review done Feb 19
extremely important that changes get done in a proper way
(e.g., shifting days between job-codes)

Rochelle Berger - in for Peter Rosenwald

DEIS - next TUESDAY from SWCA
Sierra Vista lease is becoming a higher priority - Lessor is wanting to sell it.

Item # 031-3

NOTES 2/8/2010

Geoff Sorrelin - Migratory Birds
- IBA info in our files
email

BLM
Corps > reports
what we get from SWCA

11 FEB 2010 Planning meeting
Forest Plan
Matt Turner, Special Guest Speaker

deviate from guidelines is OK
as long as you follow the
intent

standard - deviate from this +
you need amend the plan

No court cases YET on not
meeting objectives.

2/16/2010 Grants-n-Agreements
Workshop
Dan Moriarty says we need to
do the matches for our agree-
ments per the State!
Carmen Melvin,

NOTES 4/12/2010

Conservation Measures. Most recent CAT CRAWFORD MARK CRITES

Maybe modify the form (WFCI?)

5/4/2010

Wetland Office - Tucson

Tech Transfer Meeting

① Talussnail

② Orchid (Hexalectris)

Nov 2009 outside surveys

10 days - 50 person days

Miller's pitfall avail at U of A

SOMA	SORO/SOWA
verge 4m	1mm verge
crinkle embryo	ascendy/detachy
N=6	N=6
overlap line specimens →	ditto

The lip is formed when snail gets growing!

Day Runner

NOTES

Big chart in report
2 clusters most of vandal

Hexalectris glerannii
late May, early June

Holly lead survey areas
Holly Lawson
Bob
N-facing slope
Incised Canyon

5/6/2010
Nepa - Plan Review in Meeting

Rolling Alternative
MPO → modified MPO for example - we can modify as we go along

Affected Enviro = current condition
Environmental Consequences = effects analysis

Under age + CEQ regs on EIS

Item # 031-3

confusing maps + terms
"The Property"
"Rosemont Holdings"
(mostly FS)
Impact area O.K.
Withholding location info
Federal + State Permits copy

LESSER LONG-NOSED BAT SURVEY OF THE ROSEMONT HOLDINGS AND VICINITY

Prepared for: Rosemont Copper Company

Prepared by: WestLand Resources, Inc.

Date: March 11, 2009

Project No.: 1049.10 330 330A

TABLE OF CONTENTS

1. Introduction 2
   1.1. Lesser Long-nosed Bat Status 4
   1.2. Taxonomic History 4
   1.3. Habitat Requirements 4
   1.4. Geographic Distribution 6
   1.5. Relevance of Rosemont Property 6
2. Survey Methods 6
   2.1. Acoustic Sampling 8
   2.2 Infrared Sampling 9
   2.3. Potential Roost Surveys 9
3. Results 10
   3.1. Acoustic and Infrared Surveys 11
   3.2. Rosemont Impact Area Roost Surveys 15
   3.3. Regional Roost Surveys 17
4. Discussion 19
   4.1. Analysis of Acoustic and Infrared Surveys 19
   4.2. Analysis of Roost Site Surveys 19
   4.3. Required Elements for Lesser Long-nosed Bats in Southern Arizona 21
5. Summary and Conclusions 23
6. References 24

LIST OF FIGURES

Figure 1. Vicinity Map 3
Figure 2. Major Roost Sites of Lesser Long-nosed Bat in Arizona 5
Figure 3. Arizona Range of the Lesser Long-nosed Bat 7
Figure 4. Acoustic Sampling Locations 12
Figure 5. Sonogram of Lesser Long-nosed Bat 14
Figure 6. Sonogram of Mexican Long-tongued Bat 14
Figure 7. Potential Bat Roosts, Rosemont Vicinity 16
Figure 8. Potential Bat Roosts, Santa Rita and Empire Mountains 18
Figure 9. Adits and Shafts Closed for Safety Reasons 22

LIST OF TABLES

Table 1. Summary of Lesser Long-nosed Bat Survey Activities 10
Table 2. Results of Acoustic Sampling 13

LIST OF APPENDICES

Appendix A. Photos
Appendix B. Potential Bat Roost Sites Surveyed on or near the Proposed Rosemont Impact Area
Appendix C. Potential Bat Roost Sites Surveyed within the Santa Rita and Empire Mountains Region

1. INTRODUCTION

The lesser long-nosed bat (LLNB, *Leptonycteris yerbabuenae*; Appendix A, Photo 1) is a migratory, endangered species that is known to be present in southern Arizona during the late spring to early fall. The proposed open-pit copper mine at the Rosemont Property (the Property), which encompasses patented and unpatented claims and fee lands within privately owned, USDA Forest Service, and Bureau of Land Management lands on the northeast side of the Santa Rita Mountains (Figure 1 and Appendix A, Photo 2) is within the known geographic and elevational range of this species and provides suitable habitat characteristics for the bats. A detailed study of LLNBs and their use, or potential use, of the Property was undertaken with initial site visits in 2006, ultrasonic acoustic surveys in 2007 and 2008, and wide-ranging surveys for potential roost sites and foraging resources in 2008. This report summarizes the results of these surveys and is presented in six sections:

Section 1 (*Introduction*) describes the LLNB's listing status, taxonomic history, habitat requirements, geographic distribution, and relevance of the Property to this species.

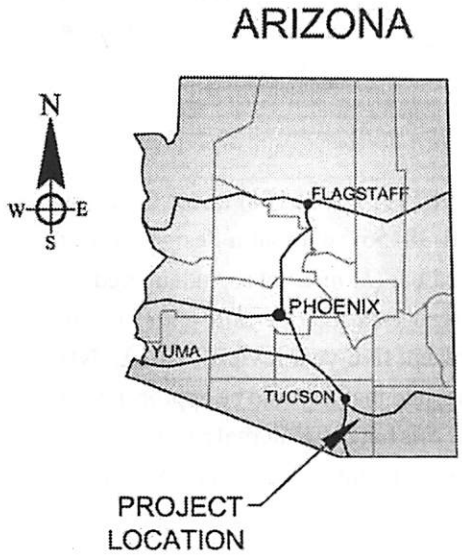
Section 2 (*Survey Methods*) describes the survey methods that were used for acoustic sampling, infrared sampling, and potential roost surveys conducted as part of this effort.

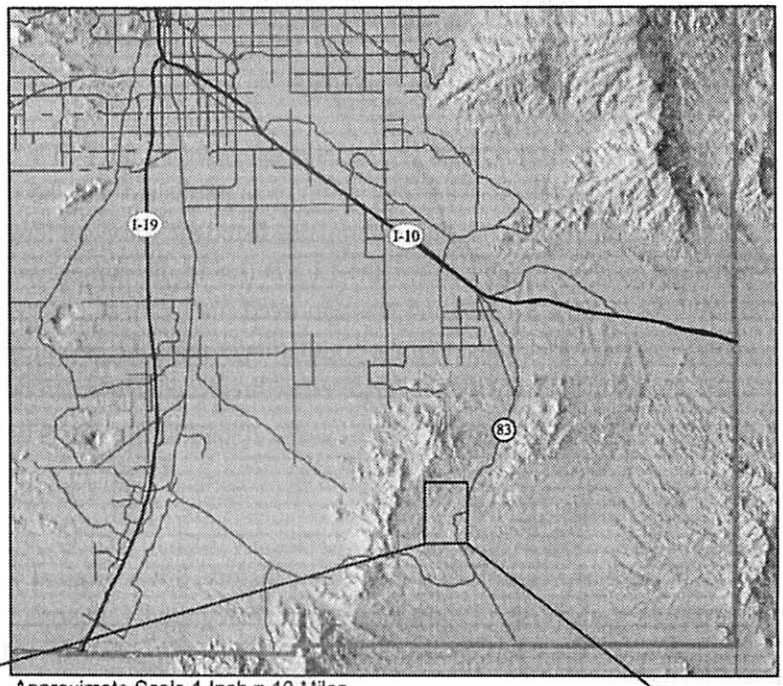
Section 3 (*Results*) describes the results of the LLNB surveys conducted as part of this effort.

Section 4 (*Discussion*) provides a discussion of the survey results including an analysis of the acoustic and infrared survey results and roost site survey results.

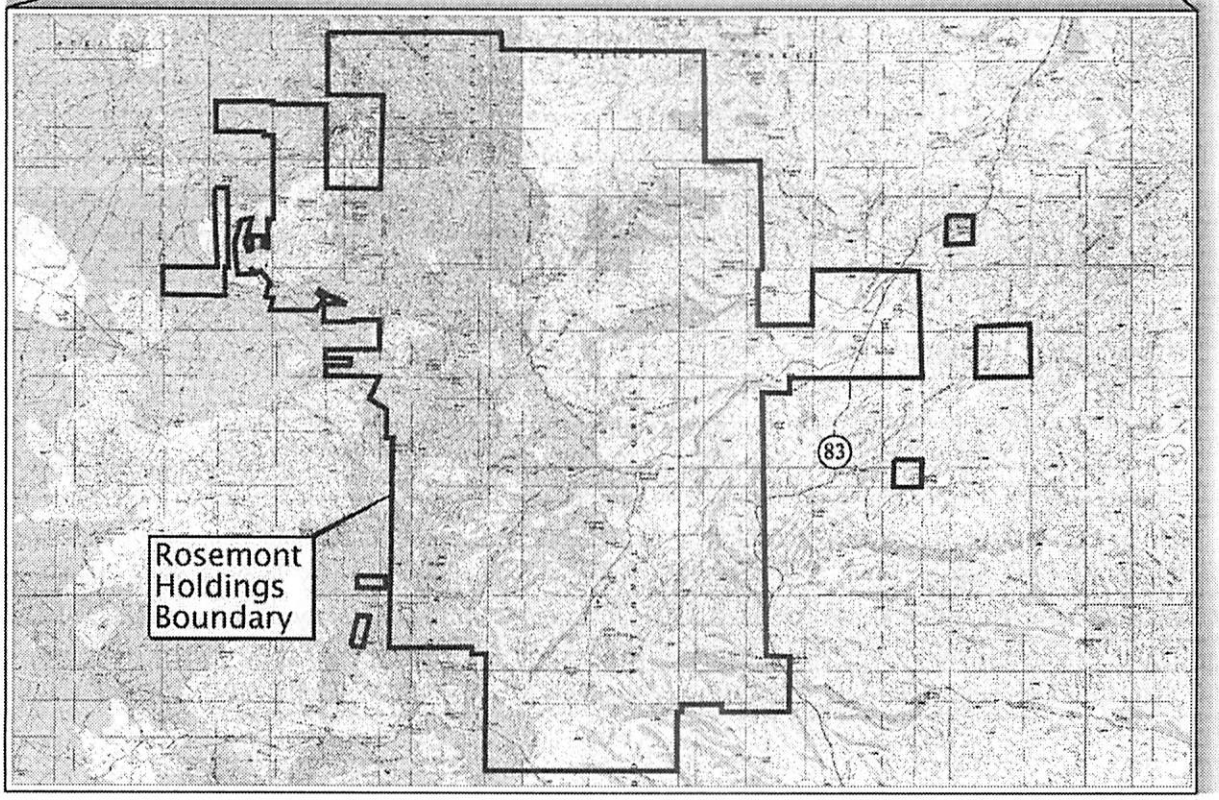
Section 5 (*Summary and Conclusions*) summarizes WestLand's findings and discusses the conclusions that were formed during analysis of the survey results.

Section 6 (*References*) provides a list of references that were used for this work.





Approximate Scale 1 Inch = 10 Miles



0' 4500' 9000'

APPROX. SCALE: 1" = 9000'

T.18S.,R.15E., Portion of Sections 1,2, 10-15, 22-25, 35 & 36,
T.19S.,R.15E., Portion of Sections 1 & 2,
T.18S.,R.16E., Portion of Sections 6-8, 14-23, & 27-33,
T.19S.,R.16E., Portion of Sections 4, 5, & 6.
Pima County, Arizona
Mt. Fagan, Empire Ranch, Corona de Tucson & Helvetia
USGS 7.5 Minute Quadrangles

ROSEMONT COPPER

Lesser Long-Nosed Bat Survey

Vicinity Map
Figure 1

WestLand Resources Inc.
Engineering and Environmental Consultants
4001 E. Paradise Falls Drive
Tucson, Az 85712 (520) 206-9585

DWG FullPath: M:\projects\1049.10\BA\Figures Tech memo LLNB\Fig1 Vicinity.dwg

1.1. LESSER LONG-NOSED BAT STATUS

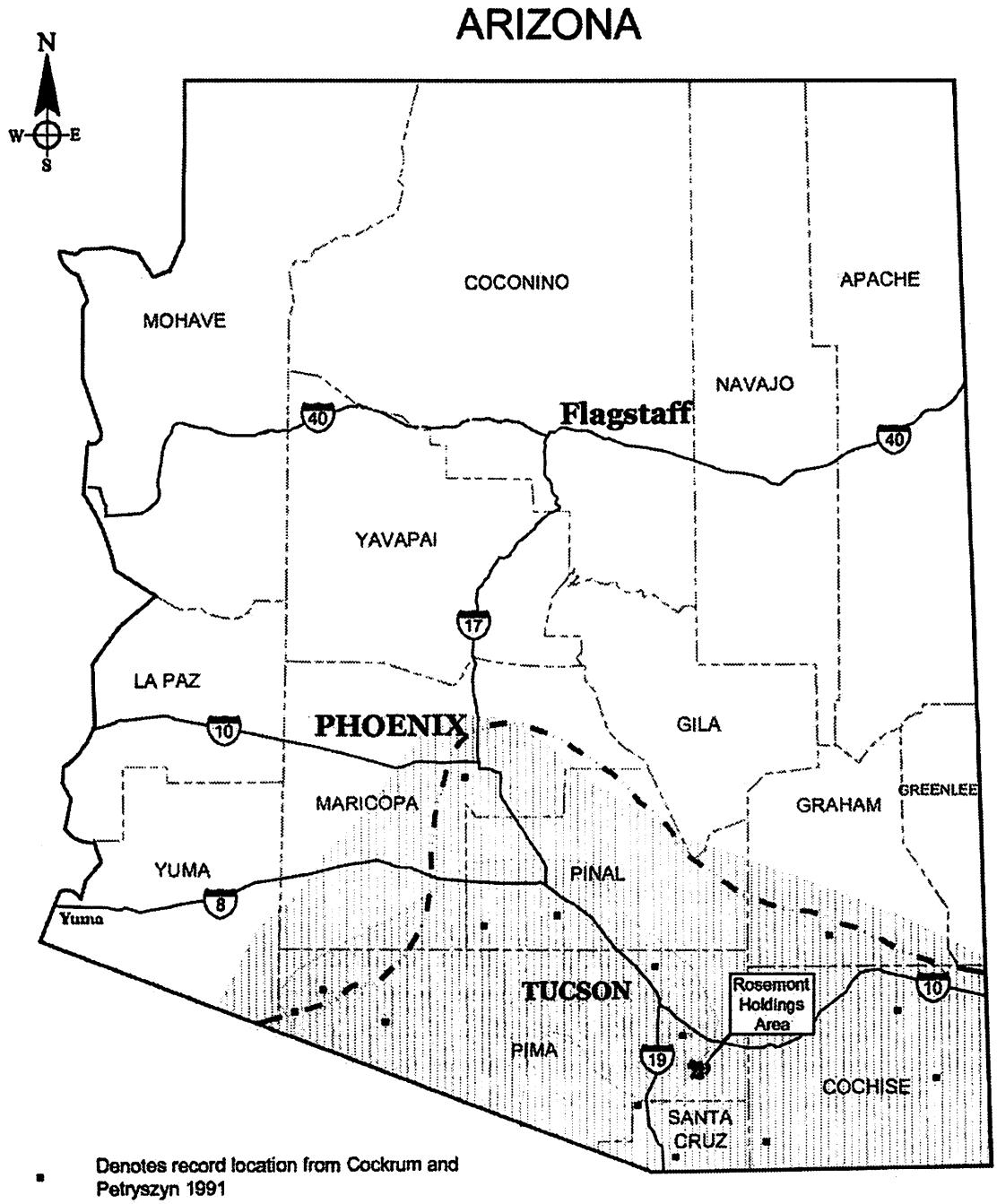
The LLNB was proposed for listing as endangered by the USFWS in 1987 (52 FR 25171) under the name *Leptonycteris sanborni*. The final ruling was published in 1988 (53 FR 38456), without a designation of critical habitat. This same publication also listed the Mexican long-nosed bat (*L. nivalis*) as endangered. A recovery plan was prepared for the LLNB (using the name *Leptonycteris curasoae yerbabuenae*) in the mid-1990s (USFWS 1995) and was approved and finalized in 1997. A recent five-year review of the LLNB (USFWS 2005) concluded that the population of this species is increasing, and that it would be appropriate to revise the listing status from endangered to threatened. However, because this bat has maternal roost colonies in relatively few locations, an impact at any maternity site could have a significant effect on the population.

1.2. TAXONOMIC HISTORY

This species has a complicated taxonomic history. It was originally described as *Leptonycteris yerbabuenae* by Martinez and Villa (1940), cited by the Integrated Taxonomic Information System (ITIS 2008) as the original publication, but no details of the reference are provided. ITIS also credits Martinez and Villa (1940) for the names *Leptonycteris curasoae yerbabuenae* and *Leptonycteris nivalis yerbabuenae*. They apparently recognized the significance of this taxon but could not determine whether it was a distinct species or merely a subspecies of one of the other members of this genus. The taxon was renamed as Sanborn's long-nosed bat (*Leptonycteris sanborni*) by Hoffmeister (1957), who apparently ignored the earlier work by Martinez and Villa. Subsequently, other researchers (Arita and Humphrey 1988; Wilkinson and Fleming 1996) determined that this bat should be considered a subspecies of *L. curasoae* from northern South America, and the name was changed to lesser long-nosed bat (*L. c. yerbabuenae*). More recently, this bat was re-elevated to full species status as *Leptonycteris yerbabuenae* (Cole and Wilson 2006), reverting back to the name originally proposed by Martinez and Villa. This change has been accepted by ITIS (2008) and we will follow their standard in this report.

1.3. HABITAT REQUIREMENTS

The two basic habitat requirements for virtually all species are shelter and food resources and the LLNB is no exception. Potential roost sites must be within reasonable foraging distance from appropriate food resources. These critical resources may limit species distributions spatially and seasonally (Fleming 1982, Ober et al. 2005). Day roost sites are typically natural caves in limestone and basalt and abandoned mines (Appendix A, Photo 3) (Hoffmeister 1986; USFWS 1995). Temporary night roosts may include caves, mines, and abandoned or empty buildings (USFWS 1997). During the spring and early summer, pregnant females congregate in maternity colonies where they give birth and raise their young. At the present time, there are only three known maternity colonies known in southern Arizona (USFWS 2007), as shown on Figure 2.



Denotes record location from Cockrum and Petryszyn 1991

Limits of range shown by Hoffmeister 1986 (summer only)

Late spring and early summer records from Cockrum and Petryszyn 1991

Late summer and fall records from Cockrum and Petryszyn 1991

ROSEMONT COPPER

Lesser Long-Nosed Bat Survey

Arizona Range of the Lesser Long-nosed Bat (from Hoffmeister 1986, and Cockrum and Petryszyn 1991)

Figure 3

WestLand Resources Inc.
Engineering and Environmental Consultants
2343 E. Broadway Blvd. Suite 202
Tucson, Az 85719 (520) 206-9585

0 30 60 MI.

Approx. Scale: 1 Inch = 60 Miles

DWG FullPath: M:\projects\1049.10\BA\Figures Tech memo LLNB\Fig2 BAT-RANGE.dwg

As a nectar-feeding bat, the LLNB has very specialized dietary requirements and it is able to switch from one food source to another depending on season and availability. In northern Sonora and southern Arizona, it feeds primarily on nectar and pollen from the flowers and on fruit of columnar cactus in the spring and early summer (Wilson 1985). After the maternity season, cactus flowers and fruit are no longer available, and the bats shift their diet to feed primarily on nectar and pollen from flowers of paniculate agaves, especially Palmer's agave (Appendix A, Photo 4) (Ober and Steidl 2004). This diet change requires a change in distribution, because Palmer's agave and saguaro are not usually found in the same landscapes (Cockrum and Petryszyn 1991). Palmer's agave are known from the semidesert grassland (Brown 1994a) through the transition to Madrean evergreen woodland of southern Arizona (Brown 1994b), and their peak blooming period is August and early September (Sidner 2007). Post-maternity dispersal areas and roost sites are thus generally at higher elevations north and east of maternity colony locations (Figures 2 and 3).

1.4. Geographic Distribution

In Arizona, New Mexico, and northwestern Mexico this species is migratory. In the early spring, these bats follow a 'Nectar Corridor' of flowering columnar cacti north from Mexico. Pregnant females arrive in Arizona in late April and early May and feed on the nectar and pollen of saguaros and other columnar cacti. Maternity colonies are located in natural caves in limestone and basalt and in abandoned mines. Adult males arrive in late July to early August to join the females and young as they disperse from maternity roosts to forage on the nectar and pollen of agave flowers. At this time, the species distribution expands east and north into plant communities at higher elevations than the earlier foraging grounds (Figure 3, Cockrum and Petryszyn 1991). By mid- to late-September, the majority of these bats have left Arizona and returned to Mexico.

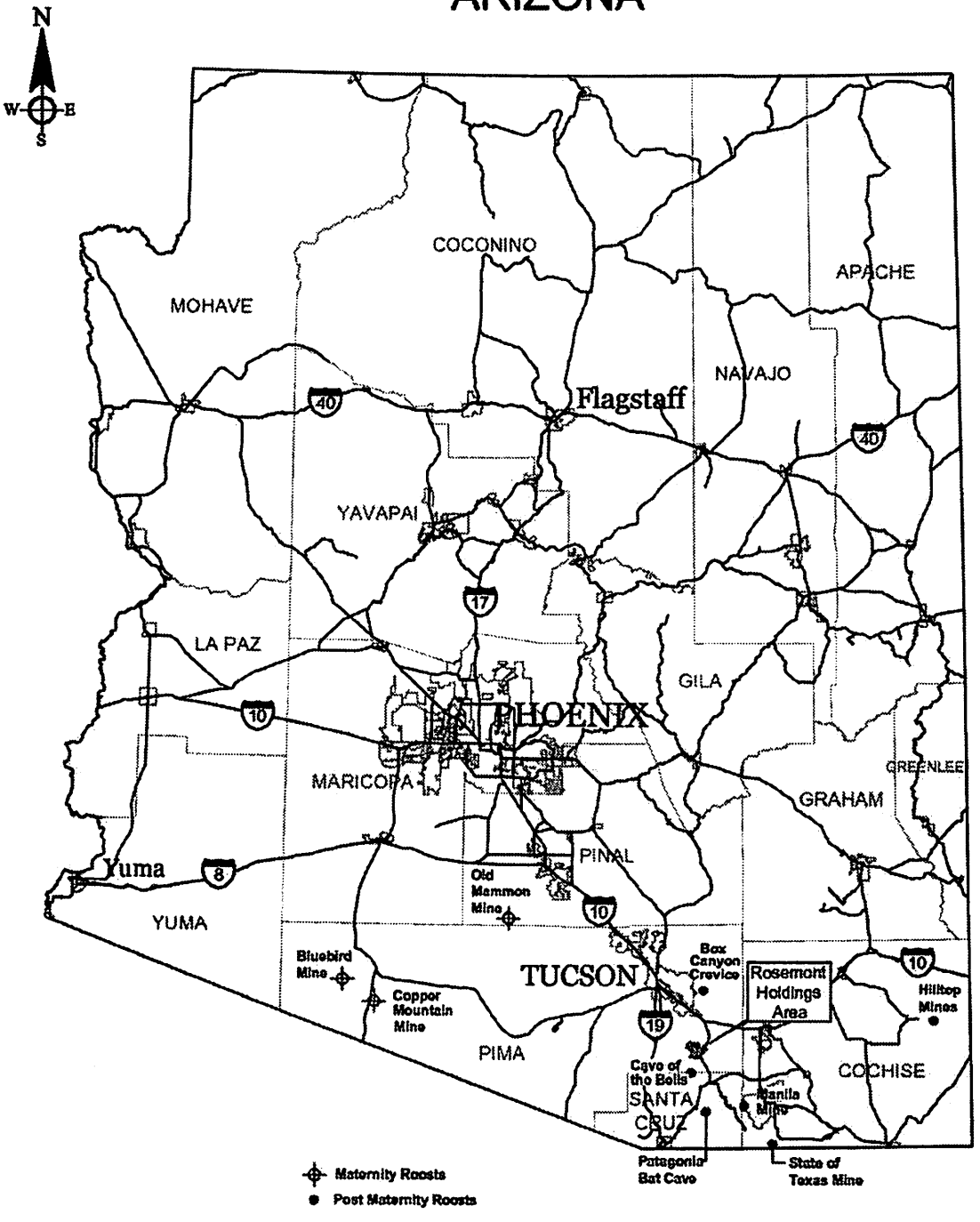
1.5. Relevance of Rosemont Property

The Property is located in the center of the post-maternity dispersal region for the LLNB. The large number of abandoned mine adits and shafts on the Property could provide roosting sites for these bats, and the abundant agaves could provide a foraging resource. For these reasons, a survey of resource use by LLNB on the Property is necessary to prepare an informed evaluation of potential impacts to the bat that could result from development of the proposed open-pit copper mine and related processing facilities.

2. SURVEY METHODS

A variety of methods were used to evaluate the use of the Property and the surrounding vicinity by LLNBs. These methods included active and passive ultrasonic acoustic sampling at flowering agaves, infrared photography and observations at flowering agaves, and surveys of potential roost sites on the Property and several areas in the surrounding region. Bat specialists, Ronnie Sidner, Ph.D. and Debbie Buecher, M.S., conducted these surveys with participation and supervision by WestLand biologists.

ARIZONA



ROSEMONT COPPER

Lesser Long-Nosed Bat Survey

WestLand Resources Inc.
Engineering and Environmental Consultants
2343 E. Broadway Blvd. Suite 202
Tucson, Az 85719 (520) 206-9585

0 30 60 Miles

Scale: 1 Inch = 60 Miles

Major Roost Sites of Lesser Long-nosed Bat in Arizona

Figure 2

DWG FullPath: M:\projects\1049.10\BA\Figures Tech memo LLNB\Fig3 Bat roosts-11-22-05-nad27.dwg

2.1. ACOUSTIC SAMPLING

Traditionally, bats are captured in mist nets for identification purposes but nets cover a small area and may require many nights of effort to obtain any particular species. A broader area may be surveyed by using ultrasonic detectors to record the sonar calls of bats. These calls may then be analyzed to look for the calls of LLNBs that might be foraging on Palmer's agaves.

Two commonly accepted acoustic sampling systems were used in these surveys: frequency division ultrasonic bat detectors (Anabat II - Titley Electronics, Ballina, New South Wales, Australia) and time-expansion detectors (Pettersson 240X – Pettersson Elektronik, AB, Uppsala, Sweden). Anabat II ultrasonic bat detectors were cabled to Zero-Crossing Analysis Interface Modules (ZCAIM). This equipment performed frequency division analysis of each call and stored the calls on a compact flash card for later species identification and analysis of activity patterns. Passive sampling was conducted on five nights using Anabat detectors at up to four flowering agaves. To reduce insect noise, the high frequency Anabat microphones were mounted on 6 ft poles, and a highly directional microphone was angled 45° to a Plexiglass plate that was pointed at the flowering agave stalk (Weller and Zabel 2002) (Appendix A, Photo 5). In this manner, sonar calls emitted by nectar bats at the flowers are reflected into the microphone and recorded for later analysis. These detectors record any ultrasonic sounds within a distance of about 30 to 45 ft for a time period of up to 8 hours. The passive detectors were left in place prior to sunset and were retrieved several hours later, following the active sampling period.

An Anabat II (frequency division) detector collects the original bat call and divides the frequencies produced by the bat by a pre-set number ('16' for this project). One advantage of this system is that there is no time lost in downloading bat calls, so this equipment is very useful for comparing activity across both time and space. However, during the process of dividing the original signal, some call parameters are lost. This information includes the true maximum and minimum frequencies used by the bat, plus any harmonics that the animal used.

In contrast, the Pettersson bat detector transforms the ultrasonic bat calls using time-expansion. If a bat echolocates at 80 kHz, the call would be slowed by a factor of 10 and the resulting call is heard at 8 kHz, well within the range of human hearing. However, the process used to 'time expand' these bat calls does not alter the original call (i.e. true maximum and minimum frequencies), nor is there a loss of accompanying harmonics (Fenton et al. 2001). The disadvantage of this time-expansion equipment is that during the period required to download each call onto a laptop computer, there is a break in recording calls from bats flying overhead. Therefore, time-expansion equipment is not as useful for continuously monitoring activity patterns of bats, but it is most helpful when attempting to identify particular bat species and/or to distinguish resource use between species.

Because each method has advantages and disadvantages (O'Farrell et al. 1999, Jones et al. 2000, Fenton 2000, Fenton et al. 2001), active sampling was conducted with time-expansion equipment linked to frequency division equipment (Appendix A, Photo 6). During extensive fieldwork conducted throughout southern Arizona, Sidner and Buecher (2006) have developed a technique that coordinates the ultrasonic call from a bat on Anabat II and Pettersson 240X systems. To accomplish this, an Anabat detector is linked to a visual

display (Hewlett Packard PDA) to allow observation of bat activity by calls in real time. While watching the PDA display, foraging calls are simultaneously recorded on a Pettersson detector. Unusual calls or calls from an LLNB are saved on both systems logging the time and file name from the Anabat system with the Pettersson call recording. In this way, calls produced by the same animal can be recorded on both systems and analyzed to reveal additional call parameters (Fenton et al. 2001). Because of the amount of equipment needed at each of these sites, it was necessary to find flowering agaves within an easily accessible area (usually within 300 ft of a road), on terrain that could be negotiated safely after dark when packing up the equipment.

During each sampling night, two active detectors and up to four passive detectors were deployed within stands of 1 to 3 flowering agaves. Call data were evaluated to determine if LLNBs were present to infer foraging on the landscape. Echolocation calls recorded on Anabat II bat detectors were analyzed using AnaBat 6.3 and Analook 4.8 - free shareware, DOS compatible software (per. comm. Corben 2002). Bat calls recorded on a Pettersson bat detector were transferred to a laptop in the field and analyzed in the lab using BatSound Pro 3.3 (Pettersson Elektronik real-time spectrogram sound analysis software). The recorded calls were analyzed to identify species, comparing possible LLNB calls to a personal call library to differentiate LLNBs from other species on a landscape. This call library was developed using captured bats for true identification of calls (Sidner and Buecher 2006, Buecher and Sidner 2007).

GPS location data were recorded at each of the sampling locations with handheld Garmin GPS Map 60CSx units using datum WGS 84. Sun and moon rise and set times were determined in advance (using U.S. Naval Observatory data on the internet) to plan for acoustic survey times. Moon cycle and sun and moon rise and set times were confirmed visually and by GPS, respectively, in the field.

2.2 INFRARED SAMPLING

In addition to the ultrasonic acoustic sampling, infrared equipment was used to observe and record bats foraging at the flowering agaves (Appendix A, Photo 7). Night-vision glasses were used to watch the flower panicles for any foraging activity. These devices would work with ambient conditions, but infrared radiation sources aimed at the panicles greatly enhanced visibility. Infrared video cameras were used to record bat foraging activity for visual identification of species. These cameras also relied on the infrared sources for enhanced recording detail. Infrared observations were limited to the sites of active acoustic sampling.

2.3. POTENTIAL ROOST SURVEYS

2.3.1 Impact Area Roost Survey - Surveys of potential roost sites were conducted on or near the proposed impact area within the Property. Initial surveys were conducted in this area in 2006. Surveys in 2008 returned to some of the sites where bats had been seen previously and also included other sites that had not been visited previously. Many of these sites were identified from the USGS topographic maps of this area, but many others were seen from roads or were found while on the way to other sites. Additional geohazard sites mentioned by Cornoyer (2007) within the proposed impact area were also examined for potential bat use. Nearly all of the sites near the impact area were abandoned mine adits or shafts, although one natural limestone cave was located north of Lopez Pass. During these surveys, the bat biologists searched for any live

bats roosting in the adit, evidence of guano (Appendix A, Photo 8) or insect parts (Appendix A, Photo 9) on the floor of the adit, and general suitability of the habitat. Nectar-feeding bats produce characteristic yellow splatter guano (Appendix A, Photo 10). In small amounts, the guano of nectar-feeding bats in Arizona cannot be positively distinguished as having been produced by LLNBs or Mexican long-tongued bats (*Choeronycteris mexicana*). However, large amounts of nectar-feeding guano can indicate a likely presence of LLNB. If live bats were seen, they were captured, if possible, and weighed, measured, photographed for positive identification, and released. Appendix A, Photo 11 shows a lesser long-nosed in hand for identification purposes.

2.3.2 Regional Roost Survey - Similar surveys were conducted on a regional scale, looking at sites in nine different areas, primarily on the north and east sides of the Santa Rita Mountains. Some of these regional sites are actually within the area of patented or other claims owned or controlled by Rosemont Copper, but they are not in or near the anticipated areas of impact. For example, there are several abandoned adits northwest of Gunsight Pass and others near Sycamore Canyon near the south end of the property. The regional sites surveyed were also primarily abandoned mine adits and shafts, but several natural limestone caves were also examined.

3. RESULTS

Acoustic and/or roost site surveys were conducted on a total of 20 different dates between August 4 and November 12, 2008. These dates, survey activities, and general survey locations are summarized in Table 1.

Table 1. Summary of Lesser Long-nosed Bat Survey Activities

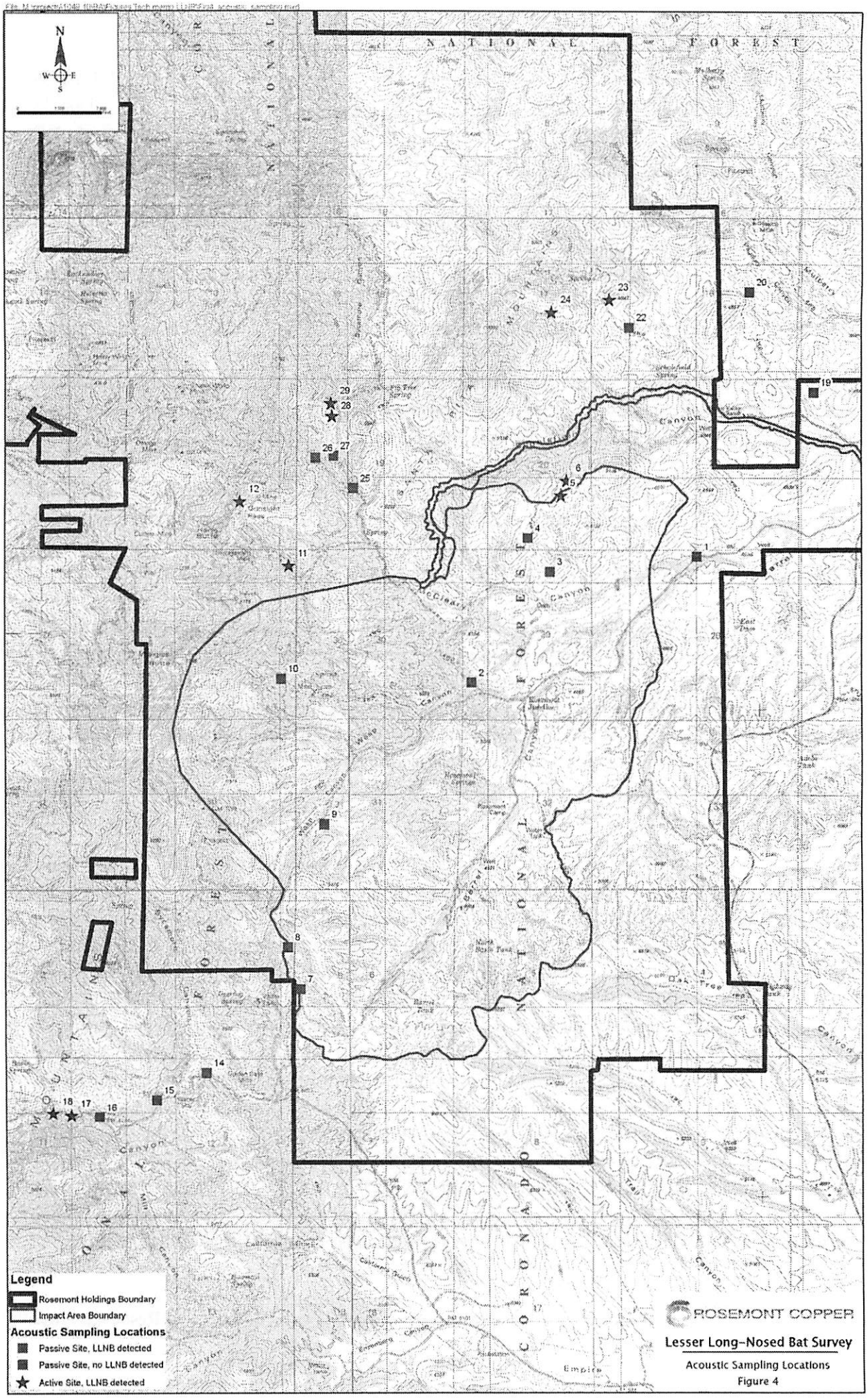
Date	Survey Type	General Area
8/4/08	Rosemont roost site survey	Rosemont Impact Area
8/7/08	Rosemont roost site survey, exit acoustic survey	Rosemont Impact Area
8/11/08	Acoustic survey	North of McCleary Canyon
8/18/08	Regional roost survey	Box Canyon
8/20/08	Regional roost survey	West of Gunsight Pass
8/22/08	Regional roost survey	Greaterville vicinity
8/27/08	Acoustic survey	East of Gunsight Pass
8/28/08	Regional roost survey	Fish and Sawmill Canyons
8/30/08	Acoustic survey	South access road, Wasp Canyon
9/9/08	Regional roost survey	Temporal Gulch
9/10/08	Acoustic survey	Box Canyon
9/15/08	Acoustic survey	Scholefield Spring vicinity
9/16/08	Acoustic survey	McCleary/Sycamore Canyon divide
9/22/08	Regional roost survey	Gardner Canyon,
9/23/08	Regional roost survey	Empire Mountains
10/6/08	Rosemont roost survey	Rosemont Impact Area
10/8/08	Regional roost survey	Mulberry Canyon
10/15/08	Regional roost survey	Cave Canyon
10/31/08	Rosemont roost site survey	Rosemont Impact Area
11/12/08	Rosemont and regional roost site survey	Rosemont Impact Area, Gunsight Pass, Empire Mountains
12/3/08	Rosemont roost site survey	Rosemont Impact Area

3.1. ACOUSTIC AND INFRARED SURVEYS

Ultrasonic acoustic surveys and infrared surveys were conducted on five evenings between August 11 and September 16, 2008. Active sampling was conducted at 10 different locations, and passive samplers were placed at 19 locations. Equipment malfunctions at two passive locations resulted in no data for those points. Two other equipment malfunctions were covered by additional sampling on a different evening (August 30). On the final night of surveys, almost all of the agaves were finished flowering, and only three suitable agaves could be found for the passive detectors. Usable acoustic recordings were successfully collected at 27 agave locations (Figure 4). Locations of all of these sample points are listed in Table 2 and plotted on Figure 4. In addition to the acoustic surveys conducted at the flowering agaves, acoustic and infrared procedures were used for an exit count at an LLNB day roost site within the proposed impact area.

The acoustic sampling was very successful in documenting LLNBs using the Property. Eleven bat species were acoustically identified on the landscape (Table 2), including both insectivorous and nectivorous bats. Of the 27 successful agave acoustic survey sites (i.e. no equipment failures), LLNB calls were documented at 23 sites (Table 2; Figure 4). Mexican long-tongued bats were recorded at only four of these sites (Table 2). Spectral analyses of LLNB and Mexican long-tongued bat sonograms are shown in Figures 5 and 6, respectively. All acoustic sample sites with documented LLNB calls were mapped to illustrate the broad use of the Property by this species (Figure 4). However, our acoustic monitoring was limited to a period of only about 4 hours after sunset each sample night. Similar sampling at flowering agaves across southeastern Arizona suggests that LLNB peak activity may occur much later (i.e. after midnight) at particular flowering agaves (Sidner and Buecher 2006). Sampling for the entire night at each site may well have documented nectar bat activity at all agaves during this study. Given the highly temporal and spatial variability of foraging nectar bats across the landscape, our limited sample methods were still successful in documenting bat utilization of the Property.

Analysis of the acoustic data is complicated because LLNBs may remain acoustically silent while foraging, relying entirely on their vision, especially on moonlit nights (Sidner and Buecher 2006). To overcome this problem, active sites were also monitored with night vision equipment to further document use of flowering agaves by nectar-feeding bats. During our first round of actively monitoring flowering agaves (August 11, 2008), few LLNBs were directly observed visiting flowers. However, it was an early date in the season for finding LLNBs in large numbers in southeastern Arizona. By the second night of active sampling at flowering plants (August 27, 2008), 195 attempted drinks (hits) on the flowers were counted over a 3 hour period (Agave 11, Figure 4). The third night of sampling (September 10, 2008) resulted in about 80 hits in 1 hour on the flowers at Agave 17 (Figure 4) along Box Canyon Road, despite the imminent threat of rain. Sampling was cut short on that night when the rain got too heavy. In spite of breezy conditions on September 15, 2008, 157 drinks were observed within 1.5 hours from 2 flowering agave panicles at Agave 24 (Figure 4). During the final night of active sampling (September 16, 2008) near the saddle between McCleary and Sycamore Canyons, observations were limited to two agaves that had nearly finished flowering. At least 336 hits at Agave 28 and 379 hits at Agave 29 were observed in 1.5 hours. Bats were counted drinking for a very short time period each night, but these data speak to the frequent use of flowering agaves as an LLNB foraging resource on and in the vicinity of the Property.



Lesser Long-Nosed Bat Survey

Acoustic Sampling Locations

Figure 4

Table 2. Results of Acoustic Sampling
[Map locations are provided in UTM NAD 83 below, and illustrated on Figure 4.]

Agave	Date	Easting	Northing	Approx. Elev.	Species Acoustically Identified*
1	8/11/2008	526945	3523443	4592	**LLNB**, Nyfe, Pihe, Tabr
2	8/11/2008	524787	3522251	4873	**LLNB**, Pihe, Tabr, 40 kHz
3	8/11/2008	525544	3523298	4935	Pihe, Tabr, 40 kHz, 50 kHz
4	8/11/2008	525332	3523616	4983	Epfu, Pihe, Tabr
5	8/11/2008	525650	3524020	4975	Epfu, **LLNB**, Tabr, 40 kHz
6	8/11/2008	525704	3524162	4976	Chme, Epfu, **LLNB**, Pihe, Tabr, 40 kHz, 50 kHz
7	8/27/2008	523131	3519359	5323	**LLNB**, 30 kHz, 40 kHz
8	8/30/2008	523009	3519755	5335	**LLNB**, Nyfe, Tabr
9	8/27/2008	523362	3520908	5206	**LLNB**, Myth, Nyfe, Tabr
10	8/30/2008	522950	3522286	5312	**LLNB**, Pihe, Tabr, 40 kHz
11	8/27/2008	523023	3523352	5405	Chme, Epfu, **LLNB**, Tabr, 50 kHz
12	8/27/2008	522558	3523959		Epfu, **LLNB**, Myth, Nyfe, Pihe, Tabr, 30 kHz, 40 kHz, 50 kHz
13	9/10/2008	522580	3518356	5050	Equipment malfunction
14	9/10/2008	522234	3518569	4935	Nyfe, Pihe, Tabr
15	9/10/2008	521759	3518314	4908	Epfu, **LLNB**, Pihe, Tabr, 40 kHz
16	9/10/2008	521212	3518151	4789	**LLNB**
17	9/10/2008	520947	3518167	4835	**LLNB**, Pihe, Tabr
18	9/10/2008	520773	3518187	4748	**LLNB**, 40 kHz
19	9/15/2008	528059	3524993	4535	**LLNB**, Laci, 30 kHz
20	9/15/2008	527444	3525931	4712	**LLNB**
21	9/15/2008	-	-	-	Equipment malfunction
22	9/15/2008	526302	3525598	4810	**LLNB**
23	9/15/2008	526112	3525859	4883	Epfu, **LLNB**, Myth
24	9/15/2008	525561	3525741	5208	**LLNB**
25	9/16/2008	523642	3524084	5156	Myth, Pihe, Tabr, 50 kHz
26	9/16/2008	523280	3524369	5376	Plto, **LLNB**, Pihe, Tabr
27	9/16/2008	523450	3524390	5267	Plto, **LLNB**, Pihe, Tabr, 40 kHz, 50 kHz
28	9/16/2008	523438	3524763	5344	Chme, **LLNB**, Pihe, Tabr
29	9/16/2008	523426	3524883	5286	Chme, **LLNB**, Tabr

Species abbreviations:
Chme - *Choeronycteris mexicana* – Mexican Long-tongued Bat
Epfu - *Eptesicus fuscus* – Big Brown Bat
LLNB - *Leptonycteris yerbabuenae* – Lesser Long-nosed Bat
Laci - *Lasiurus cinereus* – Hoary Bat
Myth - *Myotis thysanodes* – Fringed Myotis
Nyfe - *Nyctinomops femorosaccus* – Pocketed Free-tailed Bat
Pihe - *Pipistrellus hesperus* – Western Pipistrel
Tabr - *Tadarida brasiliensis* – Brazilian Free-tailed Bat
30kHz - Bat calling in 30 kHz range – probable *Antrozous pallidus* – Pallid Bat
40kHz - *Myotis* calling in 40 kHz range – probable *Myotis velifer* – Cave Myotis
50kHz - *Myotis* calling in 50 kHz range – probable *Myotis californicus* – California Myotis

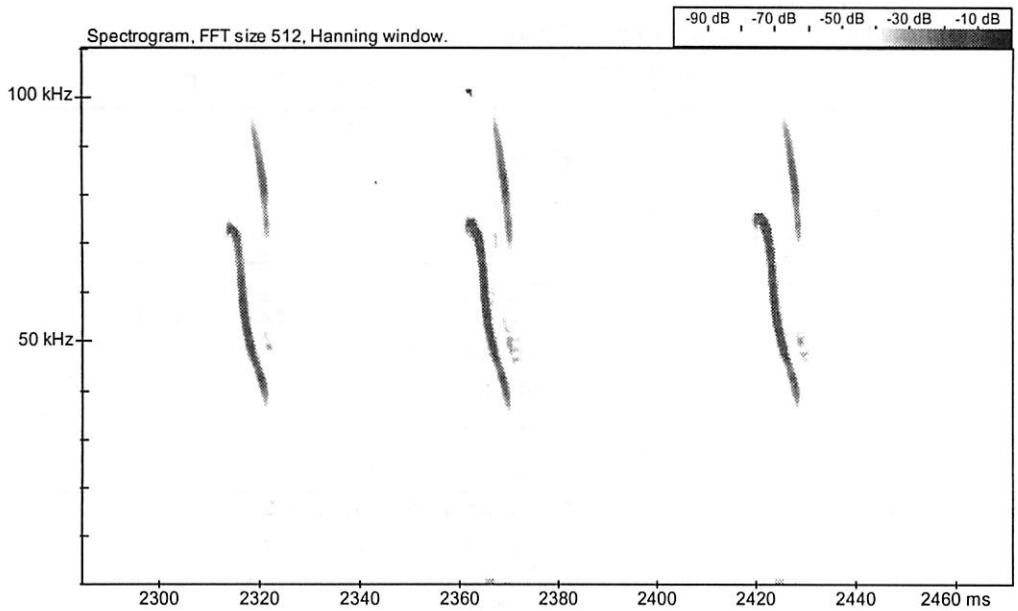


Figure 5. Sonogram of Lesser long-Nosed Bat. Recorded at acoustic sample point 12, August 27, 2008.

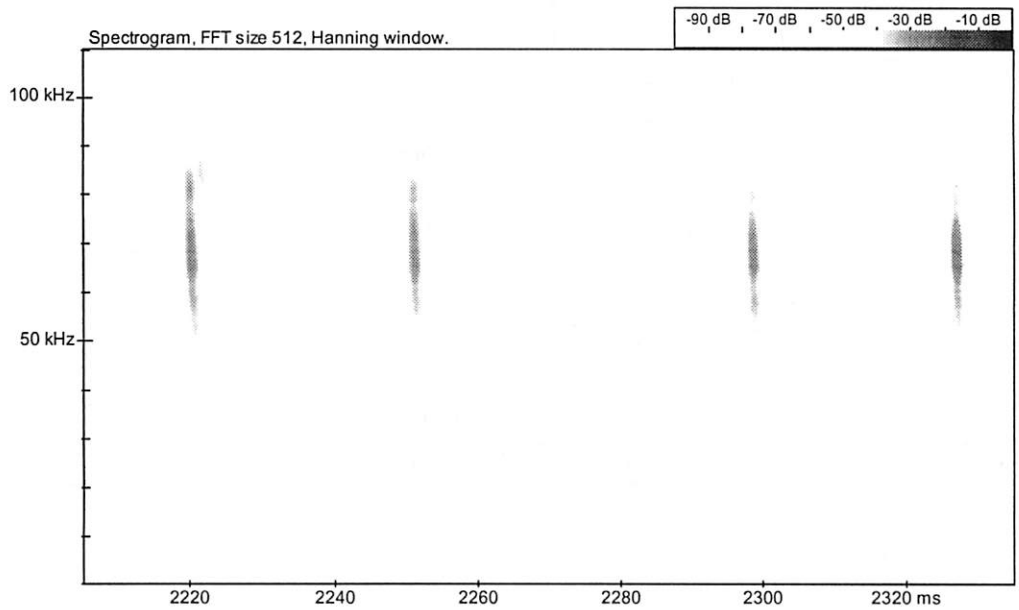


Figure 6. Sonogram of Mexican Long-tongued Bat. Recorded at acoustic sample point 28, September 16, 2008.

3.2. ROSEMONT IMPACT AREA ROOST SURVEYS

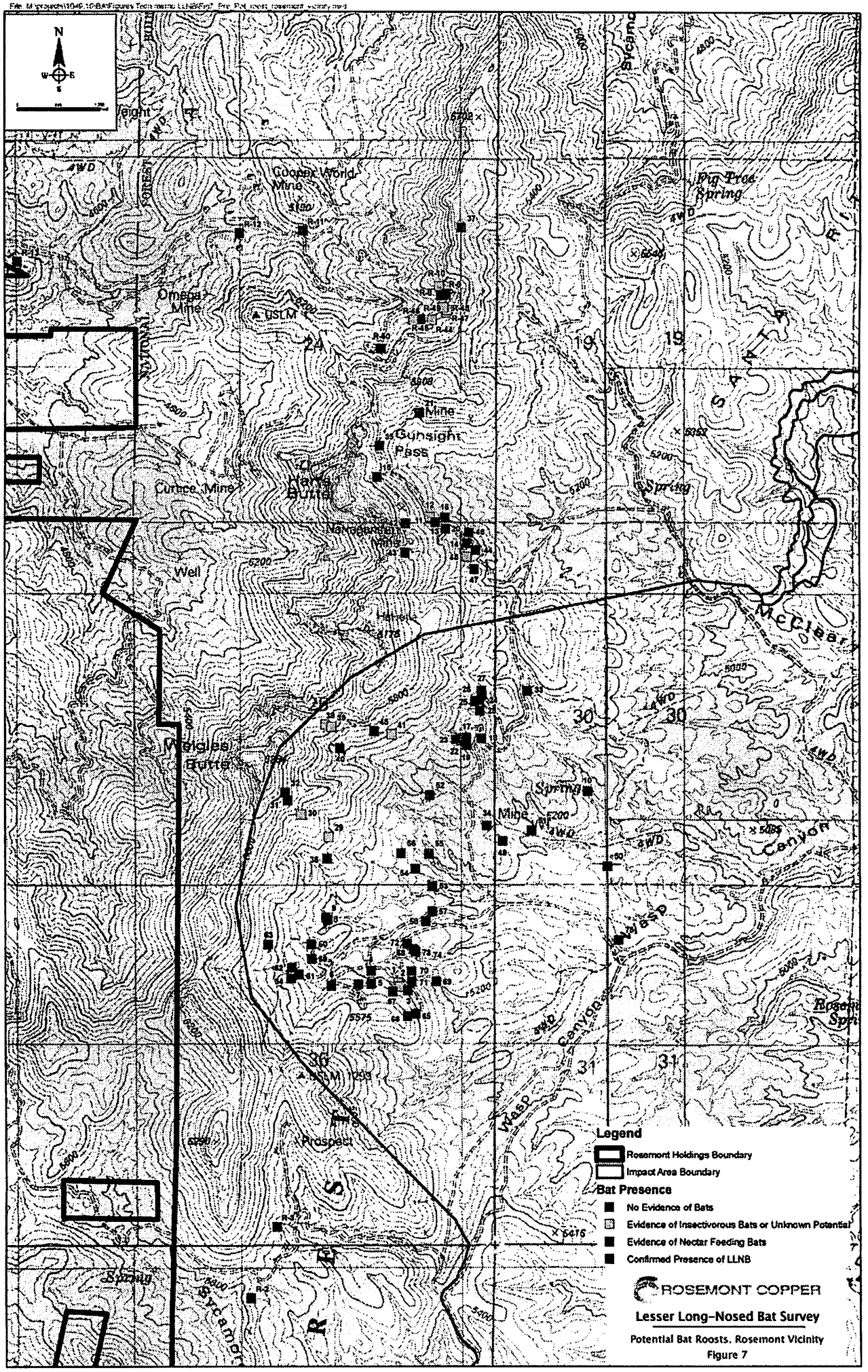
A total of 75 sites were visited on or near the anticipated impact area of the Rosemont Project (Figure 7). In this analysis area, the east side of Gunsight Pass and an area north of Lopez Pass were included as potential utility corridors. Of these sites, 21 were visited initially in 2006. Some of these sites were visited again in 2008, in addition to another 28 sites. These sites are listed in Appendix B, with a brief summary of observations. In the interest of public safety, site security, and resource protection, specific locations for these features are not included in this report. Forty-nine of these sites are within the proposed impact area (mine, processing facilities, and waste rock and tailings disposal) and within areas owned as patented claims. Ten other sites are within the proposed impact area, but they are on Coronado National Forest land covered by unpatented mining claims. The remaining 16 sites are on patented claims, possibly within the vicinity of the proposed utility corridor. This group includes the adits southeast of Gunsight Pass and the cave north of Lopez Pass.

A total of 59 sites were examined within the proposed impact area of the project, waste rock and tailings disposal areas, and processing facilities. During these surveys, positive evidence of bat use was found in 9 of these adits, as noted in Appendix B. Bat presence in these adits is indicated by color-coding on Figure 7 and in Appendix B. Evidence of bat presence includes live bats, guano piles, urine stains, or insect parts such as moth wings and beetle elytra. Yellow fecal splatter is positive evidence for the presence of nectar-feeding bats. Three other sites were vertical shafts that could not be evaluated and have unknown potential for bat habitat. One site (probably the Chicago prospect, based on Schrader [1915]) had a small colony of LLNBs using it for a post-maternity dispersal day roost.

Many of the abandoned adits and shafts in this region were actively producing copper over 100 years ago. Schrader and Hill (1914) produced a map showing a number of mines and prospect sites from the Patagonia District on the Mexican border to the Helvetia and Empire Districts near the north end of the Santa Rita Mountains. Schrader (1915) describes many of the mines in the Helvetia and Rosemont areas that are shown on the map. Some of these mines can be related to the adits and shafts currently accessible, but this map is difficult to use because of the original scale (1:125,000) and some discrepancies in topography resulting from mapping techniques. In addition, it is likely that some of the adits and shafts on the Property are more recent than 1914.

Four species of bats were observed in these sites: LLNB (Appendix A, Photo 11), Mexican long-tongued bat (Appendix A, Photo 12), Townsend's big-eared bat (*Plecotus townsendii*) (Appendix A, Photo 13), and cave myotis (*Myotis velifer*) (Appendix A, Photo 14). Both the Mexican long-tongued bat and the Townsend's big-eared bat are listed as sensitive species by Coronado National Forest.

Twenty-one of the sites in the proposed impact area had no evidence of bat use. Fourteen of these sites were very small or had no features that would provide bat habitat. These sites could be closed or reclaimed with no further evaluation. Seven of the adits were larger (up to 150 ft long) and had features that would appear to provide potential bat habitat. These sites would be suitable for closure, after inspection by a qualified biologist to determine that no bats were present at the time of closure.


N
Cooper World Mine
Omega Mine
USM
Gunsight Pass
Harris Butte
Curnce Mine
Well
Weigles Butte
Prospect
Spring
Mine
Fig Tree Spring
Spring
McClean
Canyon
Wasp
Legend
Rosemont Holdings Boundary
Impact Area Boundary
Bat Presence
No Evidence of Bats
Evidence of Insectivorous Bats or Unknown Potential
Evidence of Nectar Feeding Bats
Confirmed Presence of LLNB
ROSEMONT COPPER
Lesser Long-Nosed Bat Survey
Potential Bat Roosts, Rosemont Vicinity
Figure 7

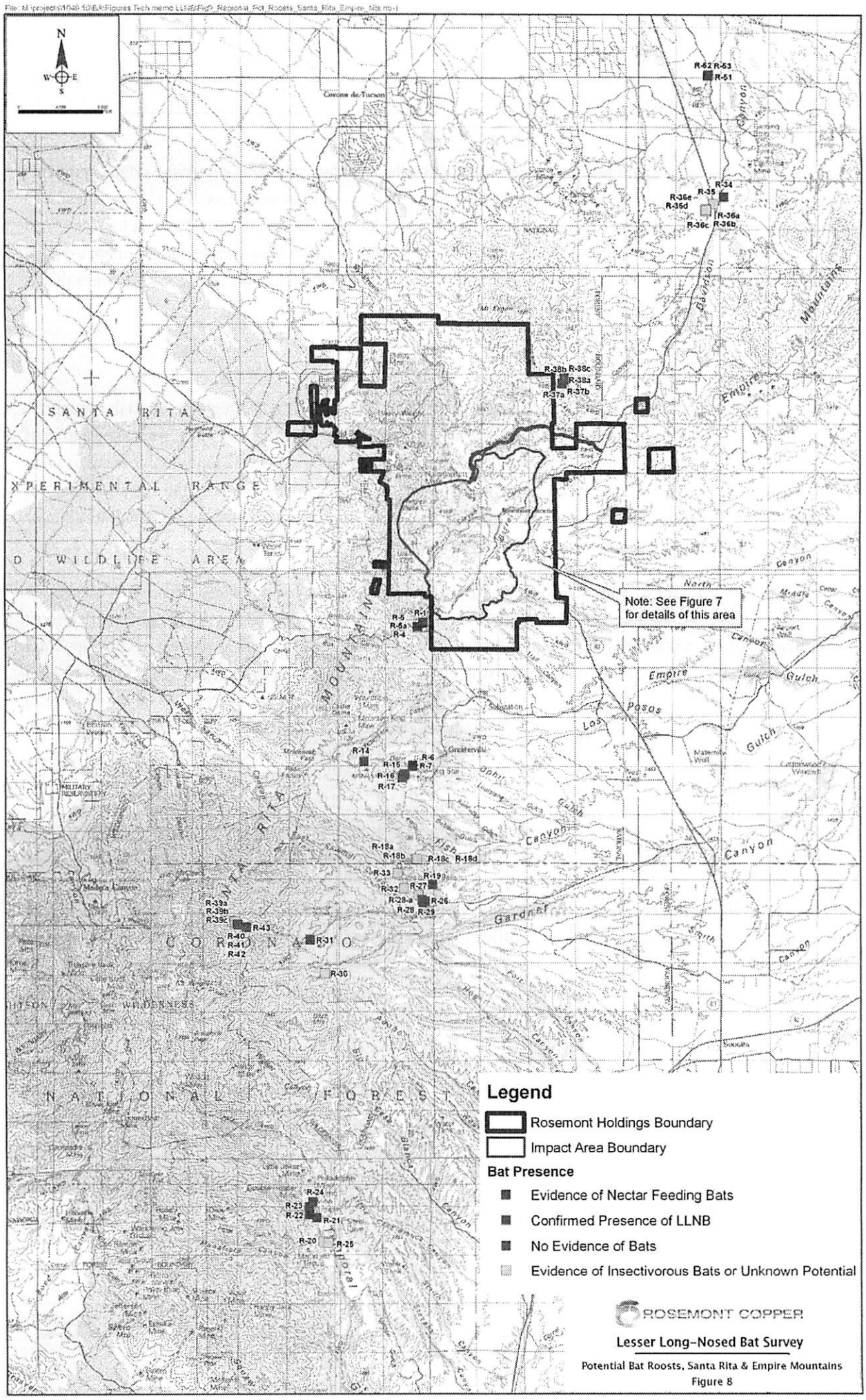
Sixteen other sites were examined for bat potential within the patented claim area east of the ridge but outside of the primary impact area. Most of these sites are south and east of Gunsight Pass. Six of these sites have confirmed use by one or more species of bats, and four sites have confirmed use by Mexican long-tongued bats. We did not find LLNBs in any of these sites. The other ten sites have no current evidence of bat use, and some of these sites have already been closed. One of these sites is a natural limestone cave feature that is protected by state and federal cave protection acts.

3.3. Regional Roost Surveys

Similar potential roost site surveys were conducted in public access areas in the region around the Property, primarily on the north and east sides of the Santa Rita Mountains. On 10 days of surveys, we visited a total of 68 sites (Appendix C and Figure 8). Many of these sites were marked on the USGS topographic maps as mine adits, shafts, or test pits, but many other adits were not marked on the maps. Some of the sites were natural caves, most of which are not marked on the maps. Thirteen of these sites were either very small test pits or had been previously closed and had no potential to provide bat roosting sites.

Sites visited during these regional surveys are owned or managed by a variety of private owners or government agencies. Fourteen of these sites are located on patented claims held by Rosemont Copper, most of which are on the northwest side of Gunsight Pass (Figure 7). Some of the sites northwest of Gunsight Pass are in an area that could be affected by construction of the water line across Lopez Pass. One site on a patented claim is at the south end of the Property, on the ridge above Sycamore Canyon. Another site is on an unpatented claim held by Rosemont Copper but within Coronado National Forest. Forty-three of the sites are elsewhere on Coronado National Forest lands. The remaining ten sites are on Arizona State Trust lands near the Empire Mountains.

During these regional surveys, evidence of bats was found in 32 different sites. Six species of bats were found and photographed: LLNB, Mexican long-tongued bat, Townsend's big-eared bat, cave myotis, fringed myotis (*Myotis thysanodes*) (Appendix A, Photo 15), and big brown bat (*Eptesicus fuscus*) (Appendix A, Photo 16). Yellow splatter guano, indicating the presence of nectar-feeding bats, was found in nine different sites. Mexican long-tongued bats were identified in eight sites, and LLNBs were identified in only three sites, two of which were connected underground. The high density of yellow splatter in two other sites, clustered in a very small area on Coronado National Forest northeast of the Property, suggests frequent use by large numbers of LLNBs.


N
W
E
S
Corona de Tucson
R-52 R-53
R-51
R-34
R-35
R-36e
R-36d
R-36c
R-36a
R-36b
R-38b R-38c
R-38a
R-37a R-37b
SANTA RITA
EXPERIMENTAL RANGE
D WILDLIFE AREA
Note: See Figure 7
for details of this area
R-5
R-5a
R-4
R-14
R-15
R-6
R-7
R-16
R-17
R-18a
R-18b
R-18c R-18d
R-33
R-32
R-19
R-27
R-28a
R-28
R-26
R-29
R-39a
R-39b
R-39c
R-43
R-40
R-41
R-42
R-31
R-30
CORONADO
NATIONAL FOREST
R-24
R-23
R-22
R-21
R-20
R-25
Legend
Rosemont Holdings Boundary
Impact Area Boundary
Bat Presence
Evidence of Nectar Feeding Bats
Confirmed Presence of LLNB
No Evidence of Bats
Evidence of Insectivorous Bats or Unknown Potential
ROSEMONT COPPER
Lesser Long-Nosed Bat Survey
Potential Bat Roosts, Santa Rita & Empire Mountains
Figure 8

4. DISCUSSION

4.1. ANALYSIS OF ACOUSTIC AND INFRARED SURVEYS

As noted previously, both Anabat and Pettersson ultrasonic detectors were used for recording the ultrasonic calls of bats. The different analytical algorithms used by these detectors maximize the amount of information collected. The Pettersson system provides better analytical analysis of individual calls, including representation of harmonic frequencies contained within the calls. This analytical approach may allow better discrimination and assist in identification of species. However, this advantage is offset by a very short data storage time that requires prompt downloading to a computer. No additional calls can be recorded until downloading is complete. The Anabat system does not provide the level of analysis, but it can record for many hours before downloading is necessary. In addition, the Anabat microphone system is more sensitive than the Pettersson, and it can detect bats at somewhat greater distances. For these reasons, the Anabat is the only reasonable device for a passive recording site that can be left unattended for several hours.

Because the LLNB does not always use its ultrasonic calls while foraging, both systems have the potential to provide an underestimation of the occurrence or density of bats. On numerous occasions while using night vision glasses, we were able to watch bats successfully feeding at an agave without emitting any calls. Their eyesight is excellent and allows them to see well enough to find and feed at agave flowers, even on nights with very little moonlight. They will usually give enough calls to confirm that they are in the vicinity, but the frequency of calls cannot be interpreted as an indicator of the intensity of foraging activity. At the passive recording locations, a positive identification of a LLNB call will confirm that these bats were present in the vicinity of the recorder and that they were probably foraging on the agave at that location. However, it provides no information on how many individual bats may have been present or how often they fed at the agave flowers.

The infrared night vision glasses are a useful tool for estimating the intensity of foraging on a flowering agave. However, identification of bats with night vision glasses is very difficult, and positive identification would be unlikely without the acoustic information. Because the LLNB is noticeably larger than the Mexican long-tongued bat, they can be distinguished if seen clearly. They were distinguished by size when they were foraging simultaneously at the same flowering panicle. The infrared video recordings were useful for species identification because they could be replayed at slower speed to allow careful examination. However, the video recording was not adequate for overall foraging intensity because the camera had to be focused on a small portion of the flowering stem.

4.2. ANALYSIS OF ROOST SITE SURVEYS

LLNBs are a migratory species and surveys must be conducted at the appropriate season in order to document presence. However, inter-annual variation in both seasonal timing and abundance of flowering agaves means that the "appropriate season" may vary and makes documentation of species presence difficult. Evidence was found to document that LLNBs use the Property to day-roost in adits and to forage on flowering agaves at night. Although mine and cave surveys are an important tool in determining bat-use, nectar bats can occupy a

site without leaving large amounts of yellow fecal splatter. Persistence of nectar bat guano is, in part, due to the substrate on which the splatter is deposited. If the floor and walls are dry and dusty, they can greatly absorb liquid splatter. However, if conditions are too wet, the splatter can be diluted and will not persist. Therefore, there is not necessarily a strong relationship between the amount of splatter and number of LLNBs using any particular site. Pyeatt Cave (Fort Huachuca Military Reservation) has a colony of more than 10,000 LLNBs in late summer (Sidner 2007). Given that large number of nectar bats using it each year, there is surprisingly little splatter evident in that cave. Given the transient and elusive nature of this species, it is critical to remember that absence of evidence does not mean evidence of absence.

The survey of potential roost sites covered 143 sites between Temporal Gulch and the north end of the Empire Mountains (Appendices A and B, Figures 7 and 8). Many of these sites were marked as test pits, adits, shafts, or named mines on the topographic maps of this region but many others were not mapped. These other sites were generally located by searching in the proximity of marked sites. The surveyors' prior knowledge of the area was used to locate the natural limestone caves. We believe that we have examined all potential sites within the proposed Rosemont impact area. However, it is possible that other shafts or adits not shown on the maps were not located or examined, and there is a possibility that these unknown features could provide roosting habitat for the LLNB or other bat species.

During the survey of potential roost sites in the surrounding region, we visited as many adits and shafts as possible, and we believe this survey has covered a reasonable, representative sample of the potential roost sites in this region. However, because of the very large number of abandoned mines in this region, it was not possible to examine all potential sites in the Santa Rita Mountains.

Roost site surveys on the Property and in the surrounding region demonstrate that the LLNB is using relatively few of the potential roost sites. These bats, or definite evidence of their presence, was found in only two adits on the Rosemont Property and in only five adits in the regional area. Therefore, only 7 out of 143 sites (5 percent) had evidence of LLNB. Because of underground connections, these 5 regional adits actually represent only three independent roost sites, which are all within about 500 feet. Collectively, these sites appear to be a previously unknown roost area that is likely to support large numbers of LLNB for periods of time during the post-maternity dispersal period.

The presence of this previously unknown roost area could also explain how bats appear at flowering agaves on the Property so soon after dark, at about the same time they would normally leave their roost. Previously known large colonies at Patagonia Bat Cave and Pyeatt Cave are 20 to 25 miles from the Property and would require flight times of 45 minutes to an hour to reach the Property. From this new roost area, bats could be at any point on the Property within a matter of a few minutes. The closest acoustic detection of LLNB was within about one-quarter mile of this roost area and several other acoustic detections were within one mile.

One difficulty in interpreting our results is that these bats will move around and use a variety of roost sites for brief periods of time. For example, 12 to 15 LLNBs were using a roost site in the proposed impact area on August 4 and 7, 2008, but none were present in this site on September 23, 2008. The previously unknown roost area had 20 to 30 bats as late as October 7, 2008. It is possible that LLNBs are using other sites on the

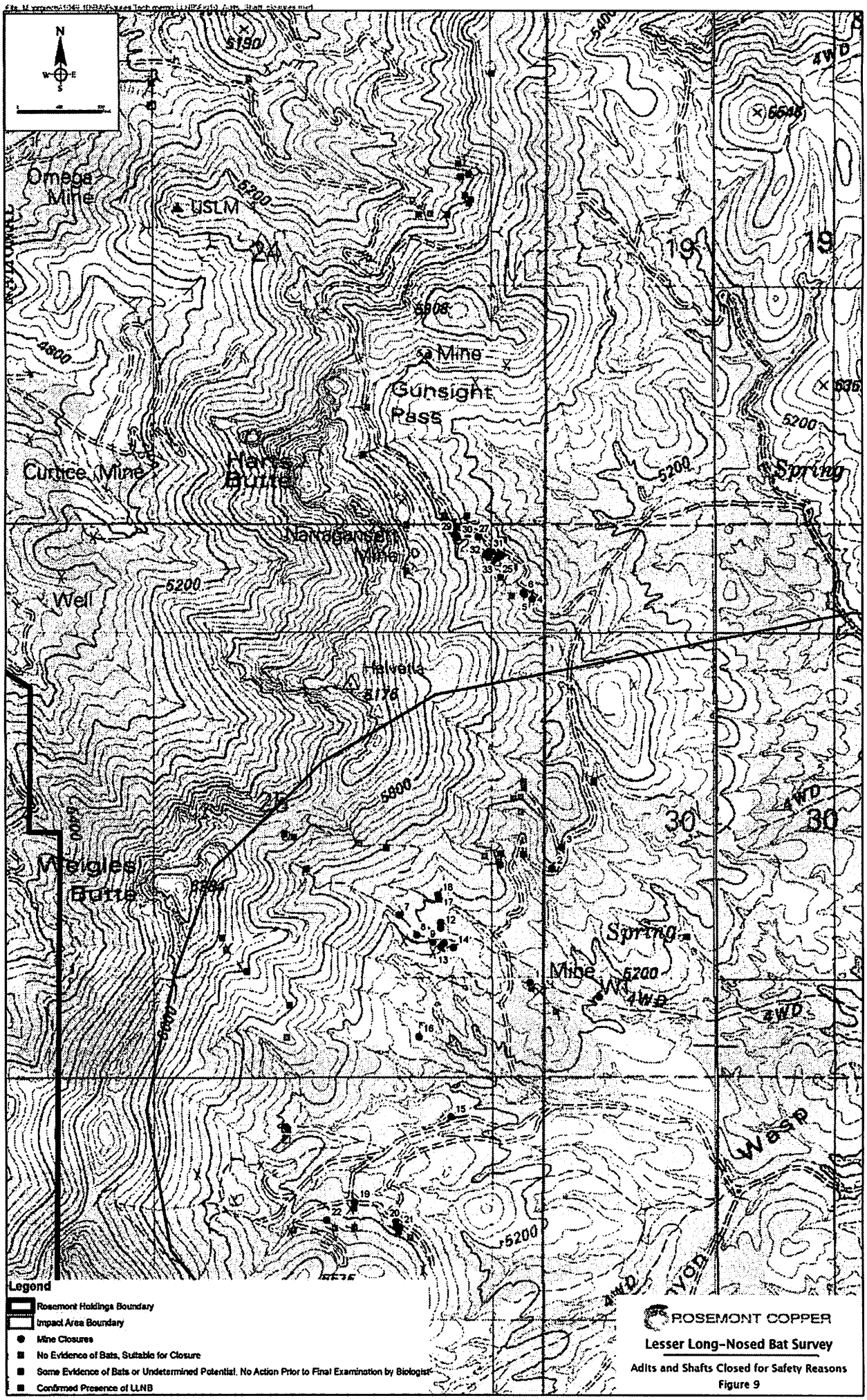
Property and in the surrounding region but were not present on the day of our survey. However, we believe it is unlikely that these other potential sites are heavily used by these bats.

Another shortcoming of this survey is that none of the vertical shafts were entered, and these sites still have unknown potential for bats. The LLNB is known to use vertical mine shafts, if a suitable side tunnel is accessible within a reasonable distance of the surface, probably less than 50 feet (pers comm. Ronnie Sidner, Ph.D.). While the necessary equipment and skills are available, entering these shafts safely would be a very time-consuming activity, and the limited time available was better spent investigating sites that were more readily accessible.

In order to minimize public safety risks, Rosemont Copper has closed selected shafts and adits on their patented claims. As of November 21, 2008, they have closed 33 separate sites, including test pits, adits, and shafts (Figure 9). Seven of these closures were in sites that we had examined in 2006 but many others were in areas that we had not surveyed. Of the sites that we had previously visited, none had any evidence of LLNB use. Mexican long-tongued bats were observed in 2008 within one site that was closed, but this site has other entrances that are still accessible to the bats.

4.3. Required Elements for Lesser Long-nosed Bats in Southern Arizona

In addition to day roosts that provide appropriate temperature and humidity conditions (microclimate), nectar bats also require adequate food resources within reasonable foraging distances from their roost (Ober et al. 2005). During late summer in southern Arizona, these food resources are flowering paniculate agaves. Although Palmer's agave is known from the semidesert grassland through the transition to Madrean evergreen woodland of southern Arizona, flowering agaves are heterogeneous both temporally and spatially (Nobel 1988). Merely preserving grassland does not always preserve adequate stands of agaves. It is critical that both roosts and stands of agaves be maintained for the LLNB to persist in southern Arizona. On years when agave fields have fewer flowering stalks, these bats maintain similar home range sizes but expend more energy in longer foraging bouts than during greater flowering years (Ober et al. 2005). LLNB have extra energy demands immediately before migration, especially the young of the year, and significant losses of agave stands could have long-term negative impacts on the population. Ober (2000) cautions that if agave densities are reduced in southeastern Arizona it could negatively impact LLNB populations. If both roosts and stands of agaves in southeastern Arizona are not preserved, these animals may follow the flowering of columnar cacti in the spring, only to become 'trapped' at the northern edge of their range, unable to obtain adequate food resources for their migration south for the winter.


N
W
E
S
Omega Mine
USLM
24
19
19
6608
Mine
Gunsight Pass
Harris Butte
Curtice Mine
Narragansett Mine
Well
5200
Spring
Helvetia
6176
25
30
30
Weigles Butte
Spring
Mine
4WD
Legend
Rosemont Holdings Boundary
Impact Area Boundary
Mine Closures
No Evidence of Bats, Suitable for Closure
Some Evidence of Bats or Undetermined Potential. No Action Prior to Final Examination by Biologist
Confirmed Presence of LLNB
ROSEMONT COPPER
Lesser Long-Nosed Bat Survey
Adits and Shafts Closed for Safety Reasons
Figure 9

5. SUMMARY AND CONCLUSIONS

Our acoustic, infrared, and roost site surveys have all confirmed that the Property supports LLNB foraging resources and day-roost sites. Of 28 potential foraging areas on or near the Property surveyed, LLNBs were detected acoustically and/or visually at 24 sites. The intensity of foraging activity was highly variable, ranging from no observed hits on a flowering agave to a maximum rate of 379 hits within 2.5 hours. This variability may be related to changes in the availability of nectar sources through the season. In addition to the LLNBs, at least ten other bat species were recorded acoustically, including the nectar-feeding Mexican long-tongued bat and nine species of insectivorous bats. Figure 4 illustrates the results of our acoustic survey.

We evaluated 143 potential roost sites on the Property and in the surrounding region for use by LLNBs and any other bat species. LLNBs were found in small numbers in two sites on the Property, only one of which is within the proposed impact area. In the wider region covering much of the Santa Rita Mountains, these bats or evidence of their presence was found in only three sites, two of which had multiple entrances. These sites were in a small group located northeast of the Property. Because of the movement patterns of these bats, it is possible that they use some of the other sites that we surveyed but were not present on the day of our evaluation. Figures 7 and 8 illustrate the results of our potential roost site surveys.

In addition to the LLNB, Mexican long-tongued bats, a Forest Service Sensitive Species, were found in 10 sites within the Property and 5 sites elsewhere in the Santa Rita Mountains. Small amounts of yellow fecal splatter, indicating the occasional presence of nectar-feeding bats, were found in another four sites in the Coronado National Forest. Townsend's big-eared bat, another Forest Service Sensitive Species, was confirmed in three sites and possibly present in two others. The cave myotis was found in eight sites, with a probable maternity colony in another site. The fringed myotis was found in two sites and the big brown bat was found in one site.

Based on our site-specific and regional surveys, we believe that the Property is representative of the surrounding region in terms of bat use as a foraging resource. Although many abandoned adits and shafts are available on the site, roosting by LLNB is minimal, and the most heavily used roost area in the region during our survey efforts is located on Coronado National Forest land northeast of the Property. The multiple adits in this site appear to provide roosting habitat for large numbers of bats for an extended period through the agave flowering season. These adits deserve special protection for their value as a resource used by LLNB.

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APPENDIX A

PHOTOS

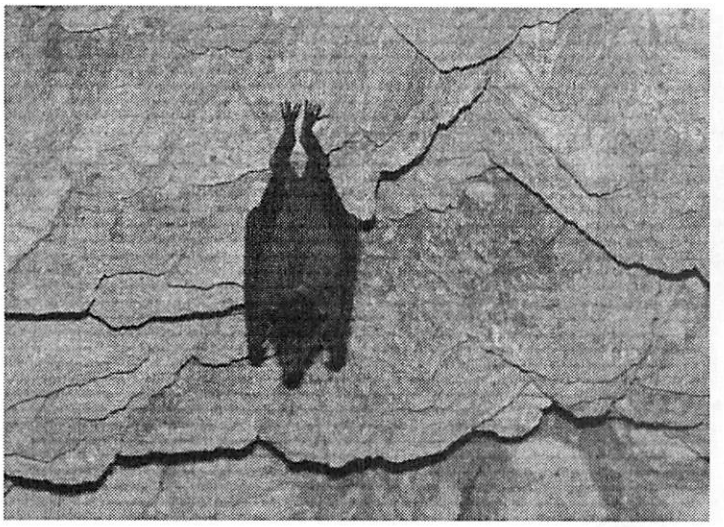

PHOTO 1

Lesser long-nosed bat in adit on Coronado National Forest.

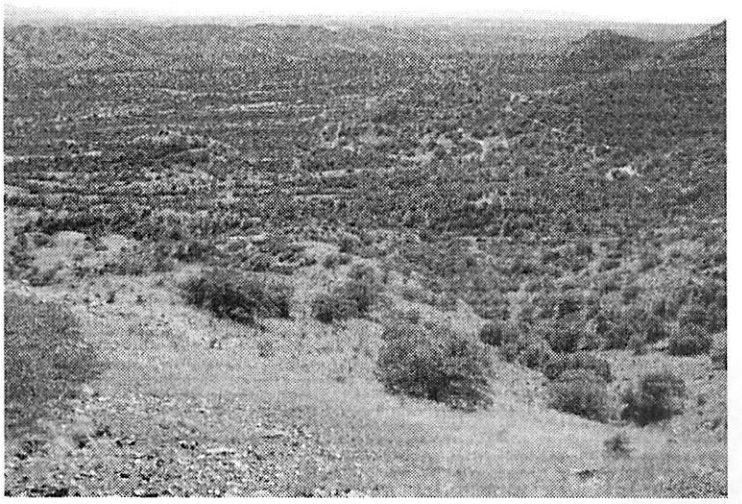

PHOTO 2

Overview of proposed Rosemont Project impact area.

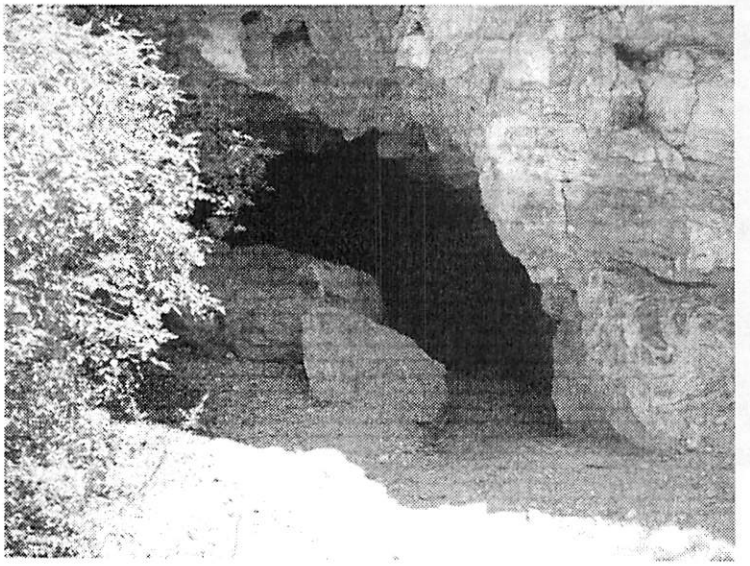

PHOTO 3

Abandoned mine within the Rosemont Property used by lesser long-nosed bats.

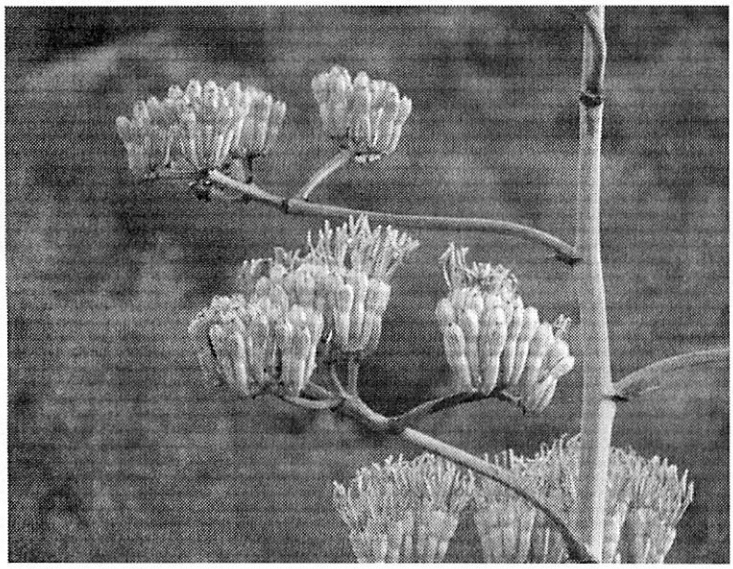

PHOTO 4

Palmer's agave, flowering panicle.

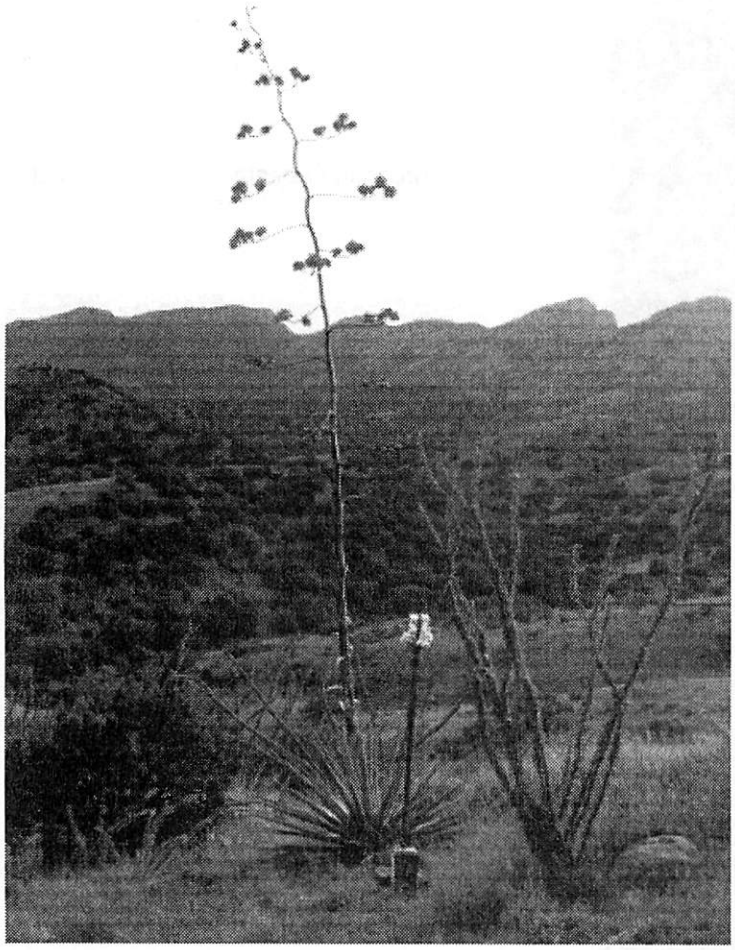

PHOTO 5

Equipment set-up for passive acoustic sampling.

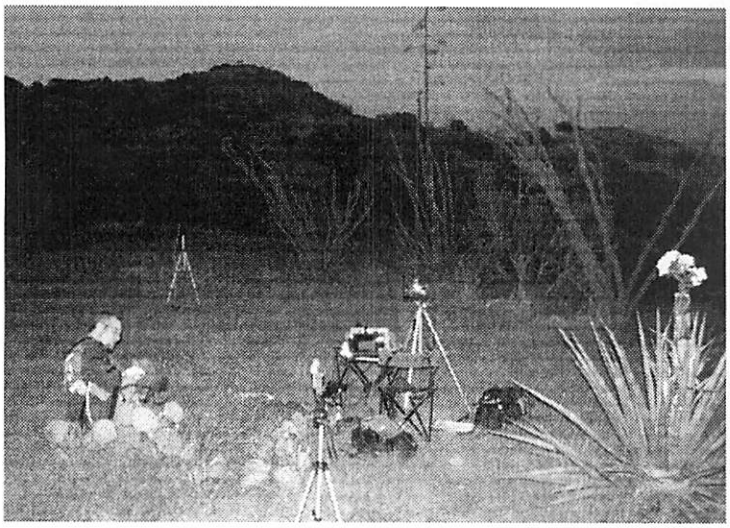

PHOTO 6

Equipment set-up for active acoustic sampling.

PHOTO 7

Lesser long-nosed bat foraging at Palmer's agave. Still photo taken from infrared video camera with supplemental infrared lights.

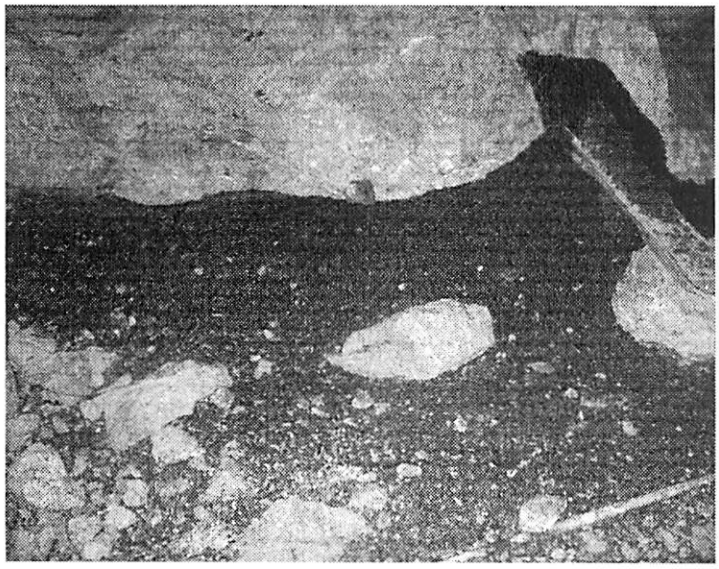

PHOTO 8

Insectivorous bat guano.

PHOTO 9

Insect parts left by night-roosting bats.

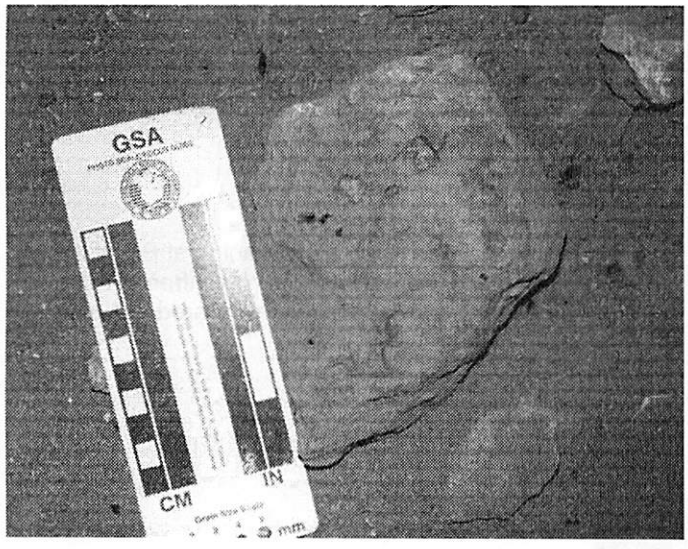

PHOTO 10

Yellow splatter guano from nectar-feeding bat.

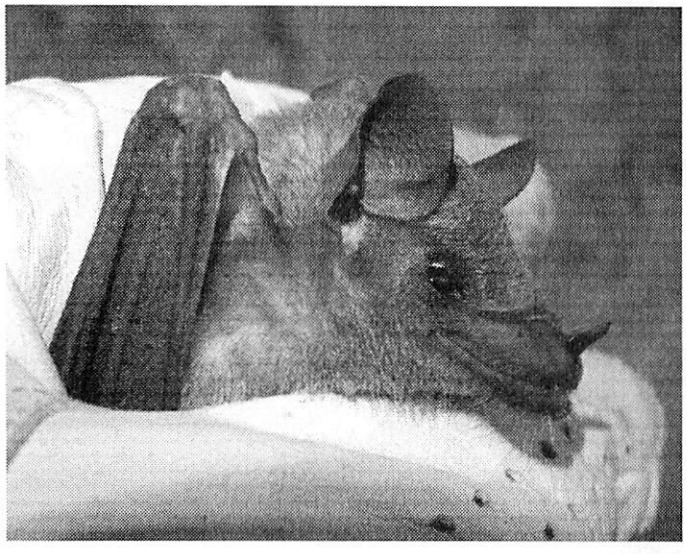

PHOTO 11

Lesser long-nosed bat observed on the Rosemont Property.

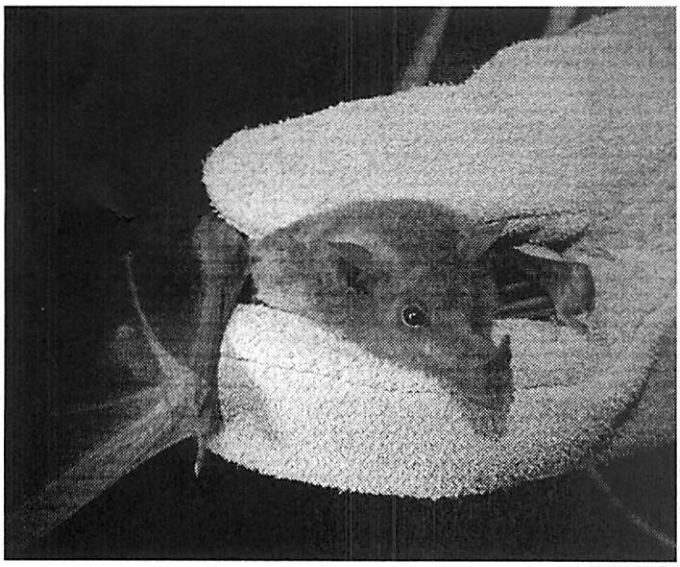

PHOTO 12

Mexican long-tongued bat observed on the Rosemont Property.

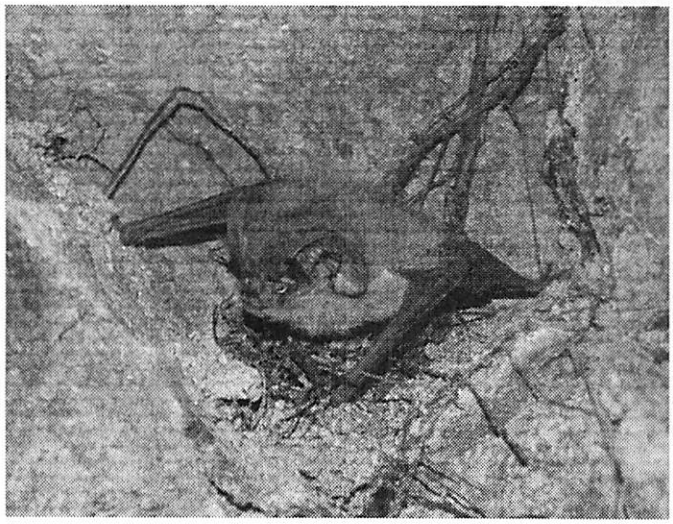

PHOTO 13

Townsend's big-eared bat observed on the Rosemont Property.

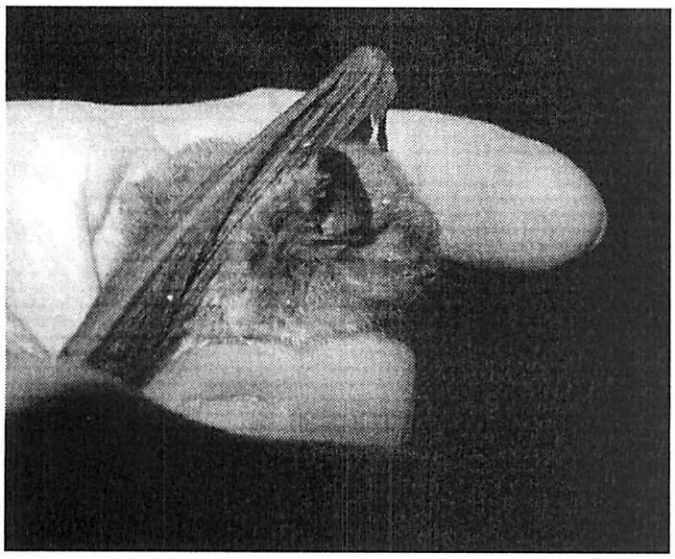

PHOTO 14

Cave myotis observed on the Rosemont Property.

PHOTO 15

Fringed myotis observed during regional survey.

PHOTO 16

Big brown bat observed during regional survey.

APPENDIX B

POTENTIAL BAT ROOST SITES SURVEYED ON OR NEAR THE PROPOSED ROSEMONT IMPACT AREA

Appendix B. Potential bat roost sites surveyed on or near the proposed Rosemont impact area. These sites are grouped in three separate tables based on general management recommendations, and the sites are further subdivided based on location. Rosemont closure numbers refer to list provided by Rosemont Copper Co. Waypoint numbers refer to list provided by Jeff Cornoyer, Geologist (May 17, 2007).

Table B-1. Sites suitable for closure, already closed, or needing no further action.

WestLand Site Designation	Number	Dates visited	Comments, including Rosemont Closure Numbers
Sites Within Potential Impact Area and Within Patented Claims			
Shaft 1	1	6/9/06	Rosemont Closure No. 20. Saratoga Mine Complex. Vertical shaft, ~60' deep. Too unstable for full evaluation.
Adit South of Shaft 1	2	6/9/06 8/28/06	Rosemont Closure No. 21. Saratoga Mine Complex. Described by DB as Adit 10. About 25 to 30 ft long, bat observed in August, 2006.
Adit SE of Shaft 1	3	6/14/06	Saratoga Mine Complex. No evidence of bat use.
Adit West of Shaft 1	4	6/14/06	Rosemont Closure No. 19. Test adit in Saratoga Mine Complex. No evidence of bat use.
Adit West of Shaft 1	5	6/14/06	Test adit in Saratoga Mine Complex. No evidence of bat use.
Adit West of Shaft 1	6	6/14/06	Test adit in Saratoga Mine Complex. No evidence of bat use.
Adit West of Shaft 1	7	6/14/06	Rosemont Closure No. 22. Test adit in Saratoga Mine Complex. No evidence of bat use.
Test adit	10	6/14/06	Very short adit in alluvium near small spring. No potential for bats.
Adit K	36	10/6/08	Short adit with small opening in wooden gate. Woodrat nest on floor. No evidence of bat use.
Site N	31	10/6/08	Complex with multiple excavations, but no openings. May have been closed long ago.
Adit O	32	10/6/08	Uphill from Site N. Two small adits following same zone of mineralization, each 4 to 6 ft long. No zone of darkness, no evidence of bat use.
Site Q	34	10/6/08	Mine symbol on USGS map. Appears to be old borrow pit or quarry with no underground workings. No potential for bat use.

Table B-1. Sites suitable for closure, already closed, or needing no further action.

WestLand Site Designation	Number	Dates visited	Comments, including Rosemont Closure Numbers
Site Y	45	10/31/08	Marked as adit on USGS map. Small test pit above road to Sites S and T, no potential for bats.
Site AD	50	12/3/08	Waypoint 18WKS. Possible traces of old test pit, but no open adits or shafts of any size.
Site AE	51	12/3/08	Waypoint 34. Concrete block leaching vats. No other mine works.
Site AF	52	12/3/08	Waypoint 29. Site has been reclaimed, no current openings.
Site BC	53	12/3/08	Waypoint 5. Edge of reclaimed area at drill site. No current openings.
Site AG	54	12/3/08	Waypoint 6. Small surface cut, no current openings.
Site AH	55	12/3/08	Waypoint 7. Adit recently backfilled. Very small opening remains, but too small for bat use.
Site AI	56	12/3/08	Waypoint 8. Some indications of old workings, but no current openings. Near old claim post.
Site AJ	57	12/3/08	Waypoint 9. Adjacent to Wasp Canyon road, has been reclaimed, no openings remain.
Site AK	58	12/3/08	Waypoint 4. Bottom of wash near Wasp Canyon Road. Traces of old diggings, but no current openings.
Site AM	60	12/3/08	Marked on USGS map as test pit. Some excavation, but no current openings.
Site AN	61	12/3/08	Small test adit, only about 8 ft long. No potential for bats.
Site AP	63	12/3/08	Marked as test pit on USGS map. Small excavation with no current openings. No potential for bats.

Table B-1. Sites suitable for closure, already closed, or needing no further action.

WestLand Site Designation	Number	Dates visited	Comments, including Rosemont Closure Numbers
Site AQ	64	12/3/08	Short adit, about 10 ft long, with small skylight. Woodrat feces present. No evidence of bats, only marginal potential for bat use.
Site AR	65	12/3/08	Waypoint 20. Large excavation but no openings. No potential for bat use.
Site AS	66	12/3/08	Waypoint 21. Small test pit, about 8 feet deep. Partly filled with brush. No potential for bat use.
Site AT	67	12/3/08	Waypoint 27. Large excavation on hillside above site Waypoint 26. No opening, no bat potential.
Site AU	68	12/3/08	Waypoint 19. Described by Cornoyer (2007) as Waypoint 2, but 2 is actually about 10 m south of 19. Very short adit, about 8 feet long. No potential for bat use. Hooded skunk present.
Site AW	70	12/3/08	Waypoint 25. Vertical shaft, about 25 feet deep, bottom visible. No potential for bats.
Site AX	71	12/3/08	Waypoint 22. Old roadway, but no obvious mining activity. No openings, no bat potential.
Site AY	72	12/3/08	Waypoint 3. Area has been leveled, but no indication of mining activity. No openings, no bat potential.
Site AZ	73	12/3/08	Waypoint 2. North-facing slope south of Waypoint 19. No indication of any mining activity.
Site BA	74	12/3/08	About 25 feet south of Waypoint 2. Small test pit, about 4 feet deep. No potential for bat use.
Site BB	75	12/3/08	Waypoint MGM. Muheim-Grafen Mine, operated during 1960. No trace of workings, location may not be correct.
Sites Within Potential Impact Area but Outside Patented Claims Area			
Adit G-1	22	8/7/08	Uphill from Adit F. Low, tight entrance leading into short horizontal tunnel about 25 ft long. No evidence of bats.
Adit G-2	23	8/7/08	Uphill from Adit G-1. Low, small entrance into short adit, about 16 ft long. No evidence of bats. Black-tailed rattlesnake present.

Table B-1. Sites suitable for closure, already closed, or needing no further action.

WestLand Site Designation	Number	Dates visited	Comments, including Rosemont Closure Numbers
Adit H-1	24	8/7/08	Horizontal adit with one side passage. No evidence of bats, but used by javelina and mice.
Adit H-2	25	8/7/08	6-ft diameter test pit, 6 to 10 ft deep. No evidence of bats.
Adit I-1	26	8/7/08	6-ft diameter test pit about 15 ft deep. No evidence of bats.
Adit I-2	27	8/7/08	6-ft diameter test pit, about 10 ft deep. No evidence of bats.
Adit J	28	8/7/08	Horizontal adit, about 50 ft long. No evidence of bats.
Sites Within Patented Claim Area but Outside Area of Potential Impact			
Adit A-1	12	6/15/06 9/28/06 8/4/08	Small adit about 15 ft north of Adit A. Spot of bat urine (evidence of insectivorous bats) in June, 2006. No bats observed in 2008.
Adit C	14	6/15/06 9/28/06 10/31/08	Rosemont Nos. 24 and 25. Gunsight Pass Area. No evidence of bat use, low potential. In Oct. 2008, new bulldozer trail to site, site has been back-filled.
Adit E	16	6/20/06 9/28/06	Gunsight Pass Area. South of pass, below road, cool breeze, good potential in June, 2006. Complex mine, about 660 ft long. Bats and guano present in September, 2006. Site was sealed completely prior to visit in August 2008.
Unnamed Mine	21	6/20/06	Marked on USGS map north of Gunsight Pass. No openings suitable for bat use.
Site R	35	10/8/08	Small excavation on copper vein, marked as adit on USGS map. No openings.
Site V	42	6/20/06 10/31/08	Narragansett Mine. No open adits, no potential for bats.

Table B-1. Sites suitable for closure, already closed, or needing no further action.

WestLand Site Designation	Number	Dates visited	Comments, including Rosemont Closure Numbers
Site W	43	10/31/08	Mine south of Narragansett Mine. Large open cut, no open adits, no potential for bats.
Site X	44	10/31/08	Small test pit above road, east of Site W. About 8 ft deep, no potential for bats.
Site Z	46	10/31/08	Marked as adit on USGS map. Now appears to be buried under bulldozer trail to drill pad. No openings, no bat potential.
Site AA	47	10/31/08	Adit by waste rock pile visible from road. Only about 10 ft long, no guano, no potential for bats. Woodrat nests present.

Table B-2. Sites with some evidence of bats or with undetermined potential.
Note: No closure action should be taken prior to final examination by biologist.

WestLand Site Designation	Number on Map	Dates visited	Comments, including Rosemont Closure Numbers
Sites Within Potential Impact Area and Within Patented Claims			
Shaft 2	8	6/14/06 8/28/06	Vertical shaft, ~100' deep. Too unstable for full evaluation. Evidence of insectivorous bats noted.
Adit L	29	10/6/08	Adit visible from road to Saratoga Mine, about 55 ft long. Lots of woodrat trails, feces, and nest material. Some javelina scat. Small pile of insectivorous bat guano, some insect parts and moth wing. Rock wren flew out of entrance.
Adit M	30	10/6/08	Marked as test pit on USGS map. Up ridge from Adit L. Only 13 ft long. Probable night roost for *Antrozous pallidus* or *Macrotus californicus*. Small insectivorous bat guano pile and variety of insect parts.
Adit P	33	10/6/08	Adit marked on USGS map, north of Adit F, near reclaimed drill pad. Only about 30 ft long, but one *Choeronycteris mexicana* present, identified visually. Small amount of yellow guano splatter. No evidence of insectivorous bat guano. Lots of old woodrat feces.
Site S	38	10/31/08	Vertical shaft, about 20 ft across at ground level, narrows to about 6 ft diameter at about 15 ft below surface. Depth appears to be about 60 ft. Would require rope for entry. Insectivorous bat evidence found at bottom of shaft, using Site S-1 for entry.
Site S-1	39	10/31/08	Adit below Site S, connects to bottom of shaft. Complex site with ore taken out of interconnecting pockets. Good bat habitat, lots of insectivorous guano, moth wings, beetle elytra. Gray fox scat at entrance, owl guano on large rock below shaft.
Site T	40	10/31/08	Adit on slope below Site S. Long tunnel with side tunnels and deep shaft. One *Choeronycteris mexicana* captured and released. One black-tailed rattlesnake present.
Site U	41	10/31/08	Shaft below road to Sites S and T. ~50 ft deep, unknown potential. Evidence of insectivorous bats noted.
Site AC	49	11/12/08	Adit in drainage above water tank. Adit is ~50 ft long, no current evidence of bat use, but has potential for roost site. Woodrat scat and *Peromyscus* nest present.
Site AL	59	12/3/08	Upper end of Wasp Canyon, probably Pickwick Mine. Adit goes in about 60 ft to small room with collapse. Tunnels continue to right and left. Left tunnel ends after about 15 ft. Right tunnel comes to shallow shaft after about 20 ft. Tunnel continues beyond shaft, but no safe way to continue. Some woodrat feces. No evidence of bats, but appears to have potential.

Table B-2. Sites with some evidence of bats or with undetermined potential.
Note: No closure action should be taken prior to final examination by biologist.

WestLand Site Designation	Number on Map	Dates visited	Comments, including Rosemont Closure Numbers
Site AO	62	12/3/08	Marked as test pit on USGS map. Three entrances, but only about 100 ft of tunnels. Wind through tunnel because of chimney effect. Lots of woodrat feces. No evidence of bats, but appears to have some potential.
Site AV	69	12/3/08	Waypoint 24. Vertical shaft, about 60 feet deep. No obvious side tunnels. No evidence of bats noted. Bat potential unknown.
Sites Within Potential Impact Area but Outside Patented Claims Area			
Adit F-1	17	6/20/06 8/28/06	South of Gunsight Pass. Entrance tunnel with skylight, cool breeze, potential for bats in June, 2006. *Choeronycteris mexicana* and *Myotis velifer* present in August, 2006. High potential for bats.
Adit F-2	18	8/28/06	Adit near Adit F-1. Tunnel about 165 ft long, with "Y." No evidence of bats, but medium potential, August 2006.
Adit F-3	19	8/28/06	Adit near Adit F-1. Tunnel with bends, about 50 ft long. No evidence of bats, low potential, August 2006.
Sites Within Patented Claim Area but Outside Area of Potential Impact			
Adit A	11	6/15/06 8/4/08	Gunsight Pass Area. East slope, south of pass. Appeared to be large enough and deep enough to provide bat habitat (June, 2006). One bat observed in September, 2006. Underground connection to Adit B found in 2008, *Choeronycteris mexicana* present.
Adit B	13	6/15/06 9/28/06 8/4/08	Rosemont closure Nos. 28 and 29. Gunsight Pass Area. Large adit above road, possible bat guano in June, 2006. Entry in September, 2006, found good pile of bat guano, insect parts, mummified *Myotis velifer*, and flying bat. Underground connection to Adit A found in 2008, Several (>5) *Choeronycteris mexicana* present. Complex mine with multiple entrances.
Adit B-1	20	8/4/08	Small adit about 130 ft S of Adit B, above road. One *Choeronycteris mexicana* female with young present in August, 2008.
Adit D	15	6/20/06 9/28/06	Gunsight Pass Area. Patch of bat urine, cool breeze in June, 2006. Entry in September, 2006, found no recent bat evidence. More insectivorous guano found in 2008, indicating greater use than in 2006.

Table B-2. Sites with some evidence of bats or with undetermined potential.
Note: No closure action should be taken prior to final examination by biologist.

WestLand Site Designation	Number on Map	Dates visited	Comments, including Rosemont Closure Numbers
Site AB	48	10/31/08	Small adit above waste rock pile north of Site AA. Some insectivorous bat guano present. Woodrat scat present.
Blackout Cave	37	6/15/06 8/28/06	Small, natural cave with bad air at bottom of vertical drop. No evidence of bats in entrance area above drop.

Table B-3. Sites with confirmed use by Lesser Long-nosed Bat.
Note: Any disturbance could be considered harassment.

WestLand Site Designation	Number on Map	Dates visited	Comments, including Rosemont Closure Numbers
Sites Within Potential Impact Area and Within Patented Claims			
Adit North of Shaft 2	9	6/14/06 8/28/06 8/4/08 8/7/08 9/23/08	Described by D. Buecher as Adit 11. About 65 ft north of Shaft 2. *Cheoronycteris* present in August 2006 and in 2008. About 12 to 15 *Leptonycteris* present in August 2008, also *Choeronycteris mexicana, Myotis velifer,* and possible *Plecotus townsendii*. No *Leptonycteris* present in late September, 2008.

APPENDIX C

POTENTIAL BAT ROOST SITES SURVEYED WITHIN THE SANTA RITA AND EMPIRE MOUNTAINS REGION

Appendix C. Potential bat roost sites surveyed within the Santa Rita and Empire Mountains region. These sites are grouped in three separate tables based on general management recommendations, and the sites are further subdivided based on location or land ownership.

Table C-1. Sites under Rosemont control suitable for closure, already closed, or needing no further action.

WestLand Site Designation/ Map Number	Name on USGS Map (if any)	Regional Area	Date(s) Visited	Comments
Sites Within Patented Claim Area and near Potential Water Line Route				
R-11	None	Gunsight Pass	8/20/08	Small adit near road, 13 ft long, 4 ft wide, 6 ft high. Lots of woodrat use, but no evidence of bats.
R-45	None (marked as adit)	Gunsight Pass	11/12/08	Marked as adit above road, but no opening remains. No evidence of bats noted. No potential for bats.
R-50	None (marked as adit)	Gunsight Pass	11/12/08	Large waste rock pile below road, but no indication of adit location. No evidence of bats noted.
Sites Within Patented Claim Area but Outside Impact Area				
R-12	None (marked as adit)	Helvetia	8/20/08	Very small adit in breccia, about 10 ft long. No evidence of bats. Other shafts and adits shown on map in this vicinity have been closed and regraded.
R-13	Old Dick Mine	Helvetia	8/20/08	No openings. All former adits and shafts in this vicinity appear to be closed and regraded. No evidence of bats noted.

Table C-2. Sites with some evidence of bats, with undetermined potential, or not subject to Rosemont control.
Note: No action recommended for Rosemont, but some sites may warrant additional protection by the land management agency.

WestLand Site Designation/ Map Number	Name on USGS Map (if any)	Regional Area	Date(s) Visited	Comments
Sites Within Rosemont Patented Claim Area and near Potential Utility Corridor (Water line, transmission line)				
R-8	None (marked as adit)	Gunsight Pass	8/20/08	Large adit in limestone north of Gunsight Pass on west side of ridge. Multiple openings. At least 7 *Choeronycteris mexicana* present, 1 adult female captured. Most left adit. Probably Exile-King group of mines.
R-9	None (marked as adit)	Gunsight Pass	8/20/08	Large adit east of R-8. One main tunnel, about 100 ft long by 6 ft high. Several *Choeronycteris mexicana* observed, possibly the same bats that left R-8. Probably Exile-King group of mines.
R-10	None (marked as adit)	Gunsight Pass	8/20/08	Large adit above R-8. Visible from road. Two good-sized tunnels, right passage about 100 ft long, left passage about 45 ft long.. No bats present at time of visit but large insectivorous guano and insect parts (beetle elytra) on floor. Probably Exile-King group of mines.
R-44	None (marked as adit)	Gunsight Pass	11/12/08	Large, complex system. Steep scree slope into entrance room. Main tunnel ends in about 100 ft at bottom of ore chute, side tunnel opens into room with shaft. Some insectivorous bat guano. One pile of herbivore pellets that appear to be deer, based on size and shape.
R-46	None	Gunsight Pass	11/12/08	At switchback in side road. Low, unstable crawl into adit. Good air flow, but did not look safe to enter. Unknown potential for bats.
R-47	None	Gunsight Pass	11/12/08	Large, complex mine, multiple passages and shafts. Did not explore fully. Large pile of insectivorous bat guano. Two bat carcasses, 1 adult, one very young. Probable maternity colony. Also woodrat scat and nests, ringtail scat.
R-48	None	Gunsight Pass	11/12/08	Adit enters small room. Traces of insectivorous bat guano. Also woodrat scat and nests.
R-49	None	Gunsight Pass	11/12/08	Adit opens into glory hole, tunnel continues down very steep, loose scree slope, appears to end but could continue out of site. May have some bat potential, but unlikely. Handline recommended for safe entry.
Sites Within Unpatented Claim Area and Outside Impact Area				
R-3	None (marked as prospect)	Wasp Canyon (near head)	8/18/08	Small shaft/adit in saddle north of R-2. Shaft ~30 ft deep, with ~6 ft adit. Unidentified bat came out of adit. No other evidence of bats. No zone of darkness, not a significant site for bats.

Table C-2. Sites with some evidence of bats, with undetermined potential, or not subject to Rosemont control.
Note: No action recommended for Rosemont, but some sites may warrant additional protection by the land management agency.

WestLand Site Designation/ Map Number	Name on USGS Map (if any)	Regional Area	Date(s) Visited	Comments
Sites On Other Coronado National Forest Lands				
R-1	None	Box Canyon	8/18/08	Natural feature, shallow shelter in poorly consolidated landslide debris, about 25 ft long. Looks like good entrance from a distance, but no evidence of bat use. Woodrat nest, coyote scat, bird guano.
R-4	Golden Gate Mine	Box Canyon	8/18/08	Site has been closed, but small opening is blowing cool, moist air (69.3°F), indicating possible extensive passages. Opening might be big enough for bats, but use seems unlikely. Willows and cottonwoods in entrance area.
R-5	None	Box Canyon	8/18/08	Small adit above R-4. Only ~20 ft long. Small amount of yellow splatter. Woodrat scat. No bats present at time of site visit.
R-5a	None	Box Canyon	8/18/08	Small adit about 30 ft long, located about 15 ft west of R-5. Small amount of yellow splatter. Possible javelina use. No bats present at time of site visit.
R-6	Morning Star Mine	Greaterville	8/18/08	Steeply angled (~45°) adit under old mine building. Entered 200 ft. Air temperature 61°F. Side tunnels off main adit. Site not fully explored. Other adits in vicinity look very small and unstable. Deserves additional evaluation. Some yellow splatter on floor of building, possible night roost.
R-7	None.	Greaterville	8/18/08	Adj. to Morning Star Mine, may have connected at one time. Low opening (5 ft wide by 1.5 ft high) in road cut through poorly consolidated material. One *Choeronycteris* captured and examined. Tarantula in entrance area.
R-14	None	Ophir Gulch	8/22/08	Small adit north of road in Ophir Gulch, west of Greaterville. Horizontal adit in dirt and cemented gravel. Many cave crickets. No evidence of bats.
R-15	None	Granite Mountain	8/22/08	East side of Granite Mountain, south of Morning Star Mine. Short drop (6 ft) to adit that goes about 4 ft. Too small to enter. No evidence of bats.
R-16	None (marked as adit)	Granite Mountain	8/22/08	East side of Granite Mountain, south of Morning Star Mine, above R-15. Room with several short tunnels, but no evidence of bats.
R-17	None (marked as prospect)	Granite Mountain	8/22/08	Short horizontal adit south of R-16, about 30 ft long, 5 ft high, 3 ft wide. No evidence of bats.
R-18a	Snyder Mine	Fish Canyon	8/28/08	Adit about 175 ft long, near west side of Snyder Mine group. Small black-tailed rattlesnake. Small pile of moldy guano. 2 *Choeronycteris mexicana*, post-lactating female, one sub-adult female (young of this year?).
R-18b	Snyder Mine	Fish Canyon	8/28/08	~15 m east of R-18a. Adit ~10 m long. 1 *Choeronycteris mexicana*, probably chased out of R-18a).

Table C-2. Sites with some evidence of bats, with undetermined potential, or not subject to Rosemont control.
Note: No action recommended for Rosemont, but some sites may warrant additional protection by the land management agency.

WestLand Site Designation/ Map Number	Name on USGS Map (if any)	Regional Area	Date(s) Visited	Comments
R-18c	Snyder Mine	Fish Canyon	8/28/08	Shaft about 100 ft deep, with tunnel about 25 ft down. Located about 15 ft north of R-18b. Looks too unstable for safe access from surface.
R-18d	Snyder Mine	Fish Canyon	8/28/08	Large, complex mine system. Connection to tunnel observed in R-18c, with several guano piles along passage. Another elevator shaft at least 100 ft deep, with wooden framework and ladders, leads to lower levels and skylight entrance. Evidence of loading chute and rail system for moving ore out of mine. 2 *Plecotus townsendii* and 1 *Myotis thysanodes* observed and photographed. Temperature 63°F. [Mining records indicate that this mine was worked until 1955 and the elevator shaft is 500 ft deep.]
R-19	None (marked as shafts)	Fish Canyon	8/28/08	Three shafts marked on USGS map on ridge between Fish Canyon and Gardner Canyon. Deepest is about 100 ft. Other two much less. Little, if any, potential for bat use.
R-20	None	Temporal Gulch	9/9/08	West of road in Temporal Gulch. Adit 230 ft long, temperature 70.9°F. Extensive javelina scat along passage, numerous woodrat nests, saw 2 *Neotoma* and 3 *Peromyscus* (possibly *P. boylii*). One *Myotis velifer* captured and released, semi-reproductive male.
R-21	None (marked as adit)	Temporal Gulch	9/9/08	East of road, near saddle. Horizontal adit with low, small opening, about 65 ft long, 4 ft high, 6 ft wide. Woodrat nest. No evidence of bat use.
R-22	Armada Mine	Temporal Gulch	9/9/08	West side of road. Adit about 140 ft long, entry passage about 15 ft high, far end of passage about high. Lots of moth and beetle parts, suggesting *Antrozous pallidus* or *Plecotus townsendii*. 2 *Choeronycteris mexicana*, one adult female captured and examined.
R-23	None (marked as shaft)	Temporal Gulch	9/9/08	Near Anaconda Spring. Actually 3 small shafts, all filled with water to within about 3 ft of surface. No potential for bats.
R-24	Ultimo Mine	Temporal Gulch	9/9/08	West side of road. 2 small shafts, sbout 13 ft and 9 ft deep. No potential for bats.
R-25	None (marked as adit)	Temporal Gulch	9/9/08	Small adit on east edge of road. Very low and muddy, temperature 70.4°F. At least 7 *M. velifer* present, 4 captured and examined, 3 adult female, 1 sub-scrotal male. Did not reach end of adit, could hear more bats beyond water passage.
R-26	Not marked on map	Gardner Canyon	9/22/08	Small, natural cave with climbable vertical entrance. One *Choeronycteris mexicana* present. Ringtail scat, woodrat scat, and many cave crickets present. No bat guano or fecal splatter.

Table C-2. Sites with some evidence of bats, with undetermined potential, or not subject to Rosemont control.
Note: No action recommended for Rosemont, but some sites may warrant additional protection by the land management agency.

WestLand Site Designation/ Map Number	Name on USGS Map (if any)	Regional Area	Date(s) Visited	Comments
R-27	Not marked on map	Gardner Canyon	9/22/08	Medium-sized, natural cave. Sediment-filled passages historically excavated. Temperature 65.9°F. Several *Myotis velifer* present. Lots of cave crickets, some insectivorous guano.
R-28	Not marked on map	Gardner Canyon	9/22/08	Small, natural cave. No bats present, but some guano from insectivorous bats.
R-28-a	Not marked on map	Gardner Canyon	9/22/08	Small, natural cave. No bats present, but evidence of other mammals, including ringtail, coati, javelina, and woodrat. Unusual black coating on portions of roof.
R-29	Not marked on map	Gardner Canyon	9/22/08	Small, natural cave. No bats present. 2 juvenile turkey vultures flushed from nest site.
R-30	Upstream end of tunnel marked on map	Gardner Canyon	9/22/08	Inlet end of tunnel constructed in 1906 as part of aquaduct to carry water from Big Casa Blanca Canyon to Kentucky Camp. Water filling up to half of passage. A few bats heard in distance, probably *Myotis* sp.
R-31	No name, marked as shaft	Gardner Canyon	9/22/08	Shaft has been completely filled. No possibility for bats.
R-32	Not marked on map	Gardner Canyon	9/22/08	Small, natural cave, short, climbable drop into two small rooms. High humidity, evidence of pooling of water on floor. No bats present, but some traces of insectivorous bat guano.
R-33	Cave of the Bells	Gardner Canyon	9/22/08	Large, complex, natural cave, historic roost site for *Leptonycteris yerbabuenae*, but none observed recently. During evening exit survey (acoustic and infrared), only 1 bat (*Plecotus townsendii* or *Choeronycteris mexicana*) emerged.
R-38c	Helena Mine (marked as shaft)	Mulberry Canyon	10/8/08	Another steep adit/shaft uphill from R-38b. Short adits in two directions, left 13 ft, right 16 ft. No evidence of bats. Large *Sceloporus* sp. lizard on ceiling.
R-39a	None (marked as adit)	Cave Canyon	10/15/08	Uppermost adit marked on map in Cave Canyon. Completely sealed, no opening remains. No evidence of bats.
R-39b	None (marked as shaft)	Cave Canyon	10/15/08	Uppermost shaft, adjacent to adit R-39a. Completely sealed, no opening remains. No evidence of bats.

Table C-2. Sites with some evidence of bats, with undetermined potential, or not subject to Rosemont control.
Note: No action recommended for Rosemont, but some sites may warrant additional protection by the land management agency.

WestLand Site Designation/ Map Number	Name on USGS Map (if any)	Regional Area	Date(s) Visited	Comments
R-39c	Not marked on map	Cave Canyon	10/15/08	Adit with small opening, water on floor in places, up to about 1.3 ft deep. Tunnel 6 ft high, 4 ft wide, about 90 ft long, with two 90° bends. High humidity, cold air temperature (55.2°F), water temperature (53.6°F). Bat guano and moth wings in shallow water. One torpid female *Myotis velifer* present, worn teeth. Skull of possible *Myotis*.
R-40	None (marked as adit)	Cave Canyon	10/15/08	Horizontal adit about 40 ft long, some water on floor, some rimstone and calcite rafts on floor and flowstone on back wall. 3 canyon tree frogs near end. One *Eptesicus fuscus* in crevice near entrance, one *Plecotus townsendi* in another crevice, one male *Myotis thysanodes* flew from behind rock flake. Rock temperature near bats 58.3°F.
R-41	None (marked as adit)	Cave Canyon	10/15/08	Short adit with wooden timbers, leads into large open skylight with two short tunnels. 2 canyon tree frogs, 1 *Plecotus townsendi*. Small amount of yellow splatter, probably *Choeronycteris mexicana*, based on small amount and elevation.
R-42	None (marked as adit)	Cave Canyon	10/15/08	Two excavations on slope, but no openings. No evidence of bats.
R-43	Rock Candy Mountain Mine	Cave Canyon	10/15/08	Short shaft, about 10 ft to water level. No evidence of bats noted. No potential for bats.
Sites on State Trust Lands				
R-34	None (marked as shaft)	Empire Mountains	9/23/08	Vertical shaft with wooden timbers, about 30 ft deep, no obvious side tunnels. No evidence of bats noted. No potential for *Leptonyteris*. Dead rattlesnake visible on floor.
R-35	None (marked as shaft)	Empire Mountains	9/23/08	Vertical shaft in poorly consolidated material, depth est. greater than 160 ft. Unknown side tunnels or bat potential. Used by owls (whitewash and feathers).
R-36a	None (marked as adit)	Empire Mountains	9/23/08	Dead end adit, possibly back-filled, no potential for bats. One of several adits and shafts in small cluster west of highway.
R-36b	None (marked as shaft)	Empire Mountains	9/23/08	Vertical shaft covered with sheet metal, but accessible for bats and owls. Depth about 55 ft. Owl whitewash near entrance. Unknown side tunnels or potential bat habitat.
R-36c	None (marked as shaft)	Empire Mountains	9/23/08	Vertical shaft partly covered with sheet metal, but accessible for bats and owls. Depth about 33 feet. Unknown side tunnels or potential bat habitat. Saw bottom with light from mirror.

Table C-2. Sites with some evidence of bats, with undetermined potential, or not subject to Rosemont control.
Note: No action recommended for Rosemont, but some sites may warrant additional protection by the land management agency.

WestLand Site Designation/ Map Number	Name on USGS Map (if any)	Regional Area	Date(s) Visited	Comments
R-36d	None (marked as shaft)	Empire Mountains	9/23/08	Vertical shaft partly covered with sheet metal, but accessible for bats and owls. Depth about 30 ft, visible with light from mirror. Unknown side tunnels or potential bat habitat.
R-36e	None (marked as adit)	Empire Mountains	9/23/08	Adit with cool breeze flowing out. Wire cloth barrier makes this site unusable for bats, but potential looks good. Tunnel in bedrock, 4 ft wide, 6 ft high, at least 30 ft to bend in tunnel. Air temperature near entrance 74.4°F. Barrier has been bypassed by woodrats and other rodents.
R-51	None (marked as shaft)	Empire Mountains	11/12/08	Short, sloping adit, ~12 ft deep. No potential for bat habitat.
R-52	None (marked as shaft)	Empire Mountains	11/12/08	Deep shaft (>50 ft) with secondary sloping entrance. Used by owls (probably barn owl). Unknown side tunnels or bat potential. Currently has no fencing or warning signs.
R-53	None (marked as shaft)	Empire Mountains	11/12/08	Shallow pit with short adit (~15 ft) at bottom. Little potential for bat habitat.

Graptopetalum bartramii), so they have my attention. Are there any other species on our lists that should be given priority for a thorough BE analysis that I can make sure are addressed in the DEIS? And do you have any input on the latter two plants I mentioned with regards to conservation, threats, and rarity?

Thanks!

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Guidance on Preparation of Resource Reports in Support of NEPA Documents

TEAMS Enterprise
April 2008

Table of Contents

Introduction 1
Expectations for a TEAMS Resource Report 2
Introduction 2
Issues and Purpose and Need Statements Specific to Your Resource 2
Existing Condition 2
Alternatives 3
Design Features/Criteria and Mitigation Measures 3
Forest Plan and Other Legal Consistency 3
Methodology 4
Effects Analysis 4
Cumulative Effects Analysis 5
Writing with Clear Logic 6
Providing Input to the Line Officer Decision Maker Via the Report 7
Using Public Comments To Revise Your Report 7
References and Citations 7
Irretrievable and Irreversible Commitment of Resources 7
Unavoidable Adverse Impacts 8
Relationship of Short-Term Uses and Long-Term Productivity 8
Significance Factors 8
Incomplete and Unavailable Information 8
Monitoring Requirements 8
Summary 8
For The Record, Sign And Date Your Report 8
Suggested Template 10

Introduction

TEAMS Specialists are expected to provide a resource report to document their NEPA input, unless otherwise indicated by work order or IDT Leader. The following white paper describes information that nearly always needs to be included. This guidance is intended to improve the quality of our analysis documentation, and the efficiency of document production. Specialist reports are important to all NEPA processes, especially for TEAMS. Clients generally expect a comprehensive report from each specialist. **These guidelines are not intended to replace established documents such as Biological Assessments, SHPO submittals, or other reports using content and format required by agency policy or national direction.**[1]

Specialists are often referred to as "agency experts" in court proceedings because their education and relevant experience gives their analysis and written evaluations more deference in the eyes of courts as well as higher-level reviewers. Specialist reports are a powerful tool in court proceedings. Specialist reports can be written for your peers in the language of your specialty. You may also be required to summarize your evidence, findings and conclusions for the integrated NEPA document – this section is generally written using vocabulary appropriate for the non-technical reader. .

Resource reports are important to all NEPA processes, and especially for TEAMS, because clients appreciate having technical information in a comprehensive format. The strongest and best-documented resource reports have the most impact if they are based on:

1. Evidence from the place where the project is proposed (i.e. site specific information);
2. Evidence that is recent, pertinent, backed up by literature citations and local scientific research (best science!);
3. History of local knowledge from the observer's point of view of what has happened and is happening on the ground.

Tests of a good resource report include:

- Is the report following regional protocol, standards, analysis, methodology or modeling? Would it pass an in-house peer review? Is it following the latest scientific knowledge about analysis methodology or findings?
- Does it adequately describe the existing conditions and recognize the special or unique qualities of the resource(s) in the specific area?
- Are there recent monitoring surveys or other tests that apply and are cited?
- Are the expected or predicted impacts of alternatives, and differences between alternatives clear to the reader?
- Does it tie to Forest Plan requirements?
- Is the report well written and understandable?
- Is the report based on professional judgment rather than personal bias?

[1] You may also be required to prepare a specialist report using the TEAMS template if the mandatory items are not covered in the stand-alone report.

Expectations for a TEAMS Resource Report

The major headings in this list describe resource report content supporting EA or EIS type documents. You are expected to review this list and address the information suggested in the bullets as appropriate. You are NOT expected to address each bullet point by point in your report.

Introduction

- What is your analysis going to focus on? It's a short introductory paragraph briefly describing the intent of the resource report and stating what attachments, if any, follow the report.
- TEAMS specialists are expected to use a template provided by the IDT Leader or Writer-Editor, unless otherwise negotiated with the IDT Leader. The use of a template reduces the time needed to integrate the NEPA document. This is critical to reducing labor costs.

Issues and Purpose and Need Statements Specific to Your Resource

- List all issues that pertain to your resource along with the measures. When you get down into the effects analysis – make sure you address those measures there. Ensure the issues and measures used in your section match those listed in Chapter 1.
- Issues and P&N should be defined and approved by the deciding official prior to effects analysis.
- List all aspects of the Purpose and Need that pertain to your resource along with any actions proposed that influence your resource.

Existing Condition

- What is the affected resource area?
- Surveys (who, what, why when, where, how);
- What is the size of the area (geographically) that is pertinent for resource effects?
- What is the resource condition, and what past activities or natural disturbance events have determined the existing condition? List out all past activities that may influence your analysis.
- A map, graphics or pictures are helpful to describe the current state of the resource.
- What factors are important to monitor over time for the health of the resource?
- Be sure to describe any resource limitations, which would have defining factors on the action being proposed, and mitigation measures required.
- Photo interpretation (year of photos,, where are they located, who did the interpretation),
- Timber stand database (what data was used, date of query, how was information used),
- Personal/Professional knowledge of the area by who and when,
- Monitoring performed (who, what, why, when, where, how, where can the results be found) that couches why the existing condition is the way it is,
- Public input (what, who, when) –did you talk to your counterparts w/ the state, private organizations or other federal agencies?
- Field Trips (when, where, who-can reference in the IDT meeting notes);
- Include copies of photos, maps, etc. as appropriate; and
- What historical conditions and ecological process were considered for your resource(s) to determine consistency with the Forest Plan and the resulting desired conditions for the

project area (what drove the proposed action for your resources; what is the need for change?). This is the NFMA portion of your document.

Alternatives

- Describe the alternatives enough to emphasize the actions pertinent to the resource being analyzed.
- Reports do not need to duplicate descriptions found in Chapter 2 of the EA or EIS, but should give enough information so that the reader understands the alternatives in relation to the displayed effects.

Design Features/Criteria and Mitigation Measures

- In describing alternatives, describe or list the design features or mitigation measures for the resource. Keep in mind that mitigation measures are recommended until they have been fully discussed by the team and line officer. Disclose specific Forest Plan Standards and Guidelines that drive measures.
- When describing mitigation measures, include what they are designed to accomplish. (Refer to court decisions earlier, these can be very important.)
- The effectiveness of the mitigation measures need to be described.
- Use observation, field tests, or monitoring results to back up discussions on the effectiveness of mitigation.
- When mitigation is included as part of an alternative's design, the alternative's effects must include the required mitigation.
- Include any technical assumptions on which the mitigation measures may be based.
- Be sure to coordinate the mitigation list with other interdisciplinary team members so they are looking at effects based on the same mitigation.

Forest Plan and Other Legal Consistency

- Do the predicted effects approach, fall within, or exceed thresholds set forth in law, regulation or policy?
- Do the effects of the alternatives fall within Forest Plan standards and guidelines?
- If additional standards and guidelines were required that went beyond the forest plan requirements, why was that necessary?
- Will a Forest Plan amendment be needed to implement a given alternative because it is not consistent with the Plan? If an amendment is needed, the rationale on why the amendment is needed and what standard will not be met must be clearly displayed in the analysis.
- Consistency with regulatory framework (Clean Water Act, ESA, Clean Air Act, NFMA, FS manuals, State Laws, County Planning area objectives, etc.).
- Be specific about the Federal, state and county laws, regulation and policy affecting the resource (Clean Water Act, ESA, Clean Air Act, NFMA, NEPA, FS manuals, State Laws, County Planning area objectives, etc.).
- Briefly describe what the management areas, and standards and guidelines are from the Forest Plan that applies; and what Congressional designations are in the affected area. Don't forget to cite the page numbers from the Forest Plan!

- There may be District policies such as administrative road closures in place, or fire pre-suppression plans that would dictate policy in day-to-day activities that may need to be explained.

Methodology

Introduce the method of analysis or basis of your effects analysis, and what factors are being analyzed.

- If a model was used, give a reference in the record to a description of how the model works and what it is supposed to show.
- If other agency work is relied on, such as Natural Resource Conservation Service (NRCS) soils inventory, give a complete citation in the report and put it in the record.
- Factors used for analysis should match the current condition description.
- There should be a basis for comparison between the current condition of the resource and the effects from alternatives.
- Breaking the resource effects into analysis factors that are important helps the reader follow the train of thought (scientific methodology).
- Analysis factors are preferably measurable, and an interpretation of the numbers is important to the reader and responsible official.

Effects Analysis

- What are the issue indicators (how will the issue be addressed/impact measured for your resource(s), and why did you chose them? These need to be discussed with the IDT Leader and Line Officer. Alert the IDT Leader if additional indicators become evident during the analysis process.
- The effects of all alternatives should be described equally.
- Make sure the effects of all components of all alternatives are addressed.
- Direct, indirect and cumulative effects must be displayed.
- Effects are expressed in cause and effect relationships and are site-specific (where in the project area the effect will take place) where possible.
- Bound important cause and effect relationships in time, space and magnitude. Give reasons why each "boundary" was chosen.
- Effects resulting from actions proposed can be positive, negative or neutral.
- Use appropriate measures (indicators) to describe and display the environmental impacts of the alternatives. Where possible use quantitative measures, as opposed to qualitative or relative measures.
- A discussion of the magnitude of effects covers: speed of change, duration of the change, direction (upward/downward), and extent. Sometimes you can't speak to all four factors, but try to cover as many as you can.
- The effects of no action are often given less attention, but since it will serve as the baseline against which the other alternatives will be compared, it is especially important to analyze it in detail.
- Remember that the purpose and need for the project reflects a need for changing the existing condition, so if we do not take action, there should be an effect (either positive or negative).

- Adequately describe the differences between alternative effects.
- Identify short term harms and long term benefits.
- Other factors to evaluate under NEPA include irreversible or irretrievable effects, short term versus long-term effects, any adverse environmental effects that cannot be avoided, (40 CFR 1502.16). One aid in doing this is to look at what the Forest Plan identified in these effect categories.
- Put the conclusion first in your effects analysis discussion, followed by the evidence to back it up. Do not make the resource report a mystery novel. Do not allow people to go off track following data, analysis, evidence and conclusions. It is better to give the reader the conclusion at the beginning of the discussion, and then support the conclusion.
- If the effects of alternatives are similar, then lump the alternatives together. Do not needlessly duplicate one paragraph to the next. Copying text over and over is harder to read, easier to make mistakes, and it does not help explain effects. If there are differences in effects between alternatives, explain them. If there are not any differences among alternatives, maybe the resource, or the measure used to display the effects to the resource, is a minor issue among the alternative actions.
- Use charts, tables, and graphs for effective presentation, readably, and brevity.
- Identify any assumptions made during analysis (for example: assessment of cavity habitat assumes snags within 150 feet of open roads will be cut for firewood, therefore 0% population capacity is used for these areas inc calculations).

Cumulative Effects Analysis

- At the beginning of the cumulative effects section, you must identify:
    - The spatial boundaries for analyzing the cumulative effects to (resource) are (what), because (why). If possible, draw an effects analysis boundary on a map that will be used for direct, indirect and cumulative effects. This cumulative effects boundary will likely not match the project analysis boundary for the project file.
    - The temporal boundaries are (what), because (why).
- To initiate the cumulative effects analysis, make a list of all past, present and reasonably foreseeable actions that will contribute to cumulative effects of the resource. Use the SOPA! Include the title of the project, date of implementation, and some measure (such as acres, miles, etc.). Narrative descriptions are not necessary. The list should cover the important past or ongoing projects. Use judgment as to how far back in time the list should go. Between the extreme of doing too little (i.e. using a few sentences to sum up the general description of current condition), or doing too much (i.e. listing every activity including road maintenance, over the past 100 years), there should be enough of a list that shows the public that the agency has knowledge of what activities happened and what actions are currently going on.
- Cumulative effects analysis is merely an additive process. Adding the effects from past, present or foreseeable projects.
- In more detail, a cumulative effects analysis discusses the incremental change of past direct and indirect, present direct and indirect effects, and reasonably foreseeable future direct and indirect effects. To be cumulative there must be an overlap of both space and time. Don't forget to consider recovery of past effects; even compacted soil will recover over time because of frost heave, root development, and other natural processes.

- Direct and indirect effects should be kept together in their own section. The cumulative effects analysis should follow the direct and indirect effects analysis almost immediately in the effects section of the text. It is helpful to clearly display the cumulative effects analysis with a new heading or section. This will keep your thoughts and logic for these two tasks separate. Remember if there were no direct or indirect effects, then there would be no cumulative effects.
- Remember to talk about natural disturbance events and patterns. If wildland fire or periodic flooding is the overriding cause of effects in the area, then list it as part of the baseline conditions that will then be used in the cumulative effects analysis. The actions proposed may be minor in comparison to natural events, but the total effects of the past events and the proposed activity are additive (i.e. cumulative) effects on the resource.
- In addition, natural disturbance events and patterns are important for establishing the baseline of the existing condition, as well as displaying cumulative effects.
- Cumulative effects analysis does not differentiate between private and public land ownership. If there are projects going on other land ownership, they should be listed. The cumulative effects analysis looks at private lands, other Federal lands, and State lands. Important past and present activities should be described in the current conditions section.
- Finally, the cumulative effects analysis should be specific enough that it can be read to describe the project area. As in a direct or indirect effect analysis, if the cumulative effect analysis is so generic or meaningless that it can describe any project anywhere on the forest, then it doesn't disclose to the public the hard look under NEPA (site specific effect) that is required.

Writing with Clear Logic

- Explanations of your analysis should be clear enough so that the reader can follow your logic.
- Keep analysis objective. State the facts, and let the decision maker make the value judgment in the decision document. *See bias and judgment in NEPA documents (attached).*
- Explain the logical step for moving from step A to step D. Put in steps B and C, not just conclusory statements.
- If a model was used, then put the results in a table of figures, and be sure to explain what the figure show, (e.g. what is the meaning of a high or low measure and what it is based on).
- Stay away from using relative measures (indicators) if at all possible. Use measures that have actual meaning to that site-specific area or landscape.
- If using GIS analysis or model, explain the steps from what is on the ground, through the calculations, to the mapping output and what it means. This process or methodology should be in the record. It cannot be modified or fixed in court later if it was not disclosed.
- Explanation of your methodology should not be a dissertation. Simply a brief but clear statement of the logic used. This could be a supplemental document to the resource report found in the project record.
- Write clearly, don't be encyclopedic. Avoid using acronyms. Spell things out when possible.

Providing Input to the Line Officer Decision Maker Via the Report

- As the final step, look at your description of effects. Is the report clear enough that the public and the decision maker know what the tradeoffs are among alternatives?
- Know the facts and reasons and spell out the effects on the resource. Facts will speak louder than speculations or opinions.

Using Public Comments To Revise Your Report

- A resource report is written prior to the release of the NEPA document to the public. It is summarized in the EA released for public comment or in the DEIS. Usually the interdisciplinary team leader will pass out questions from the public and ask specialists to answer them by topic in a separate paper or email. After public comments are responded to, specialists may want to revise, clarify, or add information to their report (adding a new date and new signature).
- This review of public comment is an opportunity to analyze criticisms of the report prior to the project being final, and to fix any problems or vague discussions in the report.
- One technique is to include a question and answer format in the report so there is no confusion about issues being addressed or questions being addressed.
- Coordinate with interdisciplinary team members so no conflict arises with other responses.

References and Citations

- Use references that help describe the existing condition and the processes at work.
- Use background information, larger broad scale assessments, watershed assessments, surveys, non-Agency surveys, or other reports.
- Look at resource processes such as erosion, in-migration, etc.
- Do not forget to tier to existing Environmental Impact Statements, such as the Forest Plan EIS, that have useful information.
- What does the Forest Plan say about the desired condition for your resource? Cite these references!
- Use older analyses (past actions or similar projects) in the same area to describe past condition or actions. Private, local, county, or State analyses should be reviewed for applicable information, value, validity or usefulness.
- Consider other analyses such as Forestwide or watershed scale roads analyses, or Forestwide Management Indicator Species report habitat reports.
- Include a list of all citations (references) from the report, including journal articles, books, government documents, published papers, and personal communications (researchers, other specialists in the field, etc.).
- All references used in the report should be in the project record. Where references are lengthy, as in a complete hardcover book, include a photocopy of the key pages referenced in the report. Yet be sure to have the reference readily available upon appeal or litigation.

Irretrievable and Irreversible Commitment of Resources

- This is only necessary for an EIS.

- Irreversible are those that cannot be reversed, except perhaps in the long-term. Mining is an example, once it's removed, it won't be replaced.
- Irretrievable are those that are lost for a period of time. Roads are an example –timber production is lost while the road remains.

Unavoidable Adverse Impacts

- Under NEPA, an agency does not have to avoid adverse (or even significant) effects. The key is that an agency identifies such effects and then discloses them. Being silent about them is a deadly omission in any NEPA document.

Relationship of Short-Term Uses and Long-Term Productivity

- The decision maker and the public need to have a clear sense of what they are gaining or losing in the short term and long term. What's the trade-off? Each resource has its own definition as to what short or long term is – it will vary by region of the country also.

Significance Factors

- This is needed only in an EA – which of the ten tests of significance does your resource need to address?
- Give a short paragraph or sentence describing how the effects of your resource do no exceed the significance test. This will be pulled out and used in the FONSI.

Incomplete and Unavailable Information

- We need to disclose what information is lacking.
- As a team, with the decision maker, this needs to be discussed to determine if steps should be made to gain the missing information.

Monitoring Requirements

- Will there be any site-specific monitoring requirements necessary to implement this project? If so, why is it necessary to go beyond the forest plan?
- Monitoring recommendations to be vetted by team and approved by line officer.

Summary

- Write a concise, plain spoken report summary of key points for use in the NEPA document.
- Write Affected Environment and Environmental Consequences sections of Chapters 3/4 of the NEPA document. This section may be done by a writer editor or IDT Leader as negotiated on a case by case basis.

For The Record, Sign And Date Your Report.

- Sign and date the original report and put it in the project record.
- Keep a copy in the resource files.
- Supply a signed and electronic copy to the writer/editor and/or team leader along with a copy of the data, field notes, correspondence, any modeling calculations, email, maps, and other information used in the report. All information should go into the record for the project.

- Find out what format the backup information needs to be in for the project file from whoever is building the project file. It will save time and money in the long run.

Suggested Template

A suggested template that includes formatting recommendations to provide consistency for both content and appearance between TEAMS Interdisciplinary Teams' resource reports is attached. IDT Leaders and others may adjust the order or emphasis of these items. TEAMS IDT Leaders are expected to work with specialists ahead of the report writing process to clarify expectations.

Please note the outline does not include descriptions of the purpose and need, proposed action, decision framework, issues, alternatives, etc., found in the NEPA document itself. This is intentional to avoid unintended inconsistencies in the way these items are discussed. There should be enough information included so that the reader adequately understands the effects analysis; however, descriptions of issues, alternatives, etc. should be referenced back to the NEPA document.

Name of Project

Resource Report

Prepared by:

Name
Title

for:

XX Ranger District
XX National Forest

Date

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Table of Contents

Introduction (Heading 2) 1
Overview of Issues Addressed (Heading 3) 1
Affected Environment (Heading 2) 1
Existing Condition (Heading 3) 1
Desired Condition (Heading 3) 1
Environmental Consequences (Heading 2) 1
Methodology (Heading 3) 1
Spatial and Temporal Context for Effects Analysis (Heading 3) 1
Alternative 1 – No Action (Heading 3) 2
Alternative 2 – Proposed Action (Heading 3) 2
Monitoring Recommendations 3
References (Literature Cited) 4
Heading 2 5
Heading 3 5
Tables 5
Figures 6

To refresh table of contents, highlight all of it and press F9.

List of Tables

Table 1. Format for tables (style=Caption Table) ..... 6 Deleted:

List of Figures

Figure 1. Format for figure captions - place at bottom of map or graphic (style=Caption Figure) .. 6 Deleted:

The table and figure lists above will not show up unless you have your captions styled properly. Tables should be styled with "Caption Table" and figures should be "Caption Figure"

Introduction (Heading 2)

What is your analysis going to focus on? This is a short introductory paragraph briefly describing the intent of the resource report and stating what attachments, if any, follow the report.

Overview of Issues Addressed (Heading 3)

Describe issues relevant to your resource and discuss the analysis indicators to be measured and any background info supporting why those are the indicators chosen. If your analysis is evaluating purpose and need indicators, or specific decision factors, discuss them here also.

Issue Indicators (Heading 4)

Affected Environment (Heading 2)

Existing Condition (Heading 3)

Describe the existing condition of your resource. Provide historical or background info that supports how the resource has developed into the condition it is in. Use existing documentation/language, incorporation by reference where possible.

Desired Condition (Heading 3)

Describe the State and Federal laws, Forest Service direction, and any other regulatory direction that is relevant to the desired condition, management and protection of your resource. Address immediate foreseeable and long-term desired conditions.

Environmental Consequences (Heading 2)

Methodology (Heading 3)

Introduce the method of analysis or basis of your effects analysis, and what factors are being analyzed. If applicable, discuss models and briefly describe assumptions used and any limitations.

Incomplete and Unavailable Information

If there is any incomplete and unavailable information, be sure to include it here.

Spatial and Temporal Context for Effects Analysis (Heading 3)

Discuss effects timeframes (short term vs. long term) for direct, indirect and cumulative effects and provide rationale for analysis areas that are relevant to your discussion. Describe sources of information used to support your analysis.

Connected Actions, Past, Present, and Foreseeable Activities Relevant to Cumulative Effects Analysis

Alternative 1 – No Action (Heading 3)

Direct Effects (Heading 4)

Indirect Effects (Heading 4)

Cumulative Effects (Heading 4)

Compliance with Forest Plan and Other Relevant Laws, Regulations, Policies and Plans

Other Relevant Mandatory Disclosures

(Such as Relationship of Short-Term Uses and Long-Term Productivity in an EIS, Significance Factors in an EA)

Summary of Effects

(in Terms of Issue/Decision Factor/Purpose and Need Indicators)

Heading 5 (If needed)

Body Text

Heading 6 (If needed)

Body Text

Alternative 2 – Proposed Action (Heading 3)

If you feel it necessary, provide a brief (one paragraph) overview of the proposed action, **only providing the details that may later be necessary to support your analysis.**

Design Features and Mitigation Measures

Provide BMPs/Mitigation Measures/Decision Features associated with compliance. Discuss reliability, cost and effectiveness of these measures. Use research or monitoring to back up effectiveness and reliability.

Direct Effects (Heading 4)

Indirect Effects (Heading 4)

Cumulative Effects (Heading 4)

Compliance with Forest Plan and Other Relevant Laws, Regulations, Policies and Plans

Other Relevant Mandatory Disclosures

(such as Relationship of Short-Term Uses and Long-Term Productivity in an EIS, Significance Factors in an EA)

Summary of Effects

(in Terms of Issue/Decision Factor/Purpose and Need Indicators)

Monitoring Recommendations

References (Literature Cited)

This heading has a command built in to always put it on the next page—no page break needed. Be sure that everything you reference in your previous text has a corresponding citation here and that you have an electronic copy for your files. Do this as soon you cite it in your text so you (or the team leader) aren't scrambling later to find the reference.

Misc. Notes

- If copying from another document into your template, do not do a direct paste. After placing your cursor in the template where you want the copied text to go, paste it by going to Edit→Paste special on the menu. When the paste special dialogue box opens, select "unformatted text" from the list then OK. The text will be stripped of its original formatting and pasted in with the style that is established where you are pasting the text (take note—if the style where you are pasting is Heading 1, your text will turn into that style). Do not use edit, paste special with pages of text unless it is all the same style, or you are willing to reformat all the text once it is pasted in. This is to be used on a paragraph-by-paragraph basis. It also does not work with tables.
- Go into Tools→options→edit and uncheck the box that says "Keep track of formatting". This adds unnecessary file size to your document.
- If you want to add space between paragraphs and headings, or a table and the following text, do not use the enter key. Highlight the entire paragraph where you want to add space before or after, and go to Format→ paragraph and select the lines and spacing tab. In the area called "spacing" you can add points of space before or after your paragraph. Usually 12, 18 or 24 pts. are adequate.

Misc Style Formats

Here is a list of the styles you will mostly be using. This style is Body Text.

Heading 2

Note: Heading 1 is not used because it will likely be a higher heading level in the NEPA document (like the resource section title).

Heading 3

Heading 4

Heading 5

Heading 6

- List Bullet
  - List Bullet 2
    - List Bullet 3

Tables

The captions for these tables are designed to be used with Word's automatic table numbering. To insert an automated caption, place your cursor above the table and select **Insert→Reference→Caption**. Then in the label drop down choose **Table**. No matter where you insert your new caption, the document will keep them numbered sequentially. After inserting the caption, apply the style called **Caption Table**. It is designed to provide 24 pts of space between the caption and the preceding text. The "Table Heading" and "Table Cell" styles are shown below in the table. The grid lines are also created by using a style. Highlight the entire table and click on the style called **"Table Grid"** or **"Table Style"**. (Your choice--Table Grid gives you basic grid lines, Table Style gives you the style of grid lines shown below)

Table 1. Format for tables (style=Caption Table)

Style =Table Heading	Table Heading	Table Heading
Style =Table cell		

Style = table note

Figures

The captions for these figures are designed to be used with Word's automatic caption numbering. To insert an automated caption, place your cursor below the figure and select **Insert→Reference→Caption.** Then in the label drop down choose **Figure**. No matter where you insert your new caption, the document will keep them numbered sequentially. After inserting the caption, apply the style called **Caption Figure.** It is designed to provide 24 pts of space between the caption and the following text.

Figure 1. Format for figure captions - place at bottom of map or graphic (style=Caption Figure)

Be sure to downsize your graphics and photos before bringing them into the document. Reduce both the file size (down to about 100-200 KB) and the dimensional size (to fit within the margins). If you are unsure how to do this, talk to your editor first.

Wildlife Biologist Report and Biological Evaluation, VANE Uranium Exploratory Drilling Project, Coconino County, Arizona

Prepared for

VANE Minerals, Inc.

Prepared by

SWCA Environmental Consultants

November 2009

WILDLIFE BIOLOGIST REPORT AND BIOLOGICAL EVALUATION, VANE EXPLORATORY DRILLING PROJECT, COCONINO COUNTY, ARIZONA

Prepared for

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SWCA Project No. 15082

November 2009

CONTENTS

Appendices

A. USFWS Species List
B. AZHGIS Online Environmental Review Tool

Figures

Tables

1.0 INTRODUCTION

This report analyzes the potential effects of the VANE Minerals, LLC (VANE), Uranium Exploratory Drilling project on animal species as part of environmental permitting support for 24 proposed drill site locations in the Kaibab National Forest (Kaibab NF), Coconino County, Arizona (Figure 1). These effects are evaluated for 1) species listed for protection under the Endangered Species Act (ESA) of 1973, as amended; 2) species listed as Sensitive by the Southwest Region (R3) of the U.S. Forest Service (USFS); 3) Kaibab NF Management Indicator Species (MIS); 4) species protected under the authority of the Migratory Bird Treaty Act (MBTA); and 5) wildlife-game populations.

1.1 Project Location

The USFS proposes to authorize VANE to perform exploratory drilling at 24 drill sites within the Tusayan Ranger District (Tusayan RD), Kaibab NF, Coconino County, Arizona (see Figure 1). Drill site information is summarized in Table 1.

1.2 Project Purpose

The primary project purpose is for VANE to locate and assess the quantity and commercial resource potential for uranium ore deposits (and/or other locatable minerals), if any, on their existing mining claims within the Tusayan RD of the Kaibab NF.

Mineral exploration and development is encouraged on public land in keeping with the Mining Act of 1872 and the USFS multiple-use mandate. The 1872 Mining Law specifically authorizes the taking of valuable mineral commodities from Public Domain Lands. The Line Officer's decision is based on whether mitigation measures are sufficient to reduce or eliminate environmental impacts at the surface, not to determine whether to allow the exploration activity.

Figure 1. Project location.

1.3 Proposed Action

This Proposed Action would constitute exploratory drilling only. No mining extraction or transporting of uranium minerals for processing would be contemplated or permitted by this proposal. The proposed drill sites are located on mining claims owned by VANE and Uranium One; all exploratory drilling would be conducted by VANE. VANE has proposed to use existing roads; however, depending on the site, some road maintenance may be needed, such as spot surfacing, blading, and erosion control. Depending on access, some small trees may need to be trimmed or removed.

As illustrated in Table 1, multiple exploratory boreholes would be drilled at each of the 24 drill sites to adequately assess the potential presence and depths of uranium-bearing breccia deposits. The expected duration of drilling activities varies at each location, but initial-phase drilling is expected to take anywhere between 7 and 30 days. Depending on results, some additional exploration drilling may occur at the same claim sites. The overall project is expected to take approximately 3 years from project commencement to reclamation.

1.3.1 Drilling Process Description

The initial drilling process consists of multiple holes drilled to a shallow depth (500 feet or less) to accurately define the breccia pipe target. The number of initial shallow holes varies by drill site and ranges from 0 to 12 (see Table 1). Upon completion of the shallow exploration holes, multiple deep exploration holes (up to 2,000 feet) may be drilled to test the breccia pipe target for uranium mineralization. The number of deep drill holes varies by drill site and ranges from 1 to 6.

The proposed drill hole diameter is 8 inches for the first 20 feet (for setting surface casing) and 6 inches for the remaining depth. The drilling circulation medium consists of compressed air, water, and foam; no toxic substances would be used. Other downhole additives that may be used include bentonite clay, lost circulation materials (drilling fluids), and cement. Drilling in wet formations may require up to 5,000 gallons of water per day, which would be purchased from a local ranch or nearby community, whichever is most readily available.

Site preparation would be minimal. Removal of some vegetation may be necessary for drill rig access to the claim area. A 20 × 15 × 6–foot deep pit would be excavated for containment of drilling fluids and cuttings. Where a pit is not possible, drill fluids and cuttings would be contained in a portable tank and hauled to a designated site. Excavated material would be used for backfilling; all topsoil would be stockpiled and used for reclamation.

Angle drilling may be used to avoid disturbance of sensitive sites. Work would be suspended and road travel discontinued during poor weather conditions when roads are muddy to avoid rutting and other resource damage.

Solid waste, consisting of trash and containers used in drilling operations, would be collected and transported off-site for disposal at an approved disposal site. Hazardous materials used at the drill sites include diesel fuel, gasoline, lubricants, and other fluids typically used in operating and maintaining heavy equipment. Up to 1,000 gallons of diesel fuel and gasoline would be stored in fuel delivery systems on the drill rig and in support vehicles, along with up to 100 gallons of drilling foam and lubricants.

Table 1. VANE Plan of Operation Proposed Drill Site Description

Claim Name	Number of Drill Sites	Location (Township, Range, Section)	Number of Claims (20 acres each)	Number of Initial Drill Holes (500 feet deep)	Number of Follow-up Drill Holes (2,000 feet deep)	Site Access
CP 1	1	T28N, R2E, S1 and 12	2	8	2	Existing road: Forest Road (FR) 305
CP 2	1	T30N, R5E, S11–14	2	0	2	Existing road: FR 682
CP 4	1	T29N, R5E, S34 T28N, R5E, S3	3	7	2–3	Existing road: FR 320
CP 6	1	T27N, R5E, S5	2	4	2–3	Existing road: FR 2739
CP 8	1	T30N, R5E, S22 and 23	1	3	2–3	Existing road: FRs 682, 2807, and 627
CP 10	1	T28N, R4E, S12	1	5	2–3	Existing road: FR 320
CP 11	1	T28N, R5E, S14, 15, 22, and 23	3	8	2–3	Existing road: FRs 320, 305, 776, 305b, and 313
CP 14	1	T29N, R2E, S27	2	4	2	Existing road: FRs 347 and 2620
CP 17	2	T29N, R2E, S17 and 20	4	8	2–3	Existing road: FR 306
CP 18	2	T29N, R2E, S8, 9, 16, and 17	3	8	2–3	Existing road: FR 306
CP 19	1	T29N, R2E, S16	2	8	2–3	Existing road: FR 306
Antelope Project	1	T28N, R4E, S11	1	3–5	3–5	Existing road: FR 320
Antelope Tank	1	T28N, R4E, S3 and 10	3	8	2	Existing road: FRs 305 and 320
Auto Pipe Project	1	T28N, R4E, S20, 21, 27, and 28	5	12	6	Existing road: FRs 305 and 776
Black Box	1	T28N, R3E, S6	3	8	4	Existing road: FR 305
BNE Project	1	T28N, R3E, S4	8	12	6	Existing road: FR 305
New Year	1	T29N, R3E, S31	10	6	2	Existing road: FR 305
Peterson Flat Project	1	T28N, R6E, S6	6	12	6	Existing road: FRs 305, 305B, and 313
Rattlesnake Project	2	T30N, R2E, S29 and 32	9	8	2–3	Existing road: FRs 328, 335, and 2612
Shale Project	1	T29N, R3E, S21	9	6	2	Existing road: FRs 305, 305A, and 343
WE 11 Project	1	T28N, R4E, S22	2	12	6	Existing road: FRs 305, 776, and 305B

Drill site equipment consists of the following:

- One truck-mounted (10-wheel) drill rig would remain on-site during operation;
- Two water trucks (10 wheel) would make an average of two trips per day to and from the site;
- One pipe truck (10 wheel);
- One air compressor or booster;

- One or more ¾-ton pickup trucks for access to and from the site as needed;
- Backhoe would be present on-site during initial site work and reclamation;
- Fuel trailer for hauling fuel to the site would remain on-site during operations;
- Flatbed trailer for hauling miscellaneous equipment would remain on-site during operations; and
- Self-contained travel trailer for drill crew and site security (no permanent structures are proposed).

1.3.2 Drill Site Reclamation

All drill holes would be properly reclaimed in accordance with federal and state water quality standards outlined in 36 Code of Federal Regulations (CFR) Chapter II Part 228.8(b)(a) and the Arizona Department of Water Resources permit. If groundwater is encountered, the drill holes would be plugged in accordance with federal and state regulations. All drill holes would be plugged and capped prior to the drill rig's exiting the drill site.

Once drilling operations are complete at any one site, reclamation would begin. First, drill cuttings would be returned to the open borehole as much as possible. Holes would then be plugged at the surface with 20-feet of concrete and marked, and pits used for fluid containment (if present) would be filled with stockpiled soils once the fluids in the pit dries. Drying time is dependent on weather conditions, but is estimated to be 1 to 4 weeks after drilling operations cease. Pits would be covered with at least 3 feet of topsoil or until radiation levels are equal to background levels in the immediate area. All equipment, waste, and trailers would be removed at the end of operations.

All drill sites and roads would be recontoured to approximate the original (pre-drilling) shape of the ground to blend in with the surrounding area. The area would be reseeded with a USFS-approved certified weed-free seed mix at the appropriate time of year and at an application rate appropriate for optimum seed sprouting and plant growth. Seeding would be completed using the broadcast method and hand or machine raked to a textured or rough condition. Seeded areas would be monitored for stability and revegetation success for a minimum of 3 years or until attainment of USFS revegetation standards have been met.

Reclamation activities would occur during all phases of the drilling process and involves management of drilling operations to contain cuttings and drilling fluids and keeping worksites clean and safe. Concurrent reclamation of roads and drill sites would be conducted to the extent possible during drilling operations. Final reclamation would be completed within 1 year of project completion or abandonment.

1.4 Desired Condition

1.4.1 Laws, Directives, and Regulations

Forest Plan Direction
Relevant direction from the Kaibab NF Land Management Plan (1988, as amended) includes the following.

Goals
- Identify and protect areas that contain threatened, endangered, and sensitive species of plants and animals. Consult with the U.S. Fish and Wildlife Service (USFWS) when activities have the potential to impact protected species.

Other USFS Direction

USFS Manual 2670

- Develop and implement management practices to ensure that (sensitive) species do not become threatened or endangered because of USFS actions.

USFS Manual 2620.1; 1991

- Manage habitats for all existing native and desired non-native plants, fish, and wildlife species in order to maintain at least viable populations of such species.
- Habitat must be provided for the number and distribution of reproductive individuals to ensure the continued existence of a species generally throughout its current geographic range.

The overall desired condition is maintenance of sustainable ecosystems within and surrounding the Tusayan RD, in which land use projects do not impair important ecosystem functions, such as maintaining vegetation diversity and productivity.

2.0 METHODS

The animal species evaluated in this report were based on 1) the list of endangered, threatened, and candidate animal species for Coconino County, Arizona, available at the USFWS website (USFWS 2009); 2) animal species listed as Sensitive by the Southwest Region (R3) of the USFS (Williams and Tusayan RDs); 3) Kaibab NF MIS; and 4) species protected under the authority of the MBTA. Sensitive species are defined as "those plant and animal species identified by a Regional Forester for which population viability is a concern, as evidenced by: a) significant current or predicted downward trends in population numbers or density; or b) significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution [USFS Manual 2670.5(19)]." The USFWS Coconino County species list is provided in Appendix A. Kaibab NF MIS includes game species.

The AGFD maintains a statewide database, the Heritage Data Management System (HDMS), which tracks records for federally listed and other special-status species. SWCA accessed HDMS through the Arizona Heritage Geographic Information System (AZHGIS) online environmental review tool to determine whether any federally proposed or designated Critical Habitat or special-status animal species have been documented in or near any of the proposed drill sites. The search results, which consist of an automatically generated online response document, are included in Appendix B.

The potential for occurrence in the project area of the animal species addressed in this report was based on 1) documented records; 2) site-specific field surveys; 3) existing information on distribution; and 4) qualitative comparisons of the habitat requirements of each species with vegetation communities or landscape features (e.g., soils) at each of the drill sites. Possible impacts to these species were evaluated based on reasonably foreseeable project-related activities.

The proposed drill sites were surveyed in 2007, 2008, and 2009. The field visits consisted of a pedestrian survey to evaluate ecological features (i.e., vegetation and soils) considered important to the potential occurrence of special-status animal species. Vegetation at each site was classified to the community level according to the system described in Brown (1994).

3.0 RESULTS

3.1 Ecological Overview

There are two primary physiographic provinces in Arizona, the Basin and Range in the south and west and the Colorado Plateau in the north and east. The project is located in the Colorado Plateau physiographic province, which consists of a thick sequence of flat to gently dipping sedimentary rocks eroded into majestic plateaus and dissected by deep canyons. Unlike the Basin and Range Province, Colorado Plateau relief is more the result of deep canyons cut into moderately flat terrain than of mountains and valleys created mostly by deformation. Volcanic mountains exist within the province, but block-fault structural mountain ranges do not.

3.2 Vegetation

The proposed drill sites are located in the Great Basin Conifer Woodland, Petran Montane Conifer Forest, and Great Basin Desertscrub biomes (Brown 1994). Vegetation communities include pinyon-juniper woodland, sagebrush grassland, and ponderosa pine forest.

- Pinyon-juniper woodland is dominated by Rocky Mountain pinyon (*Pinus edulis*) and juniper (*Juniperus* sp.). Ponderosa pine occurs as occasional scattered individuals or small groups of trees (fewer than 5 per acre) above the general tree canopy. The current stand structure is a direct result of stand development over the past 120 years, since the introduction of livestock grazing and fire exclusion. Historically, much of the area within these sites was occupied by grasses, forbs, and shrubs that filled the interspaces between groups of trees. In the past 120 years, pinyon and juniper reproduction has been steadily filling these interspaces. Grasses, forbs, and shrubs (mostly cliffrose [*Purshia* sp.], sagebrush [*Artemisia* sp.], and Apache plume [*Fallugia paradoxa*]) still exist at moderate levels where tree canopy has not completely closed. Ground vegetation is, however, very much reduced from historical levels as a result of the expansion of tree cover within these sites. With reduced ground cover species, the watershed and soils are more susceptible to erosion from storm runoff.

- The sagebrush grassland community is dominated by big sagebrush (*Artemisia tridentata*), broom snakeweed (*Gutierrezia sarothrae*), rubber rabbitbrush (*Ericameria nauseosa*), and blue grama (*Bouteloua gracilis*), with scattered Rocky Mountain pinyon and juniper. Also present in this community are fringed sagebrush (*Artemisia frigida*), globemallow (*Sphaeralcea* sp.), cholla (*Opuntia* sp.), narrow-leafed yucca (*Yucca angustissima*), wolfberry (*Lycium pallidum*), dwarf rabbitbrush (*Chrysothamnus depressus*), and needlegrass (*Stipa speciosa*).

  Many of the sagebrush communities in the Tusayan RD are in advanced seral stages that are characterized by poor understory development, plant diversity, and cover. Now that many of these sagebrush communities are predominantly old and decadent, they lack vigorous younger plants most productive for sagebrush-dependent wildlife. Lack of understory vegetation has resulted in areas of bare ground, making the watershed/soils more susceptible to erosion-causing events.

- The ponderosa pine (*Pinus ponderosa*) forest community includes as an understory component scattered Gambel oak (*Quercus gambelii*) and a variety of grass species, such as Arizona fescue (*Festuca arizonica*), mountain muhly (*Muhlenbergia montana*), pine dropseed (*Blepharoneuron tricholepis*), blue grama, and squirreltail (*Elymus elymoidesare*). Several species of annual and perennial forbs may occur; however, densities are dependent on annual precipitation. Shrubs such as big sagebrush, black sagebrush (*Artemesia nova*), rubber rabbitbrush, and broom snakeweed also are present, but they are not common. Throughout most of this community, ponderosa pine densities have suppressed understory vegetation. This has resulted in poor understory vegetation production, reduced density and diversity of understory plants, and areas of bare soil.

Soils at the proposed drill sites are in general shallow to moderately deep, fine textured, and derived from limestone and sandstone (Hendricks 1985). The topography can be characterized as level to moderately sloping (0%–15% slope) plains with low rolling hills and small drainages. There is some risk for unacceptable sheet and rill erosion (capable of eroding at rates greater than the long-term sustainable level) at some of the proposed drill site locations. Precautions should be taken to avoid creating new bare soil on more than 10% of the proposed project sites.

There are no perennial or intermittent streams in the immediate vicinity of the proposed drill sites. The only permanent water in the area is found in stock tanks built to catch and hold rainfall and snowmelt. No riparian or wetland vegetation is located within the project vicinity.

3.3 Federally Listed Species

Thirteen animal species are currently listed as endangered or threatened, or are candidates for listing as endangered or threatened in Coconino County (Table 2). The drill site locations are either clearly beyond the known geographic or elevational range of these species or do not contain vegetation or landscape features known to support these species, or both. None of the drill sites are located within Critical Habitat for any of these species. Mexican spotted owl (MSO), black-footed ferret, and California condor are evaluated in greater detail below.

3.3.1 Mexican Spotted Owl

None of the proposed drill locations occur within MSO Critical Habitat, which is found in the steep-walled canyons below the rim of the Grand Canyon and not on lands administered by the Kaibab NF. Furthermore, there are no known MSO territories located in the immediate vicinity of any of the proposed drill site locations. The proposed action will have no effect on MSO or MSO Critical Habitat.

3.3.2 Black-footed Ferret

Black-footed ferrets are known to occur in western Coconino County and historically were found in western Coconino County eastward and north of the Mogollon Rim within the range of Gunnison's prairie dog. No prairie dog towns were observed within any of the proposed drill sites. The proposed action will have no effect on black-footed ferret.

3.3.3 California Condor

There are no rock outcroppings or cliffs within or immediately adjacent to any of the proposed drill sites. Although condors forage frequently on the Kaibab Plateau on the north side of the Grand Canyon, condor foraging on the south side of the Grand Canyon on the Tusayan RD has so far been limited and infrequent (Chris Parish, The Peregrine Fund, personal communication 2009), and there are no known condor nests or roost sites on the Tusayan RD. The proposed action will have no effect on California condor.

Table 2. Federally Listed Animal Species Occurring in Coconino County, Arizona

Range or habitat information is from HDMS (2009); USFWS Arizona Ecological Services Field Office (USFWS 2009); *Arizona Rare Plant Field Guide* (Arizona Rare Plant Committee n.d.); and Corman and Wise-Gervais (2005).

Common Name (Species Name)	Status*	Critical Habitat	Range or Habitat Requirements	Potential for Occurrence	Effects Determination

Common Name (Species Name)	Status*	Critical Habitat	Range or Habitat Requirements	Potential for Occurrence	Effects Determination
Apache (Arizona) trout (*Oncorhynchus gilae apache*)	USFWS T	No	Found in small, cold, high-gradient streams on substrates that consist of boulders, rocks, and gravel with some sand or silt at elevations above 5,000 feet above mean sea level (amsl) in mixed-conifer forests and mountain meadows. Restricted to streams in the upper Salt, Gila, Blue, and Little Colorado drainages in the White Mountains on the White Mountain Apache Indian Reservation and in the Apache-Sitgreaves National Forest. Populations introduced outside the historic range may still exist in the Coronado NF and the northern portion of the Kaibab NF.	Unlikely to occur. Outside known range and no aquatic sites.	No effect.
Black-footed ferret (*Mustela nigripes*)	USFWS E	No	Found on grassland plains in mountain basins at elevations below 10,500 feet amsl, usually in association with prairie dogs, which serve as a primary source of food and burrows. Only reintroduced populations are known to exist in the wild. In Arizona, they occur only in Aubrey Valley in Coconino County.	Unlikely to occur. No prairie dog towns at any of the proposed drill sites.	No effect.
California condor (*Gymnogyps californianus*)	USFWS E	Yes	Nesting sites are in caves, crevices, and potholes in isolated regions of the Southwest. USFWS began reintroducing an experimental, nonessential population of California condors into northern Arizona and southern Utah in 1996. On November 5, 2003, a pair successfully fledged one nestling from a cave at Grand Canyon, becoming the first California condor to be successfully hatched and reared in the wild since 1984.	Unlikely to occur. No nearby nest sites.	No effect.
Chiricahua leopard frog (*Lithobates [Rana] chiricahuensis*)	USFWS T	No	Restricted to springs, livestock tanks, and streams in the upper portions of watersheds at elevations between 3,281 and 8,890 feet amsl in central, east-central, and southeastern Arizona. Populations in central and east-central Arizona are disjunct from those in southeastern Arizona and may be distinct species.	Unlikely to occur. No aquatic sites.	No effect.
Humpback chub (*Gila cypha*)	USFWS E	Yes	Occurs at elevations generally below 4,000 feet in a variety of riverine habitats, especially canyon areas with fast currents, deep pools, and boulder habitat. In Arizona, it occurs in the Grand and Marble canyon portions of the main stem Colorado and lower Little Colorado rivers.	Unlikely to occur. No aquatic sites.	No effect.
Kanab ambersnail (*Oxyloma haydeni kanabensis*)	USFWS E	No	Found at an elevation of approximately 2,900 feet amsl in semi-aquatic vegetation watered by springs or seeps at the base of sandstone or limestone cliffs. In Arizona, occurs at one location in upper Grand Canyon National Park.	Unlikely to occur. Outside known range and no aquatic sites.	No effect.
Little Colorado spinedace (*Lepidomeda vittata*)	USFWS T	Yes	Inhabits small to medium-sized streams, where it is characteristically found in pools with fine gravel and silt-mud substrates at elevations between 4,000 and 8,000 feet amsl. Occurs in East Clear Creek and its tributaries (Coconino County); Chevelon and Silver creeks (Navajo County); and Nutrioso Creek and the Little Colorado River (Apache County).	Unlikely to occur. No aquatic sites.	No effect.
Mexican spotted owl (*Strix occidentalis lucida*)	USFWS T	Yes	Found in mature, montane forests and woodlands and steep, shady, wooded canyons. Can also be found in mixed-conifer and pine-oak vegetation types. Generally nests in older forests of mixed conifers or ponderosa pine–Gambel oak. Nests in live trees on natural platforms (e.g., dwarf mistletoe brooms), snags, and canyon walls at elevations between 4,100 and 9,000 feet amsl.	Unlikely to occur. No territories located in the immediate vicinity of any of the proposed drill site locations.	No effect.

Common Name (Species Name)	Status*	Critical Habitat	Range or Habitat Requirements	Potential for Occurrence	Effects Determination
Northern Mexican gartersnake (*Thamnophis eques megalops*)	USFWS C	No	This species is most abundant between 3,000 and 5,000 feet amsl in densely vegetated habitat surrounding cienegas, streams, and stock tanks, in or near water along streams in valley floors and generally open areas, but not in steep mountain canyon stream habitat. Considered extant in fragmented populations within the middle-upper Verde River drainage, middle-lower Tonto Creek, Cienega Creek, and in a small number of isolated wetland habitats elsewhere in southeastern Arizona.	Unlikely to occur. No aquatic sites.	No effect.
Razorback sucker (*Xyrauchen texanus*)	USFWS E	Yes	Found in backwaters, flooded bottomlands, pools, side channels, and other slower-moving habitats at elevations below 6,000 feet amsl. In Arizona, populations are restricted to Lakes Mohave and Mead and the lower Colorado River below Havasu in the Lower Basin. In the Upper Basin, small, remnant populations are found in the Green, Yampa, and main stem Colorado rivers.	Unlikely to occur. No aquatic sites.	No effect.
Roundtail chub (*Gila robusta*)	USFWS C	No	Found in cool to warm waters of rivers and streams at elevations ranging from 1,000 to 7,500 feet. Often occupy the deepest pools and eddies of large streams. In Arizona, the roundtail chub occupies the lower Colorado River basin, where it is limited to the Little Colorado, Bill Williams, Salt, and Verde River drainages and Eagle and Aravaipa creeks. It also is found in the upper Gila River in New Mexico. Roundtail chub in the lower Colorado River basin (Arizona and New Mexico) are considered a distinct population segment.	Unlikely to occur. No aquatic sites.	No effect.
Southwestern willow flycatcher (*Empidonax traillii extimus*)	USFWS E	Yes	Found in dense riparian habitats along streams, rivers, and other wetlands where cottonwood, willow, boxelder, saltcedar, Russian olive, buttonbush, and arrowweed are present. Nests are found in thickets of trees and shrubs, primarily those that are 13 to 23 feet tall, among dense, homogeneous foliage. Habitat occurs at elevations below 8,500 feet amsl.	Unlikely to occur. No dense riparian vegetation or wetlands.	No effect.
Yellow-billed cuckoo (*Coccyzus americanus*)	USFWS C	No	Typically found in riparian woodland vegetation (cottonwood, willow, or saltcedar) at elevations below 6,600 feet amsl. Dense understory foliage appears to be an important factor in nest site selection. The highest concentrations in Arizona are along the Agua Fria, San Pedro, upper Santa Cruz, and Verde river drainages and Cienega and Sonoita creeks.	Unlikely to occur. No riparian woodland vegetation.	No effect.

*USFWS Status Definitions

C = Candidate. Candidate species are those for which USFWS has sufficient information on biological vulnerability and threats to support proposals to list as endangered or threatened under the ESA. However, proposed rules have not yet been issued because they are precluded by other listing activity that is a higher priority. This listing category has no legal protection.

E = Endangered. The ESA specifically prohibits the take of a species listed as endangered. Take is defined by the ESA as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct.

T = Threatened. The ESA specifically prohibits the take of a species listed as threatened. Take is defined by the ESA as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct.

3.4 USFS Sensitive Species

Animal species classified as Sensitive by the Southwest Region (R3) of the USFS and identified as known to occur or having the potential to occur on the South Zone of the Kaibab NF (Williams and Tusayan RDs) are listed in Table 3. Information on species range and habitat was taken primarily from Arizona Game and Fish Department (AGFD) Heritage Data Management System (HDMS) (HDMS 2009) and the NatureServe database (NatureServe 2009).

Of the species listed in Table 3, those for which there may be potentially suitable habitat in the vicinity of one or more proposed drill sites include northern goshawk, bald eagle, American peregrine falcon, and Mogollon vole. Noise associated with drilling could have a minor, short-term negative effect on individuals of some species but will not affect the overall distribution of these species.

3.4.1 Northern Goshawk

There are goshawk nest areas located between 1 and 2 miles from some of the proposed drill site locations, but no known nests in or immediately adjacent to any drill sites according to surveys conducted by Kaibab NF wildlife biologists during 2007. Northern goshawks typically nest in areas with relatively dense forest structure dominated by large-diameter trees. Because this forest structure is not present at any of the drill site locations, it is believed that the project will have no effect on goshawk nesting habitat.

It may be necessary to remove a small number of individual trees to allow drilling equipment to maneuver at some drill sites. However, no tall trees or snags would be removed. The effects of thinning would likely be neutral but could result in minor positive benefits for goshawk by creating a more open forest understory for foraging birds. Noise from drilling exploratory holes may have a short-term negative effect on northern goshawks that may be using nearby habitats.

3.4.2 Bald Eagle

Historically, bald eagles nested on the Mogollon Rim at Stoneman and Mormon lakes and at Lake Mary. Currently, a resident population of bald eagles can be found in central Arizona, while a wintering population is found in both central and northern Arizona. A sporadic wintering population has also been observed along the Colorado River. According to the AGFD HDMS species search, a winter roosting site is known to occur within 5 miles of some drill site locations. However, exploration activities will likely not be conducted in winter; therefore, no impacts to wintering bald eagles will likely occur. Because nesting bald eagles require large trees or cliffs near water, nesting habitat will not be compromised by the proposed project.

3.4.3 American Peregrine Falcon

American peregrine falcon nesting habitat includes steep, sheer cliffs overlooking woodlands, riparian areas, and other habitats supporting avian prey species. No exploratory drilling would take place in areas with cliffs or riparian habitats; consequently, the American peregrine falcon will not be affected by project activities. Limited, short-term disturbance to falcons foraging near project areas is possible but unlikely.

3.4.4 Mogollon Vole

Habitat for Mogollon vole includes prostrate shrub thickets that provide dense cover, in areas with high litter and bare ground. It also is found in dry, grassy areas, usually adjacent to ponderosa pine forests,

occasionally in juniper woodlands or stands of sagebrush, or in higher elevation spruce-fir forests. On the Kaibab NF, this species is found at an elevation range of 800 to 9,700 feet. Based on this description, potential habitat for this species appears to be scattered throughout the project area. However, because of the small-scale disturbance footprints associated with the project and the relatively large area occupied by Mogollon vole, it is extremely unlikely that the Proposed Action would result in adverse population-level effects on this species.

Table 3. Species from the 2007 Southwestern Region (R3) Sensitive Species List Whose Ranges Overlap the Williams or Tusayan RD Boundaries and for Which at Least One of the Two Districts Contains Suitable Habitat

Species	Distribution and Habitat
Northern leopard frog (*Rana pipiens*)	Northern and central Arizona. Permanent water with rooted aquatic vegetation and adjacent wet meadows. Historically occurred on Williams RD but no known current populations.
Bald eagle (*Haliaeetus leucocephalus*)	No known nests on Kaibab NF. Primarily a winter resident/migrant on both districts. Feeds primarily on fish, waterfowl, and carrion.
Northern goshawk (*Accipiter gentilis*)	Nests primarily in ponderosa pine forests on both districts. Feeds on wide variety of birds and small to medium-sized mammals.
Burrowing owl (*Athene cunicularia*)	Open, well-drained grasslands, steppes, deserts, prairies, and agricultural lands, often associated with burrowing mammals. No known populations on either district.
American peregrine falcon (*Falco peregrinus*)	Nests on cliffs and rock outcrops. Preys on birds. Past nest sites known from Bixler and Sitgreaves Mountains on Williams RD.
Merriam's shrew (*Sorex merriami*)	Found in dry, montane coniferous forests. Known to occur in ponderosa pine forests and pinyon-juniper woodlands on Tusayan and Williams RDs.
Spotted bat (*Euderma maculatum*)	No records on Williams RD, but known to occur on Tusayan RD and in Grand Canyon. Occurs in wide variety of habitats, including ponderosa pine forest. Roosts in crevices and cracks in cliff faces and rock outcrops.
Allen's lappet-browed bat (*Idionycteris phyllotis*)	Known to occur on Williams and Tusayan RDs. Common in ponderosa pine forest but also occurs in forest and woodland types. Roosts behind sloughing bark in large, old ponderosa pine snags.
Townsend's big-eared bat (*Corynorhinus townsendii*)	Occurs in desertscrub, oak woodlands, pinyon-juniper, and conifer forest types throughout state in summer. Occurs primarily south of Mogollon Rim in winter. Uses caves, mines, and buildings as roost sites.
Mogollon vole (*Microtus mogollonensis*)	Occurs on both districts. Found in grassy areas within or near ponderosa pine, mixed conifer, spruce-fir, and aspen forest types and pinyon-juniper woodland.

3.5 Management Indicator Species

Table 4 provides a list of MIS species for the Kaibab NF. Included in the table are the habitat types for which they are indicators. Those species with the potential to occur at one or more of the proposed drill site locations are northern goshawk, wild turkey, hairy woodpecker, juniper titmouse, pygmy nuthatch, elk, mule deer, and Abert's squirrel. With the exception of northern goshawk, these species are discussed below according to habitat type. Northern goshawk, which is associated with late seral ponderosa pine forest, is discussed in Section 3.4 USFS Sensitive Species.

3.5.1 Pinyon-Juniper Woodland

The two MIS that are associated with pinyon-juniper woodland in the project area are juniper titmouse and the mule deer. Because of the small-scale disturbance footprint (less than 0.25 acre per drill site) associated with the project and the wide abundance of potentially suitable habitat in the project area, impacts from proposed exploratory drilling will not affect the overall distribution or result in long-term adverse population-level effects on these two species.

Table 4. Animal MIS on the Kaibab NF

Common Name	Scientific Name	Habitat Description	Potential for Occurrence
Invertebrates			
Aquatic macroinvertebrates	Includes mayflies, stoneflies, and caddisflies	Perennial streams and other perennial waterbodies.	Unlikely to occur. No aquatic sites.
Birds			
Cinnamon teal	*Anas cyanoptera*	North and South Kaibab: ponds, lakes, and tanks with wetland habitat.	Unlikely to occur. No aquatic sites.
Northern goshawk	*Accipiter gentilis*	North and South Kaibab: ponderosa pine, mixed conifer, spruce-fir, and aspen forests.	Unlikely to occur. No known nests in or immediately adjacent to any drill sites.
Wild turkey	*Meleagris gallopavo*	North and South Kaibab: ponderosa pine, mixed conifer, aspen forests; pinyon-juniper woodland.	May occur. Habitat present at one or more drill sites.
Mexican spotted owl	*Strix occidentalis lucida*	South Kaibab: mixed conifer forests.	Unlikely to occur. No territories located in the immediate vicinity of any of the proposed drill site locations.
Hairy woodpecker	*Picoides villosus*	North and South Kaibab: ponderosa pine, mixed conifer, spruce-fir, and aspen forests; pinyon-juniper woodlands.	Known to occur at one or more drill sites.
Red-naped sapsucker	*Sphyrapicus nuchalis*	North and South Kaibab: aspen forests.	Unlikely to occur.
Juniper titmouse	*Baeolophus ridgwayi*	North and South Kaibab: pinyon-juniper woodlands.	
Pygmy nuthatch	*Sitta pygmaea*	North and South Kaibab: ponderosa pine forests.	Known to occur at one or more drill sites.
Lincoln's sparrow	*Melospiza lincolnii*	High-elevation wet meadows and willow-dominated riparian habitats.	Unlikely to occur. No habitat at drill sites.
Lucy's warbler	*Vermivora luciae*	Desert and other low-elevation riparian habitats.	Unlikely to occur. No habitat at drill sites.
Yellow-breasted chat	*Icteria virens*	Low-elevation riparian habitats with well-developed shrub layer.	Unlikely to occur. No habitat at drill sites.
Mammals			
Elk	*Cervus elaphus*	South Kaibab: all forest and woodland habitat types on savannahs and grasslands.	Known to occur at one or more drill sites.
Mule deer	*Odocoileus hemionus*	North and South Kaibab: all forest and woodland habitat types on savannahs and grasslands.	Known to occur at one or more drill sites.
Pronghorn	*Antilocapra americana*	North and South Kaibab: grasslands, savannahs, and open forests.	Unlikely to occur. No habitat at drill sites.
Red squirrel	*Tamiasciurus hudsonicus*	North and South Kaibab: mixed-conifer and spruce-fir forests.	Unlikely to occur. No habitat at drill sites.
Abert's squirrel	*Sciurus aberti*	North and South Kaibab: ponderosa pine forests.	Known to occur at one or more

			drill sites.

The most abundant species of deer in Arizona is the mule deer, and deer sign was observed at several proposed drill sites during field reconnaissance. Although it is included here as an indicator of pinyon-juniper woodland, it is found in a variety of vegetation types from sparse, low deserts to high, forested mountains. Effects on this species would be short term; some individuals may be temporarily displaced by noise associated with drilling, but impacts to habitat would be negligible.

The juniper titmouse is most often associated with late-succession pinyon-juniper woodland with open canopies and associated riparian habitat. It can be found in all structural stages within pinyon-juniper, but old-growth pinyon-juniper appears to be the primary nesting habitat used. In Arizona, it is a fairly common to common resident in the northeastern, northern, central, and locally southeastern portions of the state (Latta et al. 1999). Effects on this species would also be of short duration and negative; some individuals may be disturbed by noise associated with drilling, but effects on habitat would be negligible. Although noise associated with drilling would likely have a minor, short-term, negative effect on some individuals, effects on habitat would be negligible.

3.5.2 Ponderosa Pine Forest

The MIS that are associated with ponderosa pine forest are wild turkey, hairy woodpecker, pygmy nuthatch, elk, and Abert's squirrel. Because of the small-scale disturbance footprint (less than 0.25 acre per drill site) associated with the project and the wide abundance of potentially suitable habitat in the project area, impacts from proposed exploratory drilling will not affect the overall distribution or result in long-term, adverse population-level effects on these two species.

Wild turkeys are associated with a variety of forest or woodland types but were chosen to represent late-seral ponderosa pine forests. Roosting and nesting habitat consists of large, open-crowned trees, often on steep slopes (Corman and Wise-Gervais 2005). Good brood-rearing habitats include natural or human-made openings, plentiful herbaceous vegetation adjacent to forest cover, riparian areas, and midday loafing and roosting areas. Large, woody debris is also used as cover (DeGraff et al. 1991). Wild turkeys feed on ponderosa pine cones, acorn mast from oak trees, seeds from grasses and forbs and invertebrates, and they roost in large ponderosa pine trees on the South Kaibab. The Proposed Action would have a neutral to slightly negative effect on turkey habitat because access to some drill sites would require some thinning of small trees.

Hairy woodpecker and Pygmy nuthatch are primary cavity nesters in northern Arizona, and both were detected in the project area during field surveys. Hairy woodpecker and pygmy nuthatch were chosen to represent the snag component of forest habitat; Hairy woodpecker for ponderosa pine, mixed conifer and mixed conifer with aspen habitats, and pygmy nuthatch more for ponderosa pine forest only. Both species depend on dead or dying parts of live trees and snags for nesting, and abundance is strongly correlated with snag density (Corman and Wise-Gervais 2005). Noise associated with drilling would have a minor, short-term effect on individuals, but impacts to habitat would be minor and insignificant.

Elk are considered to be widespread and abundant globally, nationally and statewide. They are found year round on the South Kaibab NF. In summer they occur in forests and mountain meadows, but in winter they move to lower elevation pinyon-juniper woodland, ponderosa pine forest, and grasslands where they browse woody shrubs (Bratland et al. 2008). Elk rubs, tracks and/or droppings were observed at many of the proposed drill site locations during field surveys. Noise associated with drilling would have a minor, short-term negative effect on some individuals, but impacts to habitat would be insignificant.

Abert's squirrel live, nest, and forage in ponderosa pine forests and were detected during field surveys. Preferred habitat includes trees with a diameter at breast height of 9 to 18 inches, intermixed with larger trees, resulting in stands of trees with interlocking crowns or crowns in close proximity to each other. Thickets of medium-sized trees with fewer large trees per acre also provide good habitat. Abert's squirrels usually build their nests in the branches of large ponderosa pine trees, but also use witches brooms and cavities in Gambel oaks. Although they depend heavily on the inner bark of twigs, seeds, terminal buds and male flowers of mature ponderosa pine trees for food, they often forage on the forest floor for roots, mycorrhizal fungi, carrion, bones, and antlers (Nash and Seaman 1977). Noise associated with drilling would have a minor, short-term, negative effect on some individuals, but impacts to habitat would likely be insignificant.

3.6 Migratory Birds

The MBTA gives federal protection to all migratory birds, including nests and eggs; therefore, in order to relocate or alter any MBTA-protected nests, it is necessary to obtain a permit from the USFWS. Section 1 of the USFWS Region 2 "Interim Empty Nest Policy" states that if the nest is completely inactive at the time of destruction or movement, a permit is not required in order to comply with the MBTA. If an active nest is observed during any activities related to the project, measures should be taken to protect the nest from destruction and to avoid a violation of the MBTA.

There are no designated Important Bird Areas near the proposed drill sites, but numerous migratory bird species are expected to occur in the project area. In fact, most of the bird species considered above in the sections on Species Listed under the ESA, USFS Sensitive Species, and MIS are classified as migratory bird species. This section therefore addresses the effects of the project on Arizona Partners in Flight (PIF) Priority Species. These species are addressed by vegetation type in Table 5. None of these species were observed during field visits, which were often brief and sometimes conducted during inclement weather. The project may result in minor, short-term impacts to migratory birds as the result of noise disturbance; however, because of the small-scale disturbance footprint (less than 0.25 acre per drill site) associated with the project and the wide abundance of potentially suitable habitat in the project area, habitat impacts from proposed exploratory drilling would be insignificant.

Table 5. Arizona Partners in Flight Priority Species

Common Name	Scientific Name	Ecological Factors
	Pinyon-Juniper	
Gray flycatcher	*Empidonax wrightii*	Breed in semi-arid woodlands and brushy areas. Prefer large pinyon-juniper stands with open understory and interspersed sagebrush, cliffrose, and barberry. Some ground cover is needed for insect foraging.
Pinyon jay	*Gymnorhinus cyanocephalus*	Breeds in pinyon and ponderosa pine. Common in extensive stands of pinyon-juniper with open physiognomy.
Gray vireo	*Vireo vicinior*	Breeds in open mature pinyon-juniper woodlands on canyon and mesa slopes. Broadleaf shrubs generally present.
Black-throated gray warbler	*Dendroica nigrescens*	Primarily associated with pinyon-juniper woodlands and mixed oak-pine woodlands. Breeding habitat is characterized by a brushy understory. Foraging occurs at mid-canopy level by gleaning foliage and hovering for insects.
Juniper titmouse	*Baiolophus griseus*	Restricted to pinyon-juniper woodland vegetation type. Prefers a more open canopy.
	Great Basin Desertscrub	
Sage thrasher	*Oreoscoptes montanus*	Breeding obligate of cold desertscrub.
Sage sparrow	*Amphispiza belli nevadensis*	Commonly breeds in big sagebrush.
	Ponderosa Pine	
Northern goshawk	*Accipiter gentilis*	In the southwest primarily associated with ponderosa pine and

		mixed conifer forests but have been documented in spruce-fir, Madrean oak woodland and pinyon-juniper woodland. Often associated with drainages, trails, primitive roads or small clearings.
Olive-sided flycatcher	*Contopus borealis*	In Arizona found primarily associated with mixed conifer forests, subalpine forests with Engelmann spruce, and pure ponderosa pine forests. Snags are important as is a multi-level mature forest structure with fairly open canopy and "clumpiness."
Cordilleran flycatcher	*Empidonax occidentalis*	Breeding habitat includes spruce, fir, aspen, and pine forests, usually in moist shaded forests. Also uses hollows, canyon bottoms and riparian woodlands as well as rafters. Prefers dense canopy closure and/or drainages to create a cool microclimate.
Purple martin	*Progne subis*	Generally prefer habitats near open water and inhabit open and cut over woodlands, open grassy river valleys, meadows around pools, shores of lakes, marsh edges, agricultural lands, saguaro deserts, parks and towns. Areas with high snag density adjacent to or in open areas are preferred in Arizona pine forests.
Plains Grassland		
Swainson's Hawk	*Buteo swainsoni*	In Arizona, found in open grassland habitat, open desertscrub with a grassland component, and open agricultural lands. Nest more commonly in basin and range grasslands in southeastern Arizona than on Colorado Plateau. Builds stick nests in scattered lone trees within grassland or agricultural lands, in woodlands or in deciduous trees along stream courses.
Ferruginous hawk	*Buteo regalis*	Habitat includes grassland, shrub-grassland, shrubland, and pinyon-juniper woodland. Nests may be built on the ground, in a tall tree, or on a cliff.
Burrowing owl	*Athene cunicularia*	Found in open, dry grasslands, agricultural and range lands, and desert habitats associated with burrowing mammals. Also found in grass, forb, and open shrub stages of pinyon pine and ponderosa pine.
Grasshopper sparrow	*Ammodramus savannarum*	Prefers pure grassland habitat without trees or emergent shrubs. Nests on ground to be concealed by overhanging grass or forbs.

3.6.1 Pinyon-Juniper Woodland

Five PIF species are found in pinyon-juniper woodland. Gray flycatchers select larger stands of pinyon and juniper with an open understory, often with sagebrush or greasewood. Pinyon jays are commonly found in extensive, relatively open stands of pinyon and juniper. Gray vireos prefer open pinyon-juniper stands interspersed with broad-leaf shrubs, while black-throated gray warblers select relatively taller, denser stands of pinyon-juniper. Juniper titmouse, a pinyon-juniper obligate, was addressed in Section 3.5 Management Indicator Species.

3.6.2 Ponderosa Pine Forest

Four PIF species are found in ponderosa pine forest. Northern goshawk, which is associated with late seral ponderosa pine, is discussed in Section 3.4 USFS Sensitive Species. Olive-sided flycatchers breed in open montane and boreal coniferous and coniferous-deciduous forests, especially with abundant dead trees. Cordilleran flycatchers breed in deciduous and coniferous forests and woodlands, especially near water. Purple martins nest in tree cavities excavated by woodpeckers but will also use cliff habitat, eaves of buildings, birdhouses, or other appropriate cavity types.

3.6.3 Great Basin Desertscrub

Three PIF species are found in Great Basin desertscrub. Sage thrashers are cold desertscrub obligate breeders. Sage sparrows are closely associated with pure stands of big sagebrush throughout their range or with big sagebrush stands mixed with bitterbrush, saltbush, shadscale, rabbitbrush, or greasewood. These

shrub habitats are usually semi-open and evenly spaced. The Brewer's sparrow breeds exclusively in cold desertscrub, primarily sagebrush, but also breeds in saltbush, shadscale, and greasewood.

4.0 EFFECTS DETERMINATIONS

4.1 Direct and Indirect

Because of the short project duration (less than 60 days per site), limited impact area (less than 0.5 acre), and the commitment to reclamation once the projects are complete, the VANE project will have no cumulative effects on forest resources and no permanent impacts to wildlife habitat or wildlife populations. Implementation of the Proposed Action would not result in population-level effects, including a decrease in abundance or change in distribution, to any animal species protected under the ESA, USFS Sensitive animal species, MIS species, or PIF migratory birds addressed in this report.

Based on the rationale provided in previous sections, the Proposed Action would have "no effect" on any of the animal species addressed in this report that are protected under the ESA or to Critical Habitat for any of these animal species. The Proposed Action also will have "no impact" to any of the USFS Sensitive animal species, MIS species, or PIF migratory birds addressed in this report and will not contribute to a trend toward federal listing of any of these species.

4.2 Cumulative Effects

A Cumulative Effect, as defined by Council on Environmental Quality (40 CFR 1508.7), is the impact to the environment that results from the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts are interdisciplinary and multi-jurisdictional and usually do not conform to political boundaries. To determine the cumulative effects, past, present, and future actions were evaluated within the same geographic extent as the Proposed Action.

Past Actions

The past actions include the No Name, Nameless, and Harbison grassland restoration projects (approximately 1,500 acres), Harbison fuelwood sales (550 acres), Tusayan South Fuel Reduction Project (1,100 acres), Sage Tank Grassland Mowing project (145 acres), and pronghorn antelope fence modification (33 miles). The Upper Basin Fuelwood Project on 151 acres, signed in 2003, is being implemented as funding occurs. The Upper Basin Prescribed Burn (1,884 acres of sagebrush and grassland burned), signed in 2000 has been completed. Large-scale prescribed burning also occurred in this area around 1991.

The Tusayan RD and vicinity has a long history of copper and uranium mining activities. In the 1870s and 1880s, copper mining began in the southwestern part of the district. More recently, there have been uranium explorations. The Orphan Uranium Mine on the South Rim of Grand Canyon National Park (within the park) was fully operational in the 1950s and 1960s. There were also two or three companies that were prospecting and test drilling for uranium during the 1980s on the Tusayan RD. Of these, the owners of the Canyon Uranium Mine, located off Forest Road 305, installed infrastructure and completed environmental compliance, but the mine was never made operational because of falling uranium prices.

Present Actions, Including Proposed Actions

Decisions regarding domestic livestock grazing include environmental analysis for the Anita-Cameron and Moqui allotments. The Anita-Cameron Allotment was stocked in 2007 after a 5-year hiatus. The Moqui allotment is stocked annually. A proposed future project on the Anita-Cameron Grazing Allotment is the construction of 19 new wildlife catchments. Claims CP2, CP3, and CP8 in the Upper Basin area are within the Anita-Cameron Allotment. According to plans for the proposed 1,700-acre Moqui Grassland Maintenance Project (signed in 2006), roughly half the project area is proposed for treatment by burning and the rest for a combination of thinning and burning.

Some actions that occur near all of the proposed drill sites outside of planned projects are fuel wood cutting and Christmas tree harvesting, elk antler shed collection, and user-created roads from these activities; dispersed camping and big-game hunting (elk, deer); recreational driving; illegal heritage artifact collection; and pinyon nut harvesting.

Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions include uranium mining. Of the current 1,500+ claims on the Tusayan RD, however, only VANE is proposing to conduct exploratory drilling on the Kaibab NF.

4.3 Best Management Practices and Mitigation Measures Specific to the Proposed Action

BMPs and mitigation measures are measures that are taken to minimize potential negative impacts that may occur as a result of implementation of the Proposed Action. Mitigation measures are also developed to address concerns that might be raised about the Proposed Action. Further mitigation measures may be developed as more project input is received. Following are the BMPs and mitigation measures that have been developed to date for the Proposed Action:

1. Project sites are to be kept clean at all times. Engine and equipment fluids and waste fluids will be contained at all times and collected in original or similar containers during maintenance and will be disposed of at approved off-site disposal facilities. Solid waste (e.g., trash, consumables containers) is to be collected and disposed of at approved off-site disposal facilities. No items are to be disposed of on-site.

2. Vehicles will stay on designated driving routes to avoid excessive soil or vegetation disturbance.

3. Heavy equipment and vehicles will not be used off road in the project area when soils are saturated and the potential for road damage and erosion is high. Equipment already on-site will continue to work but will not be moved until soils are drained and dried sufficiently to avoid wet-soil compaction and rutting.

4. To aid in reclamation and to prevent potential negative impacts at certain sites, water and/or drilling fluid that circulates from boreholes will be confined, as much as practical, to fluid pits, to be later backfilled and reclaimed when drilling operations are completed.

5. In the event that fuel or waste fluids are spilled, the affected soil will be removed for disposal off-site and the USFS will be notified.

6. Fencing is to be placed around fluid pits lasting longer than 2 days, as required to protect wildlife.

7. To prevent fire, all equipment, including small gas engines for generators and water pumps, will have spark arrestors. All equipment on-site and going to and from the sites will have chemical fire

extinguishers, which are to be readily accessible during drilling operations. Any water trucks will have hoses with nozzles and pressure suitable for use in the event of a fire. On-site smoking will be by USFS rules and guidelines, and no smoking materials, such as cigarette butts, will be discarded on the ground.

8. Sites will be revegetated using a native seed mix approved by Kaibab NF.
9. The proponent or its contractors should not drive through or work in any area where there is a witness tree sign (yellow sign describing location of nearby monitoring cluster) or any angle irons (fence posts) buried in the ground with 6 to 12 inches exposed aboveground. The angle irons mark the actual location of the permanent transects. The company should contact Clare Hydock, Range Staff, Kaibab NF, for a field check before proceeding.
10. Purchased seed or mulch will not be used within populations of rare plants, in order to prevent the introduction of invasive species and to prevent attracting wild ungulates to the area.
11. The following measures will be taken to minimize risk of a harmful interaction with any California condors that may occur near project-related activities: 1) project work sites will be cleaned up at the end of each day to avoid trash accumulation that may attract condors; 2) if a condor shows up near project-related activities, a USFS wildlife biologist will be contacted immediately and any project-related activity likely to harm the condor will halt temporarily until the condor flies away or is driven away by permitted personnel; 3) project workers will be instructed to avoid any interaction with condors; 4) the wildlife biologist will be notified if any project-related vehicle fluid leak or spill occurs that could result in condor poisoning.

4.4 Determination of Significant Effects

With the implementation of the BMPs and mitigation measures listed in 4.3, this project will have no significant negative effects on threatened, endangered, or sensitive animals.

Prepared By:

/s/ **Date:** 11/17/09

XXXXX
Senior Scientist
Environmental Services

Reviewed By:

/s/ **Date:** x/xx/09

Jeff Waters
Wildlife Biologist
Kaibab NF, South Zone

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APPENDIX A

USFWS Species List

APPENDIX B

AZHGIS Online Environmental Review Tool Search Results

HDMS No.	Claim Name
1	Antelope Project
2	Antelope Tank
3	CP1
4	CP2
6	CP4
7	CP6
8	CP8
10	CP10
11	CP11
12	CP14
13	CP17
14	CP18
15	CP19
16	Rattlesnake Project 1
17	Rattlesnake Project 2
18	Shale Project
19	Auto Pipe Project
20	Black Box
21	BNE Project
22	New Year
23	Peterson Flat Project
24	WE 11 Project

July 28, 2009, SWCA Environmental Consultants/
Coronado National Forest Rosemont Oversight
Meeting Agenda

Location: Coronado National Forest Supervisor's Office, 300 W. Congress, Tucson, AZ. 85701.

Attendees: Forest Service: Teresa Ann Ciapusci, Bev Everson, Mindee Roth, SWCA: Charles Coyle, Tom Furgason

Agenda:

Scoping reports (1, 2 and status of 3)

SWCA 2009 work plan

Status of review/approval of visual simulation scope of work

Alternatives

Use of Limehouse for DEIS scoping

Affected Environment (resource area outlines; laws and regulations, Bounds of Analysis)

Issue Statements and Units of Measure

ROAD MAINTENANCE REPORT

October 5, 2009

To Whom It May Concern,

In a phone conversation with Kendall Brown on the question over the use of forest roads in the Barrel Canyon/Rosemont Junction area adjacent to the Rosemont Copper property, Kendall explained that they were given the same guidelines as all permitees are given as to the use of Forest System roads and their maintenance.
The agreement was an informal agreement between then District Ranger Keith L. Graves, Kendall Brown and Tom Kay of Rosemont Copper.
Rosemont Copper was granted use of the roads for their operations and were to maintain the roads up to but not to exceed the existing maintenance level of the roads in question. This is the standard operating requirement of all permittees granted use of forest roads under a special use permit.
Kendall said that he had been asked by Rosemont Copper if they could do some limbing along the roads in order to allow 18 wheel stock trucks to access their ranch facilities at the Rosemont Ranch, which he, Kendall Brown granted permission to that request.
Kendall said that early on as Rosemont Copper began using the roads that from his observations they were complying with the agreement.

Respectfully submitted,

Arthur S. Elek
Fire Prevention Officer
Nogales Ranger District
Coronado National Forest

MEMORANDUM

Date: October 14, 2009

To: The Honorable Chairman and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator

Re: Rosemont Copper Publicity Statements

On or about September 21, 2009, Rosemont Copper sent to a number of individuals in the community a publicity statement about their proposed Rosemont Mine in the Santa Rita Mountains on Forest Service lands within the Coronado National Forest. The letter and pamphlet make a number of statements or claims that require a response.

I will also forward a response to the Forest Service for inclusion in the Environmental Impact Statement currently being prepared for Rosemont, as the statements relate directly to, and may be in some cases, inconsistent with the proposed plan of mining operations submitted by Rosemont to the Forest Service. In addition, the comments form an appropriate socioeconomic context for evaluating and determining the intent of Rosemont in the areas of reclamation, remediation, and minimizing environmental impact.

I am enclosing a copy of the Rosemont publicity letter (Attachment 1) for your information and reference, and I am highlighting specific statements within the letter that require a County response. These statements, along with County concerns, are as follows:

1. Regarding the issue of sustainability, Rosemont states, ***"Rosemont Copper's vision is to use sustainable mining practices..."***

   County concern: Rosemont Copper uses the term "sustainable mining." This phrase is an oxymoron. The industry realizes that mining at a given location is unsustainable. "Sustainable mining" really means instituting voluntary measures that invoke a willingness to accept new mines or expand old ones. As one mining company put it,

   > *"To secure a continuing license to operate, the mining and resources industry will have to frame its future in economically viable, socially beneficial and environmentally sound practices that are negotiated with communities within which it works."* [1]

Rosemont's mailing sent to local residents attempts this kind of negotiation.

Current laws provide mining companies easier access to land and water than other businesses or individuals. Many local laws do not apply at all to mines. So why is a social "license to operate" needed? To reduce investment risks. Rosemont is in competition with other prospects for investment dollars. Prospective mines which are opposed by citizens and their local governments may be exposed to more risks.

Motives aside, a vision of more responsible mining practices should be welcomed in Pima County, a county that lives with the unsavory residues of mining. Unfortunately, while there are many visions of what constitutes sustainable mining, there is a lack of clear performance standards within the industry.[2]

On October 6, 2006, Pima County provided Rosemont five environmental performance standards for Rosemont to meet (Attachment 2). These standards were:

1. Adherence to the Conservation Lands System Guidelines in the form of offsite mitigation of approximately 8,800 acres;
2. No impact to water in the Cienega Basin and Cienega Creek, including Davidson;
3. Concurrent reclamation with commitments that are enforceable and funds that are committed before impacts;
4. Visual impact mitigation that include contouring and landscaping that matches the surrounding landscape and land forms;
5. Environmental enhancement endowment for management of mitigation lands that in provided before impacts or as impacts occur.

Rosemont's proposal does not meet any of our five standards. The extensive local opposition the company has encountered is indicative of additional, unresolved concerns about the economic viability, social benefits, and environmental practices, and about the validity of claims to use Forest land for disposal of waste rock and tailings.

One of the greatest impediments to sustainable mining is the industry's inability to avoid polluting land and water. Of these impacts, water quality is the single most costly impact at copper mines, not surface damage[3]. A study of 70 Environmental

Impact Statements (EISs) for modern-era hardrock mines found consistent underestimation of water quality impacts[4].

Neither the industry nor the government has successfully addressed the financial components of sustainability. Taxpayers have been saddled with enormous cleanup costs and health risks, and support costs for unemployed work forces stranded by mine closures. Financial assurances for existing large copper mines in the West are on the order of $3,000 to $5,000 per acre, barely enough to cover surface reclamation, let alone water quality contamination[5]. Yet in many cases, environmental protection and remediation measures will be needed *in perpetuity.*

2. On the issue of water resources, Rosemont states, ***"We will use this sustainable supply [Central Arizona Project water] to recharge the groundwater we use."***

   County concern: Rosemont's statement above might lead one to believe that the CAP water would recharge the groundwater aquifer that Rosemont would use. This is not the case. Rosemont is voluntarily recharging CAP water in Marana, approximately 36 miles from the site. The Marana recharge site is located in a different groundwater basin. CAP water recharged near Marana would never replenish the aquifers the company would deplete because the CAP recharge site is some 800 feet lower than the point of groundwater extraction near Sahuarita.

   There are two principal locations where groundwater would be affected by Rosemont's activities: near Sahuarita where the company's wellfields (blue in the figure below) would be located, and in the upper and lower Cienega basins east of the Santa Rita Mountains, where the mine (purple) would excavate a hole 2000 feet deep, into the water table that feeds portions of Davidson Canyon and upper and lower Cienega Creek.

   Rosemont is examining other potential recharge sites closer to Green Valley. None of these sites would abate any of the impacts to the Cienega basin, but recharging CAP water near their wellfield could reduce some of the impacts in the Sahuarita area.

3. Regarding the matter of restoring the environment, Rosemont states, ***"Our reclamation plan is truly precedent-setting, taking place concurrently with operations so that it will be nearly complete when the mine reaches the end of its life cycle."***

County Concerns:
Final Topographic Surface Configuration / Surface Water Management

The proposed 20-year mining operation will leave a permanent visual legacy to future generations of southern Arizonans and visitors, consisting of a massive tailings and waste rock disposal mound over three miles long, one to 1½ miles wide, and up to 600 feet high. Although Rosemont Copper documents state they intend to "reclaim the site with methods that mimic natural landform terrain", the best efforts of the company will result in filling of several watersheds to create a terraced waste pile, an artificial ridge transverse to natural topography, and a tailings pile set in the forefront of the Santa Rita Mountains.

Reclamation taking place concurrently with operations will not be "nearly complete" when the mine reaches the end of its life cycle. As shown in the Reclamation and Closure Plan, reclamation activities for the vast majority of the entire upper surface of the *Tailings and Waste Rock Disposal Mound* (approximately 2.5 square miles) will only start near or at the end of the mine operation. (http://www.rosemontcopper.com/MPO/ReclamationandClosurePlan.pdf)

Does Rosemont have sufficient soil available for all phases of reclamation, up to and through an extended closure period? This can only be proved by the preparation of rigorous *Soil Management Plan* which specifically details the locations and utility of appropriate site soils, and the phased excavation and use of these soils in conjunction with concurrent reclamation throughout the 20-year mine life and through the extended closure / reclamation period for the entire upper tailings and waste rock disposal mound surface.

Pima County has repeatedly requested that the flat upper surface configuration of the tailings and waste rock disposal areas be redesigned to abate visual impacts and surface water ponding and infiltration. Rosemont appears to be responding, but the company needs to do this work in conjunction with a new Surface Water Management Plan that addresses the present significantly-underestimated precipitation and surface water runoff rates. Pima County is also concerned about the damming of the watershed by Rosemont Copper produced by the creation of the Tailings and Waste Rock Disposal Mound. Together with surface waters planned to be trapped on the upper disposal mound surface, the massive dam across the watershed severely restricts permanent surface water passage downstream to Davidson Canyon. The operational effectiveness of proposed flow-through drains under the Tailings and Waste Rock Disposal Mound is questionable, both during site operations and throughout a future post-mining period.

Disruption to Wildlife

The Aquifer Protection Permit (APP) Application (Post-closure Land Uses) contains the following statement: "Because Rosemont is planning concurrent reclamation of the facility, it is anticipated that disruption to wildlife habitat and use will be minimal. It is expected that by Year 10, significant portions of the perimeter buttresses and waste rock facilities will be reclaimed."

On the contrary, although concurrent reclamation is a positive step, it provides limited remediation of the major disruption to wildlife habitat during the 25 – 35 year construction and closure period for the approximate 3,500 acre *Tailings and Waste Rock Disposal Mound*. As shown on Figure 9 of the Reclamation and Closure Plan (General Facility Layout at Year 10 of Operations), only one third of the *Tailings and Waste Rock Disposal Mound* area has been reclaimed at this time, virtually all on 3:1 constructed waste rock side slopes. Furthermore, this project will permanently obliterate streams and springs in the Rosemont area, desiccate flows into the Davidson Canyon watershed, and eventually may harm even upper Cienega Creek. Reclamation will not repair these damages to wildlife habitat.

Mine Pit Backslope Revegetation Plan

The APP Application (Concurrent Reclamation Design) contains the following statement: "Finally, measures can also be taken to accelerate vegetation on the upper benches of the Open Pit. During operations, Rosemont plans to encourage plant growth in the upper reaches of the Open Pit by seeding the upper benches before mining restricts access. It is anticipated that reseeding these areas will provide a visual break from viewpoints on Hwy 83." Rosemont Copper is requested to provide a *Mine Pit Backslope Revegetation Plan* which successfully "provides a visual break from viewpoints on Hwy 83." The reseeding of the west mine pit backslope should be completed in the Year 1 to Year 3 period.

Acid-Generating Material Testing and Segregation Plan

The APP Application (Concurrent Reclamation Design) contains the following statement: "Potentially acid-generating materials will not be used for construction of the perimeter buttresses, required drains, or fills. These materials will be placed in the interior of the Waste Rock Storage Area and isolated." Rosemont Copper must provide a specific *Acid-Generating Material Testing and Segregation Plan* which

formally describes the real-time monitoring, testing and segregation of potential acid-generating materials during ongoing facility operations.

This proposed mining operation is only slightly different from past open-pit mining activities in Pima County. It cannot be accurately characterized by the quote ***"This is not your father's mine,"*** as presented in Rosemont's publicity statement. Rosemont has not taken seriously our request for concurrent reclamation or any of our requested mitigation measures.

CHH/mjk

Attachments

c: The Honorable Congressman Raul Grijalva, Arizona District 7
The Honorable Congresswoman Gabrielle Giffords, District 8
Suzanne Shields, Director, Pima County Regional Flood Control District
Julia Fonseca, Environmental Planning Manager Pima County Office of Conservation Science and Environmental Policy
Diana Durazo, Staff Assistant, Pima County Administrator's Office

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[1] Anglo American, one of the 10 companies involved in the Global Mining Initiative. See the Initiative report summary at http://www.iied.org/mmsd/mmsd_pdfs/finalreport_es.pdf. Accessed 27 November, 2006.

[2] See http://www.icmm.com, also see statement by Tiffany CEO in http://www.clpmag.org/article.php?article=Green-Gold-Joins-List-of-Fair-Trade-Products_0056 and F and C, a global investment company in http://www.fundnets.net/fn_filelibrary//file/co_gsi_ESG_risks_in_mining.pdf

[3] Jim Kuipers, P. E. Reclamation and Bonding in Copper Mining. Presented at Hard Rock 2006: Sustainable Modern Mining Applications, Tucson, AZ, November 2006.

[4] Ann Maest, and others. Predicted versus actual water quality at hardrock mine sites: effect of inherent geochemical and hydrological characteristics. Presented at Hard Rock 2006: Sustainable Modern Mining Applications, Tucson, AZ, November 2006.

[5] Jim Kuipers, Kuipers and Associates, *ibid.*

ATTACHMENT 1

ROSEMONT COPPER

September 21, 2009

Charles Huckelberry
130 W Congress St
Tucson, AZ 85701-1317

Dear Mr. Huckelberry:

You have probably heard some talk recently about Rosemont Copper. As the detailed regulatory and environmental review process progresses, I would like to personally share our plan with you.

In short, Rosemont Copper will create a $15.7 billion dollar local economic stimulus as determined by an independent Arizona State University study, and support an average of more than 2,000 direct and indirect jobs each year over the life of the project.

At the same time, Rosemont Copper will set new standards for resource protection, water conservation, and reclamation. That is why this project is so exciting for me personally. For more than 30 years, I have waited for the opportunity to create a project that from the very beginning embraces proven technology and best practices for environmental protection.

Enclosed is a fact booklet describing how Rosemont Copper plans to carry on Arizona's proud mining history in a very new way. As a supporter told me recently, *"This is not your father's mine."*

Please take a moment to review the booklet then let us know what you think. We want to hear from you.

Arizona school children used to learn the "5 Cs" – Copper, Cotton, Cattle, Citrus, and Climate – that were the pillars of the Arizona economy. While the cotton, cattle, and citrus industries are not what they once were, the importance of copper has endured since Arizona's earliest history when Native Americans mined copper minerals for paint.

Rosemont Copper's vision is to utilize sustainable mining practices to create a bridge from Arizona's mining past to a high tech, renewable future for Arizona, including a "new economy" based on climate that centers on solar power generation.

Copper is the essential element to a clean, sustainable economy. Not only is copper the key component in the latest high tech equipment and solar technology, it is necessary for the new "smart" electric grid transmission lines that will deliver wind and solar power across America. You may be surprised to learn that a hybrid car uses twice the copper of a standard vehicle.

Yet today, too much of our nation's copper supply – more than 34 percent – comes from abroad. That is why the General Mining Act of 1872 guarantees the right to mine claims such as Rosemont's that are critical to our nation's needs, providing up to 10 percent of U.S. copper production for 20 plus years.

PO Box 35130, Tucson, AZ 85775 · T: (520) 408-6100 · talk@rosemontcopper.com

Rosemont Copper will be among the most efficient mining projects in the world. Compared to other Pima County mines, Rosemont will yield more than double – in some case more than quadruple – the amount of copper per acre, on less than half the land area of other area mines.

Thanks to progressive water conservation and recycling techniques, Rosemont Copper will also use less than half the water as traditional mines. Rosemont has been purchasing excess CAP (Central Arizona Project) water, and will use this sustainable supply to recharge the groundwater we use. In fact, by the end of 2009, we will have stored 45,000 acre feet of water, or the first 8 to 10 years of our water requirements.

The bottom line is that we will only receive our permits and be allowed to operate if we do what we say we are going to do.

Our reclamation plan is truly precedent-setting, taking place concurrently with operations so that it will be nearly complete when the mine reaches the end of its life cycle. The plan calls for topsoil to be removed and saved for later use. Slopes will be limited to a natural 18 degrees, and re-vegetated over the course of mine operations using replaced topsoil. We are presently cooperating with the University of Arizona on scientific investigations to optimize native plant reseeding strategies and plant salvage to ensure a successful, natural reclamation to permanent open space.

The entire operation, obviously, will require a broad spectrum of supporting jobs.

In total, Rosemont Copper will produce an average of 450 direct jobs annually with an average $59,000 income. In addition, the Arizona State Economic Study anticipates that Rosemont will stimulate an average of 1,600 indirect jobs annually.

These jobs will be created in a wide range of industries, from construction and real estate, to manufacturing and all types of services. This means new jobs and increased profits created at the local hotels, restaurants, grocery stores, insurance agents, doctor's offices, and other businesses, resulting in a $2.6 billion total increase in local personal income.

Local government will benefit from $306 million in additional taxes over the lifetime of the mine, which can go toward road improvements and other critical needs.

As you review the detailed fact booklet that is included, I hope you will be as excited as I am. Once you have a chance to look at the plan, please fill out the postage paid comment card to let me know what you think and whether we can count on your support.

Also, if you have any questions please feel free to email me at talk@rosemontcopper.com or by calling (520) 408-6100.

Sincerely,

Rod Pace

Rod Pace
President and CEO

P.S. For more information about our plan, including some informational videos, go to www.rosemontcopper.com. I look forward to hearing from you.

ATTACHMENT 2

COUNTY ADMINISTRATOR'S OFFICE

PIMA COUNTY GOVERNMENTAL CENTER
130 W. CONGRESS, TUCSON, AZ 85701-1317
(520) 740-8661 FAX (520) 740-8171

C.H. HUCKELBERRY
County Administrator

October 6, 2006

Jamie Sturgess, Vice President
Projects and Environment
Augusta Resource Corporation
4500 Cherry Creek South Drive, Suite 1040
Denver, Colorado 80246

Re: **Rosemont Mine July 31, 2006 Plan of Operations**

Dear Mr. Sturgess:

Attached is a memorandum to the Pima County Board of Supervisors concerning your July 31, 2006 plan of operations for Rosemont Mine. As you are aware, the Board discussed this plan at their October 3, 2006 meeting, since a resolution to oppose the mine was on the agenda. The item was continued to the November 14, 2006 Board meeting to provide the Board time to review staff comments, and to give you time to respond to these comments.

We understand that the County is not the major permitting agency for this plan. However, the County has become a leader on conservation and land planning issues via its nationally recognized Sonoran Desert Conservation Plan. The Forest Service entered into a Memorandum of Understanding in 2000 to pursue cooperative planning with the County regarding the Sonoran Desert Conservation Plan. It is in that spirit that I have asked the Forest Service to support the five performance criteria I have spoken to you about previously, the details of which are included in the attached memorandum. These include adherence to the County's Conservation Lands System, no impacts to Cienega Basin and Cienega Creek, concurrent reclamation, visual impacts, and the establishment of an environmental enhancement fund. I am still unable to tell if and how you will meet these. It would be helpful for you to address each as concisely as possible, based on the information you have available at this stage of the project, prior to the Board's November 14, 2006 meeting.

I applaud your effort to incorporate environmentally sound measures in your mining plan. This is unusual in the mining industry and deserves recognition. That said, the County needs to see more details regarding environmental impacts and mitigation, as delineated in the attached memorandum. The County also needs to know what assurances will be put in place to ensure that the necessary mitigation will in fact occur.

Thank you for your continued cooperation.

Sincerely,

C.H. Huckelberry
County Administrator

CHH/jj

Attachment

c: The Honorable Chairman and Members, Pima County Board of Supervisors
Nicole Fyffe, Executive Assistant to the County Administrator

MEMORANDUM

Date: October 5, 2006

To: The Honorable Chairman and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator

Re: **Rosemont Mining Plan of Operations Dated July 31, 2006**

Background

Augusta Resource Corporation submitted a mining plan of operations to the United States Forest Service on July 31, 2006 for the mining of the Rosemont Ranch property. The property is located in the Santa Rita Mountains. According to this plan of operations, the total footprint of the project is estimated at 4,000 acres: 840 acres owned in fee by Augusta; 3,135 acres on federal lands (unpatented mining claims) managed by the Coronado National Forest; and 20 acres on State Trust land. It should be noted that the Forest Service has completed their initial review of the July 31, 2006 plan of operations and has notified Augusta that the plan is insufficient and in need of more detail. Therefore, the Forest Service will take no further action until a revised plan is submitted. This report is based on the July 31, 2006 plan. The County will provide comments on additional plans as they are submitted.

At the September 5, 2006 Board meeting, the Board directed staff to provide initial comments on the plan of operations within 30 days. Initial comments from various departments are attached. The comments are also summarized below, along with information on the history of the property, the Forest Service's permitting process, and the five performance criteria that I believe any mining operation in this location Augusta should meet.

It is important to state up front that the major permitting authority for this mining project is the U.S. Forest Service, NOT the County. The only permits required by the County and the Flood Control District include an air quality permit and floodplain use permits for mine features, excluding tailing dams and waste disposal areas as exempted by State law.

History of the Property

Land exchanges for the purpose of facilitating mining on this property were pursued to different extents in 1970 and 1997. In 1997, it was ASARCO that proposed a land exchange in this location to facilitate development of a copper mine. ASARCO held unpatented mining claims, as Augusta does now, but ASARCO sought to bring further validity to their right to use the land for mining via a land exchange. In May of 1997, the Board passed a resolution

in opposition to the land exchange. The Santa Cruz Board and Tucson City Council passed similar resolutions. In early 1998, ASARCO dropped the effort to pursue the land exchange and develop the mine.

In the summer of 2004, the property was sold to Triangle Ventures, L.L.C., who in turn offered the property to the County in December 2004. The Conservation Acquisition Commission discussed the offer at their February 10, 2005 meeting, and took no action for a variety of reasons. A major obstacle to acquiring this property was that it was not one of the properties eligible for acquisition under the 2004 bond program, and would therefore have required an amendment to the program.

Forest Service Permitting Process

Although Augusta is anticipating the need for permits from several federal, state, and local agencies, the major permitting authority for this project will be the U.S. Forest Service with regard to the mining plan of operations. According to Beverly Everson, Forest Service Geologist with the Coronado National Forest, the Forest Service has 90 days to review a plan of operations. The Forest Service has completed its review of the July 31, 2006 plan, and has notified Augusta that the plan is insufficient and in need of more detail.

Assuming Augusta provides the Forest Service with sufficient information for them to accept a future plan of operations, the next step would be to begin the National Environmental Policy Act (NEPA) process. The NEPA requires that federal agencies consider environmental impacts when taking major actions such as accepting a mining plan of operations. This process requires public input. Since this is a major Federal action that will have a significant effect on the environment, it is likely that it will be necessary to develop an Environmental Impact Statement (EIS) as part of the NEPA process. The first step in this process would be scoping, which will include the notification and solicitation of comments from anyone who expressed interest. This would be Pima County's formal opportunity to comment to the Forest Service. This is also when the Forest Service would consult with other agencies such as the U.S. Fish and Wildlife Service. A draft EIS and final EIS would then be made available for interested parties to comment on, respectively. After this process is complete, the Forest Service would then file a record of decision.

The County is consulting with a mineral rights attorney retained by the County Attorney's Office. According to this attorney, it maybe worthwhile to request a validity check on the unpatented mining claims. If Augusta does have valid claims then they may have the salutatory right to proceed. The Forest Service process can impact the methods of operations and the mitigation, which in turn could have an impact on whether the operations remain profitable and viable. There is also a question as to whether storing tailings on potentially valuable unpatented mining claims for the sole purpose of receiving profit from a mining pit on adjacent private lands is a practice the Forest Service can disallow. A question has also come up regarding what would happen to Augusta's mitigation commitments if the property were sold to another mining entity. According to this attorney, plans of operations can be sold to other entities. If this were to occur, then the other mining entity would be subject to the same mitigation requirements.

In November 2000, the Coronado National Forest Supervisor and the Chair of the County Board of Supervisors executed a memorandum of understanding (MOU), attached, for cooperative planning related to the Sonoran Desert Conservation Plan (SDCP). The Forest Service has stated that they will be seeking constructive comments that can they can put to use when evaluating the environmental impacts during the NEPA process. There are five performance criteria outlined below that I believe Augusta, or any other mining operation on this site, should have to meet before being permitted to pursue operations. In the spirit of cooperation, I will ask the Forest Service to support these five performance criteria when evaluating Augusta's plan of operations and when negotiating mitigation for the project. Additional input will be provided to the Forest Service regarding specific environmental impacts that may be of concern.

Required County Permits

Based on many exemptions in state law for mining activities, the regulatory powers of the County and the County's Regional Flood Control District are restricted. That said, the Pima County Department of Environmental Quality will require an air quality permit, and will regulate the proposed on-site public water system and the generation of hazardous waste. The Flood Control District will require floodplain use permits for mining features that impact floodplains, with the exception of tailing dams and waste disposal areas, which are the two features that are specifically exempt from the Flood Control District's oversight. It is unclear in the plan of operations on whether Augusta will be requesting use of Pima County right of way for electric and/or water pipes.

Five Performance Criteria

Although Pima County will not be the major permitting agency for this project, we will be providing constructive comments at each step of the process to the various permitting agencies. I have repeatedly outlined the five most important performance criteria that Augusta, or any other mining operation in this area, must meet:

1. Adherence to the County's Conservation Lands System (CLS) Guidelines - Augusta has stated that they will meet the goals of the SDCP. The County's CLS is an integral part in the implementation of the SDCP. If this were a residential development, as opposed to a mine, the County would evaluate compliance with the CLS guidelines based on the acres impacted in each of the CLS categories and the corresponding mitigation ratios. Based on the areas of disturbance mapped in the July 31, 2006 plan of operations, excluding the roads, the following mitigation would apply (see CLS map attached).

CLS Category	Acres Impacted	Mitigation Ratio	Acres of Mitigation
Biological Core Management Areas	219	4:1	876
Multiple Use Management Areas	2,996	2:1	5,992
Important Riparian Areas	502	4:1	2,008
Total Mitigation	**3,717**		**8,876**

For instance, for one acre of impact to Multiple Use Management Areas, four acres of Multiple Use lands or a more protective category of the CLS should be conserved, on or off site. The footprint of Augusta's proposed mine is significantly smaller than the mine previously proposed by ASARCO. Augusta has sited the project such that their impacts to Biological Core Management Areas will be considerably less than impacts under ASARCO's plan.

That said, it is evident that Augusta does not clearly understand the Multiple Use designation as it is applied in the CLS. The County's Multi-Species Conservation Plan (MSCP), defines Multiple Use Management Areas.

> "Land use and management goals within these areas shall focus on balancing land uses with conservation, restoration, and enhancement of native biological communities. Land uses appropriate for these areas must facilitate the movement of native fauna and pollination of native flora across and through the landscape, maximize the retention of on-site conservation values, and promote landscape integrity."

Uses of the property for mining, ranching, and recreation, at the expense of the environment and at the expense of migratory corridors, do not meet this balance.

As with residential development impacts to the CLS, mitigation must occur up front. Setting aside over 2,000 acres for conservation in perpetuity, as has been stated by Augusta, is a start. To actually meet the goals of the SDCP, an additional 6,800 acres should also be conserved in perpetuity. The Forest Service needs to ensure that this mitigation occurs, regardless of the success of the mining projects. In other words, if the project fell apart after impacting significant amounts of Forest Service land, it would be unacceptable for mitigation to never occur.

2. No Impact to Water in the Cienega Basin and Cienega Creek - Groundwater pumping at the mine site itself or east of the project area would negatively impact the Cienega Basin, Cienega Creek and its tributaries, and the plants, animals, and people that rely upon water from this basin. The plan of operations states that the preferred location for the groundwater wells to serve the mine would be in the upper Santa Cruz Basin west of the Santa Rita Mountains along Santa Rita Road. The water would then be replenished in the same basin via a CAP secured allocation to be recharged at the Pima Mine Road recharge facility. Therefore, it does not appear that groundwater will be pumped from the Cienega Basin. What is of great concern, however, are impacts from reduced flows along Davidson Canyon to the Cienega Creek. Construction of dams and tailing piles could diminish high quality and quality flows to Davidson Canyon, which would impact both water quality and quantity along Cienega Creek - a Unique Water of the State. The plan of operations does not address this impact or how it will be mitigated. Furthermore, under the reclamation portion of the plan, a dam at the eastern edge of Barrel Canyon is shown to remain even after mine closure, causing reduced flows indefinitely.

3. Concurrent Reclamation - Throughout Pima County there is evidence of the scars of mining projects that failed to provide meaningful reclamation, or sometimes any reclamation at all. It is typical of the mining industry to continue to tout a mine facility as active for years and years, so that the reclamation requirement does not begin. This is absolutely unacceptable and is a major flaw in present permitted mining operations. Reclamation needs to occur concurrently, commitments need to be enforceable, and funds need to be committed up front. The plan of operations states that reclamation will begin in year one, which is a positive step in the right direction.

4. Visual Impacts - Sonoita Highway is designated as a scenic highway. Every effort needs to be made to make sure the mining pit and facilities are not visible from the highway. Furthermore, the tailings should be contoured and landscaped to match the surrounding native landscape and land forms. Tailings such as those visible from Interstate 19 through Green Valley are unacceptable.

5. Environmental Enhancement Endowment - In approving the Starr Pass resort, the County was able to institute an environmental enhancement program whereby Starr Pass contributes funding that is used to expand, manage, and maintain Tucson Mountain Park. A mine in this location should contribute to a similar fund, as part of the mitigation for the various negative impacts the mine will create. The plan of operations does state that an endowment will be set up with annual contributions beginning after operations begin, and will total a minimum of $21 million. Considering the costs to purchase mitigation land, $21 million will not be enough. There is also a concern about the financial solvency of the operations. Much of the funds to secure mitigation land and to establish the endowment should be provided up front or deposited in a pay-as-you-go account reserved exclusively for environmental enhancement.

In addition to these five performance criteria, and in light of the public health issues experienced as a result of the mines in Green Valley, air and water quality will continue to be of utmost importance. Augusta's plan of operations states that dry tailings will be used to cut the water needs in half. It is great that they will use less water. However, the use of dry tailings should not be permitted to jeopardize air quality.

The Board also brought up a concern regarding the impacts of light produced at night from the mine on dark skies and the astronomy industry in the southwest. The plan of operations states that an analysis of Pima County's lighting codes has been conducted and that the mine will meet or exceed these requirements. Per my memorandum to the Board on September 27, 2006, forwarding a final report from the International Dark-Sky Association, I have asked Development Services to review the County's existing light codes and determine if they need updating. Any updates would be sent to Augusta.

Limited County Authority Over Mining Activities

As indicated during the October 3, 2006 discussion on the Augusta plan of operations related to potential Rosemont Mining activity, the County's authority over mining activities is quite

limited, if almost non-existent. The Board may wish to consider adding to any resolution related to this proposal a request to increase or improve County regulatory authority over mining activities. These actions should request:

A) Congressional Action to Reform the 1872 Federal Mining Law - This law has remained fundamentally unchanged for over 100 years, and governs mining activity and mineral exploration on federal lands that have not been withdrawn from mining or mineral exploration. The proposed Rosemont Mining operation is in such a location. Hence, the Board could petition the Arizona Congressional Delegation and in particular the Congressional representatives of Southern Arizona to sponsor federal mining reform legislation. While mining activities and mineral exploration are permissible on federal lands, the federal National Environmental Policy Act requires significant due process and public hearing disclosures of the environmental impacts of same and requires that these impacts be given appropriate and due consideration when considering federal actions such as granting a permit to mine economically viable minerals on federal lands.

B) Reform State Trust Mineral Leasing - These same due process and disclosure and public review processes do not exist for mining on State Trust land. Currently within the Cienega Basin litigation has been filed by private mining interests, specifically California Portland to compel the State Land Commissioner to issue a mineral exploitation lease on State Trust land. None of the detailed studies and environmental impacts, disclosures or mitigation requirements that are traditional and typical on federal lands subject to mining exist on State Trust lands. Hence the Board should also petition the State Legislature to enact more stringent rules and regulations for the exploitation of minerals on State Trust land such that the value of State Trust land is not diminished upon mineral extraction or exploitation along with full environmental mitigation and reclamation.

C) County Authority on Private Land - Finally, the County regulates a variety of land uses on private lands, however, the Legislature has seen fit to exclude mining on private lands for many local government regulations, particularly when such lands are used for certain mining practices such as sand and gravel. Hence, the Board could also request that the Arizona Legislature repeal or modify any state laws that would restrict or prohibit local governments from regulating mining activity.

In reviewing these descriptions of County authority over mining activities, it should be clear that the County, unfortunately, has little if any regulatory control or policy influence over mining activities on either federal or State Trust lands, and has essentially been precluded from such authority over private lands. These are major deficiencies in federal and state public policy that can and should be corrected.

Summary of Staff Review of July 31, 2006 Plan of Operations

Overall, the various departments that were asked to comment stated that more details are needed in order to better assess the impact of the proposed project.

Water: The plan of operations states that the preferred location for the groundwater wells to serve the mine would be in the upper Santa Cruz Basin west of the Santa Rita Mountains along Santa Rita Road. The water would then be replenished in the same basin via a CAP secured allocation to be recharged at the Pima Mine Road recharge facility. However, the plan of operations lacks information on potential hydrological impacts of these wells. Extensive modeling should be required to assess these impacts. Furthermore, with regard to the secured CAP water allocation, the plan of operations does not state what commitments Augusta can make to ensure that recharge will occur and that the water will not be sold to another potential user at a later date. Another major impact that is not addressed in the plan of operations is that dams and tailings will fill in Barrel and Scholefield Canyons, decreasing flows to Davidson Canyon and Cienega Creek. This would negatively impact County preserves, plants and animals that rely on this water for survival, including human users of water from the Cienega Basin. Either in the next plan of operations, or during the NEPA process, this issue must be addressed. On a positive note, the use of dry tailings would cut the mine's water use in half, and a commitment to recharge CAP water is above and beyond what Arizona law requires.

Mitigation/Reclamation/Endowment: Questions regarding the financial solvency of the company and the project necessitate up front and enforceable commitments.

Cultural Resources: The analysis in the plan of operations is woefully inadequate. There is no certainty provided on the preservation of the Helvetia Townsite, a Sonoran Desert Conservation Plan Priority Cultural Resources site identified in the 2004 bond program for acquisition.

Transportation: The number of haul trucks hauling copper cathodes, chemicals and fuel, needs to be disclosed. Also, a contingency plan for managing potential chemical or fuel spills is necessary.

Environmental Quality: The Pima County Department of Environmental Quality outlined several environmental quality regulations that would apply to this project.

Also attached are a series of unanswered questions from a Mr. Roger Featherstone of Earthworks. Earthworks is a non-profit organization whose mission is to protect the environment and communities from irresponsible mining activities.

Summary and Recommendation

The Forest Service is the major permitting body regarding this mine proposal, not the County. Both County staff and the Forest Service agree that more details are needed before the true impacts of this project can be evaluated. The County's job will be to provide constructive input on environmental impacts during the federal NEPA process, and during other agencies permitting processes.

This memorandum and staff comments will be forwarded to Augusta in order to give Augusta the opportunity to provide additional information. I still believe that Augusta should be given an adequate opportunity to respond to these comments before the Board considers a possible resolution against the mining project. The County's comments during the Forest Service's EIS process will be significantly more credible if a comprehensive and deliberate review process is followed and the temptation to say no based on insufficient information is avoided.

This memorandum, staff comments, and audio/video of the October 3 Board meeting proceedings, and the names and written comments of individuals from the meeting regarding this issue will be forwarded to the Forest Service Supervisor. Staff will continue to comment on each draft of the plan of operations, and on any other permits that Augusta may seek. In addition, in discussions with Augusta and the other permitting agencies, we will continue to reiterate that a plan of operations that does not meet the five performance criteria listed previously is unacceptable.

CHH/jj

Attachments:

Memorandum of Understanding Between the County and the Forest Service
CLS Map
Comments from the Regional Flood Control District
Comments from the Cultural Resources Office
Comments from the Department of Environmental Quality
Comments from the Department of Transportation Regarding Bridges
Comments from the Department of Transportation Regarding Haul Trucks
Comments from the Natural Resources, Parks and Recreation Department
Comments from Development Services
Comments from Roger Featherstone of Earthworks

c: Nicole Fyffe, Executive Assistant to the County Administrator

MWH

BUILDING A BETTER WORLD

TECHNICAL MEMORANDUM

TO: Tom Furgason
SWCA Environmental Consultants

DATE: July 30, 2010

FROM: Nathan W. Haws
MWH Americas, Inc.

REFERENCE: 1005979

CC: Dale Ortman, Consultant
Toby Leeson, MWH Americas, Inc.
Stephen Taylor, MWH Americas, Inc.

SUBJECT: Technical Review of Response to Comments on Groundwater Flow Modeling Conducted for Rosemont Copper Company Mine Supply Pumping

At your request, MWH Americas, Inc. (MWH) has prepared this technical memorandum in support of the Environmental Impact Study (EIS) for Rosemont Copper Company (RCC). This memorandum was prepared to address the responses prepared by Montgomery & Associates (M&A, 2010)[1] to our comments (MWH, 2009)[2] on the report of groundwater flow modeling conducted for Rosemont Copper Company (RCC) mine supply pumping (M&A, 2009)[3]. The MWH (2009) memorandum reviewed the model development and simulation results as reported in M&A (2009). As stated in the MWH (2009) memorandum, MWH is of the professional opinion that the data, assumptions, and methods used to develop the numerical model are generally reasonable and in conformance with standard accepted industry practices. Some of the concerns noted in our 2009 memorandum have been satisfactorily resolved through M&A's response. The remaining concerns focus on properly demonstrating model calibration and appropriately communicating the model's capabilities and limitations. The resolution of these concerns may require only minor modifications to the model and may not result in significant changes to the conclusions drawn from the model simulations. Nevertheless, the resolution of these concerns will help validate the model construction and the simulation results and better define the appropriate uses and limitations of the model.

This memorandum first highlights unresolved topics of concern regarding the groundwater flow modeling conducted to evaluate the impacts of RCC mine supply pumping. Following this are our replies to the responses prepared by M&A.

Unresolved Topics

Unresolved topics of concern with the groundwater flow modeling as presented in the M&A (2009) modeling report are explained below. Included with each explanation are recommendations to address the concerns.

1. <u>The model is lacking quantitative calibration objectives and a formal calibration.</u>
   M&A states that the model "reasonably simulates average groundwater levels" and that the model is "acceptably" calibrated. While M&A may have accepted the match between simulated and measured groundwater levels, the terms "reasonably" and "acceptably" are subjective. No quantitative calibration

[1] Montgomery & Associates. 2010. Response to MWH October 23, 2009 Review of Groundwater Modeling Conducted for Rosemont Copper Company's Proposed Mine Supply Pumping. Technical memorandum submitted to Kathy Arnold, Rosemont Copper Company. February 9, 2010.
[2] MWH Americas, Inc. 2009. Review Comments of Rosemont Numerical Groundwater Model Update and Simulations; Rosemont EIS Support. Technical memorandum submitted to Tom Furgason, SWCA Environmental Consultants. October 23, 2009.
[3] Errol L. Montgomery & Associates, Inc. (M&A). 2009. Report: Groundwater Flow Modeling Conduction for Simulation of Rosemont Copper's Proposed Mine Supply Pumping, Sahuarita, Arizona. April 30, 2009.

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objectives have been established with which to judge the adequacy of the calibration. Further, no standard iterative calibration has been conducted to demonstrate whether an optimal set of parameter values has been selected.

- MWH recommends that a quantifiable set of calibration objectives be determined with which to judge whether the model simulations are reasonable. Model reviewers could then decide whether the objectives and the calibration are acceptable. The relationship between calibration objectives and simulation results will also aid in demonstrating the capabilities and limitations of the model predictions. The modeling report does discuss limits to the models capabilities. For example, the report explains that the model can only predict average groundwater levels and cannot simulate the large seasonal variations in groundwater levels. These limitations should be considered along with the intended use of the model's predictions to formalize quantifiable calibration objectives.

- MWH recommends that an iterative calibration be conducted to determine optimal parameter values. The modeling report documents that the updated model improves the match between measured and observed groundwater levels; however, the large residuals between simulated and measured values, and an apparent spatial bias in the distribution of residuals, suggests that further improvement may be possible. Because the RCC model was constructed from a larger regional model, calibrating every parameter may not be practical or necessary. MWH recommends that the calibration focus on the parameters that most affect groundwater levels within the RCC pumping influence. These parameters may include storage coefficients and specific yield (which were left unchanged from the original model despite changes to hydraulic conductivity and layer elevations) and hydraulic conductivity/transmissivity values (which were modified from the original model based on assumptions about how the results of recent aquifer pumping tests should be distributed across model layers).

- MWH recommends that the differences in simulation results between the original ADWR regional model and the updated model be illustrated with the differences and improvements to the original ADWR model clearly noted. Figure 26 of the modeling report compares "actual" groundwater levels with the results of the original and revised model for the 1940 steady-state simulation. A similar figure should to be created for the transient simulation for 1999 (last year of the original ADWR historical simulation). These figures (or separate figures) should zoom into the area surrounding the RCC property and show a higher resolution of groundwater contours.

2. <u>The capabilities and limitations of the model are not clearly delineated.</u>
The modeling report provides illustrations of groundwater level declines with and without RCC pumping, but the practical uses and limitations of these predictions are not clearly defined. For one example, the model is designed to predict groundwater levels that are spatial and temporal averages. The predicted groundwater levels are annual averages and cannot predict seasonal variations, which were shown to be between 10 and 100 feet. The model predictions are also spatial averages across a grid cell, which range from 100 feet by 100 feet (nearest the RCC pumping) to 0.5 miles by 0.5 miles. Given this construction, the model is capable of grossly predicting annual average groundwater levels, including impacts from RCC pumping. The model would not be suitable, however, for predicting maximum declines and impacts at an individual well. This could be an important distinction for owners of shallow wells.

- MWH recommends that the appropriate uses and limitations of the groundwater model be clearly defined. Such a statement of limitations is often included in modeling reports. The statement of limitations does not necessarily change the validity of the model conclusions, but it will aid in the understanding of the appropriate uses of these conclusions.

3. <u>The uncertainties in the model are not clearly defined.</u>
Uncertainty is inherent in all model predictions. An important source of uncertainty in the RCC model predictions arises from unknowns in future aquifer stresses. The aquifer in the vicinity of RCC is highly stressed from agricultural, industrial, and private water users. The actual locations and magnitude of the

future aquifer stresses is uncertain. M&A's method of allocating future stresses based on committed pumping demands on file with the Arizona Department of Water Resources (ADWR) is reasonable, but the model report does not clearly document the uncertainties or potential deficiencies associated with these estimates or how these uncertainties affect model predictions.

- MWH recommends that the potential effects of the uncertainties should be considered, quantitatively if possible, but at least qualitatively. They could be considered quantitatively by conducting predictive simulations to test the sensitivity of the model predictions to a reasonable range of future groundwater stresses. This would help bound the range of model predictions due to uncertain future stresses. Two potential future aquifer stresses that should be included in such an analysis are the potential mitigation pumping for the Freeport-McMoRan Sierrita Mine and recharge of Central Arizona Project (CAP) water. Although these stresses may be difficult to characterize, they will, if implemented, have significant impacts on future groundwater levels in the Green Valley/Sahuarita area. Estimated timing and magnitudes of potential Sierrita mitigation pumping and CAP recharge are available. For example, Freeport-McMoRan Sierrita has posted the feasibility study and conceptual wellfield design for the sulfate mitigation on their website (www.fcx.com/sierrita/home.htm).

- MWH recommends that a figure be included in the modeling report that shows the additional drawdown caused by RCC pumping alone (neglecting other aquifer stresses). Such a figure could easily be created as the difference between the groundwater level declines with and without RCC pumping. This figure will better illustrate the groundwater level declines attributable exclusively to RCC and will nullify the effects of uncertainty associated with other groundwater stresses.

4. The plan view figures may be difficult to interpret.

- MWH recommends that the modeling report include figures that show a profile view of groundwater levels and stratigraphy through sections that cross the maximum drawdown. These figures may be more readily interpreted than the plan view of groundwater levels to those unfamiliar with hydrogeology and groundwater modeling.

Reply to Responses

For convenience in referencing, the original comments and responses, as presented in the M&A response letter, are repeated here in italics and numbered. Our replies follow each response. Replies are made to only responses 1 through 11 because the remaining responses (12 though 17) were made to summary comments, which are addressed in the first 11 responses.

(1) *MWH Comment: The methodology for model predictions also follows good practice, with the exception that future pumping may be over-allocated (which would result in over prediction of groundwater level elevations) and some future source/sink terms may not be included (which would result in over-prediction in some locations and under-prediction in others).*

M&A Response No. 1: The RCC mine supply groundwater modeling study assumed future residential groundwater pumping in the area would increase at a rate determined from committed and existing groundwater withdrawals, as provided by Arizona Department of Water Resources (ADWR). Due to the recent economic downturn and the resulting substantial decrease in the area's residential growth, we agree that this approach will likely project more background groundwater level decline due to residential pumping than may actually occur. However, for purposes of the EIS study we did not speculate on how a reduced future residential pumping demand might occur. The future residential pumping simulated in the model is based on ADWR data and may result in conservatively larger background groundwater level declines (from residential pumping). The conservatively larger projection of background groundwater level declines will have limited effect on the projected groundwater level decline due to proposed RCC pumping.

All future sinks and sources updated in the model by M&A are determined from existing permits or pending permits (supplied by ADWR), or are estimated based on past documented quantities of historic pumping or recharge. We did not add new future sinks or sources to the model which were not at the permit submittal stage and where quantities and/or schedules were not well defined.

Finally, the use of the term "over-prediction of groundwater level elevations" is confusing, since the term over-prediction implies neither groundwater levels being too high or too low; the concept is better described as: over-prediction of groundwater level declines.

MWH Reply: MWH agrees that M&A's approach to estimating future groundwater recharge and withdrawals is reasonable. The purpose of the comment was to note that, although the approach is reasonable, the estimates may over-allocate the future withdrawals. While the amount that future withdrawals have been over-allocated is difficult to quantify, the potential over-allocation should be noted. The other future sinks and sources noted in our original comment had reference to the possibility of CAP water recharge and Sierrita mitigation pumping. We also acknowledge that these future stresses are not well defined, though they may nonetheless have significant impacts on future groundwater levels in the Sahuarita/Green Valley area. Because the future aquifer stresses are highly uncertain, the sensitivity of the predictive simulations to this uncertainty should be evaluated and documented.

MWH also agrees that over- or under-prediction of future groundwater withdrawals or recharge will have limited impact on the projected groundwater level decline (drawdown) due to Rosemont Copper Company (RCC) pumping. An additional figure that shows the drawdown that is solely attributable to RCC pumping (i.e., additional drawdown caused by RCC pumping above the background groundwater level declines) could better illustrate RCC impacts while excluding most of the uncertainty associated with other groundwater stresses. Such a figure could easily be created as the difference between groundwater drawdown with Rosemont pumping and without Rosemont pumping (e.g., difference of Figure 31 and Figure 32).

The confusing phrase "over-prediction of groundwater level elevations" was misquoted. The actual phrase read, "under-prediction of groundwater elevations." By under-predict, we mean to predict groundwater levels that are lower than the actual groundwater levels. This is equivalent to "over-prediction of groundwater level declines" as suggested by M&A.

RESPONSES TO "(1) Major Review Findings – Updates to Historical Model"

(2) *MWH Comment: The major concern with the model updates is that no standard iterative recalibration of the aquifer parameters is performed.*

M&A Response No. 2: Accounting for the facts that most of the available observed groundwater level data are obtained during winter when agricultural pumping is not occurring, and simulated groundwater levels reflect annual average agricultural pumping simulated in the model, the updates to historical stresses in the study area resulted in a reasonable match of simulated groundwater levels and trends to observed data. The model is acceptably calibrated for purposes of simulating groundwater level decline due to proposed Rosemont pumping, although we agree it may over-predict future background groundwater level declines for reasons stated above. We believe further calibration is not required for this study.

MWH Reply: MWH understands the difficulty in determining calibration targets. The fact remains, however, that a recalibration of model parameters was not conducted, although layer elevations and hydraulic conductivities were revised in some portions of the model. At a minimum M&A should demonstrate that the model results meet quantifiable calibration objectives. Terms such as "reasonable match" and "acceptability calibrated" are subjective.

(3) *MWH Comment: It is possible that much of the error between measured and simulated groundwater levels, which can be several tens of feet and shows spatial bias in some areas, is partly a reflection of the model parameters being out of calibration.*

M&A Response No. 3: We believe the model is reasonably calibrated and the differences between simulated and observed groundwater levels are acceptable.

MWH Reply: See response to item (2)

(4) *MWH Comment: Another concern with the model updates is that no consideration is given for the Santa Cruz fault, which runs between the RCC wells and many of the other wells in the study area. Mason and Bota (2006) suspect the fault as a source of some of the large residuals (error between measured and simulated groundwater levels) in the ADWR model. M&A (2009b) documents the fault in the text and figures, but does not modify the model to account for the fault. The rationale for not explicitly accounting for the fault is not discussed in M&A (2009a, 2009b).*

M&A Response No. 4: The regional Santa Cruz fault is not considered to be a hydraulic barrier or conduit. In the area north from the proposed RCC well field Anderson (1987) (shown on ***Figure 6*** *of the EIS report) indicates vertical displacement along the fault resulted in a thicker deposition of the upper Tinaja beds on the east side of the fault relative to the west side of the fault. Knowledge of the Santa Cruz fault, including hydraulic conductivity data for the aquifer on both sides of the fault, has been previously incorporated into the ADWR model by the U.S. Geological Survey and ADWR. Mason and Bota do not indicate they suspect the Santa Cruz fault is the cause of large residuals in T.15S.,R.13 and 14.E., they simply point out that "residuals are in an area of suspected perched groundwater and near the Santa Cruz fault". The large residuals are predominantly indicating simulated groundwater levels are lower than observed. It has been M&A's experience simulating groundwater levels at the T.15S., R.13 and 14E location (for other groundwater investigations) that perched groundwater is a significant cause of simulated groundwater levels being lower than observed. Further, the area Mason and Bota describe as having high residuals is located approximately 12 miles north from the proposed RCC wellfield. The RCC wellfield is located in T.17S.,R.14E., where the residuals shown in Mason and Bota's 2006 report are relatively good (see page 72 and Figure 27 of the Mason and Bota report).*

MWH Reply: Because the Santa Cruz Fault separates the RCC wells and most of the other public and private well, M&A should clearly document what effects the fault has on water levels and how this is accounted for in the model. Otherwise, MWH finds M&A's response acceptable to resolve this concern.

RESPONSES TO "(1) Major Review Findings – Updates to Predictive Model"

(5) *MWH Comment: Other potential future groundwater sinks/sources not included in the model that may impact future groundwater levels within the study area are potential mitigation pumping near Freeport-McMoRan Sierrita Mine and delivery of underground storage of Central Arizona Project (CAP) water to the Sahuarita/Green Valley area.*

M&A Response No. 5: At the time of model construction the mitigation plan was still being developed and was not finalized or approved by Arizona Department of Environmental Quality. Sufficient information did not exist to justify including the potential mitigation pumping in the model. A CAP recharge site in the Green Valley area is under consideration, but has not been approved by regulatory agencies nor has a location for the site been selected; therefore, this potential recharge source was not included in the model. Potential CAP recharge in this area may mitigate drawdown impacts from the proposed RCC pumping.

MWH Reply: See response to item (1)

(6) *MWH Comment: An assumption of the predictive model, which may be incorrect, is that boundary conditions are static. This assumption is refuted by the continual groundwater level declines throughout the study area. The correctness of the assumption is only a minor concern as the boundary heads likely have relatively little influence on the groundwater levels within the study area.*

M&A Response No. 6: As concluded by MWH, the southern constant head boundary located 14.5 miles south from the RCC wellfield and the much more distant model boundaries in Marana and Avra Valley are too distant to have impacts on projected groundwater level change due to RCC pumping.

MWH Reply: The conclusion that the model boundaries are too distant to have impacts on projected groundwater level changes due to RCC pumping should be tested and the results documented in the model report.

RESPONSES TO "(1) Major Review Findings – Model Predictions"

(7) *MWH Comment: As documented above, the confidence in the predictions of future groundwater levels in the numerical model is weakened by intrinsic model structural inaccuracies, calibration inaccuracies, and uncertainty and deficiencies in sinks/sources.*

M&A Response No. 7: We assume MWH's decription of structural inaccuracies is a reference to the Santa Cruz fault since no other structural issues are presented by MWH. Representation of the Santa Cruz fault is addressed in M&A Response No. 4. The model calibration is sufficiently accurate to project groundwater level declines due to proposed RCC pumping. All future sinks and sources updated in the model by M&A are determined from existing permits or pending permits (supplied by ADWR), or are estimated based on past documented quantities of historic pumping or recharge. This may result in a model which will project conservatively larger background groundwater level declines in the RCC wellfield area; however, it should have limited effect on the projected groundwater level decline due to proposed RCC pumping. We did not include potential Sierrita mitigation pumping or potential CAP recharge in the Green Valley area due to a lack of information regarding these potential sinks/sources.

MWH Reply: The Santa Cruz Fault is addressed in item (4) and model calibration is addressed in item (1)

(8) *MWH Comment: Seasonal variations and "calibration" errors are translated to predictive uncertainties that ranges from 10 to 100 feet due to seasonal variations and approximately a 25-foot under-prediction bias at RC-2.*

M&A Response No. 8: Recent continuous monitoring of groundwater levels at wells E-1 and RC-2 has resulted in documentation of seasonal variation of groundwater levels (ranging from 10 to 100 feet annually) at the proposed RCC wellfield. The purpose of the continuous monitoring was to remove uncertainty about seasonal variations from the model. Due to the continuous monitoring this variation is known and is not translated into predictive uncertainty. The match between simulated and observed groundwater level trends at well RC-2 is acceptable and correction of model projections for the 25-foot difference is consistent with standard modeling practice for predictive simulations. The 25-foot difference is not an uncertainty that is "translated" through to the predictive results.

MWH Reply: MWH acknowledges that a simulation with an annual stress period cannot resolve the large seasonal variations. The way that M&A accounts for the seasonal variations is reasonable without refining the stress periods. The question of whether the 25-foot bias at RC-2 is acceptable should be answered through the establishment of calibration objectives. If the bias at RC-2 meets these objectives, then the correction applied at RC-2 is a reasonable way to handle the model bias at this location.

(9) *MWH Comment: M&A (2009b) does not adequately document or quantify predictive uncertainties due to parameter uncertainties and due to uncertainties in the future groundwater recharge and withdrawal. These predictive uncertainties could be bounded by conducting a sensitivity analysis of model predictions to parameter and future source/sink variations. Sensitivity analyses are often a component of modeling studies.*

M&A Response No. 9: *The substantial regional sinks and sources in the vicinity of the proposed RCC wellfield are the dominant factor in prediction of future groundwater levels. There is obvious uncertainty in these future stresses; however, quantification of uncertainties in rate of residential growth and future water demand in the area was not conducted as part of this study. For purposes of the EIS study, we have simulated stresses which may result in conservatively larger background groundwater level declines in the proposed RCC wellfield area than may occur.*

Although not typically conducted, statistical quantification of predictive model uncertainty can be determined through a rigorous aquifer parameter sensitivity analysis; however, many of the observation wells had only 1 data point (2005) obtained during the last 10 years and much of the data was affected by the substantial seasonal variation in groundwater levels. A rigorous aquifer parameter sensitivity analysis for purposes of statistically determining predictive uncertainty would have required substantial assumptions that would have rendered the statistical determinations more qualitative than quantitative. Further, as described above, predictive uncertainty determined from aquifer parameter sensitivity would be substantially less than uncertainty associated with future stresses. Ultimately we relied on the satisfactory match of simulated to observed groundwater level trends to determine confidence in the model's ability to predict future groundwater level change.

Finally, a sensitivity analysis where specific aquifer parameters are incrementally varied to determine sensitivity of the calibration to changes to those parameters was not conducted. This sensitivity analysis is used to determine aquifer parameters that the calibration is most sensitive to, which are the parameters requiring relatively more certainty in the accuracy of their simulated value in order to minimize predictive error. Aquifer parameters for the upper Santa Cruz basin hydrogeologic units encountered at the proposed RCC wellfield location have been extensively investigated and substantial aquifer parameter data have been collected for these units, including in the vicinity of the RCC wellfield; therefore, a sensitivity analysis was not considered to be beneficial. Note that aquifer parameters and layer thicknesses in the vicinity of the E-1 and RC-2 pumping tests were changed in the model to reflect results of test data; these modified parameters were not substantially different than original values in the model and the changes to simulated groundwater levels as a result of the modifications were minimal.

MWH Reply: The type of sensitivity analysis that is suggested by MWH is to determine the sensitivity of model predictions to parameter changes. M&A states that predictive uncertainty determined from aquifer parameter sensitivity would be substantially less than uncertainty associated with future stresses; however, no documentation exists that this statement has been tested. Further, if only the drawdown due to RCC pumping is considered (as suggested in the reply to item (1)), the aquifer parameters may have a large effect. M&A states that the aquifer parameters for the upper Santa Cruz basin hydrologic units encountered at the proposed RCC wellfield location have been extensively investigated. If so, a realistic range of these parameter values with which to test predictive sensitivity should be known. Whether or not a predictive sensitivity analysis is conducted, MWH recommends that the confidence in model predictions in relation to aquifer parameters be bounded, if possible.

(10) *MWH Comment: The confidence in the predicted groundwater levels will further decrease away from the RCC property as the grid coarsens and aquifer parameters and source/sinks become less defined.*

M&A Response No. 10: For purposes of determining groundwater level declines due to proposed RCC pumping, the confidence/accuracy of projected declines distant from the RCC property decrease negligibly due to the model grid becoming coarser. The grid is refined in the immediate area of pumping due to the substantial groundwater level gradients in the immediate vicinity of the pumping wells. As these gradients decrease with distance from the pumping wells, grid cells can increase in size without decreasing confidence in the projected declines due to RCC pumping.

MWH Reply: This comment was made for completeness in discussing the model results. The way that M&A refined the model grid is appropriate and is consistent with standard practice. The decrease in model confidence/accuracy far away from the RCC property is not an important concern since the effects of RCC pumping will be minor in these outlying areas. Still, the model report needs to clearly document that the appropriate use of the model is to predict large-scale and annual average groundwater levels. For example, the model is not appropriate for prediction of instantaneous groundwater levels at individual wells and has less precision away from the RCC property as the grid coarsens.

(11) *MWH Comment: MWH evaluated the estimates of the drawdown levels due to RCC pumping reported in the M&A (2009b, Figures 35, 36) using a simple (Dupruit) solution to estimate steady-state drawdown. Although this solution cannot capture the complexity and transience of the model, it does provide a rough check on drawdown predictions. According to this check, the estimates of groundwater level drawdown due to RCC pumping reported in M&A (2009b) are reasonable.*

M&A Response No. 11: *As MWH has determined using their Dupuit analysis, the projected groundwater level declines due to proposed RCC pumping are reasonable. The model superimposes these simulated drawdowns on model projected background groundwater level declines. These projected background declines are likely conservatively larger than may occur (discussed previously); therefore, final projected groundwater level elevations at the end of the 20-year RCC pumping period may be conservatively lower than may occur.*

MWH Reply: The Dupuit analysis roughly confirms that the model results are reasonable given the model input; it does not provide a check on the model input parameters.

September 15, 2009 SWCA Environmental Consultants/
Coronado National Forest Rosemont Oversight
Meeting Agenda

Location: Coronado National Forest Supervisor's Office, 300 W. Congress, Tucson, AZ. 85701.

Attendees: Forest Service: Teresa Ann Ciapusci Bev Everson, Mindee Roth, SWCA: Charles Coyle, Melissa Reichard

Agenda:

Scoping report 3 review

Gantt chart

Issue Statements status

DEIS roll-out

IDT meeting

Other business

United States Department of Agriculture
Forest Service
Coronado National Forest Supervisor's Office
300 W. Congress
Tucson, Arizona 85701
Phone (520) 388-8300
FAX (520) 388-8305
Deaf & Hearing Impaired 711

File Code: 1950-3/2810
Date: January 7, 2009

Jamie Sturgess
Rosemont Copper Company
4500 Cherry Creek South Drive, Suite 1040
Denver, CO 80246

ROSEMONT COPPER COMPANY

JANUARY 7, 2010 STATUS SUMMARY MEETING

Dear Mr. Sturgess:

This meeting serves to fulfill the Forest's commitment to consult with you and keep you informed of progress made in the National Environmental Policy Act (NEPA) review of the Rosemont Copper Project and to hold monthly meetings to discuss progress and any important issues and/or needs, pursuant to Item D4 of our Memorandum of Understanding (MOU #03-MU-11030510-010, as modified).

The project status summary and meeting agenda are as follows:

1. MOU MODIFICATION
   Discuss any final points of clarification.

2. CONCEPTUAL ALTERNATIVES AND ALTERNATIVE ELEMENTS
   Status update of various conceptual alternatives.

3. OUTSTANDING REPORTS AND INFORMATION
   Identify needed information and sources. Discuss ongoing land forming studies.

4. STATUS OF ENVIRONMENTAL IMPACT STATEMENT
   Estimated percentages of completed drafts and completed reviews.

5. MITIGATION AND MONITORING
   Review and discuss mitigation and monitoring ideas and follow up needs.

6. UPCOMING ACTIVITIES
Review calendars for upcoming meetings and other scheduled activities.

Sincerely,

/s/ Melinda D. Roth

MELINDA D. ROTH
Special Assistant

Ec: Regional Office Geology and Minerals (Cordts)
Regional Office Ecosystem Analysis and Planning (Davis)

Cc: SWCA Environmental Consultants
343 West Franklin Street
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Past Activities

IDT Member/ Agency Name	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
ADWR	Ongoing				Water		--Please use this link to access the ADWR well databases and associated water rights/withdrawl permits in the area of the project. T17S R14E is the general cadastral location where Rosemont has its mineral extraction permit and associated water production wells. The Well Registry (Wells 55) database contains all the registered wells in the state and provides information about the well, owner of the well, drill date, pumping volume and associated water rights if applicable. The Groundwater Site Inventory (GWSI) database contains certain wells that have been monitored over time, in some cases showing historic water levels. The online link to the Wells55 database can be used to view well information by selecting the Search Wizard option, select by location, choose cadastral, then enter "D" for AZ Quad, Township 17 (half, NO), Range 14 (half, NO) and leave sections blank. This provides a list of all the wells and associated water rights in that 36 square mile area. Wells
Kriegel		Actual		Actual	Other		Administrative sites and facilities
ASMI	6/27/2008	Actual			Other		Administratively incomplete letter
Chuck					Special Uses		Andrada Marble Quarry- 17S 16E 21 NW 1/4
Town of Sahuarita	1961	Actual	Ongoing	Estimate	Water	Unknown	ASARCO Mission Mine - This mine started current operations in 1961. Many of the concerns outlined regarding the Sierrita Mine operation are applicable here too, and by extension, to the proposed Rosemont Mine operation, with the exception of any known sulfate plume. Current water consumption: 7,900 AF. Projected water consumption through 2030: 8,000 AF per
Kriegel		Actual		Actual	Special Uses		Astrophysical developments (Hopkins, Steward, MGIO)

Past Activities

IDT Member/ Agency Name	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Kriegel		Actual		Actual	Special Uses		Backcountry touring areas
ASLD		Estimate		Estimate	Other		Based on past trends, and depending on future market and regulatory conditions, other State Trust Lands, particularly to the north and west of the Santa Rita Mountains may be expected to be disposed by sale or lease for future
Chuck			mid 1950's		Special Uses		Blow Out Mine- 17S 16E 21 NW1/4
Chuck	1882	Actual	1940	Actual	Special Uses		Blue Jay Mine- 18S 15E 12 W. Cen
Art	1988	Actual	2009	Actual	Other	qualitative	Bounds of analysis/Fire History
Chuck			late 1950's		Special Uses		Broad Top Mine- 18S 15E 24 W. Cen
Chuck	1879		1950		Special Uses		Bulldozer Mine- 18S 15E 15 N. Cen
Chuck	Prior to 1900		1955		Special Uses		C&H Mine Group- 17S 16E 21
Kriegel		Actual		Actual	Other		Catastrophic natural disturbances (wildfire and insect outbreaks well outside of their normal scale and intensity)
ASMI	6/15/2009	Actual		Actual	Other		Comment period until Jun 15, 2009 (ARS 27-929)
Chuck	1899		1916		Special Uses		Copper World Mine- 18S 15E 13 S W1/4 24 NW 1/4
Chuck	1947		1948		Special Uses		Crown Claims- 17S 16E 30 N. Cen
Chuck	1899		1915		Special Uses		Cuprite Mine Group- 17S 16E 28 NW 1/4
Chuck	1870's		1916		Special Uses		Daylight- Narraganasett mines- 18S 15E 24 SE 1/4 25 NE 1/4
Kriegel		Actual		Actual	Other		Developed and dispersed recreation sites (camgrounds,
Kriegel		Actual		Actual	Other		Developments on private inholdings (homes, etc.)
Chuck	1915		1949		Special Uses		Dimple Mine Group- 17S 16E 28 E. Cen
Chuck	prior to 1900		1955		Special Uses		Eclipse Mine Group- 18S 15E 24 S. Cen 25 S. Cen
Kriegel		Actual		Actual	Special Uses		Electronic sites (including nearby Melendrez Pass)

Past Activities

IDT Member/ Agency Name	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Chuck	1899		1902		Special Uses		Elgin Mine Group- 18S 15E 23 NW 1/4
Chuck	1947		1960		Special Uses		Elgin Mine Group- 18S 15E 23 NW 1/5
ASMI	Prior to 2008	Estimate	approx 2009			<5 acres	Exploration activities and abandoned mine shaft inspections and closures (less than 5 acres disturbance) (ARS 27-901 et
Chuck	1958		1959		Special Uses		Falls Claim- 18S 15E 25 Cen.
Town of Sahuarita	1948	Actual	Ongoing	Actual	Water	30,000 AF	Farmer's Investment Company (FICO), the parent company of Green Valley Pecan, operates the world's largest irrigated pecan orchard almost entirely within the Town of Sahuarita, is the second largest producer of pecans in the world, and is the Town of Sahuarita's third largest local employer. Green Valley Pecan orchards total 6000 acres, 100,000+ trees, 250 employees (including FICO Water Co.), and consume approximately 30,000 acre feet of ground water per year in
Kriegel		Actual		Actual	Road		Forest Service and other roads (ADOT, Pima County, etc.)
Chuck	1944		1944		Special Uses		Franklin, Cushing, and Marion Mine Group
Town of Sahuarita	2007	Estimate	Ongoing	Actual	Water		Freeport McMoRan inherited the sulfate plume problem in 2007 when it acquired the Sierrita Mine west of Green Valley from Phelps Dodge. Mitigation efforts of plume still active.
Chuck	1880's		1969		Special Uses		Golden Gate Mine Group
Chuck	1880's		1902		Special Uses		Heavy Weight Mine
ASLD	2011	Estimate	2050	Estimate	Other	11,800 acres	Houghton Road corridor plan area development plan- ASLD has adopted a development plan which represented preliminary planning for the anticipated future development of the State Trust Land within the planning area at the eastern edge of the City of Tucson surrounding I-10. Ultimate development depends on future market conditions and further planning in conjunction with the City of Tucson. For details, see
ADWR	Ongoing				Water		https://gisweb.azwater.gov/waterresourcedata/

Past Activities

IDT Member/ Agency Name	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Emmett	1993	Actual		Actual	Other		Interchange of Right of Way Easements between ASARCO, Inc. and USA (Coronado NF) for Forest Road #'s 4064 and 231.
Chuck	1880's		1912		Special Uses		Isle Royal Mine Group
Chuck	early 1900's		1959		Special Uses		King-Exile Mine Group
Emmett	1989	Actual		Actual	Other		Land Exchange between BLM and San Pedro Investment Group southeast of Proposed Rosemont Copper Mine.
Chuck	1934		1934		Special Uses		Leader Mine
Walt	?		2009	Actual	Road	Unknown miles	Maintenance, reconstruction and construction of roads to support mineral activities on USFS and private lands, access to private parcels, and support of permitted grazing operations.
ASMI	8/1/2009	Estimate		Estimate	Vegetation	*15-20 ac	Minimal disturbances of exploration and experimentation planting fields >5 acres *approx 15-20 acres all on private property and reclaiming concurrently with disturbances, to further conclude studies of field empirical data and of reclamation and experimental planting field studies Rosemont's
Chuck	1880's		1940's		Special Uses		Mohawk Mine
Chuck	1960		1960		Special Uses		Muheim-Grafen Mine
Chuck	early 1890's		1900's		Special Uses		New York Mine
Chuck	1943		1948		Special Uses		Newman Mine
Chuck	1870's		1907		Special Uses		Old Dick Mine
Chuck	1938		1952		Special Uses		Old Dick Mine
Chuck	early 1800's		early 1900's		Special Uses		Old Pap-Old Put Mine
Chuck	1880's		1920		Special Uses		Omega Mines
Chuck	1890's		1890's		Special Uses		Oregon, Chicago, Coconino
Kriegel		Actual		Actual	Other		Other non-active mines in SE Arizona (including those on

Past Activities

IDT Member/ Agency Name	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Kriegel		Actual		Actual	Special Uses		Permittee facilities (rec residences, organization camps, range improvements, SARA site, etc.)
Salek	2008	Estimate	Ongoing	Estimate	Water	Point	Piezometer installation
Salek	2008	Estimate	Ongoing	Estimate	Water	Point	Piezometer monitoring
ASMI	5/23/2008	Actual					Reclamation Plan was received by Augusta for Rosemont Copper (in accordance with ARS 27-901 et sq)
ASMI	7/10/2009	Actual		Actual	Other		Review of comments ends
ASMI	5/15/2009	Actual		Estimate	Other	approx 875 ac	Rosemont Copper Plan technically approved (ARS 27-973)
ASMI	9/10/2009	Actual		Actual	Other		Rosemont Copper Project submitted financial assurance (ARS
ASMI	7/13/2009	Actual		Actual	Other		Rosemont Copper Project's Reclamation Plan was approved per ARS 27-973
ASMI	10/1/2008	Actual					Rosemont Copper Reclamation Plan Administratively approved (ARS 27-971)
ASMI	5/21/2009	Actual		Actual	Other		Rosemont Copper Reclamation Plan public notification begins (ARS 97-929)
ACOE	1995	Estimate	unknown		Other	.5 ac Waters of the U.S.	S14, T18S, R15E, Sahuarita limestone mine waste rock dump
ACOE	1998	Estimate	unknown		Other	< .1 ac	S19, T19S, R16E test for placer mine in East/West Chipsa Gulch
ACOE	2004	Estimate	unknown		Other	<.1 ac	S25, T18S, R17E BLM grade control structure in Mattie Canyon
ACOE	1998	Estimate	unknown		Water	2.5 miles	S26, 34, 35 T18S, R17E BLM Cienega Creek stream restoration
ACOE	2005	Actual	2005	Actual	Road	<.1 ac	S31, T17S, R17E ephemeral wash road fill
ACOE	1994	Estimate	unknown		Road	3 miles	S5, T18S, R17E Next Generation Radar Hilton Ranch Road
Town of Sahuarita	2004	Actual	Ongoing	Actual	Other		Sahuarita Outdoor Lighting Code 2004 Edition. See attachment.

Past Activities

IDT Member/ Agency Name	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Chuck					Special Uses		San Manuel Mine- north of Oracle. Open Pit/Black Cave Copper
ASMI	9/5/2008	Actual			Other		Second Rosemont Copper Reclamation Plan received with
Salek	1902	Estimate	Ongoing	Estimate	Water	Point	Seep and Springs development
Salek	1902	Estimate	Ongoing	Estimate	Water	Point	Seep and Springs monitoring
Town of Sahuarita	1957	Actual	Ongoing	Estimate	Water	Unknown	Sierrita Mine - This mine started current operations in 1957. Currently, the Sierrita Mine consumes 26,700 AF of water per year. Estimated consumption per year through 2030: 28,000 AF. In 1957, plans indicated a limited operational lifespan. However, market conditions, technological advances, geological discoveries, etc., have resulted in always extending termination dates. Rosemont also claims an operational lifespan of 20 years, but the Town knows this will likely be only the first phase and the actual lifespan could be 30, 20, 50 years. For this reason, the Town continues to have concerns regarding the supply of ground water from the Santa Cruz aquifer, not only during the stated lifespan of the mine, but the EXTENDED lifespan of the mine. Additionally, when the Rosemont actually ceases operations, what amount of water will continue to be used during reclamation and post-reclamation operations (dust control, watering vegetation, etc.)? Likewise, leaching from the Sierrita Mine has created an extensive subterranean sulfate

Past Activities

IDT Member/ Agency Name	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Town of Sahuarita	2003	Actual	2030	Estimate	Road		Southeast Area Arterial Study -- The Southeast Area Arterial Study was undertaken by PAG in cooperation with the City of Tucson, Pima County, the Town of Sahuarita, and the Tucson Airport Authority to assist in developing a major streets and routes plan for the Study Area which is generally bounded by I-19, I-10, SR83, and the Santa Rita Experimental Range. The purpose of the Study was to identify a future roadway network that will serve this rapidly developing area so that appropriate rights-of-way can be reserved. Result: increased population and consumption of water in the areas adjacent to existing Rosemont well sites. See http://www.pagnet.org/Programs/TransportationPlanning/PlansandPrograms/RegionalTransportationPlanandStudies/Southea
Salek	1950	Estimate	1970	Estimate	Water	Point	Surface Water Flow Monitoring (USGS Barrell Canyon at SR 83)
Salek	2008	Estimate	Ongoing	Estimate	Water	Point	Surface Water Quality Monitoring (TT stormwater samplers)
Salek	2008	Estimate	Ongoing	Estimate	Water	Point	Surface Water Quality Monitoring instrument installation (TT stormwater samplers)

Past Activities

IDT Member/ Agency Name	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Town of Sahuarita	1994	Actual	Ongoing	Actual	Water	8,856 AF	The Town of Sahuarita, since incorporating in 1994, has grown from approximately 2,000 residents to an estimated 25,000 residents as of July 2009. By 2030, the population estimates for Sahuarita suggest a town population of approximately 85,000 residents (Source: PAG Population Estimates). Critical to sustaining these projected populations is the availability of clean, drinkable, and dependable water. Currently, the Santa Cruz aquifer -- which abuts the Town's eastern boundary and supplies Sahuarita and Green Valley their drinking Water -- is being over pumped by 39,000 acre feet per year. Water providers in the greater Sahuarita/Green Valley area currently deliver around 8,500 AF per year, while homeowners with private wells draw an additional 356 AF per year. By 2030, the stated termination date for the mine, projected deliveries of groundwater will almost double to 14,095 AF, and private wells will likewise double their take. The Town has serious concerns about Rosemont's water requirements, plans to tap into our
Town of Sahuarita	1965	Actual	1986	Estimate	Water	Unknown	Twin Buttes/Anamax mine operated from 1965 to 1986. Many of the concerns outlined regarding the Sierrita Mine operation were encountered during the productive life of this mine and, by extension, to the proposed Rosemont Mine operations, with the exception of any known sulfate plume.
Kriegel		Actual		Actual	Special Uses		Utility lines
Salek	1902	Estimate	Ongoing	Estimate	Water	Point	Water well installation
Salek	1902	Estimate	Ongoing	Estimate	Water	Point	Water well monitoring

Past Activities

IDT Member/ Agency Name	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Salek	1902	Estimate	Ongoing	Estimate	Water	Point	Water well use (Rosemont Camp, Hydro Characterization wells 07-08)
Salek	2007	Estimate	Ongoing	Estimate	Water	Point	Weather station Installation and monitoring (Precip, temp, wind direction, pan evaporation)
Emmett	1993						
ACOE	2000	Actual	2009	Actual	Road		

Present Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Kriegel		Actual		Actual	Other		Active mining activity across SE Arizona (including mines on the CNF)
BLM	1872	Estimate	Ongoing	Estimate	Special Uses	Indefinite	Active mining claims throughout BLM lands and federal mineral estate in area. Active claims constantly changing as new claims filed and old claims dropped. Active mining claims may be searched at: http://www.geocommunicator.gov/blmMap/Map.jsp?Map=MC
Kriegel		Actual		Actual	Road		ADOT Highway 83 realignment project
BLM	1988	Estimate	Ongoing	Estimate	Road	3 miles	ADOT Hwy 83 ROW location-milepost 40, road in place
AZGF	Ongoing		Ongoing	Estimate	Wildlife	25	Antlered Mule Deer hunt (Oct-Nov)
AZGF	Ongoing		Ongoing	Estimate	Wildlife	1265	Antlered Whitetail Deer hunt(Oct-Dec)
AZGF	Ongoing		Ongoing	Actual	Recreation	13.5mi	Arizona Trail (currently extends to Oak Tree Canyon)
Kriegel		Actual		Actual	Other		ARRA projects

Present Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Pima County	Ongoing	Actual	Unknown	Actual	Other	Pm10	ASARCO Inc. currently operates an open pit copper mine regulated by both Pima County DEQ and EPA Region 9. Major source of PM10. ASARCO Incorporated owns and operated the Mission Complex in Pima County near Sahuarita, Arizona. The Mission Complex extracts local copper ores using both open pit and underground mining methods. Approximately 63,000 tons of copper ore each day is crushed, screened, and concentrated using a conventional froth flotation method. Mission operates 24 hours per day, 365 days per year except during preventive maintenance, shutdown, or repair of equipment. Emissions at Missions consist primarily of fugitive and non-fugitive particulate matter generated during mining and mineral processing activities. Small quantities of other regulated pollutants are also emitted from portable combustion sources and volatile organic liquid storage activities. Fugitive matter is controlled by a combination of methods including, but not limited to, retention of native vegetation, application of water, and good mining practices. Emissions from metallic mineral processing activities are controlled by a variety of enclosures, water sprays, and, in some instances, wet scrubbers and baghouses. Some of the wet scrubbers and baghouses are used to control emissions at points subject to the New Source Performance Standards for Metallic Mineral Processing Plants (40
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Bat Netting -inventory and monitoring
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Bear archery hunt (April-July)
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Bear hunt(March-April)

Present Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
							Below are other existing recharge facilities in the general area of the project. Rosemont does not currently hold storage permits at these facilities.
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	BlackTailed Prairie Dog Monitoring
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	BlackTailed Prairie Dog Population Augmentation
Art	"ongoing"	Estimate	"ongoing"	Estimate	Other	"qualitative"	Bounds of analsis/routine fire patrols/occasional unattended campfires. Very low fire occurance.
Chuck					Special Uses		Carlota- Pinto Valley
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Chiricahua Leopard Frog Recovery Activities
Chuck					Special Uses		Cross Spear- Dos Cabezas
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Dear & Javelina Surveys Aerial (Dec, January)
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Deer & Javelina Surveys Foot (Oct - March)
ASMI	2009	Estimate		Estimate	Other		designing and ongoing exploration activity- planned on private lands
Town of Sahuarita	2009	Actual	Ongoing	Estimate	Other		Economic development goals as defined in the "Strategic Plan for Economic Development," adopted by the Town Council in January 2009. this document outlines the Town's strategy to expand and enhance economic and commercial infrastructure including recruitment efforts for business parks, research centers, light industrial parks, campus style office facilities and office condos. Such activities would involve a concomitant increase in population and water consumption. "Strategic Plan for Economic Development" located at: http://www.ci.sahuarita.az.us/images/PDFs/Economic_Dev/184316_TOS_EDSP2.pdf
Kriegel		Actual		Actual	Vegetation		Ecosystem Restoration Projects (PERP, Oracle Ridge, etc.)
ASMI	2009	Actual		Actual	Vegetation	10-15 acres	experimental reclamation disturbances for seeding studies

Present Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
ADWR	3/1/2004	Actual	12/31/2016	Actual	Water	22,000 AF annual limit	Farmers Investment Company (FICO) Groundwater Savings Facility (GSF) 72-584465.0001. Actively farmed pecan groves located in T16S, and T17S, R14E. A GSF is designed to save groundwater that would otherwise be pumped by using CAP water in lieu of groundwater. Currently this GSF is not being used, primarily due to the fact that no CAP pipeline currently exists to the farming facility. The facility is currently using groundwater pursuant to its irrigation Grandfathered Groundwater Rights. This could change in the future is CAP is extended to the facility.

Present Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Pima County	Ongoing	Actual	Unknown	Actual	Other	Pm10	Freeport-McMoRan Sierrita, Incorporated (FMSI) operate a copper and molybdenum mining and processing facility regulated by PDEQ. The facility is located at 6200 West Duval Mine Road, Green Valley, Pima County, AZ. Operations at FMSI include conventional open-pit mining, crushing and conveying, milling, concentration of mineral values by bulk flotation followed by differential flotation, leaching and roasting of molybdenum disulfide, rhenium recovery, molybdenum disulfide and molybdenum trioxide packaging, and leaching of oxide ore with solution extraction/ electrowinning processes. FMSI also operated a magnetic steel recovery plant, a copper sulfate plant, decant solids handling facility, electrical generators, process heaters, boilers, screening equipment, road rock crushing equipment and other support facilities. The FMSI metalic mineral mining and concentration facility produces copper concentrate, copper cathode, copper sulfate, molybdenum disulfide, molybdenum trioxide, and rhenium. FMSI utilizes wet scrubbers, baghouses, cartridge dust collectors, and water sprays on various processes to reduce emissions of particulate
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	General Nongame Inventory, Monitoring, and Research Activities
Town of Sahuarita	2008	Actual	Ongoing	Actual	Other		General Plan Amendments -- The Town is currently considering eight General Plan Amendments, including 16 sections of State Land east of Town limits to Wilmot Road, and west past Mission Road. See attached map.
Kriegel		Actual		Actual	Other		Grazing (including range improvements such as fencing)

Present Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
ASLD	early 1900s	Actual	>50 years from present	Estimate	Range	>100,000 acres	Grazing leases- ASLD leases hundreds of thousands of acres of State Trust land for grazing to the west, north and east of the project site, including greater than 50,000 acres directly to the west leased to the University of Arizona for use as the Santa Rita Experimental Range. For further details, see ASLD's online interactive map website, http://sco.az.gov/website/parcels/viewer.html
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Habitat Evaluation Surveys
BLM	1954	Estimate	Ongoing	Estimate	Range	4654 acres	Helvetia grazing allotment, currently grazed
BLM	1986	Actual	2030	Estimate	Special Uses	100 acres	Imerys Marble Quarry, Helvetia
Chuck					Special Uses		Imerys- NW Santa Rita Mts
Smithsonian Whipple Observatory	1968	Actual	n/a	Actual	Special Uses	$40,000,000	Infrastructure: Mt. Hopkins, Santa Rita Range: SAO develops, builds and maintains infrastructure such as electricity, communications, access roads in the CNF, water supply and storage including capacity for firefighting.
BLM	1992	Actual	Ongoing	Estimate	Riparian	7 miles	Instream flow right application filed with ADWR for flows in Cienega Creek within the Las Cienegas NCA, water right certificate pending
Emmett	1993	Actual	2005	Actual	Other		Interchange of Right of Way Easements between ASARCO, Inc. and USA (Coronado NF) for Forest Road #'s 4064 and 231. As part of the Interchange Asarco acquired a FLPMA Easement on 4/30/1993 which was terminated by the CNF on 8/1/2005. More info available if needed.
AZGF	Ongoing		Ongoing	Estimate	Wildlife	285	Javelina HAM hunts (February)
AZGF	Ongoing		Ongoing	Estimate	Wildlife	550	Javelina hunts (February)
AZGF	Ongoing		Ongoing	Estimate	Wildlife	700	Javelina, archery hunt(January)
Chuck					Special Uses		Johnson Camp- NE of Texas Canyon
AZGF	Ongoing		Ongoing	Estimate	Wildlife	140 Tags	Jr. Javelina hunts (Fall and Spring)

Present Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
BLM	2003	Actual	2020	Estimate	Other	41972 acres	Las Cienega NCA Resource Management Plan, includes heritage interpretation, recreation, wildlife, viewshed, watershed, etc. Plan is in effect.
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Lowland Leopard Frog Inventory and Monitoring
Walt			2009	Actual	Road	Unknown miles	Maintenance, reconstruction and construction of roads to support mineral activities on USFS and private lands, access to private parcels, and support of permitted grazing operations.
Kriegel		Actual		Actual	Other		Mexico border (illegal immigration and drug smuggling, wildcat roads and trails, trash and debris, Homeland security roads and infrastructure, Border patrol activities, etc.)
ADWR	1/18/2008	Actual	1/17/2028	Actual	Water	6,000 AF annual limit	Mineral Extraction Permit 59-215979.0000 has been issued for 6,000 AF per year to Rosemont Copper Company. Wells associated with permit are 55-216391 (T17S, R14E, Sec 21) and 55-214277 (T17S, R14E, Sec 17). Authorized Places of use: T18S, R15E (Sections 1-2, 10-15, 22-26, 35-36); T18S, R16E (Sections 5-9, 16-25, 28-33, & 36); T19S, R15E (S1-2); T19S, R16E (S4-9).
Chuck					Special Uses		Mission Mine- NW of Green Valley
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Mtn. Lion hunt (all year)
AZGF	Ongoing		Ongoing	Estimate	Wildlife	100	Muzzleloader Deer (Nov)
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Native Fish Habitat Enhancement and Restoration Activities
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Native Fish Inventory and Monitoring activities

Present Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Town of Sahuarita	2004	Estimate	Ongoing	Estimate	Water	16 sq miles	Negotiations between the Town of Sahuarita and the Arizona State Land Department to annex 16 sections of land east of town. Sections in question are: T16S, R14E, S33-36; T17S, R14E, S1-4 & S9-16. In additional to this footprint, other miscellaneous parcels to the west would also be part of this general annexation so as to physically join the 16 State Land sections to the Town's eastern boundary. Planned for this area is commercial development and an estimated 50,000 residences at build out, all requiring water.
ASMI	2010	Estimate		Estimate	Other		No current mining activity
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Nongame Bird Inventory and Monitoring Activities
Kriegel		Actual		Actual	Other		Off-highway vehicle use and damage to resources
AZGF	Ongoing		Ongoing	Estimate	Road	Unavailable	OHV (Rosemont Jct. Rd. is a staging area)
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	OHV Patrol
Salek	2008	Estimate	Ongoing	Estimate	Water	Point	Piezometer monitoring
Pima County	1995	Estimate	2008	Estimate	Road	11 miles	Pima County periodically performs maintenance grading along Santa Rita Road. Santa Rita Road is a dirt road in poor condition located within Sections 20, 29, 28, 34, 35, T17S, R14E; Sections 1, 2, 12, T18S, R14E; Sections 7, 18, 17, 21, 22, 23, T18S, R15E. M
Pima County	2009	Estimate	2010	Estimate	Road	11 miles	Pima County periodically performs maintenance grading along Santa Rita Road. Santa Rita Road is a dirt road in poor condition located within Sections 20, 29, 28, 34, 35, T17S, R14E; Sections 1, 2, 12, T18S, R14E; Sections 7, 18, 17, 21, 22, 23, T18S, R15E. M
Pima County	2011	Estimate	2045	Estimate	Road	11 miles	Pima County periodically performs maintenance grading along Santa Rita Road. Santa Rita Road is a dirt road in poor condition located within Sections 20, 29, 28, 34, 35, T17S, R14E; Sections 1, 2, 12, T18S, R14E; Sections 7, 18, 17, 21, 22, 23, T18S, R15E. M

Present Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
ADWR	6/16/2008	Actual	9/6/2020	Actual	Water	30,000 AF annual limit	Pima Mine Road Underground Storage Facility (USF) 71-577501.0002 Owned by Central Arizona Groundwater Replenishment District (CAGRD) and Tucson Water. Max storage of 500,000 AF over life of permit. Located in T16S, R14E, northwest of Rosemont's mineral extraction wells. Rosemont stored approximately 517 AF of their excess CAP at this facility in 2006 pursuant to their storage permit 73-577501.0500 until storage capacity restraints forced them to start storing their CAP water at the Lower Santa Cruz Replenishment Project located in T12S, R11E, S3 & 4 (near Marana, AZ). They have currently stored 27,876 AF of excess CAP at Lower Santa Cruz Replenishment Project pursuant to their storage permit 73-561366.0600.
Kriegel		Actual		Actual	Other		Population growth in SE Arizona (development/sprawl, increased visitors, etc.)
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Prairie Dog Reintroductions
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Predatory/Fur-bearer hunts (all year)
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Predatory/Fur-bearer Research, Inventory, Monitoring Activities
Smithsonian Whipple Observatory	1990	Actual	n/a	Actual	Special Uses	$10,000,000	Public: Mt. Hopkins, Santa Rita Range: SAO develops, builds and maintains visitor center at the foot of Mt. Hopkins that attracts several thousand visitors each year that visit, take tours of FLWO, and participate in star parties. Center includes administrative offices and serves as introduction to the beauty of the area in addition to the astronomical research conducted at FLWO.
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Quail hunts (Oct-Feb)
Kriegel		Actual		Actual	Other		Recreation Facility Analysis

Present Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
BLM	2006	Estimate	Ongoing	Estimate	Wildlife	2 species	Reintroduction of leopard frogs and prairie dogs at Las Cienegas NCA, both species reintroduced
Smithsonian Whipple Observatory	1968	Actual	n/a	Actual	Special Uses	n/a	Research: Mt. Hopkins, Santa Rita Range: ongoing world-class astronomical research with multiple telescopes conducting studies of the solar system, our own galaxy, external galaxies and the universe at large. Examples of targets are asteroids, comets, stars, supernovae, quasars, gamma-ray bursts and extrasolar planets. Activities are open-ended and have no set year end.
BLM	1989	Estimate	Perpetual	Actual	Road	36 miles	Road ROWs to Pima County for roads in the vicinity of the Santa Rita Experimental Range and Helvetia, most of the underlying land has since been conveyed to the State of AZ
ADWR	12/17/2003	Actual	4/2/2021	Actual	Water	2,240 AF annual limit	Robson Ranch Quail Creek Underground Storage Facility 71-581379.0001. Privately-owned effluent storage facility located in T18S, R13E. Effluent is generated nearby at the Pima County-owned Green Valley Wastewater Treatment Plant.
Town of Sahuarita	2009	Actual	12/2010	Estimate	Road	1.0 miles	Sahuarita Road Phase I -- from I-19 to La Villita Road, Sahuarita Road will undergo a complete transformation from two-lane black top to four travel lanes, landscaped medians, cross-drainage facilities, paved shoulders and sidewalks, a pedestrian underpass, and new traffic signals at strategic intersections. See http://sahuaritarosd.com/
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Scouting for upcoming hunts
							See accompanying Maps for general locations of USFs and GSFs.
Salek	1902	Estimate	Ongoing	Estimate	Water	Point	Seep and Springs monitoring
Chuck					Special Uses		Sierrita Mine- W of Green Valley
Chuck					Special Uses		Silverbell Mine- Silverbell Mtns

Present Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Town of Sahuarita	2000	Actual	Ongoing	Estimate	Other	25,078 population	Since the 2000 census, Sahuarita has seen a dramatic increase in the Town's population. In 2000, the census indicates a population of 3,242; the estimated population on July 1, 2009 (Source: PAG) is 25,078, an increase of 673%. PAG projections indicate the population of Sahuarita in 2030 -- the purported lifespan of the mine -- will be 85,000, an increase of another 239% from 2009. These increases bring with them increased traffic on Interstates 19 and 10 and Sahuarita Road, and most importantly, an increased demand for water.
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Small Game hunts -tree squirrel, cottontail rabbit, quail (all year)
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Soil Piping Cave Monitoring

Present Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Pima County	Ongoing	Actual	Unknown	Actual	Other	Pm10	Stakaer Parsons operates a concrete batch plant and crushed aggregate plant regulated by PDEQ at 18701 South old Nogales Highway, Sahuarita. Aggregate supplies for the facility will be provided from the on-site sand and gravel operation. The crushed and sized aggregate will then be washed for use in the concrete plant. A front-end loader will transfer the aggregate to be crushed and sized from the mining area on-site. The material will then be processed through crushers and screens and transported to the wash plant. A loader will then convey the washed aggregate to the concrete plant which is a series of hoppers, conveyors, and in turn, will transfer the aggregate from the hoppers to the aggregate load out hopper. After weighing, the aggregate will be dry batched into mixer trucks and water will be added. Mixer trucks will then transport the concrete mix off-site to various customers. Emissions from the dry batch load out will be controlled with a water spray system. The system controls fugitive emissions from the load out into the mixer trucks. Fugitive emissions from the unpaved haul road will be controlled by water truck. Fugitive emissions from the loading of cement silos, supplemental silos, and lime silo will be controlled by bin vents on the tip of each silo. The cement plant will operate on commercial power. The
Salek	2008	Estimate	Ongoing	Estimate	Water	Point	Surface Water Flow Monitoring (USGS Barrell Canyon at SR 83)
Salek	2008	Estimate	Ongoing	Estimate	Water	Point	Surface Water Quality Monitoring (TT stormwater samplers)
BLM	1986	Estimate	Ongoing	Estimate	Special Uses	1 mile	SWG natural gas pipeline ROW, Helvetia, pipeline in place
AZGF	Ongoing		Ongoing	Estimate	Other	Unavailable	Target shooting (preparing for hunts)

Present Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Smithsonian Whipple Observatory	1968	Actual	n/a	Actual	Special Uses	$200,000,000	Telescopes: Mt. Hopkins: Smithsonian Astrophysical Observatory (SAO) and University of Arizona (UA) developed, built and maintained the F.L. Whipple Observatory (FLWO) over several decades. Current inventory is 21 telescope. Telescopes are equipped with ultra-sensitive optical, infrared and gamma-ray detectors to acquire images and spectroscopy of astronomical targets. Current collaborations include participation from National Science Foundation, Department of Energy and several international partner universities in the Americas and in Europe. Several hundred scientists and students from Harvard-Smithsonian Center of Astrophysics (Cambridge, MA), the UA and a large number of US universities and abroad travel to FLWO to use the telescopes.
BLM	2010	Estimate	Ongoing	Estimate	Special Uses	60 miles	TEP Vail-Nogales power line, .25 miles on BLM, power line in place, TEP seeking upgrade in line
Pima County	2009	Estimate	2010	Estimate	Trail	3-4 acres	The Arizona Trail is a National Scenic Trail. The trail is a part of approximately 30 miles of trail completed by Pima County. Additional trail is being constructed on the Forest jurisdiction by the Arizona Trail Crew.
Town of Sahuarita	2004	Estimate	Ongoing	Estimate	Water		The Town is currently working with private developers to potentially annex additional miscellaneous parcels totaling approximately 3-4 square miles between Wilmot and Houghton Roads, north of Sahuarita Road within T17S, R15E, S2-11.
Town of Sahuarita	2004	Estimate	2030	Estimate	Water	6.56 sq miles or 4,200 acres	The Town of Sahuarita is currently negotiating with a private developer the annexation of 4,200 acres of land west of the Town for primarily residential development. At build out, approximately 15,000 homes and 38,000 residents.

Present Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
ADWR	11/30/2007	Actual	11/30/2027	Actual	Water	896 AF annual limit	Town of Sahuarita Underground Storage Facility 71-595209.0000. Town stores effluent generated from its municipal wastewater treatment plant. Facility is located south of the Pima Mine Road facility in T16S, R13E.
Kriegel		Actual		Actual	Other		Travel Management
AZGF	Ongoing		Ongoing	Estimate	Wildlife	2 tags	Turkey Hunt Spring
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Water Catchment Checks
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Waterfowl Management, Inventory, and Monitoring Activities
Salek	2007	Estimate	Ongoing	Estimate	Water	Point	Weather station monitoring (Precip, temp, wind direction, pan evaporation)
Salek	2008	Estimate	Ongoing	Estimate	Water	Point	Well Water Level Monitoring
Salek	2008	Estimate	Ongoing	Estimate	Water	Point	Well Water Quality Monitoring
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Wildlife Corridor and Linkage Identification, Modeling, Etc
AZGF	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Wildlife Viewing/Birding

Reasonably Foreseeable Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Kriegel		Actual		Actual	Other		3 other adjacent mines: Peach-Elgin, Broad Tom, and Copper World
Kriegel		Actual		Actual	Other		Alpha Calcit Mine
Chuck					Specail Uses		Alpha Calcit Mine- Dragoon Mtns

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Pima County	Ongoing	Actual	Unknown	Actual	Other	Pm10	regulated by both Pima County DEQ and EPA Region 9. Major source of PM10. ASARCO Incorporated owns and operated the Mission Complex in Pima County near Sahuarita, Arizona. The Mission Complex extracts local copper ores using both open pit and underground mining methods. Approximately 63,000 tons of copper ore each day is crushed, screened, and concentrated using a conventional froth flotation method. Mission operates 24 hours per day, 365 days per year except during preventive maintenance, shutdown, or repair of equipment. Emissions at Missions consist primarily of fugitive and non-fugitive particulate matter generated during mining and mineral processing activities. Small quantities of other regulated pollutants are also emitted from portable combustion sources and volatile organic liquid storage activities. Fugitive matter is controlled by a combination of methods including, but not limited to, retention of native vegetation, application of water, and good mining practices. Emissions from metallic mineral processing activities are controlled by a variety of enclosures, water sprays, and, in some instances, wet scrubbers and baghouses. Some of the wet scrubbers and baghouses are used to control emissions at points subject to the New Source Performance Standards for Metallic Mineral Processing Plants (40 CFR Part 600, Subpart LL).
AZGF	2010	Estimate	2015	Estimate	Wildlife	Unavailable	Beaver Reintroductions -Cienega Creek

Reasonably Foreseeable Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
AZGF	2009	Actual	Unavailable	Estimate	Wildlife	Unavailable	Black Tail Prairie Dog Population Enhancement -Las Cienegas
AZGF	Ongoing	Estimate	Unavailable	Estimate	Wildlife	Unavailable	Black Tail Prairie Dog Population Monitoring-Las Cienegas
Emmett		Estimate		Estimate	Other	Unknown Easements	Bounds of analysis area is SR 83 and Box Canyon to south of proposed Rosemont Copper Project. Private easements may be in any of the waste rock and or tailings areas. SWCA to followup on once they receive Scope of Work.
Art	"ongoing"	Actual	"ongoing"	Actual	Other	"qualitative"	Bounds of analysis/no future prescribed fire plans/continue routine fire patrols/follow guidelines under Industrial Operations Fire Prevention Guide/National Wildfire Coordinating Group (NWCG)/PMS 462, NFES 2598
Chuck					Specail Uses		Cal Port- Davidson Canyon
Kriegel		Actual		Actual	Road		CalPortland sand and gravel mine and proposed haul road in Davidson Canyon
AZGF	Ongoing	Estimate	Unavailable	Estimate	Wildlife	Unavailable	Chiricahua Leopard Frog Reintroductions and Recovery efforts
AZGF	Ongoing	Estimate	Unavailable	Estimate	Wildlife	Unavailable	Cienega Corridor Wildlife Linkage Acquisition Activities
AZGF	Ongoing	Estimate	Unavailable	Estimate	Wildlife	Unavailable	Cienega Creek Riparian Habitat evaluation and restoration activities

Reasonably Foreseeable Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
ADWR	?				Water	2,858 AF annually	Community Water Company of Green Valley is currently planning potential CAP delivery and recharge in the Green Valley area. As of 10/9/09, ADWR is not aware of a definite location of storage site or amount of recharge. Community Water Company currently holds a CAP subcontract for 2,858 AF.
Pima County	2010	Estimate	Ongoing	Estimate	Other		Conservation Plan: Activities may include acquisition of archaeological and historical sites and traditional use sites for conservation and heritage education purposes, tours, monitoring and other uses of sites by County staff and others.
Kriegel		Actual		Actual	Trail		Construction of the Arizona Trail in the north end of the Santa Ritas
Kriegel		Actual		Actual	Other		Designation of Santa Ritas as a Traditional Cultural Place
Town of Sahuarita	2019	Estimate	2023	Estimate	Road	3.0 miles	Extension of Campbell Avenue north to Santa Rita Road. Road would allow development of State Land currently located outside Town limits but within the Town of Sahuarita General Plan. More development in this area would include increase in water consumption and traffic generation near Rosemont well sites.
ADWR	?				Water	22,000 AF annually	FICO could potentially start using CAP water at its GSF facility if infrastructure is built to get the CAP water to the site.

Reasonably Foreseeable Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
AZGF	Ongoing	Estimate	Unavailable	Estimate	Wildlife	Unavailable	Game Inventory, Monitoring, Translocation, and population enhancement activities - e.g. Gould's Turkey population augmentation
Town of Sahuarita	2010	Estimate	Ongoing	Estimate	Other	752 acres	General Plan Amendment #3 -- Future Annexation of 752 acres of State Land, located east of Town Limits, adjacent to Santa Rita Experimental Range and Wildlife Area. Increase water consumption and traffic generation near Rosemont well sites is likely.
Town of Sahuarita	2010	Estimate	2060	Estimate	Wildlife	50 year permit duration	Greater Southlands Habitat Conservation Plan -- a commitment by the City of Tucson to implement certain actions that will minimize and mitigate the impacts of any take of certain specified species that could occur as a result of planned urban development and associated capital improvement projects. See http://www.tucsonaz.gov/ocsc/HCP_Documents.php#TopOfPage. See attachments.
Walt	2012	Estimate	2032	Estimate	Road	Unknown Miles	Maintenance, reconstruction and construction of roads to support mineral activities on USFS and private lands, access to private parcels associated with proposed Rosemont Copper Project. This includes all roads in support of utility lines, monitoring and public, administrative, private and all other uses as needed for the project.
Walt	2010	Estimate	2012	Estimate	Road	Unknown Miles	Maintenance, reconstruction and construction of roads to support mineral activities on USFS and private lands, access to private parcels, and support of permitted grazing operations.

Reasonably Foreseeable Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Emmett		Estimate		Estimate		Unknown # of Surveys	Mitigation of lost property corners and monuments. These locations will have to be re-established by the company.
AZGF	Ongoing	Estimate	Unavailable	Estimate	Wildlife	Unavailable	native Fish Habitat Evaluation and enhancement activities
AZGF	Ongoing	Estimate	Unavailable	Estimate	Wildlife	Unavailable	Native Fish Inventory, Monitoring, Recovery, Translocation, and enhancement activities
AZGF	Ongoing	Estimate	Unavailable	Estimate	Wildlife	Unavailable	Nongame Bird Inventory, monitoring, recovery, and enhancement activities
Kriegel		Actual		Actual	Other		Pena Blanca Lake development
Salek	2008	Estimate	Ongoing	Estimate	Water	Point	Piezometer installation
Salek	2008	Estimate	Ongoing	Estimate	Water	Point	Piezometer monitoring
Pima County	2010	Estimate	2040	Estimate	Other	Estimated permit area of about ~ 600,000 aces	Pima County is seeking a Section 10(a) Multi-Species Conservation Plan. http://www.pima.gov/cmo/sdcp/MSCP/MSCP.html. Activities associated with this plan may include land acquisition, natural and cultural resource monitoring, land management activities, invasive species maintenance, endangered species management, habitat restoration and enhancement activities, etc.
Kriegel		Actual		Actual	Special Uses		PNM powerline?
AZGF	Ongoing	Estimate	Unavailable	Estimate	Wildlife	Unavailable	Predator Control and Management activities
Kriegel		Actual		Actual	Other		Proposed Tumacacori Wilderness

Reasonably Foreseeable Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
ASMI	7/13/2010	Estimate		Estimate			Reclamation annual report for Rosemont Copper Project is after 7/13/09 (within 60 days) AAC Title 11, Chapter 2- Rules (R11-2-504)(reporting of mine status issues and all disturbance and reclamation activities on private lands and any substantial changes to reclamation plan)
Walt	2012	Estimate	2014	Estimate	Road	Unknown Miles	Reconstruction and construction activities on AZ-83 (ADOT) highway to accommodate required transportation mitigation associated with proposed Rosemont Copper Project
AZGF	Ongoing	Estimate	Unavailable	Estimate	Wildlife	Unavailable	Riparian/Wetland enhancement restoration activities
Chuck					Specail Uses		Rosemont Copper Project- NE Santa Rita Mts
ACOE	2011*	Estimate	2031	Estimate	Special Uses	50 ac	S19 and 30, T17S, R17E Cal Portland Cement Empire Mountains limestone quarries in Davidson Canyon Wash watershed; Section 404 public notice comment period closed; NEPA document will be prepared within next year followed by Section 404 permit decision.

Reasonably Foreseeable Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Town of Sahuarita	Spring 2001	Estimate	Spring/ Summer 2013	Estimate	Road	2.25 miles	Sahuarita Road Phase II -- a continuation of Phase I, from La Villita Road to the eastern Town limit at approximately Country Club Road. Phase II will include the same features as Phase I, but will include a new bridge over the Santa Cruz River and potentially a new bridge over the Union Pacific railroad tracks east of the Nogales Highway/Sahuarita road intersection. This project also extends infrastructure into the 16 sections of Arizona State Trust Land currently being negotiated for annexation (for further details, see "Present Activities.")
Salek	1902	Estimate	Ongoing	Estimate	Water	Point	Seep and Springs monitoring

Reasonably Foreseeable Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Pima County	Ongoing	Actual	Unknown	Actual	Other	Pm10	Stakaer Parsons operates a concrete batch plant and crushed aggregate plant regulated by PDEQ at 18701 South old Nogales Highway, Sahuarita. Aggregate supplies for the facility will be provided from the on-site sand and gravel operation. The crushed and sized aggregate will then be washed for use in the concrete plant. A front-end loader will transfer the aggregate to be crushed and sized from the mining area on-site. The material will then be processed through crushers and screens and transported to the wash plat. A loader will then convey the washed aggregate to the concrete plant which is a series of hoppers, conveyors, and in turn, will transfer the aggregate from the hoppers to the aggregate load out hopper. After weighing, the aggregate will be dry batched into mixer trucks and water will be added. Mixer trucks will then transport the concrete mix off-site to various customers. Emissions from the dry batch load out will be controlled with a water spray system. The system controls fugitive emissions from the load out into the mixer trucks. Fugitive emissions from the unpaved haul road will be controlled by water truck. Fugitive emissions from the loading of cement silos, supplemental silos, and lime silo will be controlled by bin vents on the tip of each silo. The cement plant will operate on commercial power. The aggregate crushing and screening plant will operate on an 800 kW diesel generator. Diesel fuel for the loaders and mixer
Salek	2008	Estimate	Ongoing	Estimate	Water	Point	Surface Water Flow Monitoring (USGS Barrell Canyon at SR 83)

Reasonably Foreseeable Activities

IDT Member	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
Salek	2008	Estimate	Ongoing	Estimate	Water	Point	Surface Water Quality Monitoring (TT stormwater samplers)
Kriegel		Actual		Actual	Special Uses		TEP powerline (Tumacacoris)
Town of Sahuarita	2012	Actual	2012	Estimate	Other		Town General Plan Update: The Town's General Plan, by statute, must be discussed and reaffirmed by a vote of the residents every 10 years. In 2012, residents will reexamine this document and the topics contained therein, including land use, growth areas, circulation, public facilities and services, recreation and open space, environmental planning, water resources, and cost of development. The General Plan priorities could be completely reshuffled at this time.
Kriegel		Actual		Actual	Other		Travel Management projects
Kriegel		Actual		Actual	Other		Tucson Rod and Gun Club (Redington Pass)
Salek	1902	Estimate	Ongoing	Estimate	Water	Point	Water well installation
Salek	1902	Estimate	Ongoing	Estimate	Water	Point	Water well use (Rosemont Camp, Hydro Characterization wells 07-08)
Salek	2007	Estimate	Ongoing	Estimate	Water	Point	Weather station monitoring (Precip, temp, wind direction, pan evaporation)
Salek	2008	Estimate	Ongoing	Estimate	Water	Point	Well Water Level Monitoring
Salek	2008	Estimate	Ongoing	Estimate	Water	Point	Well Water Quality Monitoring

United States
Department of
Agriculture

Forest
Service

January 2010

Draft Environmental Impact Statement

Draft – Deliverable – Not for Public Distribution

Rosemont Copper Project

A Proposed Mining Operation in Southern Arizona

Coronado National Forest
Arizona

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ACRONYMS AND ABBREVIATIONS

%	percent, percentage
ºC	degrees Celsius
ºF	degrees Fahrenheit
AAC	Arizona Administrative Code
ABA	acid-base accounting
ac	acre
ACC	Arizona Corporation Commission
ADA	Arizona Department of Agriculture
ADEQ	Arizona Department of Environmental Quality
ADOT	Arizona Department of Transportation
ADWR	Arizona Department of Water Resources
af	acre-feet
af/mi	acre-feet per mile
AGFD	Arizona Game and Fish Department
AMA	Active Management Area
AIDTT	Arizona Interagency Desert Tortoise Team
AMLRA	Arizona Mined Land Reclamation Act
AMP	Allotment Management Plan
amsl	above mean sea level
AOI	Annual Operating Instructions
APE	area of potential effect
APP	Aquifer Protection Program
AQCR	air quality control regions
AQRVs	air quality related values
ARD	acid rock drainage
ARPA	Archeological Resources Protection Act
ARS	Arizona Revised Statutes
ASLD	Arizona State Land Department
ASM	Arizona State Museum
AUM	animal unit month
AZHGIS	Arizona Heritage Geographic Information System
AZPDES	Arizona Pollutant Discharge Elimination System
BADCT	best available demonstrated control technology
BISON	Biota Information System of New Mexico
BLM	Bureau of Land Management
bls	below land surface
BMPs	best management practices
BOA	bounds of analysis
C	Candidate
CA	Cooperating Agencies
CAA	Clean Air Act
CAP	Central Arizona Project
CCC	Civilian Conservation Corps
Census Bureau	U.S. Census Bureau
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESQG	Conditionally Exempt Small Quantity Generator

CFR	Code of Federal Regulations
cfs	cubic feet per second
CH_4	methane
CLF	Chiricahua leopard frog
CLS	Conservation Land System
CMP	Corridor Management Plan
CO	carbon monoxide
Coronado	Coronado National Forest; note: CNF is incorrect and will be changed later
cp	candlepower
CPC	Center for Plant Conservation
CWA	Clean Water Act
CWC	Community Water Company
Cy	cubic yards
dB	decibel(s)
dBA	"A-weighted" decibel scale
DES	Department of Economic Security
DOT	U.S. Department of Transportation
E	early Pleistocene
EES	Ecosphere Environmental Services, Inc.
EIS	environmental impact statement
EMA	Ecological Management Area
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPCA	Energy Policy and Conservation Act
ER	Export Restricted
ESA	Endangered Species Act
F	female
FAA	Federal Aviation Administration
fc	foot-candle
FCO	full cutoff optics
FHWA	Federal Highway Administration
FICO	Farmers Investment Company
FICON	Federal Interagency Committee on Noise
FICUN	Federal Interagency Committee on Urban Noise
FLM	Federal Land Manager
FLPMA	Federal Land Policy and Management Act
FNA	Flora of North America Editorial Committee
Forest Plan	Coronado National Forest Land and Resource Management Plan
Forest Service	U.S. Forest Service; note, USFS is incorrect and will be changed later
fps	feet per second
FR	*Federal Register*
FSH	Forest Service Handbook
FSM	Forest Service Manual
ft	feet
FY	Fiscal Year
GA	General Aviation
gcl	geosynthetic clay liner
GHGs	greenhouse gases

GIS	geographic information systems
gpm	gallon(s) per minute
GVWWTP	Green Valley Wastewater Treatment Plant
GWP	Global Warming Potential
H	Holocene to latest Pleistocene
HAP	hazardous air pollutant
HC	hydrogeologic characterization
HDMS	Heritage Data Management System
HDPE	high-density polyethylene
HFCs	hydrofluorocarbons
hp	horsepower
HR	Harvest Restricted
HS	Highly Safeguarded
HUD	U.S. Department of Housing and Urban Development
Hz	Hertz
I-10	Interstate 10
IBA	Important Bird Area
IDA	International Dark-Sky Association
IDT	Interdisciplinary Team
in	inch(es)
IO	isolated occurrence
km	kilometer(s)
kV	kilovolt(s)
L	late Pleistocene
L05	sound level exceeded 5% of the time (overall monitoring period)
L10	sound level exceeded 10% of the time (overall monitoring period)
L33	sound level exceeded 33% of the time (overall monitoring period)
L50	sound level exceeded 50% of the time (overall monitoring period)
L90	sound level exceeded 90% of the time (overall monitoring period)
L95	sound level exceeded 95% of the time (overall monitoring period)
LAC	limits of acceptable change
lbs	pounds
L_{dn}	day-night average noise level, a 24-hour average with annoyance penalty of 10 dBA for nighttime noise
LE	Listed Endangered
L_{eq}	equivalent continuous noise level
lm	lumen(s)
L_{max}	maximum sound level (fast response setting)
L_{min}	minimum sound level (fast response setting)
LPS	low-pressure sodium
LT	Listed Threatened
M	male
M	mid Pleistocene
MBTA	Migratory Bird Treaty Act
MCLs	maximum contaminant levels
mi	miles

MIS	Management Indicator Species
MP	milepost
mph	miles per hour
MPO	Mine Plan of Operations
m/s	meters per second
MSGP	Multi-Sector General Permit
MSHA	Mine Safety and Health Administration
MT	million tons
MTR	Military Training Route
MW	megawatt(s)
NA	not applicable
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NATA	National-Scale Air Toxics Assessment
NCA	National Conservation Area
NEPA	National Environmental Policy Act
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NiCd	Nickel-Cadmium
NFMA	National Forest Management Act
NFS	National Forest System
NMGFD	New Mexico Game and Fish Department
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPPO	Native Plant Preservation Ordinance
NPS	National Park Service
NPWRC	Northern Prairie Wildlife Research Center
NRHP	National Register of Historic Places
NSPS	New Source Performance Standards
O_3	ozone
OHV	off-highway vehicle
OLC	Outdoor Lighting Code
OSHA	Occupational Safety and Health Administration
OSMRE	Office of Surface Mining Reclamation and Enforcement
PAC	Protected Activity Center
PAG	potentially acid generating
PAG	Pima Association of Governments
Pb	lead
PC	pit characterization
PCDEQ	Pima County Department of Environmental Quality
PCDOT	Pima County Department of Transportation
PCNAP	Pima County Noise Abatement Procedure
PFCs	perfluorocarbons
PLS	

$PM_{2.5}$	particulate matter less than 2.5 microns nominal aerodynamic diameter
PM_{10}	particulate matter less than 10 microns nominal aerodynamic diameter
PMA	Pollutant Management Area
PMF	probable maximum flood
PMR	Pima Mine Road Recharge Project
PPC	Pima pineapple cactus
ppm	parts per million
PPV	peak particle velocity
PS	
PSD	Prevention of Significant Deterioration
PVS	Priority Vulnerable Species
PWTS	Process Water Temporary Storage
Q	Quaternary undifferentiated
RCM	Rosemont Copper Mine
RCP	Rosemont Copper Project
RCRA	Resource Conservation and Recovery Act
REA	Federal Lands Recreation Enhancement Act
RD	Ranger District
RMP	Resource Management Plan
ROD	Record of Decision
ROW	right-of-way
RP well	Rosemont Project well
RRQC	Robson Ranch Quail Creek
RUSLE	Revised Universal Soil Loss Equation
S	Sensitive
S	scoping
SA	Salvage Assessed
SA	Scenic Attractiveness
SAG	semi-autogenous grinding
SC	Species of Concern
SD	standard deviation
SDCP	Sonoran Desert Conservation Plan
SDWA	Safe Drinking Water Act
SE	standard error
Secretary	Secretary of the Interior
sf	square feet
SF_6	sulfur hexafluoride
SFFAS	Statement of Federal Financial Accounting Standards
SHPO	State Historic Preservation Office
SIO	Scenic Integrity Objective
SIP	State Implementation Plan
SMS	Scenery Management System
SO_2	sulfur dioxide
SOPA	schedule of proposed actions
SPCC	Spill Prevention Control and Countermeasure
SR	Salvage Restricted
SR	State Route
SRER	Santa Rita Experimental Range
SWC	Sahuarita Water Company

SWCA	SWCA Environmental Consultants
SWMP	Site Water Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWReGAP	Southwest Regional Gap
SWTC	Southwest Transmission Cooperative
SWWTP	Sahuarita Wastewater Treatment Plant
SXAP	San Xavier Arroyos Project
SX/EW	solvent extraction and electrowinning
T	ton
TAPA	Tucson Air Planning Area
TCP	Traditional Cultural Property
TEP	Tucson Electric Power
tpd	tons per day
TSS	total suspended solids
UA	University of Arizona
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USF	Underground Storage Facility
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOCs	volatile organic compounds
VQO	Visual Quality Objective
VRMS	Visual Resource Management System
WestLand	WestLand Resources, Inc.
WRCC	Western Regional Climate Center
WSC	Wildlife of Special Concern in Arizona

April 13, 2010, SWCA Environmental Consultants/
Coronado National Forest Rosemont
Coordination Meeting Agenda

Location: Coronado National Forest Supervisor's Office, 300 W. Congress, Tucson, AZ. 85701.

Attendees: Forest Service: Reta Laford, Bev Everson, Mindee Roth; SWCA: Tom Furgason, Melissa Reichard

Agenda:

Update on alternatives

Alternative resolution workshop

EIS schedule

APP phone conference scheduling

SRK Scholefield and Sycamore feasibility review

Other business

Partial Backfill Evaluation

The Rosemont Pit excavation will remain at closure, having dimensions of approximately 6000 feet by 6500 feet with a depth of 1800 feet at the 5100 foot elevation. Concerns have been raised about potential hydrologic effect of the empty pit on the surrounding water table. Detailed models, well testing, and long-term pump testing have predicted a zone of influence that is about three times the diameter of the pit. Outside of this zone of influence groundwater level fluctuations caused by the pit are masked by natural seasonal fluctuations, which have been measured between one and twenty-five (1 and 25) feet in the area.

The concept of a partial pit backfill has been advanced as one method to mitigate these hydrologic impacts. It is generally accepted that there is an optimum pit elevation with the potential to reduce inflow, control evaporative loss, and/or moderate impacts to the groundwater table distal to the pit. Details of the hydraulic sink effects on surrounding groundwater will be evaluated as part of the Aquifer Protection Permit. These evaluations are typically required to be repeated at each five-year anniversary of the project startup to determine what effect the sink will have on maintaining groundwater quality.

Long-term predictions made on short-term data have limited value especially as compared to prediction based on longer periods for data collection and analysis. Rosemont has accepted the concept of a five-year cycle for the APP permit review; Rosemont proposes that these same five year evaluations are appropriate for the pit-hydrology mitigation analysis.

Rosemont will update the pit-hydrology impact analysis on each five-year period throughout the mine operations. The analysis will provide a definitive closure method for the pit based on the most recent analytical period and the most up-to-date modeling effort. The optimum closure method will be determined at each iteration but could include natural refill, enhanced or quick-fill with water, partial backfill with mine rock, or a combination of these or other approaches. For the initial five-year period, based on the information available for the 2010 DEIS, Rosemont has proposed to let the pit backfill naturally.

Coronado National Forest Project Record Protocols

Introduction

The *project record* documents and supports Forest Service decision-making and review processes in a manner that allows all participants in these processes (responsible official, resource specialists charged with analysis and implementation, agency and regulatory reviewers, and the public) to track and understand how a decision was made. Project records are designed to consolidate and organize documentation in a manner that facilitates retrieval and review of individual documents within the record and tells the story of the decision process to objective reviewers, including the courts.

A complete project record (everything before the agency at the time of its decision) consists of all documents considered, including those contrary to the decision. Keeping a project record will help:

- Future processes understand the decision and its rationale
- Aid the courts in determining whether a decision process was rational, if the decision goes to court
- Facilitate response to requests for documents pursuant to the Freedom of Information Act

The record keeping that forms a project record begins with the first meeting, report, or discussion of a decision process. From the start, the agency official responsible for the decision process must ensure that someone considers EVERY conversation, meeting note, and document that <u>contributes to analysis or supports the decision</u> as having potential to be a component of the project record and must determine whether the item should be included in the record. In practice, experience has shown the practicality of delegating record keeping duties to one or two team members that are charged with compiling, maintaining, and indexing the project record at each stage of the decision process, under the overall supervision of the agency responsible official and team leader.

Where project records are an integral part of the Forest Service decision process, or are required by statute, regulation, and Forest Service Directives (Forest Service Manual and Handbook), agency responsible officials are expected to understand and emphasize to their analysis team leaders and team members the importance of creating and maintaining up-to-date project records that support the decision process. This is most efficiently accomplished by including a discussion of record keeping assignments and requirements in the project initiation letter associated with the decision process. The following example excerpted from the project initiation letter to the Rosemont Copper Project EIS interdisciplinary team illustrates:

"If it is not in the project record, it never happened."

Administrative Record

The Interdisciplinary Team Leader is responsible for the Administrative Record for this project. In coordination with the Project Manager and Administrative Assistant(s), the Interdisciplinary Team Leader will maintain a complete Administrative Record for the NEPA review. I expect, at a minimum, the following documents to be filed in the Administrative Record, in addition to any other information deemed relative to the project:

- *Various plans and documents submitted by the Proponent, including the composite MPO and its associated supplemental information*
- *Correspondence received prior to publication of the Notice of Intent*
- *Copies of the Memorandum of Understanding between the Proponent and Forest regarding the NEPA review, including any updates*
- *Conflict of interest forms signed by the Consultant and its subcontractor staff*
- *Correspondence and notes of conversations with the Proponent and Consultant related to the NEPA review*
- *Copies of all public notices*
- *Copies of all legal notices*
- *A list of parties who were sent public notices*
- *All meeting notes, whether formal or informal*
- *The initial record of the Project's listing on the Schedule of Proposed Actions*
- *All comments received before, during and after the scoping period up until the date a Draft Environmental Impact Statement is released for public comment*
- *A summary and content analysis of comments received during scoping*
- *Assignments of actions to be taken by interdisciplinary team members to address scoping comments*
- *Records of interactions with cooperating agencies, including, but not limited to, letters of invitation, acceptance, and any necessary memoranda of agreement regarding roles and responsibilities*
- *Records of interactions with working groups, including, but not limited to, letters of invitation, acceptance, any necessary memoranda of agreement regarding roles and responsibilities, and copies of any completed work products*
- *Records of communications with government officials*
- *Resource specialists' reports and correspondence with the Consultant*
- *Final versions of Draft Environmental Impact Statement and other NEPA-related documents*

Project records and their component documentation may utilize available technology including electronic display, organization, storage, and retrieval methods. Depending on the size and complexity of the record, the responsible official may designate that a particular record be maintained in hardcopy paper format, electronic format, or both. When providing project record direction for a particular analysis, the responsible official should consider storage implications, including space requirements, maintenance of security and confidentiality, and day-to-day accessibility of record components. Where litigation of a decision is highly likely, it is recommended that the project record format be aligned with the desires of administrative reviewers (i.e., for the appeal or objection) and the court requirements to the extent feasible; this will reduce rework to accommodate these needs late in the record management process.

The remainder of this document presents a set of standard processes, practices, and protocols that will be used in constructing and maintaining project records initiated by the Coronado National Forest.

Types of Records

The following list defines the most commonly used administrative record systems. The items in the list are presented in the order in which they are usually created.

Project Record – The project record documents activities and decisions that result from the process of developing a programmatic or site-specific analysis of effects of a proposed action pursuant to the requirements of the National Environmental Policy Act (NEPA). This record details the process used to analyze a proposed action pursuant to NEPA procedures, including all phases of analysis, disclosure, and public involvement, as well as any decisions stemming from such analysis and disclosure. The Interdisciplinary Team Leader is responsible for creating and maintaining this record system. Project Records are often the basis for other records, including appeal records and certified records used by the courts during litigation.

Appeal Record – The appeal record consists of the relevant decision documentation and pertinent records that respond to claims and/or allegations raised in a Notice of Appeal filed pursuant to Forest Service administrative appeal regulations at 36 CFR 215, 36 CFR 251, and 36 CFR 217. The agency official responsible for the decision under appeal is responsible for coordinating with agency appeal specialists and/or legal counsel to construct, maintain, and close this record system.

Implementation Record – The implementation record is a continuation of a project record that extends the project record documentation beyond the point of decision to include all documents that support implementing, and monitoring the decision. The line officer responsible for implementing the decision is responsible for creating, maintaining, and closing the implementation record.

Court Records

The following records will be required if a decision is litigated. Although court processes are not the subject of this document, information and definitions are provided here to increase understanding of the administrative record's relationship to records used in litigation proceedings.

> **Litigation Record –** A litigation record is the Project Record including everything from the start of the project, even the pre-scoping work, to the time the project is litigated. The record should include any appeals, news articles, or other media coverage that occurred after the decision. If there is any implementation, such as road building or facility construction, a record of the implementation work is included.
>
> **Litigation Report** – A litigation report is a privileged communication between the Forest Service and its legal counsel made in preparation for litigation. It is prepared in response to the Forest Service receiving a complaint. The litigation report includes the claimant's (plaintiff's) allegations and/or claims of wrong-doing or harm and the agency's response to those claims and allegations. Agency responses cite to and are supported by documentation in underlying administrative record systems.

Certified Administrative Record - A certified administrative record is compiled in preparation for Federal District Court litigation. It is marked by the Forest for certification of completeness. The certified administrative record may include records from other previously developed or closed record systems including pertinent strategic planning records, site-specific planning records, implementation records and/or appeal records. Because the format for these records is specified by the court and must be followed exactly, the agency official responsible for the disputed decision works cooperatively with agency legal counsel to prepare, maintain, and close a Certified Administrative Record.

NEPA Analyses that Require Project Records

Project records are required for most federal decision processes that are subject to National Environmental Policy Act (NEPA) procedures. Forest Service decisions pursuant to NEPA procedures that require the creation and maintenance of a project record include: most categories of categorical exclusions (CE), all environmental assessments (EA), and all environmental impact statements (EIS). The size and complexity of the project record will vary with the level and technical complexity of the NEPA analysis completed.

Keeping a Project Record

The decision-making process should inform choices regarding the records to be included in a project record. At a minimum, the following types of documentation should be evaluated for inclusion:

- Draft and Final EISs (official drafts, but not the preliminary draft)
- Comment letters
- All scientific/technical reports, studies considered
- Computer modeling
- Contracts
- Correspondence with cooperating, consulting , and regulatory agencies
- Personal correspondence and memos, including electronic mail that was circulated

Every project record must include an index that provides details about each record in the system. At a minimum, the index should include the following information about each record:

- A record identifier number
- The date the document was signed, approved, or finalized
- A short description of the document
- The name of the document author(s)

Project Record Management

Project records initiated on the Coronado National Forest will utilize the schema shown in Figure 1 (p.12) as a starting point for organization. The schema may be modified by the responsible official to accommodate the specific needs of a particular decision process, but the general format presented here must be maintained. This schema is designed to facilitate filing and retrieval of documentation in the project record. The schema is an outline created using Microsoft Word software.

In addition to the schema, the project records initiated by the Coronado National Forest will be supported by an index similar to the example shown in Figure 2 (p.17). Again, this example may be modified to coincide with the schema developed for a particular decision process. The index is created using Microsoft Excel spreadsheet software.

NOTE: The schema presented in Figure 1 is based on the project record for a timber sale; however, the same general schema, index, and content entries would apply to other types of projects, with slight modification.

Project Record Contents

The project record is the foundation for the decisions made by the responsible official and needs to support implementation. Refer to the record schema (Figure 1) for a list of the types of documents that need to be included in the record. Any memos, e-mails, loose notes, or reports that document pertinent resource conditions or findings, interim decisions on actions that are a part of or affect the action alternatives, or input resulting from internal and external scoping should be saved and included as part of the record.

Due to changing technology, maintain project records in both hardcopy and electronic formats. It is important that both record formats have identical documents. Often, the electronic version is maintained and the hardcopy is not or vice versa. Both have to be maintained throughout the life of the project, as required by FSH 6209.11, 41.

- **All documents should have a minimum 1-inch margin on all four sides.**
- **When printed, all documents must be printed on 8.5 x 11 paper, with the exception of maps.**
- **Do not place duplex (double-sided) documents in the project record**. Replace original duplex documents with single-sided copies (make sure they are legible). Exceptions to this rule are voluminous documents, such as Draft Environmental Impact Statements (DEISs), Final Environmental Impact Statements (FEISs), Coronado Land and Resource Management Plan, and other books and references, when originals are readily available for inclusion in multiple records either hardcopy or electronically.
- Documents within each topical section of the project record are filed in chronological order with the oldest document in front or on top. Project records read in the same order as a book, from beginning to end.
- In the case of appeal or litigation, all documents must be maintained in their original format and converted to electronic format using Adobe PDF or Microsoft Excel spreadsheet software. Spreadsheets must be converted to Adobe pdf format using Adobe Acrobat 9.3 or higher software for this conversion. Conversion can be done from within

a document; in order to insure that its formatting is preserved. Similarly, e-mails can be converted within the e-mail program. Do not attempt to change file extensions as a method of converting documents. Assistance will be provided for document conversion to those without conversion software.

- Document numbers must be hyperlinked in the index to the electronic document. Make sure all documents will open once links are created.
- All documents that are filed in a non-native format, must be maintained somewhere in their original format, including all the encoding that might have come with that document. Emails are a good example of this. Many times these are scanned or saved from print screen; regardless, maintain a copy in its original format in case of Court discovery. This also applies to documents that may be converted from .doc or .xls to pdf.
- Federal Courts do not use Microsoft Office Suite software --- this means that they cannot open .mdb, .xls, .doc, etc. and is the reason why the preferred file type is pdf.
- Databases (xls) do not convert well to pdf unless Adobe Acrobat 9.3 or higher is used. The original versions must be saved. No document should contain any password-protected pages or sheets.
- Databases using the .mdb extension are documented by linking to the result that was used when making project determinations AND by adding location information about how to find the .mdb itself. The .mdb files are often just documented with this information and not fully included with the record that is filed with the court.
- Mark each page of all draft documents as “draft” (e.g., draft resource reports, draft meeting notes, and draft scientific papers).
- Documents, laws, and regulations that are easily available either in libraries or on the internet do not need to be included in a project record.
- All documents shall be legible. Copies of photocopies, handwritten documents, pencil drawings, and so forth, are often not readable. Transcribe by typing any document which cannot be clearly reproduced and indicate that it is a transcription from an original document. Include both the transcribed document and the original document in the project record.
- Signatures on documents must be original, a carbon, or photocopy. Documents with electronic indication of signature (/s/) are not admissible in Court and should not be placed in a project record unless the signed copy has been lost or destroyed. Signed documents, such as an EA or EIS, should have the signature page scanned for the electronic record. Resource reports and other documents such as notes may be saved with the electronic signature as long as the hardcopy document has an original signature. It is a good habit to have authors and signatories sign original documents in BLUE ink so they are readily identifiable as original signatures. Avoid black ink signatures.

- When scanning original documents for the electronic record, use the optical character recognition (OCR) function so the document can be searched for key words and phrases electronically. Make sure scanned documents are legible and include the entire original document unless only a portion of the document is used as a reference. For example, do not include the entire *Dictionary of Birds* if you are only discussing the goshawk section.
- Digital photos should be saved electronically in their original format and printed for the hardcopy file. For non-digital photos, attach photographs and negatives to 8-1/2 by 11-inch paper. Identify each photograph indicating the subject, location, date, time, and photographer.
- Reproduce as photographs large graphics, such as maps and charts, which cannot be folded to an 8-1/2 by 11-inch format. Ensure that all details of the original graphic are legible in the reduced form. If the map is not legible when reduced, write a description of the map to include in the electronic record and keep the original document in the hardcopy record. Make a note in the project record that, *"This document is a reduction of the original, which is located at …"* Remember in case of litigation, all original documents regardless of whether they can be reduced or not, must be kept. Large maps, such as GIS maps, may be the originals, if there are enough copies for each copy of the record (including appeal, litigation and Court certified).
- Write a letter to the file, identifying by subject and location, any data stored and filed on electronic media which cannot be physically included in the project record. This includes GIS files and stand exam maps. Large electronic files should be copied to compact disc or DVD and stored in the project record with the letter to the file. Make sure the GIS electronic files are copied at the DEIS, FEIS and ROD stages to give a snapshot of the information available at that time.
- For a litigation record, consecutively number each page of each document in the lower right-hand corner, including the document cover and blank pages (do not include cover sheets). This should only be done for litigation records and is not required or recommended for project records. In the litigation record, each document is numbered beginning with the cover as number 1. The footer should include both the project and document number in this format: projectnumber_documentnumber (605_00001), page number, and number of pages (Figure 3, p.8). This is a Bates stamp footer that can be added electronically using Adobe Acrobat 9.3 Professional version or higher.

Figure 3 Example of Bates stamp footer – Scott Peak Document number 30_0002 - Regional Forester's expectations for the 2003 Tongass Timber Program

APR-10-2003 THU 09:51 AM US FOREST SERVICE FAX NO. 907 772 5893 P. 02

ROUTING COPY

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APR -8 '01

United States Department of Agriculture | Forest Service | Alaska Region | P.O. Box 21628 Juneau, AK 99802-1628

File Code: 2430/1920-2

Route To:

S.O. Timber

Date: April 4, 2003

Subject: Timber Program

To: DRF, Operations, DRF, Natural Resources, Forest Supervisor, Tongass National Forest

The purpose of this letter is to outline my expectations for the coming year for both the Regional Office and the Tongass National Forest relating to the timber program. Events over the last several months have elevated my concern over the timber industry in Alaska to a point where it is critical that the Forest Service step up its efforts to stabilize the program. Many communities have and continue to experience significant economic losses and the basic infrastructure necessary to maintain their viability continues to degrade. The recent attached article submitted by Mayor Bruce Harding of Wrangell to the *Daily Sentinel*, titled Economic Woes, echoes several communities in Southeast Alaska current and projected situation.

My primary issue is timber supply from the Tongass that is economic to operate in the current market situation, while the Roadless Rule implementation remains in the court system of Idaho, Wyoming, North Dakota, and Alaska. The volume necessary to provide for the demand of the current industry will need to come from existing timber sale contracts; new offerings that meet the criteria of the court orders in *Sierra Club v. Rey* and *State of Idaho v. the United States*; and new National Environmental Policy Act (NEPA) decisions in the roaded portions of the Tongass.

The Regional Office has already outlined the needs for the existing timber sale contracts in the attached letter to the Chief dated February 19, 2003. I expect the Deputy Regional Forester for Resources and the Director of Forest Management to aggressively pursue the requests and implementation of approvals

New sales scheduled for offer in FY 2003 are below demand calculation needs of the timber industry due to the Court decisions noted above. Projects that can be offered this year need to be offered in the most economically efficient manner possible while being consistent with the Forest Plan. I expect the Tongass to critically review each sale prior to offer. Working with potential bidders on when advertisements should be made will be crucial to survival of the industry.

Much of the work performed by the Forest towards attaining three years of timber sale volume under contract has been delayed due to the effects of the Ninth Circuit Court rulings in *State of Idaho v. the United States* on new project decision and on presale activities in roadless areas. This delay is likely to cause a significant gap in our three-year supply of volume under contract as early as FY 2004 and 2005. No records of decisions for new projects were signed in FY 2002. I expect the Tongass to aggressively pursue and implement a plan to fill this gap with projects that assume Roadless implementation will be undecided until the end of FY 2005. This plan needs to be in collaboration with the Regional Office so funding and personnel needs necessary

Caring for the Land and Serving People

Printed on Recycled Paper

30_0002
Page 1 of 5

"If it is not in the project record, it never happened."

Items Not Needed in the Project Record

Adding documents to the project record that do not support the decision and only vaguely reference the project create larger records than needed and complicate efforts to retrieve a particular document that responds to public inquiry or supports analysis and implementation. More is not necessarily better.

The following are examples of unneeded documents that have been added to project records in the past, causing larger records than required.

DO NOT KEEP	KEEP
IDT meeting announcements – the e-mails detailing only the time and location of the meetings are not needed in the record.	IDT meeting notes with attached agendas are needed in the project record.
Wildlife Biologist Memo – *"I am going to Unit 37 to investigate a report of a goshawk nest in the unit."*	Wildlife Biologist Memo – *"On May 3rd, I completed a field survey of Unit 37 and found a goshawk nest with two eggs in the middle of the unit. The nest is located at these GPS coordinates …"*
Line Officer Memo – *"Please add Unit 37 to the agenda for Thursday."*	Line Officer Memo – *"I have decided to drop Unit 37 from the unit pool because there is a goshawk nest in the middle of the unit."*
Engineer Memo – *"I tried to call the Army Corps of Engineers (COE) but they are gone for the day. I'll try again next week."*	Engineer Memo – *"On May 23rd, I spoke with Fred Smith at COE and they would like more information on the proposed LTF site. Attached is the map and additional information that I sent to the COE."* When filing, include the attachment with the memo in the project record.
Loose Page Torn out of Notebook – *"The following people took the bear safety class on Tuesday."*	Loose Page Torn out of Notebook – *"On July 3rd, I saw three bears, a sow and two cubs, in Unit 17 near the stream on the west side of the unit. The bears appeared well fed and were eating fish from the stream."*
Field Survey Notebook – Comments about how much you dislike your supervisor for sending you into the field on another rainy day. There is no reason to write personal comments in a field notebook; it is not a diary but a notebook for professional observations.	Field Survey Notebook – *"The Class III stream on the west side of Unit 23 was brown with turbidity due to seven days of rain. On investigation upstream of Unit 23, we found that a small slide has developed on the steep slope above the unit. The slide is about 25 feet long by 10 feet wide and is located at GPS coordinates… "*

Several field notebooks were reviewed by the Court. Unfortunately, the surveyors had added personal comments to the same pages on which they took field notes. The Judge did not find their humor or comments appropriate for professionals.	
Field Survey Notebook – *"Sketch of survey partner fishing after work hours."*	Field Survey Notebook – *"Sketch of unit showing stream classes and location of karst area."*
Line Officer Memo 1 – *"I have decided to drop Unit 37 from the unit pool because there is a goshawk nest in the middle of the unit."* IDT Leader Memo 1 – *"Okay, do you want to go to lunch after the meeting on Tuesday?"* Line Officer Memo 2 – *"I have a teleconference after the meeting, can we go at 1300?"* IDT Leader Memo 2 – *"I have a meeting at 1300. How about lunch on Wednesday?"* Line Officer Memo 3 – *"Wednesday doesn't work for me. How about Friday?"* IDT Leader Memo 3 – *"Friday is good."*	Line Officer Memo 1 – *"I have decided to drop Unit 37 from the unit pool because there is a goshawk nest in the middle of the unit."*
Notes by a reviewing team are for the team to use to improve the document. These are considered privileged work product and are not usually included in the project record. The responsible official may decide to include them in the record if the review comments shed light on the decision-making process and/or help the public and objective reviewers understand the context changes/decisions that were made.	
Multiple draft documents – every document goes through several iterations before a final document is completed. Do not keep all the interim drafts in the project record.	Keep drafts that were circulated for comment or were the foundation for the analysis at the DEIS stage. Final reports and analyses should be included at the FEIS stage. Drafts of resource reports that support the analyses in the DEIS should also be maintained in the record. The draft reports need to be clearly marked DRAFT or dated

	to show they were completed for the DEIS.
Personal information - social security numbers, wages, or employee addresses should not be included in the project record. Business Information – information from contractors or bidders that may give a competitor an unfair advantage should not be included in the project record. This includes patent information and business plans. If it must be kept in the record to meet contract stipulations or for some other reason, it should be protected and filed in accordance with the direction for maintaining confidential records and records that meet the exemptions provided under FOIA.	A short biography of qualifications should be included for each person that works on the project. This biography should only contain information to support their assignment to the project team. The information should include education, years of employment, and any other supporting information such as articles written or additional courses completed. Contracts and other documents required to implement the project or complete analysis should be included in the project record. Any personal information in these documents must be protected as FOIA-exempt.
Documents that have no foundation – a document without a date, signature, or explanation should not be included in the project record. Several analyses include GIS model runs and sometimes these runs are just stuck in the project record. It is virtually impossible to tell which runs are preliminary, i.e., run before all the facts were entered, and which are the final runs, when there are no dates or signatures on the runs. These pages usually just take up space, however, when the model runs are needed to respond to an appeal or litigation, the lack of signature and date can have severe consequences.	Model runs with SIGNATURE and DATE
	Any information the IDT used to complete their analysis and any information the Responsible Official used to make decisions. When in doubt, discuss the document at an IDT meeting, contact someone in the RO, or ask the responsible official
	Records of phone and personal conversations with the public and other agencies regarding the project need to be included in the project record.

Figure 1 - Coronado National Forest Project Record Schema

1) **Project Management**
   a) Formal recommendations, including direction issued to the team leader and team members
   b) Formal meeting minutes and memos
   c) General correspondence
   d) Third Party management, including contracts, agreements, and Memoranda of Understanding
   e) Other
2) **Public Involvement and Agency Consultation**
   a) Public Involvement Plan, Public Involvement Report
   b) Announcements, newsletters, sign-in sheets, and official notes
   c) Mailing lists
   d) Scoping and Public Comments
      i) Scoping Period
      ii) DEIS
   e) 404 Permit
3) **Communication**
   a) Congressional correspondence
   b) Other Federal Agencies (cooperating, not consulting)
   c) State Agencies
   d) Organizations
   e) Individuals
   f) FOIA
   g) Tribal Consultation
   h) Internal Communication
4) **Alternatives**
   a) Cumulative effects catalog (impacts considered by all resources in their cumulative effects analysis)
   b) Connected Actions, e.g., Tucson Electric Power Line EIS
5) **Resource Reports**
   a) Biodiversity and Old-growth Habitat
      i) Resource Report
      ii) Notes and Correspondence[1]
      iii) Published Reference Documents
      iv) Other (numerical data, maps, and fieldwork)
   b) Fish Habitat and Aquatic Resources

[1] Correspondence contained within this folder in each resource area is specifically for resource specialists (for example, memos between a Forest Service botanist and a state botanist to get a copy of the state sensitive plant list or copies of a scientific article). Official correspondence from or to a line officer or decision-maker is in folder 3.

i) Resource Report
ii) Notes and Correspondence
iii) Published Reference Documents
iv) Other (numerical data, maps, and fieldwork)

c) Geology, Soils and Wetlands
i) Resource Report
ii) Notes and Correspondence
iii) Published Reference Documents
iv) Other (numerical data, maps, and fieldwork)

d) Heritage
i) Resource Report
ii) Notes and Correspondence
iii) Published Reference Documents
iv) Other (numerical data, maps, and fieldwork)

e) Inventoried Roadless Areas
i) Resource Report
ii) Notes and Correspondence
iii) Published Reference Documents
iv) Other (numerical data, maps, and fieldwork)

f) Land Status and Special Uses
i) Resource Report
ii) Notes and Correspondence
iii) Published Reference Documents
iv) Other (numerical data, maps, and fieldwork)

g) Plants (TES and Invasive)
i) Resource Reports
ii) Notes and Correspondence
iii) Published Reference Documents
iv) Other (numerical data, maps, and fieldwork)

h) Recreation and Roadless Areas
i) Resource Reports
ii) Notes and Correspondence
iii) Published Reference Documents
iv) Other (numerical data, maps, and fieldwork)

i) Scenery
i) Resource Reports
ii) Notes and Correspondence
iii) Published Reference Documents
iv) Other (numerical data, maps, and fieldwork)

j) Silviculture
i) Resource Reports
ii) Notes and Correspondence
iii) Published Reference Documents
iv) Other (numerical data, maps, and fieldwork)

v) Stand Exams

k) Socioeconomics
   i) Resource Report
   ii) Notes and Correspondence
   iii) Published Reference Documents
   iv) Other (numerical data, maps, and fieldwork)

l) Soils and Geology
   i) Resource Reports
   ii) Notes and Correspondence
   iii) Published Reference Documents
   iv) Other (numerical data, maps, and fieldwork)

m) Timber and Vegetation
   i) Resource Report
   ii) Notes and Correspondence
   iii) Published Reference Documents
   iv) Other (numerical data, maps, and fieldwork)

n) Transportation
   i) Resource Report
   ii) Notes and Correspondence
   iii) Published Reference Documents
   iv) Other (numerical data, maps, and fieldwork)

o) Wildlife and TES Animals
   i) Resource Report
   ii) Notes and Correspondence
   iii) Published Reference Documents
   iv) Other (numerical data, maps, and fieldwork)

6) **DEIS**

7) **FEIS**

8) **Geospatial Analysis** - electronic files and maps (*should be one copy at the DEIS and a second at FEIS/ROD*)

9) **FOIA Exempt[2] Documents**

10) **ROD**

a) Notice in the Federal Register and Newspaper of Record and news articles

b) FOIA requests and other communication from reviewers

[2] The Forest Service does not disclose the exact location of cave/karst features and cultural resources to protect them from damage and attorney-client and/or any pre-decisional documents necessary to support the decision. This folder would then become your "privilege log" if you had any documents in it, they would NOT be scanned and filed electronically with the project record.

POST-ROD RECORD

11) **Appeal**

a) Appeals
b) Appeal record
c) Appeal period correspondence
d) Appeal period notes (These are notes of conversations with the appellants and anyone recognized as an interested party.)
e) Appeal period supplemental information
    i) In some appeals, the appellant may reference previous appeals on other projects, Court decisions, or other information that became available after the decision was made, such as a newly released scientific paper. Information responding to the appeal points that are outside project-specific information may be added to the appeal record, including previous appeal decisions, if it is clearly marked as supplemental information not used in the decision making process. These additions should be limited to items mentioned by the appellant, such as a Court order or a copy of a scientific paper referenced in the appeal.
f) Appeal recommendation and/or decision
g) Responsible officials response to direction contained in the appeal decision
    i) Some appeal decisions direct the responsible official to complete additional analysis, revise text for clarification, or provide other instruction. The appeal record should contain evidence documenting that such instructions were carried out by the responsible official.

** IMPLEMENTATION RECORD**

12) **Implementation**

a) Change Reports and Orders
    i) Layout
    ii) Engineering
    iii) Sale Administrator
b) Contracts, notes, and correspondence
c) Applicable permits
d) References
e) Other (maps, numerical data, etc)

13) **Monitoring**

f) Surveys and reports
g) Notes and correspondence
h) Published reference documents
i) Other (numerical data, maps, and fieldwork)

14) **Silviculture**

j) Restocked Certification (within 5 years of harvest)

k) Thinning Opportunities Survey
l) Thinning (if done)
m) Commercial Thinning (if done)

The above schema is designed as a starting point and may be customized to accommodate the categories of information appropriate to a particular decision process. The responsible official should work with the team leader and document specialist in charge of record management to ensure the schema is adjusted to fit the needs of the decision process.

Index

Every document in the project record that is not Freedom of Information Act (FOIA) exempt needs to be listed on and hyperlinked to the project record index. The index makes it easier to find documents and get information quickly. Figure 2 is a small portion of an administrative record index used by OGC in Court cases. This is the project record index format that will be used on the Coronado. By using the standard format, project records can be converted to an administrative record without extra work. Instructions on how to fill out the table follow the table.

Figure 2 - Example of Project Record Index - Scott Peak Project Record

Project #	Project	Link	Admin Record Type	Date	Schema folder	Type of Record	Pages in Record	Title	Summary	Author	Recipient
30	Scott Peak	0005	Planning	2000/ 12/15	01a	Memo	1	Scott Peak Timber Harvest Project Boundary	memo with map recommending using VCU boundaries for the initial project boundary	Mike Hanley, USFS	Bob Dalrymple USFS
30	Scott Peak	0004	Planning	2001/ 08/23	01a	Letter	4	Scott Peak Project Area Analysis Letter of Direction	Identification of IDT members	Patricia Granth am, District Ranger	Tom Parker, USFS

Project #	Project	Link	Admin Record Type	Date	Schema folder	Type of Record	Pages in Record	Title	Summary	Author	Recipient
30	Scott Peak	0586	Planning	2001/ 11/05	01a	Letter	11	Revised Letter of Direction to the Scott Peak IDT	Identification of IDT and direction for conducting analysis included 12/24/02 NEPA review letter of direction from forest supervisor.	Patricia Grantham, District Ranger	IDT
30	Scott Peak	0333	Planning	2002/ 06/11	01a	Court Decision	2	Order Clarifying Injunction in Sierra vs. Rey. Case No. J00-0009 CV (JKS)	Forest Service is enjoined from permitting timber harvest and road building in roadless areas until 45 days after FS publishes in Federal Register notice of availability.	Judge James K. Singleton	Public

Project #	Project	Link	Admin Record Type	Date	Schema folder	Type of Record	Pages in Record	Title	Summary	Author	Recipient
30	Scott Peak	0003	Planning	2002/11/29	01a	Letter	7	Scott Peak NOI Transmittal Letter to Federal Register, Includes NOI	Transmittal of NOI for publication in the Federal Register	Tom Puchlrz Forest Supervisor	Federal Register
30	Scott Peak	0001	Planning	2003/02/13	01a	Plan	16	Scott Peak/Fivemile Creek Project Plan	Feasibility of the timber harvest project in the Scott Peak Project Area	Tom Parker, Patricia Granthan	Tom Puchlerz, Forest Superviso r

Project #	Project	Link	Admin Record Type	Date	Schema folder	Type of Record	Pages in Record	Title	Summary	Author	Recipient
30	Scott Peak	0002	Planning	2003/04/04	01a	Direction	5	Regional Forester's expectations for the 2003 Tongass Timber Program	Addresses the Regional Forester's concerns for the amount and economic viability of timber that can be offered on the Tongass in light of the roadless rule; includes a letter to the chief and a letter from the mayor of Wrangell	Denny Bschor, Regional Forester	Tom Puchlerz, Forest Supervisor
30	Scott Peak	0828	Planning	2001/11/01	01a	Statement	12	Position Statement for the Scott Peak Project Area		Michael Hanley, USFS	Patty Grantham Tom Puchlerz
30	Scott Peak	0231	Planning	2005/06/03	01a	Letter	1	Scott Peak DEIS cover letter	Cover letter for front of published DEIS. Original signature.	Forrest Cole, Forest Supervisor	public

Project #	Project	Link	Admin Record Type	Date	Schema folder	Type of Record	Pages in Record	Title	Summary	Author	Recipient
30	Scott Peak	0585	Planning	2001/ 11/03	01b	Spread sheet	14	Draft unit pool from 10/22/2001	Spreadsheet showing logging feasibility of unit pool as discussed in 10/22/01 IDT meeting	Linda Slaght	IDT

Index Instructions

Project Number – Project numbers will be assigned for environmental assessments and environmental impact statements. The original number is maintained throughout the life of the project. This number is used during litigation when multiple project records must be tracked together. (For categorical exclusions, no project number will be used in the project record index; this column can be added if a categorical exclusion is included in litigation.)

Project – This is the name of the project. This name should correspond to the name used to identify the project in the *Planning, Appeals and Litigation System* (PALS) database.

Link – This is the hyperlink to the document.

NOTE: the hyperlink is a number and not a name. All documents will be saved and hyperlinked by number, not title to eliminate some problems if project records are brought together to form a multi-record administrative record. The eight digit document number starts with the project number and then documents that are numbered from 00001 and continues until no further documents are added to the record.

For example the first document would be 605_00001 and the last document may be 605_20530. By including the project number as part of the document number, the files can be sorted when combined with other project or planning records into a multi-record administrative record.

Administrative Record Type –The record type is typically the project or planning record. During appeals and litigation, the record type will change accordingly to appeal record to track the records that are related to the appeal(s). Records related to project implementation are considered part of the project implementation record. If there is litigation on the project, all of the records related to the project become part of the administrative record for litigation.

Date – This is the official date of the document. For letters, it is the date on the letter. For books and other published references, the date is the date on the title page. For public comments with a time limitation (for standing) it is the date received. For resource reports and other documents developed during project analysis, the date is the signature date. ***Every document developed during project analysis must be signed and dated.*** A consistent format will be used for date entries so the records can be sorted by date; the format will be year/mo/day. In this format, the year will be displayed using four digits and month and day entries will each be displayed using two digits (Example: 2009/08/04)

This does not mean that every record will have a date and signature. Laws, regulations, FSM, FSH, and other documents may not have a signature or date but may still be required in the record. ***Documents created by the IDT should all have dates and signatures***, including mailing lists, legal ads, model runs, and other GIS data. The purpose of a signature and date is to track when the information was available for use by the IDT and the deciding official. A document without a date may be useless in the case of appeals and litigation.

Schema folder – This is the location where the document resides in the hardcopy project record. The schema helps pinpoint the content of the document and allows an additional way to find the document. Keep in mind that all documents submitted for a project record need to be filed in ONE folder so the links do not break when the project record is moved between folders or saved to disks for litigation. By including the schema folder number in the index,

the document can still be tracked once it is converted to a litigation record. During litigation, all files are required to be in both their original format (i.e., Word, Excel, email) and in pdf format. When converting to pdf, the original must be retained, usually in a separate electronic file.

Type of Record – Some of the standard record types are letters, meeting notes, memos, maps, reports, and agency coordination. These types can be expanded depending on the content of the project record. It is imperative that a consistent naming of the types is used to avoid confusion.

NOTE: if a document is Freedom of Information Act (FOIA) exempt, state that in this column. FOIA exempt documents may remain listed on the index, but should NEVER be linked to the index or stored electronically in the same folder. The index should clearly state that the document is FOIA exempt and should indicate the exemption category. FOIA exempt documents include, but are not limited to, heritage, karst, and cave site information; contract details that may include privileged business information (including trademark, business practices, and/or financial disclosures); and personal identification information. In the hardcopy record, these documents must also be clearly marked and protected from distribution. For example, put FOIA exempt documents in a blue envelope marked FOIA exempt. The FOIA Compliance Officer will coordinate with resource specialists to assist in determining if a document is FOIA-exempt. If a correspondent specifically requests FOIA-exempt information, the FOIA Compliance Officer makes the final call on redacting portions or all of a document.

Document Pages in the Record – This is the total number of pages in the document. Do not scan or count cover pages in the page count. Do not add information pages (generally a single page explaining the content of the document) or other pages to the original document.

Title – This is the exact title of the document. Do not abbreviate or modify the title. Not every document has a title, so this column may be left blank in some instances.

Summary – This column allows the IDT an opportunity to explain the content of the document. Key words and phrases are useful here so that anyone looking for a particular topic can find documents related to that topic through a search.

Author – Include all of the authors of the document in the order listed on the document. Also, include titles, organizations, and agencies of the writers, if known. If the author is unknown, use the agency or group as the author.

Recipient – The recipient is the person who received the document, used it as a reference, or was responsible for responding to the document. There should always be a name in this column; in rare cases, such as documentation of a meeting or phone conversation, the recipient may be the project file. Also, include titles, organizations, and agencies of the recipient(s). In the case of resource reports, the recipient is usually the IDT Leader or the responsible official. For legal ads and other public notices, the recipient is the public. For comments, the recipient is usually the responsible official, IDT leader, or project manager.

Filing and Retention

Responsibility

The agency responsible official is ultimately responsible for compilation, maintenance, and closing project records from initiation of a decision process until the decision document is signed. In practice, however, the day-to-day management of the project record is usually delegated to the Interdisciplinary Team Leader or a documentation specialist. Following the decision, the planning portion of a project record is closed, i.e. no new documents are added under planning. The appeal record and, if necessary, the litigation record are added as folders to the project record. The implementation team is responsible for maintaining the project record and adding the implementation documents.

Note: at each stage of the project, an individual or team is responsible for maintaining and completing the project record.

Binding and Labelling

To maintain and update the project record and keep it accessible for the life of the project:

- Bind the final record in 8-1/2 by 11-inch three-ring binders, ACCO binders, file folders, pocket folders with divider tabs, and so forth. Remove all staples, paperclips, and bands from documents before binding. Binders should not prevent removal of documents for examination or copying. To minimize damage to documents during use, binders should not be more than 2 inches thick. Using a large-hole punch will facilitate removal of documents and reduce damage. Documents must be side-bound only.
- Label each binder to prevent the loss of documents and to make it easier for the public to review the record. Label the binder cover with the project name and description of the contents of the binder. Number each binder consecutively, indicating the volume number and total number of binders (Example: Volume 1 of 67).
- Place a complete copy of the index in the front of the project record. Also, in the front of each binder, place a copy of the portion of the index which covers the respective documents included in the binder.

Note: Some portions of the project may not be completed for years after the project is implemented. For example, silvicultural certification surveys are not required until the fifth year after the timber harvest is implemented. Other project types may require longer retention at the implementing unit.

Storage

Project records must be labelled and stored in a secure location to prevent damage and loss. Store and maintain the project record on the administrative unit where the activity is taking place. Where a decision relates to several administrative units, store and maintain the project record at one location.

Maintain project records until the project is implemented, including reclamation and monitoring, and until any litigation is completed. For some projects, such as long-term mining projects, the project record will need to be maintained for several decades. FSH

6209.11, 41, 1950 (4)[3] (found at http://fsweb.wo.fs.fed.us/directives/fsh/6209.11/6209.11,41-part_03.rtf) gives more direction on retention periods for project records. The project record should be maintained in a location where it can be conveniently accessed by team members and the public.

Rev. 12/21/09 SD

[3] FSH 6209.11, 41-part 03, 1950 (4) - Federal Agency Environmental Impact Statements - Destroy when 3 years old or administrative use ceases, whichever comes later.

Assumptions

- Small, isolated fossils (1/2 day of work maximum) with scientific significance will be collected during survey. Larger, or more numerous fossils will be documented but not collected. These are considered to be outside of the scope of this proposal, and will require further consultation with Rosemont and the USFS prior to proceeding with further work.
- No more than 20 fossil localities will be discovered.
- Costs of laboratory preparation, fossil identification, and museum curation are not included. Costs of Dr. McCord's survey participation are also not included. It is assumed that this work shall be negotiated separately by the AZMNH. However, Dr. McCord's participation is necessary to complete the scope of work based on the number of surveyors included in the current cost estimate.
- The survey area is readily accessible using 4WD vehicles.
- No inclement weather delays.

	A	B	C	D	E	F	G	H	I	J	K
1	**ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES**										
2											
3	**Name of IDT member: ART ELEK**										
4	**Year Start**	**Actual / Estimate**	**Year End**	**Actual / Estimate**	**Activity Type**	**Quantity**	**Location / Description**				
5	"ongoing"	Actual	"ongoing"	Actual	Other	"qualitative"	Bounds of analysis/no future prescribed fire plans/continue routine fire patrols/follow guidelines under Industrial Operations Fire Prevention Guide/National Wildfire Coordinating Group (NWCG)/PMS 462, NFES 2598				
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