Calendar Entry

Meeting Invitation karnold has invited to a meeting

Subject	Meeting on Reclamation		
When	Date	Friday 06/04/2010	
	Time	10:00 AM - 12:30 PM (2 hours 30 minutes)	
Where	Location	SWCA	

Chair	karnold@rosemontcopper.com
Invitees	
Required (to)	Debby Kriegel/R3/USDAFS, Salek Shafiqullah/R3/USDAFS.
Optional (cc)	

10:00 AM - 12:30 PM June 4, 2010
Location: SWCA

This is a tentative meeting scheduled to review the opportunities that were discussed in our meeting on May 24.

Rosemont has committed to the following:
1. Preliminary design work to review if the concept will work
2. Technical Memorandum to show progress on the design by June 2
3. Firming up the date and time of this meeting by Friday June 2
4. Review of the opportunities for shaping during the following week

This will involve the following design elements:
1. Drainage channel that sits along the interior of the Barrel alternative following the ridgeline
2. Using the constraints that were itemized during the meeting:
   a. McCleary Canyon restriction
   b. Constraint to the Barrel Drainage
   c. Pit setbacks
   d. Drainage retention as necessary so as not to put the structures at risk
3. Use natural ground and waste rock to the extent practicable to get a channel that is workable for drainage toward downstream Barrel drainage

The result of this review will be used to show the opportunities for landforming or other shaping.

Debby Kriegel/R3/USDAFS
08/03/2009 12:13 PM

To Beverley A Everson/R3/USDAFS@FSNOTES
cc Debby Kriegel/R3/USDAFS@FSNOTES
bcc
Subject Re: EIS Chapter 3 outline for your review - attached this time

In Recreation and Wilderness, I'd like 2 things added
1. "Forest Plan Guidance" (put this between "Applicable Laws, Regulations, and Policies" and "General Setting")
2. "Other Wild Places" to cover public concerns that can't be addressed under "Designated Wilderness" such as IRAs, Empire/Cienega RCA, etc. (maybe put this as 3.11.4 and bump the next 2 main headings to 3.11.5 and 3.11.6).

Thanks.

Beverley A Everson/R3/USDAFS

Beverley A Everson/R3/USDAFS
07/30/2009 12:07 PM

To Beverley A Everson/R3/USDAFS@FSNOTES
cc abelauskas@fs.fed.us, aelek@fs.fed.us, dkriegel@fs.fed.us, dsebesta@fs.fed.us, ecuriel@fs.fed.us, gmckay@fs.fed.us, jable@fs.fed.us, kbrown03@fs.fed.us, kellett@fs.fed.us, klgraves@fs.fed.us, ljones02@fs.fed.us, mfarrell@fs.fed.us, Melissa Reichard <mreichard@swca.com>, rlaford@fs.fed.us, rlefevre@fs.fed.us, sldavis@fs.fed.us, sshafiqullah@fs.fed.us, tciapusci@fs.fed.us, temmett@fs.fed.us, tfurgason@swca.com, wgillespie@fs.fed.us, wkeyes@fs.fed.us
Subject EIS Chapter 3 outline for your review - attached this time

DRAFT CHAPTER 3 AFFECTED ENVIRONMENT OUTLINE rev 5-19-09.doc

Beverley A. Everson
Forest Geologist
Coronado National Forest
300 W. Congress Street, 6th Floor
Tucson, AZ. 85701

Voice: 520-388-8428
Fax: 520-388-8305

Beverley A Everson/R3/USDAFS

Beverley A Everson/R3/USDAFS
07/30/2009 09:56 AM

To Beverley A Everson/R3/USDAFS@FSNOTES
cc abelauskas@fs.fed.us, aelek@fs.fed.us, dkriegel@fs.fed.us, dsebesta@fs.fed.us, ecuriel@fs.fed.us, gmckay@fs.fed.us,

jable@fs.fed.us, kbrown03@fs.fed.us, kellett@fs.fed.us, klgraves@fs.fed.us, ljones02@fs.fed.us, mfarrell@fs.fed.us, Melissa Reichard <mreichard@swca.com>, rlaford@fs.fed.us, rlefevre@fs.fed.us, sldavis@fs.fed.us, sshafiqullah@fs.fed.us, tciapusci@fs.fed.us, temmett@fs.fed.us, tfurgason@swca.com, wgillespie@fs.fed.us, wkeyes@fs.fed.us

Subject EIS Chapter 3 outline for your review

Enclosed is a draft outline from SWCA of Chapter 3 of the EIS (Affected Environment). Please review the outline and let me know what additions or changes you feel are needed. I would appreciate your response by August 5.

Thank you.

Bev

Beverley A. Everson
Forest Geologist
Coronado National Forest
300 W. Congress Street, 6th Floor
Tucson, AZ. 85701

Voice: 520-388-8428
Fax: 520-388-8305

"Terry Chute"
<tjchute@msn.com>
09/01/2010 09:24 PM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc "Melinda D Roth" <mroth@fs.fed.us>, "Beverley A Everson" <beverson@fs.fed.us>, "Tom Furgason" <tfurgason@swca.com>, "Jonathan Rigg"
bcc
Subject Rosemont Visual Resources

History: This message has been replied to.

Debby,

I talked to Tom this afternoon, and he thought you should have Chapter 3 from David Harris by the end of this week. Jonathan said that the section previously submitted did not match the assigned outline. He worked with David and cam up with the outline that is attached. It is my understanding that you worked with David to come up with this outline. If you have questions about the outline, contact Jonathan at SWCA. My advice at this point (see below) is for you to be more focused on the content than the outline - we will have the opportunity to tweak outlines that do not flow well at a later date.

David will not address cumulative effects until the FS gives him a table of reasonably foreseeable actions, and we are probably a week away from being able to finalize that. So it is likely you will see a placeholder for Cumulative Effects in the next version you see.

OK - there are a couple choices that you have in terms of when you want to weigh in with review and edit of the Chapter 3 Visual Resources section. The September 15th date for SWCA to compile Chapters 1, 2 and the best we have of Chapter 3 will not change. In order for SWCA to be able to provide some cursory technical editing (grammar and consistency) and formatting, the Visual Resources section needs to be in to SWCA by beginning of the business day on 8/13 (and I am stretching to get to that date). So here is your choice. You can (1a) review David's submission, work with him to make changes, and get the "final" version to SWCA by 0800 on 8/13; or (1b) review David's submissions and make any changed yourself, getting the "final" version to SWCA by 0800 on 8/13; or (2) allow David's submissions to go directly into the 8/15 version of Chapter 3, and work over then next couple weeks to make necessary changes and review the Visual Resources section along with other resource areas to identify inconsistencies and conflicts. There are perhaps 5 sections, counting Visual Resources, that may be taking the approach described in (2). There could also be some middle ground whereby you work with David to resolve what you can and get the result to SWCA by 0800 on 8/13, then pursue the remainder after the 15th. Your choice - what I ask is that you talk to David, put some thought into it, and let me and SWCA know how you plan to move forward. Just realize that the 15th date for pulling what we have together is not up for negotiation.

I have thought about our discussion on cumulative effects and reasonable foreseeable actions, and read your email about 1909.15. My advice is for you to just keep doing what you are doing. I am fairly confident that you are on the right track. I think we are hung up talking

about concepts, and that we will be pretty close to agreeing when we see the results on paper.

I am in the office on Thursday 9/02 till about 1100 or 1130, then back on Wednesday, 9/8 through 9/10. After that I'll be pretty much unavailable until I return on 9/27-30. Give me a holler if we need to talk or resolve anything.

Terry Chute
406-250-2008
tjchute@msn.com[attachment "Visual Resources Chapter 3 Outline.doc" deleted by Debby Kriegel/R3/USDAFS]

"Stephen Leslie" <sleslie@swca.com>
07/21/2010 09:20 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc
bcc
Subject RE: Rosemont Mine DEIS - Recreation

I'll talk with Lara about it, thanks.

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Wednesday, July 21, 2010 8:54 AM
To: Stephen Leslie
Subject: RE: Rosemont Mine DEIS - Recreation

Steve,

On Friday I went with Marcie and Trent to Tetra Tech to get all the GIS files, and I assume that this data includes the latest Arizona Trail alignment for each alternative. I've heard rumors that the Arizona Trail would be moved east of Hwy 83 in at least the Barrel Only alternative, but have not seen a map of this. Please call Lara Mitchell in the Tucson office to get all of the Arizona Trail GIS files.

I'll be ready for reviewing all the recreation stuff starting on Monday.

Thanks.

Debby Kriegel, RLA
Landscape Architect
Coronado National Forest
300 W. Congress
Tucson, AZ 85701
(520) 388-8427
Fax (520) 388-8305
www.fs.fed.us/r3/coronado/
dkriegel@fs.fed.us

"Stephen Leslie" <sleslie@swca.com>

07/21/2010 08:08 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc
Subject RE: Rosemont Mine DEIS - Recreation

Morning Debby

Everything is coming along – I'm planning to get you the affected environment with text and maps along with the draft analysis by Monday for your review. I'll have some thoughts on the OHV roads east of 83 as well.

Can you tell me what the status of the Arizona Trail alignment is? Should I change the alignment in the affected environment, or treat it as a mitigation?

Thanks,
Steve

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Wednesday, July 21, 2010 7:46 AM
To: Stephen Leslie
Cc: Debby Kriegel
Subject: Rosemont Mine DEIS - Recreation

Steve,

What's the status of the recreation work? When will you have the complete affected environment (with both text and maps)? When will you submit the draft effects analysis for my review? Have you completed some ideas for OHV roads east of Hwy 83? What else are you working on?

I'm sure you're aware of the tight schedule for completion of the DEIS, and please be aware that I'm going to be swamped with reviewing visual resource work simultaneously, so please get the recreation stuff to me as soon as possible.

Thanks!!

~~~~~~~~~~~~~~~~~~~~~~~~~~
Debby Kriegel, RLA
Landscape Architect
Coronado National Forest
300 W. Congress
Tucson, AZ 85701
(520) 388-8427
Fax (520) 388-8305
www.fs.fed.us/r3/coronado/
dkriegel@fs.fed.us

sleslie@swca.com

07/02/2010 06:55 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc
Subject Re: Recreation Affected Environment

Please respond to sleslie@swca.com
~~~~~~~~~~~~~~~~~~~~~~~~~~

Absolutely. I'll get the maps inserted when I get back next week so you'll have them when you get back. Enjoy your time off.Steve

Sent via BlackBerry by AT&T

From: Debby Kriegel <dkriegel@fs.fed.us>
Date: Fri, 2 Jul 2010 07:50:36 -0600
To: Stephen Leslie<sleslie@swca.com>
Subject: Re: Recreation Affected Environment

Steve,

Thanks for working on this. I would like to see the maps included before I review it again. I'm in on Tuesday, but then I'll be out of the office until July 13 (first time I've taken more than a day off this year!!). Can you provide a version with maps by the 13th?

Hope you have a happy 4th of July weekend!

~~~~~~~~~~~~~~~~~~~~~~~~~~
Debby Kriegel, RLA
Landscape Architect
Coronado National Forest
300 W. Congress
Tucson, AZ 85701
(520) 388-8427
Fax (520) 388-8305
www.fs.fed.us/r3/coronado/
dkriegel@fs.fed.us

"Stephen Leslie" <sleslie@swca.com>

07/01/2010 04:29 PM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc "Jonathan Rigg" <jrigg@swca.com>, "Tom Furgason" <tfurgason@swca.com>
Subject Recreation Affected Environment
~~~~~~~~~~~~~~~~~~~~~~~~~~

Debby -

I have incorporated all of your changes and updated information to address your additional comments and requests from your email last week.

The maps are done, just haven't inserted them into the text. I'll be out of the office tomorrow, but can answer any additional questions next week.

Thanks,
Steve

"Marcie Bidwell" <mbidwell@swca.com>

05/26/2010 07:45 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>, "Trent Reeder" <treeder@swca.com>

cc

bcc

Subject RE: Paint Color

History: This message has been replied to.

We can, thats just a second process.

Do you like the colors that Trent provided (for representing the paint chips)?

We can then take the color into photoshop, but I should warn that as a large block the colors will look very different in the landscape than a series of buildings will, with shadows and other details breaking up the faces.

But we can do it
Marcie

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Wednesday, May 26, 2010 8:42 AM
To: Trent Reeder
Cc: Marcie Bidwell
Subject: RE: Paint Color

Need to use a photograph rather than the model. Is this possible? The existing vegetation and rock colors are important. Thanks.

"Trent Reeder" <treeder@swca.com>

05/25/2010 12:25 PM

To "Debby Kriegel" <dkriegel@fs.fed.us>, "Marcie Bidwell" <mbidwell@swca.com>

cc

Subject RE: Paint Color

Here are two images showing the two different colors. Not sure if the gray hillshade helps or hinders this exercise.

Trent

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Tuesday, May 25, 2010 12:52 PM
To: Trent Reeder; Marcie Bidwell
Cc: Debby Kriegel
Subject: RE: Paint Color

Marcie and Trent: This is not a good color to mitigate visual resource impacts It is much too light and will not blend into the landscape at all. This manufacturer offers many darker colors which would be much better (medium bronze is my recommendation). In order to show Rosemont the problem with light colors, may I recommend that you take your red rectangle (indicating the plant site), show it in Rosemont's light stone color and also medium bronze, and insert each each into a photo of the site? Or if you have another method to quickly display colors in the landscape, I'm all ears. Thanks. Debby

"Trent Reeder" <treeder@swca.com>

05/25/2010 11:38 AM

To "Marcie Bidwell" <mbidwell@swca.com>, "Michael Andres" <mandres@swca.com>, "Chris Loftus" <chris@loftuslandscapestudio.com>

cc "Debby Kriegel" <dkriegel@fs.fed.us>

Subject RE: Paint Color

Awesome! Thanks.

Trent

From: Marcie Bidwell
Sent: Tuesday, May 25, 2010 12:32 PM
To: Michael Andres; Trent Reeder; Chris Loftus
Cc: Debby Kriegel
Subject: FW: Paint Color

Hello All,

We will be using this as the base color for facilities at the RCC plant site.

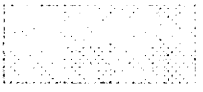
Thanks!
Marcie

From: Marcie Bidwell
Sent: Tuesday, May 25, 2010 12:31 PM
To: Debby Kriegel; 'Beverley A Everson'; Melissa Reichard
Subject: FW: Paint Color
Hello All,

This is the color information that I mentioned at the Alternatives Meeting from Kathy and I did a little e-research to find a color chip, please share with anyone else that may find this information useful.

Marcie

from http://www.braemarbuildings.com/building-colors.php



Light Stone
SR .50 SRI
58

From: Kathy Arnold [mailto:karnold@rosemontcopper.com]
Sent: Wednesday, February 24, 2010 12:10 PM
To: Marcie Bidwell; Debby Kriegel
Cc: David Krizek
Subject: FW: Paint Color
Finally got a full answer on the paint color...

Cheers!
Katherine Ann Arnold, P.E. | Director of Environmental and Regulatory Affairs
Cell: 520.784.1972 | Main: 520.297.7723 | Fax 520.297.7724
karnold@rosemontcopper.com

ROSEMONT COPPER

Rosemont Copper Company
P.O. Box 35130 | Tucson, AZ 85740-5130
3031 West Ina Road | Tucson, AZ 85741 | www.rosemontcopper.com

PLEASE NOTE: : This e-mail message, including any attachments, is for the sole use of the intended recipients and may contain confidential and/or privileged information. Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please delete all copies and notify us immediately.

------ Forwarded Message
From: Clarissa Barraza <cbarraza@rosemontcopper.com>
Date: Mon, 22 Feb 2010 10:16:42 -0600
To: Patrick Glynn <pglynn@rosemontcopper.com>, Katherine Arnold <karnold@rosemontcopper.com>
Subject: RE: Paint Color

Kathy,
The color is Lightstone from Premier (SR.50 SRI 58)

Regards,

Clarissa Barraza
Project Engineer

Rosemont Copper Company
a subsidiary of Augusta Resource Corporation

CONFIDENTIALITY NOTICE: This email message, including any attachments, is for the sole use of the intended recipient(s) and may contain confidential and/or privileged information. Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please delete all copies and notify us immediately.

From: Patrick Glynn
Sent: Friday, February 19, 2010 3:53 PM
To: Clarissa Barraza
Cc: Kathy Arnold
Subject: FW: Paint Color
Importance: High

Please can you help Kathy with this asap Monday as I am out of the office next week.

Thanks

From: Kathy Arnold
Sent: Friday, February 19, 2010 8:47 AM
To: Patrick Glynn
Cc: Lance Newman
Subject: Paint Color

Patrick
The Forest Service needs actual paint colors for the buildings at the plant site. Can you send me either a website or the names of the paint with a specific brand so that I can tie them to a real color – this is a 911 for help ASAP!

Thanks -
Kathy
Katherine Ann Arnold, P.E. | Director of Environmental and Regulatory Affairs
Cell: 520.784.1972 | Main: 520.297.7723 | Fax 520.297.7724
karnold@rosemontcopper.com

ROSEMONT COPPER

Rosemont Copper Company
P.O. Box 35130 | Tucson, AZ 85740-5130
3031 West Ina Road | Tucson, AZ 85741 | www.rosemontcopper.com

PLEASE NOTE: : This e-mail message, including any attachments, is for the sole use of the intended recipients and may contain confidential and/or privileged information. Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please delete all copies and notify us immediately.

----- End of Forwarded Message [attachment "Facilities_Light_Stone_3D.jpg" deleted by Debby Kriegel/R3/USDAFS] [attachment "Facilities_Medium_Bronze_3D.jpg" deleted by Debby Kriegel/R3/USDAFS]

"Marcie Bidwell" <mbidwell@swca.com>
03/01/2010 09:48 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>, "Chelsa Johnson" <Cjohnson@epgaz.com>, "Trent Reeder" <treeder@swca.com>
cc
bcc
Subject RE: Rosemont 138kV Transmission Line - Simulation discussion with FS

History: This message has been replied to.

Debby,

I was thinking that we gave the whole set to the USFS when the Regional office pulled together their google-photo simulations.

If thats not the case, as long as you give official permission for the GIS layers to be shared with EPG, I can ask Trent if he can package it up again.

Marcie

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Monday, March 01, 2010 7:38 AM
To: Chelsa Johnson; Marcie Bidwell
Cc: Debby Kriegel
Subject: Re: Rosemont 138kV Transmission Line - Simulation discussion with FS

Marcie: Can you provide the 3D model or files for the tailings & waste rock? I do not have these files.

Chelsa: I have another question. Will your simulation here show a temporary construction-only powerline or a permanent line? These were both options being evaluated in this location, right?

Thanks!

~~~~~~~~~~~~~~~~~~~~~~~~~

Debby Kriegel
Landscape Architect
(520) 388-8427

"Chelsa Johnson" <Cjohnson@epgaz.com>

02/26/2010 10:50 AM

To "Kathy Arnold" <karnold@rosemontcopper.com>, <EBeck@Tep.com>, "Debby Kriegel" <dkriegel@fs.fed.us>, <kellett@fs.fed.us>, "Marcie Bidwell" <mbidwell@swca.com>
cc "Lauren Weinstein" <Lweinst@epgaz.com>, "Paul Trenter" <ptrente@epgaz.com>, "Emily Belts" <EBelts@epgaz.com>
Subject Rosemont 138kV Transmission Line - Simulation discussion with FS
~~~~~~~~~~~~~~~~~~~~~~~~~

Good Morning,

EPG has coordinated with Debby Kriegel and Marcie Bidwell last week regarding the proposed 138kV transmission line simulations. I've provided a summary of key discussion items:

1) Direction regarding the selection of the viewpoint for simulation 3 was previously requested by the Forest Service and EPG provided 4 photo options along Box Canyon Road near the crossing of Link 160. Both Debby and Marcie agreed that Option B would be the best selection for Simulation 3. Based on the wireframe representations, Debby and Marcie voiced concern that a portion of the project would be visible for viewers heading east on Box Canyon Road whereas the other options do not show any structures due to vegetation screening. In addition Debby noted that Option B is also at one of the KOP's for the mine and represents a typical viewing condition for Box Canyon recreation users. I have attached the preferred photo and viewpoint for your reference. We will be moving forward with this Simulation viewpoint.

2) Visibility of the mine was also discussed and we concluded that the mine would not likely be visible from the viewpoint at Simulation 3 Option B due to terrain and existing vegetation. On a follow up call with Marcie this week, we discussed the possible visibility of the mine from the other simulation viewpoints and concluded that 3D modeling of the proposed contours for the McCleary Alternative would be helpful. Debby, please let me know if we can get the latest contour information so we can create a 3D model to determine if any of the tailings would be visible.

3) Other concerns discussed include the clearing of the transmission line ROW. In particular, if the entire 100' ROW would be cleared of vegetation or if selective clearing would be implemented. I have contacted TEP engineers about their vegetation clearing standards and I will forward the information once it is received.

4) Debby inquired if the additional transmission line simulation viewpoints would provide a view of the route crossing the Santa Rita Mountains (Link 140). EPG noted that Simulations 2-6 would not have a view of Link 140. We concluded that Simulation 1 along Santa Rita Road does not have a view of Link 140 and Debby noted that the Forest Service may want to consider an additional simulation of the transmission line crossing the Santa Rita Mountains.

5) Debby also expressed concern regarding the specific placement of the transmission line structures along links 160 and 190, which are near Concern Level 1 roads. In September 2009, Debby provided EPG detailed comments regarding the transmission line routing options on FS land. She requested that a Landscape Architect from EPG conduct a detailed visual impact assessment and provide mitigation recommendations to minimize visual impacts. EPG noted that TEP engineers have provided typical structure height and span information; however, detailed engineering has not been finalized. We discussed the possibility of conducting a visibility assessment for links 160 and 190 or using wireframes to assess mitigation recommendations. EPG also noted that coordination with TEP engineers would be necessary to determine constructability of recommended mitigation measures. Debby recommended avoiding placement of structures along ridges so that the project would not be skylined. EPG will assess mitigation measures for these links and coordinate with TEP engineers regarding constructability.

Thanks again for the input regarding the simulations and EPG will follow up with Rosemont/TEP regarding an additional simulation of the transmission line crossing the Santa Rita Mountains, TEP ROW clearing standards, and

mitigation measures for links 160 and 190. Debby and Marcie, please let me know if I have missed anything with this summary or if you have any clarifications.

Chelsa Johnson
Project Coordinator/Visual Resource Specialist

epg
Environmental Planning Group
Phoenix, Arizona
602-956-4370 phone
602-956-4374 fax
http://www.epgaz.com

This e-mail, including any attachments, is intended only for the use of the individual or entity to which it is addressed. It may contain information that is attorney work product, privileged, confidential, exempt or otherwise protected from disclosure or use under applicable law. If you have received this e-mail in error, please notify the sender immediately by return e-mail, and delete this e-mail from all affected databases. Thank you.

[attachment "Simulation Map_simulation 3A_revflat.jpg" deleted by Debby Kriegel/R3/USDAFS] [attachment "sim 3 opt B-IMG_9552_flat.jpg" deleted by Debby Kriegel/R3/USDAFS]

lands will look like – at least that was what we were trying to do. So, yes I believe it will be similar to the surface of the waste rock piles. You could also look at the geology map and get colors of all of them (from looking at the core samples). Nonetheless, the color of the two on the test plots is not too different from what can found at the undisturbed surface now.

Jeff

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Wednesday, October 06, 2010 12:14 PM
To: jfehmi@email.arizona.edu
Cc: Debby Kriegel
Subject: Rosemont Test Plot Question

Jeff,

When we visited the test plots with you in August, you probably remember that I picked up samples of Gila Conglomerate and Arkose rock samples. Can you tell me how you obtained the material for the plots? Specifically, I'd like to know if it was collected near the surface (and is therefore aged/weathered), or if it was dug up out of a pit (and is therefore broken, quarried rock that hasn't been weathered). This probably makes no difference for plant growth, but I'm working on visual simulations and am trying to determine whether this material is the same color as what will be on the surface of the mine's waste rock piles.

Thanks!

~~~~~~~~~~~~~~~~~~~~~~~~~~

Debby Kriegel, RLA
Landscape Architect
Coronado National Forest
300 W. Congress
Tucson, AZ 85701
(520) 388-8427
Fax (520) 388-8305
www.fs.fed.us/r3/coronado/
dkriegel@fs.fed.us[attachment "DLH Pictures 002.jpg" deleted by Debby Kriegel/R3/USDAFS]
~~~~~~~~~~~~~~~~~~~~~~~~~~

"Marcie Bidwell"
<mbidwell@swca.com>
10/09/2008 04:42 PM

To <dkriegel@fs.fed.us>, "Tom Furgason" <tfurgason@swca.com>
cc
bcc
Subject Visual Analysis Examples

Hello Debbie,

Here is an example of visibility analysis that we did for the BLM to document existing conditions from a gravel pit. The primary question for the report was what was the current state of development, as visible to the Durango community, and what of that development was attributable to the gravel pit versus other developments in the area.

THis is the example where we had to redraw the topography to match the actual gravel mine topography to get the visual corridors to compute correctly. We could use the same process to project what the disturbance might be, where the tailings might go, and how visual it would be from the scenic byway, and other key observation points where recreators or the public might view the project.

I can supply the whole report if you would like, but it is rather large.

CHeers,

Marcie

Marcie Demmy Bidwell
Environmental Planner
515 East College Avenue
Durango, Colorado 81301
Office: 970.385.8566
Fax: 970.385.1938
www.swca.com [attachment "13641_PL_detail_12-11.pdf" deleted by Debby Kriegel/R3/USDAFS] [attachment "13641_Figure 6.jpg" deleted by Debby Kriegel/R3/USDAFS] [attachment "13641_Figure 4.jpg" deleted by Debby Kriegel/R3/USDAFS] [attachment "13641_Figure 5.jpg" deleted by Debby Kriegel/R3/USDAFS]

"Trent Reeder"
<treeder@swca.com>
09/02/2009 09:00 AM

To "Marcie Bidwell" <mbidwell@swca.com>
cc "Debby Kriegel" <dkriegel@fs.fed.us>
bcc
Subject RE: Alt6c 3D

Not sure if I sent these out as well showing the arch site in relation to the piles

From: Marcie Bidwell
Sent: Wednesday, September 02, 2009 9:54 AM
To: Trent Reeder
Cc: Debby Kriegel
Subject: RE: Alt6c 3D

Thanks Trent,

Giving the time, I think we can hold on the KOP on ground shots until after the meeting.

M

From: Trent Reeder
Sent: Wednesday, September 02, 2009 9:52 AM
To: Debby Kriegel; Marcie Bidwell
Subject: Alt6c 3D

Here's the updated oblique figure with updated elevations. Please let me know if you need anything else.

Trent Reeder
GIS Specialist
SWCA Environmental Consultants
treeder@swca.com
130 Rock Point Dr. Suite A
Durango, Colorado 81303
Work (970) 385-8566
Fax (970) 385-1938
www.swca.com

[attachment "11204_ALTs_6B_KOP12_print.pdf" deleted by Debby Kriegel/R3/USDAFS]
[attachment "11204_ALTs_6C_KOP12_print.pdf" deleted by Debby Kriegel/R3/USDAFS]

"Marcie Bidwell"
<mbidwell@swca.com>
04/21/2010 09:11 AM

To "Dale Ortman PE" <daleortmanpe@live.com>

cc "Tom Furgason" <tfurgason@swca.com>, "Debby Kriegel" <dkriegel@fs.fed.us>, "Salek Shafiqullah - USFS " <sshafiqullah@fs.fed.us>, "Trent Reeder"

bcc

Subject RE: Horst's draft final report - Debby's draft comments

History: This message has been replied to.

Hello Dale,

Tom said that I should direct stormwater questions to you.

As you know, SWCA has been contracted to do visualizations for all of the alternatives, and these visualizations should include stormwater controls, appropriate benching, etc elements. The current alternatives have contours that create volumes, but do not include stormwater or reclamation designs on them. Nor do they have benches designed in any consistent interval.

Tetra Tech has provided the *Preliminary Stormwater Control and Reclamation Summary* attached document in addition to the recent *Reclamation Concept Update* . Between this document and Update, the IDT and SWCA can get a general verbal description and conceptual idea of what stormwater would include and how it might be designed. However, no specific placement or sizing of the stormwater elements are included. My issue from a simulations perspective is that there is a significant difference between the landforms/contours that SWCA has been given and how these stormwater details would inform the site.

I would like to discuss these issues with you, what level of detail other resources (like water quality) will need for their analysis, and how to put our thoughts together to go forward.

It would take a significant amount of work for Trent and GIS to create the benches, ponding areas, etc that are called out. And we would be attempting to place these elements on the alternative based on these narrative descriptions. This situation does not seem ideal. With the original Preliminary Stormwater Control document, I repeated my request for typical details for stormwater elements, and TetraTech responded that we would be able to find those in the Reclamation Concept Update, however, he did not make a specific association as to which details are replicable to the different alternatives.

I can talk you through these if we can set a time,

THanks,
Marcie

From: Dale Ortman PE [mailto:daleortmanpe@live.com]
Sent: Friday, April 16, 2010 10:50 AM
To: 'Debby Kriegel'
Cc: Tom Furgason; 'Beverley A Everson'; 'Melinda D Roth'; 'Salek Shafiqullah - USFS '; Rochelle Dresser; Marcie Bidwell
Subject: RE: Horst's draft final report - Debby's draft comments

Debby,

Yes, there are major issues with this report. I'm committed to other work until early next week, but I will get back to you at that time. Please continue thinking about the report and engage with the other

IDT members to develop a suite of comments from the CNF. I'm targeting having a set of comments for Horst by the latter part of next week. The contract gives us one round of review for the draft report so I want to be sure we have everyone's input.

Regards,

Dale

Dale Ortman PE PLLC
Consulting Engineer

(520) 896-2404 - Arizona Office
(520) 449-7307 - Mobile
(435) 682-2777 - Utah Office

daleortmanpe@live.com

PO Box 1233
Oracle, AZ 85623

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Thursday, April 15, 2010 10:39 AM
To: daleortmanpe@live.com
Subject: Horst's draft final report - Debby's draft comments

Dale,

I just reviewed the report and here are my initial comments. I'd like to consolidate all of our comments (mine, yours, Salek's, and maybe Tom and/or Marcie's).

In the mean time, please give me a call to discuss. There are some fairly major issues....

~~~~~~~~~~~~~~~~~~~~~~~~~~

Debby Kriegel, RLA
Landscape Architect
Coronado National Forest
300 W. Congress
Tucson, AZ 85701
(520) 388-8427
Fax (520) 388-8305
www.fs.fed.us/r3/coronado/
~~~~~~~~~~~~~~~~~~~~~~~~~~

dkriegel@fs.fed.us RCC_Alts - Prelim SW Control and Rec Summary 2010-03-09.pdf

TETRA TECH

Tucson Office
3031 West Ina Road
Tucson, AZ 85741
Tel 520.297.7723 Fax 520.297.7724
www.tetratech.com

Transmittal Letter

To:	Kathy Arnold	**From:**	David Krizek
Company:	Rosemont Copper Company	**Date:**	March 9, 2010
Re:	Alternatives Analysis – Preliminary Stormwater Control and Reclamation Sequencing Summary	**Project #:**	114-320871-3.1
CC:	Marcie Bidwell (SWCA)	**Doc. #:**	070/10-320871-3.1

Please Find Enclosed:

1	*copy of*	Alternatives Analysis – Preliminary Stormwater Control and Reclamation Sequencing Summary in Microsoft Word Format
1	*copy of*	Alternatives Analysis – Preliminary Stormwater Control and Reclamation Sequencing Summary in Adobe Acrobat Format

Comments:

This information is preliminary and provided for use in alternative visual analysis associated with the Rosemont Copper Project.

Ship Via:

- ☐ FedEx: ☐ Priority ☐ Standard ☐ 2-day Economy ☐ Ground
- ☐ UPS: ☐ Standard ☐ 2nd Day ☐ Overnight
- ☐ USPS Mail: ☐ Regular ☐ Priority ☐ Certified
- ☒ Other: Email Delivery by Tetra Tech

Barrel and McCleary Alternative Stormwater Control and Reclamation Sequencing

Stormwater Control

For the Barrel and McCleary Alternative, it was assumed that the following stormwater controls would be applied:

- Stormwater drainage channels would be placed at every 100 feet of vertical rise (on approximate 50 foot wide drainage benches) on the outer slopes of the Dry Stack Tailings Facility. Stormwater would flow off these benches to stilling pools/drop-structures, located on the outer slopes of the tailings area, to natural ground, or to stormwater control basins located on wide benches in the Waste Rock Storage Area. Drop-structures located on the west side of the Dry Stack Tailings Facility would drain to the USGS Gauging Station located near SR 83.
- Drop-structures would be located on the north and west sides of the landform that comprises the Barrel and McCleary Alternative. These drop-structures would convey runoff to flow-through drains. The flow-through drains are large rock drains intended to provide a hydraulic connection between the up-gradient side of the landform and the down-gradient side.
- Stormwater control basins would be constructed on wide benches in the Waste Rock Storage Area to contain up to the 500-year, 24-hour storm event. Stormwater generated from flows in excess of the 500-year, 24-hour storm event would be routed to containment areas located between the toe of the Waste Rock Storage Area and adjacent natural ridge areas. These areas would generally be sized to contain the Probable Maximum Precipitation (PMP) event. Stormwater routing to these perimeter containment areas would be via rocked slopes connecting the benches to the perimeter areas.
- Decant structures would be installed on top of the North Dry Stack Tailings Facility to pass stormwater to stilling pools/drop-structures for flows in excess of the 500-year, 24-hour storm event. Storm flows less than this event would be retained on top of the facility in large, depressed areas.
- Storm flows in excess of the 500-year, 24-hour storm event generated on top of the South Dry Stack Tailings would be routed to a flow-through drain located on the west side of the landform comprising the Barrel and McCleary Alternative.
- The majority of the AMEC Earth & Environmental, Inc. (AMEC) Diversion Channel, located to the north and west of the Open Pit, discharges stormwater to flow-through drains located on the west and north sides of the landform.
- The Pit Diversion, located to the south of the Open Pit, is expected to discharge to an area located between the toe of the Waste Rock Storage Area and an adjacent natural ridge and will not drain to the USGS Gauging Station.

Drainage benches (about 50 feet wide) would also be placed on a small portion of the Waste Rock Storage Area adjacent to the closed and encapsulated Heap Leach Facility. These drainage benches would be similar to those planned for the outer surface of the Dry Stack Tailings Facility. Runoff from these benches would be to the up-gradient side (west side) of the landform.

Stormwater control basins located in the Waste Rock Storage Area would not be located above the closed and encapsulated Heap Leach Facility.

Reclamation Sequencing – Year 10

Concurrent reclamation of the east slope of the South Dry Stack Tailings Facility is anticipated to occur. Reclamation of the north face of the South Dry Stack Tailing Facility is not anticipated to occur since this is an interim face and will eventually be covered by the North Dry Stack Tailings Facility. Haul road(s) will likely be on this face until covered by the north dry stack. A haul road will also be located on the west side of the South Dry Stack Tailings Facility, allowing for only partial concurrent reclamation of this side, as practical.

Concurrent reclamation of the eastern most face of the Waste Rock Storage Area is anticipated along with south/southeast/southwest facing slopes.

Reclamation Sequencing – Ultimate Year

Concurrent reclamation of the east slope of the South Dry Stack Tailings Facility slope along with the east slope of the North Dry Stack Tailings Facility is anticipated to occur. A haul road is anticipated on the north face of the North Dry Stack Tailings Facility, allowing for only partial concurrent reclamation to occur, as practical. This haul road will also be on the east side of the South and North Dry Stack Tailings Facilities, again allowing for only partial concurrent reclamation to occur, as practical.

Concurrent reclamation of the eastern most face of the Waste Rock Storage Area is anticipated along with south/southeast/southwest facing slopes.

Areas not reclaimed during operations will be reclaimed at closure. A haul road(s) will likely be left on the west face of the North and South Dry Stack Tailings Facilities and on the north face of the North Dry Stack Tailings Facility.

Barrel Only Alternative Stormwater Control and Reclamation Sequencing

Stormwater Control

For the Barrel Only Alternative, it was assumed that the following stormwater controls would be applied:

- Stormwater drainage channels would be placed at every 100 feet of vertical rise (on approximate 50 foot wide drainage benches) on the outer slopes of the Dry Stack Tailings Facility. Stormwater would flow off these benches to stilling pools/drop-structures, located on the outer slopes of the tailings area, to natural ground, or to rock slopes adjacent to the Waste Rock Storage Area. Drop-structures located on the west side of the Dry Stack Tailings Facility would drain to the USGS Gauging Station near SR 83. Drop-structures would also be located on the west side of the landform that comprises the Barrel Only Alternative. These drop-structures would convey flows to flow-through drains. The flow-through drains are large rock drains intended to provide a hydraulic connection between the up-gradient side of the landform and the down-gradient side.
- Stormwater control basins would be constructed on wide benches in the Waste Rock Storage Area to contain up to the 500-year, 24-hour storm event. Stormwater generated from flows in excess of the 500-year, 24-hour storm event would generally be routed to containment areas located between the toe of the Waste Rock Storage Area and adjacent natural ridge areas. These areas would generally be sized to contain the Probable Maximum Precipitation (PMP) event. Stormwater routing to these perimeter containment areas would be via rocked slopes connecting the benches to the perimeter areas.
- Decant structures would be installed on top of the Dry Stack Tailings Facility to pass stormwater to stilling pools/drop-structures for flows in excess of the 500-year, 24-hour storm event. Storm flows less than this event would be retained on top of the facility in large, depressed areas.
- Construction of a portion of the AMEC Earth & Environment, Inc. (AMEC) diversion channel is assumed. This diversion channel routes stormwater runoff around the Plant Site area to McCleary Canyon Wash drainage, which eventually drains to the USGS Gauging Station location.
- The Pit Diversion, located to the south of the Open Pit, is expected to discharge to an area located between the toe of the Waste Rock Storage Area and an adjacent natural ridge and will not drain to the USGS Gauging Station.

Drainage benches (about 50 feet wide) would also be required on a small portion of the Waste Rock Storage Area adjacent to the closed and encapsulated Heap Leach Facility. These drainage benches would be similar to those planned for the outer surface of the Dry Stack Tailings Facility. Runoff from these benches would be to the up-gradient side (west side) of the landform.

Stormwater control basins located in the Waste Rock Storage Area would not be located above the closed and encapsulated Heap Leach Facility.

Reclamation Sequencing – Year 10

Concurrent reclamation of the east slope of the Dry Stack Tailings Facility is anticipated to occur. A haul road is anticipated on the north face of the Dry Stack Tailings facility, allowing for only partial concurrent reclamation to occur, as practical. This haul road will also be on the east side of the Dry Stack Tailings Facility, again allowing for only partial concurrent reclamation to occur, as practical.

Concurrent reclamation of the eastern most face of the Waste Rock Storage Area is anticipated along with south/southeast/southwest facing slopes.

Reclamation Sequencing – Ultimate Year

Concurrent reclamation of the east slope of the Dry Stack Tailings Facility is anticipated to occur. A haul road is anticipated on the north face of the Dry Stack Tailings facility, allowing for only partial concurrent reclamation to occur, as practical. This haul road will also be on the east side of the Dry Stack Tailings Facility, again allowing for only partial concurrent reclamation to occur, as practical.

Concurrent reclamation of the eastern most face of the Waste Rock Storage Area is anticipated along with south/southeast/southwest facing slopes.

Areas not reclaimed during operations will be reclaimed at closure. A haul road will likely be left on the west and north faces of the Dry Stack Tailings Facility.

Mine Plan of Operations (MPO) Stormwater Control and Reclamation Sequencing

Stormwater Control

Design work associated with the Rosemont Project has been ongoing since submittal of the Reclamation and Closure Plan (Tetra Tech, 2007). Based this updated design work, the stormwater controls described below were applied to the 2007 MPO Landform for this alternatives assessment:

- Stormwater drainage channels (on approximate 50 foot wide drainage benches) would be placed at every 100-foot vertical rise on the outer slopes of the Dry Stack Tailings Facility. Stormwater would flow off these benches to stilling pools/drop-structures located on the outer slopes of the tailings area, to natural ground, or to stormwater-control basins located on wide benches in the Waste Rock Storage Area;
- Drop-structures located on the west side of the Dry Stack Tailings Facility would drain to the USGS Gauging Station location located near SR 83. Drop-structures would also be located on the north and west sides of the 2007 MPO Landform. Flows emanating from these drop-structures would drain to a Central Drain or to stormwater ponding areas located between the toe of the North Dry Stack Tailings Facility and adjacent, natural ridge areas;
- The Central Drain, or flow-through drain, is a large rock drain intended to provide a hydraulic connection between the up-gradient side of the 2007 MPO Landform and the down-gradient side;
- An Infiltration Drain was incorporated into the 2007 MPO Landform that is hydraulically connected to the Central Drain. For the purposes of this stormwater alternatives assessment, the Infiltration Drain is assumed to pass storm events larger than the 500-year, 24-hour storm event off the top surface while smaller events are retained on the top surface in large, depressed areas;
- Stormwater control basins would be constructed on wide benches in the Waste Rock Storage Area to contain up to the 500-year, 24-hour storm event. Stormwater generated from flows in excess of the 500-year, 24-hour storm event would be routed to containment areas located between the toe of the Waste Rock Storage Area and adjacent, natural ridge areas. These areas would generally be sized to contain the Probable Maximum Precipitation (PMP) event. Stormwater routing to these perimeter containment areas would be via rocked slopes connecting the benches to the perimeter areas.

Reclamation Sequencing – Year 10

Concurrent reclamation of the east and north slopes of the North Dry Stack Tailings Facility is anticipated to occur along with the east buttress associated with the South Dry Stack Tailings Facility. A haul road is anticipated on the west side of the North Dry Stack Tailings, allowing for only partial concurrent reclamation, as practical.

Concurrent reclamation of the east face of the Waste Rock Storage Area is anticipated along with south/southeast/southwest facing slopes.

Reclamation Sequencing – Ultimate Year

Concurrent reclamation of the east, north, and west slopes of the North Dry Stack Tailings Facility is assumed completed by the end of Year 10.

Concurrent reclamation of the east face of the South Dry Stack Tailings Facility is anticipated between Year 10 and the Ultimate Year. A haul road is anticipated on the west side of the South Dry Stack Tailings, allowing for only partial concurrent reclamation, as practical.

Concurrent reclamation of the east face of the Waste Rock Storage Area is anticipated along with south/southeast/southwest facing slopes.

Areas not reclaimed during operations will be reclaimed at closure. A haul road(s) will likely be left on the west face of the North and South Dry Stack Tailings Facilities.

Scholefield Tailings and McCleary Waste Alternative Stormwater Control and Reclamation Sequencing

Stormwater Control

For the Scholefield Tailings and McCleary Waste Alternative, it was assumed that the following stormwater controls would be applied:

- Stormwater drainage benches (on approximate 50 foot wide drainage benches) would be placed at every 100 feet of vertical rise on the outer slopes of the Dry Stack Tailings Facility. Stormwater would flow off these benches to stilling pools/drop-structures, located on the outer slopes of the tailings area, to natural ground, or to drainage benches located on the face of the Waste Rock Storage Area. Stormwater flow from these drainage benches would drain to the USGS Gauging Station located near SR 83.
- Stormwater drainage benches would be placed at every 100 feet of vertical rise on the outer slopes of the Waste Rock Storage Area, also on 50 foot wide benches. Stormwater would flow off these benches to stilling pools/drop-structures on the outer slopes of the Waste Rock Storage Area, or to natural ground. Stormwater flow from these drainage benches would drain to the USGS Gauging Station. Due to the configuration of the Waste Rock Storage Area, contouring and the creation of wide benches to pond stormwater runoff may not be achievable under this alternative
- Decant structures would be installed on top of the Dry Stack Tailings Facility to pass stormwater to stilling pools/drop-structures, or to natural ground, for flows in excess of the 500-year, 24-hour storm event. Storm flows less than this event would be retained on top of the Dry Stack Tailings Facility in large, depressed areas.
- Decant structures would be installed on top of the Waste Rock Storage Area to pass stormwater to stilling pools/drop-structures, or to natural ground, for flows in excess of the 500-year, 24-hour storm event. Storm flows less than this event would be retained on top of the Waste Rock Storage Area in large, depressed areas.
- Stormwater flows off the west face of the Waste Rock Storage Area would likely be conveyed to a flow-through drain. The flow-through drain is a large rock drain intended to provide a hydraulic connection between the up-gradient side of the Waste Rock Storage Area and the down-gradient side.
- Construction of a portion of the AMEC Earth & Environment, Inc. (AMEC) diversion channel is assumed. This diversion channel would be revised to route stormwater runoff around the Plant Site and draining into Barrel Canyon and to the USGS Gauging Station.
- The Pit Diversion, located to the south of the Open Pit, is expected to discharge to the upper reach of the Barrel Canyon Basin, eventually draining to the USGS Gauging Station.

Additional waste rock will likely be placed over the Heap Leach Facility to achieve closure. The Scholefield Tailings and McCleary Waste Alternative currently does not show a waste rock cap over the heap. Waste rock would be placed to achieve a minimum cover thickness over the heap surface and to achieve 3H:1V reclamation side slopes. Capping the heap with waste rock is not expected to reduce storm flows to the USGS Gauging Station.

As indicated above, creating wide areas and contouring of the benches of the Waste Rock Storage Area is likely not possible. Additionally, haul road access to the Dry Stack Tailings Facility, and to the Waste Rock Storage Facility, would likely be on the south face of the Waste Rock Storage Area. Concurrent reclamation of these access road areas may not be achievable until area-wide closure and reclamation.

Reclamation Sequencing – Year 10

Concurrent reclamation of the east slope of the Dry Stack Tailings is anticipated to occur. Access to the tailings face will come from the south (from the Waste Rock Storage Area) and will move up the face as buttress construction advances.

Haul road access may be required on a portion of the south face of the Waste Rock Storage Facility, allowing for only partial concurrent reclamation, as practical. Concurrent reclamation of the west face of the Waste Rock Storage Area is anticipated.

The Heap Leach Pad is free standing and is expected to be closed after Y10.

Reclamation Sequencing – Ultimate Year

Concurrent reclamation of the east slope of the Dry Stack Tailings is anticipated to occur. Access to the tailings face will come from the south (from the Waste Rock Storage Area) and will move up the face as buttress construction advances. Concurrent reclamation of the northwest face of the Dry Stack Tailings Facility is also anticipated to occur as the buttress advances upward.

Haul road access may be required on a portion of the south face of the Waste Rock Storage Facility, allowing for only partial concurrent reclamation, as practical. Concurrent reclamation of the west face of the Waste Rock Storage Area is anticipated.

Areas not reclaimed during operations will be reclaimed at closure. A haul road will likely be left on the south face of the Waste Rock Storage Area.

Capping of the closed heap is not shown but is likely to occur.

Sycamore Tailings and Barrel Waste Alternative - East Side – Waste Rock Storage Area – Stormwater Control and Reclamation Sequencing

Stormwater Control

Figure 2 shows the estimated eastern boundary of the post-mining contributing watershed area associated with the Sycamore Tailings and Barrel Waste Alternative. For this alternative, it was assumed that the following stormwater controls would be applied:

- Stormwater drainage channels would be placed at every 100 feet of vertical rise on the outer slopes of the Waste Rock Storage Area. Stormwater would flow off these benches to stilling pools/drop-structures located on the outer slopes. Drop-structures located on the northern half and a portion of the western half of the Waste Rock Storage Area would convey flows to the USGS Gauging Station location. Drop-structures would also be placed on the southern half of the Waste Rock Storage Area.
- Stormwater runoff generated from the southern face would be routed to containment areas located between the toe of the Waste Rock Storage Area and adjacent natural ridge areas. These areas would generally be sized to contain the Probable Maximum Flood (PMF) event. Due to the configuration of the Waste Rock Storage Area, contouring and the creation of wide benches to pond stormwater runoff may not be achievable under this alternative.
- Stormwater runoff generated from the top surface of the Waste Rock Storage Area would be routed to stormwater control basins located on the southern edge of the facility. Decant structures would then pass overflow to stilling pools/drop-structures located on the south face. Stormwater control basins would not be located above the closed and encapsulated Heap Leach Facility.
- Construction of a portion of the AMEC Earth & Environment, Inc. (AMEC) diversion channel is assumed. This diversion routes stormwater runoff around the Plant Site area to McCleary Canyon Wash drainage, which eventually drains to the USGS Gauging Station.
- The Pit Diversion, located to the south of the Open Pit, is expected to discharge to an area located between the toe of the Waste Rock Storage Area and an adjacent natural ridge and will not drain to the USGS Gauging Station.

There are no flow-through drains associated with the Waste Rock Storage Area under the final closure configuration.

Reclamation Sequencing – Year 10

Concurrent reclamation of the south and southeast faces of the Waste Rock Storage Area is anticipated. Concurrent reclamation of the north side of the Waste Rock Storage Area is not anticipated due to operation of the Heap Leach Facility. A haul road may be required on the southwest face of the Waste rock Storage Area, allowing for only partial concurrent reclamation, as practical.

Reclamation Sequencing – Ultimate Year

Concurrent reclamation of the south and southeast faces of the Waste Rock Storage Area is anticipated. Concurrent reclamation of the north side of the Waste Rock Storage Area will begin once the Heap Leach Facility is closed in Year 10. A haul road may be required on the southwest face of the Waste Rock Storage Area, allowing for only partial concurrent reclamation, as practical.

Sycamore Tailings and Barrel Waste Alternative – West Side – Sycamore Tailings – Stormwater Control and Reclamation Sequencing

Stormwater Control

For Sycamore Tailings, it was assumed that the following stormwater controls would be applied:

- Stormwater drainage channels would be placed at every 100 feet of vertical rise on the outer slopes of the Dry Stack Tailings Facility. Stormwater would flow off these benches to natural ground and drain to the Stormwater Convergence Point.
- Storms up the 500 year, 24-hour storm event would be retained on top of the Dry Stack Tailings Facility in large, depressed areas. Storm runoff in excess of this event would be routed to side channels cut into natural ground.

There are no flow-through drains associated with Sycamore Tailings under the final closure configuration.

Reclamation Sequencing – Year 10

Concurrent reclamation of the west slope of the Dry Stack Tailings is anticipated to occur since access to the face will move up the face as buttress construction advances.

Reclamation Sequencing – Ultimate Year

Concurrent reclamation of the west slope of the Dry Stack Tailings is anticipated to occur since access to the face will move up the face as buttress construction advances.

Areas not reclaimed during operations will be reclaimed at closure.

"Marcie Bidwell" <mbidwell@swca.com>
12/08/2008 04:59 PM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc
bcc
Subject RE: Rosemont - Meeting with Daniel Roth

OOhhhh, this presentation is key. So we need to talk tomorrow then. Have you started to figure out your presentation?

I will finish the outline of tasks tonight, and send it to you for thoughts/ideas.

Thanks for cueing me in!
Marcie

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Monday, December 08, 2008 11:06 AM
To: Marcie Bidwell
Cc: Debby Kriegel
Subject: RE: Rosemont - Meeting with Daniel Roth

Yikes...I'm sorry if I was not clear about the alternatives issue. We're just supposed to avoid using the word "alternative" for now. We need to explore design options for the waste rock ASAP. Please keep working actively, and I recommend meeting with Daniel Roth immediately (can you or Tom please set this up?). It's so important to get team members working that Bev asked me to make a presentation to the extended ID team on Wednesday. She wants me to show the team what scenery-related stuff is being explored in hopes that other team members will do similar stuff. When we get to discussing alternatives in February, we need to have our ideas ready.

Can you provide a schedule/proposal (and budget for Tom) this week? In your schedule, please include your thoughts on when you would need to fly down here.

Thanks.

"Marcie Bidwell" <mbidwell@swca.com>

12/08/2008 10:27 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc
Subject RE: Rosemont - Meeting with Daniel Roth

Agreed.

Will work with Terry and explore the trail landscape.

I know the Conserv. Corp that is working on the trail is really fired up about it (even heard about it all the way up here), so want to make sure that we are using good data and including this in our analysis (even if its to say "not visible").

Thanks for the number,
Marcie

(budget will be done this week; due to the FS feedback on not getting ahead of the process for alternatives, Tom suggested that I look to the beginning of January for my next visit- does that work for you?)

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Monday, December 08, 2008 8:51 AM
To: Marcie Bidwell
Subject: RE: Rosemont - Meeting with Daniel Roth

Terry's number is (520) 388-8356. Ask her about the Arizona Trail layer...I think our GIS data is consistent with the relocated trail on the ground, but please verify that with her. If you're asking about the portion of the trail that is off-forest, I don't know what the status is. I'll check into that. It seems unlikely that the project would be visible from the area north of the Forest boundary. Thanks.

"Marcie Bidwell" <mbidwell@swca.com>

12/04/2008 07:09 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc
Subject RE: Rosemont - Meeting with Daniel Roth

Debby,

That sounds great.

Will the trails layer include the proposed Arizona Trail where it has not yet been constructed?

We also discussed another visual layer, but my notes are not here with me.

I accidentally deleted the number for Terry- could you send it to me?

Thanks,

Marcie

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Tuesday, December 02, 2008 9:21 AM
To: Marcie Bidwell
Subject: RE: Rosemont - Meeting with Daniel Roth

I asked Terry to get the following GIS layers to you:
VQOs
Wilderness
Roads & Trails
ROS
Recreation points, lines, and polygons
SMS: CLs (including both on and off-forest roads), SA, SIO, and ESI

Let us know if there are others you'd like!

Be aware that I'll be refining the SMS stuff sometime this winter, so there will be an updated version of this stuff. The Coronado has a new mid-scale vegetation map and improved roads data, and I'm planning to use a computer viewshed mapping program.

Thanks.

Debby

"Marcie Bidwell" <mbidwell@swca.com>

12/02/2008 08:54 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>
cc "Tom Furgason" <tfurgason@swca.com>
Subject RE: Rosemont - Meeting with Daniel Roth

Debbie,

She makes good points~ I am available for a call anytime the week following the 5th. Or on the 4th if we want to strategize.

I received a call from the FS GIS person about data layers while I was away for a funeral. I will return that call today. However, if you have suggestions about what layers I should receive, please pass them forward.

Thanks,
Marcie

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Monday, December 01, 2008 2:21 PM
To: Marcie Bidwell
Cc: Tom Furgason
Subject: RE: Rosemont - Meeting with Daniel Roth

I'm no longer available on Dec 5. Have either of you had a chance to call Daniel? If the next couple of days won't work, how about next week?

Also, I was recently talking with Rita Laford (Deputy Forest Supervisor) about our meeting with Dale. She's fully supportive of our work, but mentioned that we should avoid the use of the word "Alternatives" for now. As we explore possible different ways to shape the waste rock and so forth, we should refer to these as design features (or something similar)...alternatives will come later. I tend to mentally jump ahead, and guess I need a NEPA-minded person like her to remind me about this stuff.

Thanks.

"Marcie Bidwell" <mbidwell@swca.com>

11/20/2008 10:49 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>, "Tom Furgason" <tfurgason@swca.com>

cc

Subject RE: Rosemont - Meeting with Daniel Roth

Debbie,

I can be available on the 3rd, and so far I have nothing that I cannot move. So make a suggestion about when you are available.

I will coordinate with Tom for Daniel's contact.

Thanks,
Marcie

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Tuesday, November 18, 2008 8:46 AM
To: Marcie Bidwell; Tom Furgason
Subject: Rosemont - Meeting with Daniel Roth

Hi Tom and Marcie:

I spoke with Bev, and she says that it's ok for me or Marcie to contact Daniel Roth at M3. Bev would simply like us to let her know when we meet with him.

We're meeting with Dale next week, and I'm out of the office the following week. I propose that we set something up with Daniel for the week of Dec 1. I'm available Dec 2, 3, and 5. The 3rd would be ideal...Bev told me that there won't be a Rosemont meeting that day. Would any of these dates work for you two?

Tom, would you please get Daniel's phone number to either me or Marcie so we can call him?

Thanks!

Debby

"Marcie Bidwell"
<mbidwell@swca.com>
01/20/2010 04:41 PM

To "Debby Kriegel" <dkriegel@fs.fed.us>, "Tom Furgason" <tfurgason@swca.com>
cc "Melissa Reichard" <mreichard@swca.com>, "Trent Reeder" <treeder@swca.com>
bcc
Subject Update on Visual Resouces

Hello Debby,

I wanted to bring an update to you on visual scope, budget, and a few other details.

The meeting proposed for this week has been postponed for now, and I would like to propose a meeting next week (Thursday or Friday, Feb 28-29 or following Monday) to finalize direction on simulations (colors, textures, planting, etc) for SWCA's analysis and scope.

1. TT Scope
Rather than having a meeting, Rosemont and TT caught Tom and I on the phone to just go over the basics. In talking with Rosemont and Tetra Tech, I have a better understanding of what Sage and Tetra Tech has been scoped to do (summarized as the following bullets). I have encouraged TT to submit this scope to you so that you are aware of their activities and can give any guidance that would be beneficial to their project. They said that their scope includes:

- **KOP Viewshed Analysis** for up to 8 KOPs with views of disturbed ground for all 6 alternatives
- **Simulations from 2 KOPs of full vegetation growth and a mid-stage vegetation growth** (MM 46 and MM 44) (like the image in the December deliverable for the land forming tour).
- **Simulations from Overview Image** (Aerial photo or Oblique Angle) with full vegetation growth and a mid-stage vegetation growth (similar objective of showing final vegetation but from the birds-eye view).

not much value

-yrs +
-based on what? (seeding?)
yrs
rain

Stop/ Get data

how will they simulate the pit?

Additionally, you may be interested in providing feedback as to the process that Sage is using for their simulations. For instance, I am not sure how full vegetetation and mid-stages are being defined or what they are attempting to show. If some of the list above you do not see as useful, there may be other ways to direct this effort. Its up to you.

2. COMBINED LIST OF KOPs
We discussed the KOPs that the USFS had selected in June, compared them with the KOPs that TT was working with. These KOPs continue to provide the coverage for the top priority KOPs that you selected, and fill in some data gaps for the KOPs that were on the USFS list (mainly Mt. Wrightson and the AZ trail).

Their Mt Wrightson not on peak?

From this, TT and SWCA would like to propose the following "combined list" for your consideration. To reduce confusion for everyone, the following KOPs and naming conventions were recommended (also in attached excel file for better formating):

FINAL Name	Location	USFS KOP Name	TT KOP Name
KOP 01	MM 46- Picnic Table Pull Off	KOP 4	*Replaces* KOP-3
KOP 02	MM 44- Scenic Pull Off	KOP 12	*Replaces* KOP-1
KOP 03	Arizona Trail	KOP 5	*Replaces* KOP-4
KOP 04	Mount Wrightson- Four Spring Trail		*Replaces* KOP 17 KOP-11
KOP 05	North of Sonoita Junction	KOP 8	KOP-12
KOP 06	Las Cienegas BLM Kiosk/ Empire Ranch Entry	KOP 11	(new)
KOP 07	Hilton Ranch Road rural residential area	KOP 16	(new)
KOP 08	Box Canyon Road/ Arizona Trail Crossing (new)	KOP-7	

SWCA #s? or TT →

go over w/Marcie

KOP 09 Sahuarita Road KOP 20 (new)

This is just the short list. The other USFS KOPs would still be used for analysis.

Several of TT's KOPs are very similar to the USFS selected ones, and these were matched. A few fill in data gaps from USFS list (Mt. Wrightson and Box Canyon). Several of TT's KOPs would then be dropped from the list, as they were additional to the USFS ones (upslope of the pit, Gunsight,etc) unless you feel differently.

on trail? where?

major sim, but they're just doing viewshed?

3. Viewshed Analysis- presentation

Tetra Tech would like some direction from the USFS on how to present the viewshed analysis to fit into the overall analysis process.

3.1. What KOPs should they use? We discussed that they would use the top 8 KOPs, what I am calling the "short list" from your strategy for the detailed analysis.

just for viewsheds?

3.2. How should they present the results?

I suggested the following options:

- Views of Disturbed Area (this is what TT diagrams show now,only views of inside the active mining area)
- Full Cone of Vision (typical presentation, one KOP per map showing the full spectrum of their view)
- Multiple KOPs overlain on one map, the "cumulative viewshed analysis" that you and I discussed last week.
- Just deliver the data, not maps, to the admin record and SWCA can map it.

Discuss w/marcie

4. SWCA Scope and Analysis- any adjustments?

Once we have a chance to discuss these, let me know if you see any adjustments to SWCA's scope of work. I will not proceed with viewshed analysis maps, unless you feel we should still do them.

<<KOP Combined List.xls>>
That's it for now!!
Marcie

Marcie Demmy Bidwell
Environmental Planner
130 Rock Point Drive, Suite A
Durango, Colorado 81301
Office: 970.385.8566
Fax: 970.385.1938

www.swca.com KOP Combined List.xls

What would help you?
- Simulate the plant?
- etc.

KOP LIST

Both FS/TT

KOP NAME FINAL	Location	USFS KOP Name
KOP 01	MM 46- Picnic Table Pull Off	KOP 4
KOP 02	MM 44- Scenic Pull Off	KOP 12
KOP 03	Arizona Trail	KOP 5
KOP 04	Mount Wrightson- Four Spring Trail	*Replaces* KOP 17
KOP 05	North of Sonoita Junction	KOP 8
KOP 06	Las Cienegas BLM Kiosk/ Empire Ranch Entry	KOP 11
KOP 07	Hilton Ranch Road rural residential area	KOP 16
KOP 08	Box Canyon Road/ Arizona Trail Crossing	(new)
KOP 09	Sahuarita Road	KOP 20

Highest priority

Lower

Marcie will renumber her whole list!

Marc Kaplan/R3/USDAFS
09/21/2009 01:12 PM

To "Marcie Bidwell" <mbidwell@swca.com>
cc "Debby Kriegel" <dkriegel@fs.fed.us>, "Stephen Leslie" <sleslie@swca.com>, treeder@swca.com
bcc
Subject RE: Fw: Rosemont - Updated Map of Visually Sensitive Travelways

Here is the shapefile for concern levels 1 through 3 in the Santa Ritas and surrounding major roads. This file has not been cleaned of topological errors and is still being reviewed to make certain correct attributes are sticking. NAD 83 UTM 12 This shapefile is still under review, but is the most recent we have.

Thank you

Marc

Marc G. Kaplan
Planner Analyst
Coronado National Forest
300 W. Congress, Tucson, AZ 85701
520-388-8358

"Marcie Bidwell" <mbidwell@swca.com>

09/16/2009 09:39 AM

To "Marc Kaplan" <mkaplan@fs.fed.us>, "Debby Kriegel" <dkriegel@fs.fed.us>
cc "Stephen Leslie" <sleslie@swca.com>
Subject RE: Fw: Rosemont - Updated Map of Visually Sensitive Travelways

Marc,

Please CC treeder@swca.com on Friday, as I may be away from the office.

Thank you,
Marcie

From: Marc Kaplan [mailto:mkaplan@fs.fed.us]
Sent: Wednesday, September 16, 2009 10:32 AM
To: Debby Kriegel
Cc: Marcie Bidwell; Stephen Leslie
Subject: Re: Fw: Rosemont - Updated Map of Visually Sensitive Travelways

I expect to send by COB this Friday.

Thank you

Marc

Marc G. Kaplan
Planner Analyst
Coronado National Forest
300 W. Congress, Tucson, AZ 85701
520-388-8358

Debby Kriegel/R3/USDAFS

09/16/2009 07:09 AM

To Marc Kaplan/R3/USDAFS@FSNOTES

cc

Subject Fw: Rosemont - Updated Map of Visually Sensitive Travelways

Hi Marc,

Would you please send the GIS shapefiles for the Santa Rita Concern Level 1, 2, and 3 travelways to 2 people at SWCA?

mbidwell@swca.com
sleslie@swca.com

Thanks!

Debby

----- Forwarded by Debby Kriegel/R3/USDAFS on 09/16/2009 07:07 AM -----

"Marcie Bidwell" <mbidwell@swca.com>

09/15/2009 08:38 AM

To "Stephen Leslie" <sleslie@swca.com>, "Debby Kriegel" <dkriegel@fs.fed.us>

cc "Trent Reeder" <treeder@swca.com>

Subject RE: Rosemont - Updated Map of Visually Sensitive Travelways

Debby,

Steve's points apply to visual as well. Visual and rec AE was submitted back in June/July.

We definitely will need the GIS layers that you used to create this map to analyse the CL's. Please forward those at your nearest convenience (or have Terry contact Trent).

Thanks,
Marcie

From: Stephen Leslie
Sent: Tuesday, September 15, 2009 9:35 AM
To: Debby Kriegel; Marcie Bidwell
Subject: RE: Rosemont - Updated Map of Visually Sensitive Travelways

Debby,

This looks good. Just so you know, I have already submitted the initial draft affected environment for recreation. I'll keep this information handy for when we respond to any other necessary changes. Have you provided the travelways data in GIS yet? We'll need that in order to quantify miles of travelways that would be impacted by each alternative.

Thanks,
Steve

From: Debby Kriegel [mailto:dkriegel@fs.fed.us]
Sent: Tuesday, September 15, 2009 8:06 AM
To: Marcie Bidwell; Stephen Leslie
Cc: Debby Kriegel
Subject: Rosemont - Updated Map of Visually Sensitive Travelways

Attached is an updated map showing Concern Level 1, 2, and 3 travelways for the Santa Rita Mountains. Our original CL map was 10 years old. The Rosemont project inspired me to review this map, discuss it with our district field person, and make a few changes.

CL1 travelways are most sensitive. CL2 are moderately sensitive. CL3 are least sensitive.

Marcie: Please use this as you write the affected environment section for visual quality. I also sent this map to Jimmy Pepper.

Steve: CL1 roads and trails are our most popular recreation routes. This should be useful as you write affected environment for recreation, and possibly will be a good starting point for exploring restoration of road connections/loops post-mine.

Thanks.
[attachment "srita_travelways_092109forSWCA.shx" deleted by Debby Kriegel/R3/USDAFS]
[attachment "srita_travelways_092109forSWCA.dbf" deleted by Debby Kriegel/R3/USDAFS]
[attachment "srita_travelways_092109forSWCA.prj" deleted by Debby Kriegel/R3/USDAFS]
[attachment "srita_travelways_092109forSWCA.sbn" deleted by Debby Kriegel/R3/USDAFS]
[attachment "srita_travelways_092109forSWCA.sbx" deleted by Debby Kriegel/R3/USDAFS]
[attachment "srita_travelways_092109forSWCA.shp" deleted by Debby Kriegel/R3/USDAFS]
[attachment "srita_travelways_092109forSWCA.shp.xml" deleted by Debby Kriegel/R3/USDAFS]

"Tom Furgason"
<tfurgason@swca.com>
12/28/2009 03:12 PM

To <kriegel98@msn.com>
cc "Beverley A Everson" <beverson@fs.fed.us>, "Melinda D Roth" <mroth@fs.fed.us>, "Dale Ortman PE" <daleortmanpe@live.com>, "Debby Kriegel"
bcc
Subject FW: Rosemont Copper Project Landform Design Study Proposal

Debby,

Attached is Horst's proposal. I'll review this in the next day or so. Happy New Year!

Tom

From: Horst [mailto:hjschor@jps.net]
Sent: Monday, December 28, 2009 3:08 PM
To: Tom Furgason
Subject: Rosemont Copper Project Landform Design Study Proposal

Tom,

Attached is the requested proposal for Rosemont.

Let me know if there are any questions.

Horst Rosemont Copper Project Landform Design Study Proposal.doc

HORST J. SCHOR

Creative Concepts in Land Development and Landforming/Geomorphic Restoration

December 28, 2009

Mr. Tom Furgason
Program Director
SWCA Environmental Consultants
343 West Franklin Street
Tucson, Arizona 85701

Subject: Rosemont Copper Project Landform Design Study Proposal

Tom:

In accordance with requests from SWCA and The Coronado National Forest Service for a Landform Design Study, I have prepared the following proposal:

Develop an alternative design for the placement of rock waste and tailings from the expected mine excavation of the Rosemont Copper Mining Project incorporating the following objectives as outlined in our meeting of December 11, 2009 at your office.

1. The new design will be based on Landforming/Geomorphic principles as detailed in my book *"Landforming: An Environmental Approach to Hillside Development, Mine Reclamation and Watershed Restoration"*

2. As such the design will attempt to subdue the monolithic dump structure approach of traditional, conventional designs characterized by linear and planar exteriors and surfaces

3. To achieve this special attention will be paid to the footprint outline, transition zone between natural topography and manmade fills, slope designs, top of fill configurations and systems of drainage control

4. Strategic placements of rock as erosion control measure to reduce flow velocities and as debris entrapments

5. Utilization of excavated rock as "implants" to replicate natural conditions

The work and product will include the following:

1. An analysis of the existing topography (to be provided by engineers) to fully understand the existing geomorphology including landforms, runoff patterns, vegetation distribution and other natural features to develop analogs for incorporation into a new design

2. A to scale fill disposal overlay plan over the existing topography (to be provided by engineers) incorporating the above criteria

3. Alternative studies to either concentrate fill disposal in one location, i.e. Barrel Canyon (primary focus) or possible partial dispersion into McClean and/or Sycamore Canyons

4. Necessary earthwork calculations to assure adequate capacity in the design to accommodate the projected 1.2 billion cubic yards of excavation

5. Prepare cross-sections in strategic location

6. Typical details for drainage control including, erosion and flow velocity reduction, detention and desilting measures

7. Coordinate design of land/slope forms and runoff patterns with George Annandale to incorporate constraints placed by excavated mine material and local monsoonal rainfall concentrations. Due to the uncompacted nature and the height of these embankments this will be critical input

8. Typical details for rock placements to emulate natural analogs

9. Typical details delineating revegetation opportunities and provide detail for placement

10. One meeting in Tucson and presentation of plans and discussions with parties involved

11. Copies of plans to participants

Time to perform above work: 30 days

Consulting Fee for above services including one trip to Tucson: $27,000

Travel expenses for one trip to Tucson: $1,500

I will need the base topography prior to initiating any work.

Please advise how you wish to proceed.

Sincerely,

Horst J. Schor

626 NORTH PIONEER DRIVE • ANAHEIM, CALIFORNIA 92805 • USA
TELEPHONE: (714) 778-3767 • FAX: (714) 778-1656 • E-MAIL: hjschor@jps.net

Rosemont EIS – Recreation Work Required

Debby Kriegel, November 10 (revised Dec 18), 2009

1. Spend time in the field. Get familiar with the project site, proposed project, and existing recreation sites and activities in the northern Santa Rita Mountains. I recommend:

   - Take Rosemont's mine tour (Wed & Fri? Check their website).
   - Spend 1-2 days visiting the major recreation sites in the area. Drive Hwy 83 to Sonoita and through Empire Cienega RCA. Hike a short section of the Arizona Trail in the Rosemont area. Drive at least one OHV loop road in the Rosemont area (including Barrel Canyon), across Box Canyon Road, and into Madera Canyon.
   - Consider visiting nearby Wilderness areas as appropriate/needed.

2. Review the following items for recreation direction, citations, etc.:

   - Public comments (Recreation report on WebEx)
   - FSM/FSH 2300
   - Coronado National Forest Plan
   - AZ Trails 2010
   - BLM's Las Cienegas RCA Plan (including the approved Arizona Trail alignment through the area)
   - National Visitor Use Monitoring (NVUM) and Statewide Comprehensive Outdoor Recreation Plan (SCORP)
   - Preserving the Santa Rita Rosemont Ranch (Pima County document available on WebEx).
   - Corridor Management Plan for the Patagonia-Sonoita Scenic Road
   - The Sonoran Desert Conservation Plan (including the major documents on the website http://www.pima.gov/CMO/SDCP/, as well as the reports "Recreation Impacts in Eastern Pima County" and "Overview of Natural Resource Based Outdoor Recreation in Eastern Pima County".

3. Research the following (most will require field time and meeting with local people):

   - Possible ways to offset the loss of recreation opportunities in the area for 20+ years (especially OHV touring and wildlife recreation). In addition to the obvious direct effects, indirect effects would include displacing OHV users from the Rosemont area into areas south of Box Canyon Rd, which is popular with equestrians, causing more user conflicts. Review Art Elek's proposal for adding roads and OHV facilities on FS lands east of Hwy 83, then meet with Art and spend time in the field determining what might be possible. Participate in the process for identifying lands off-forest that could be provided by Rosemont to use by birders, hunters, etc. Debby is hosting a meeting on Nov 19 with Arizona Game & Fish to begin discussions. Visit each possible site to determine recreation values.
   - OHV improvements funded by Arizona State Parks. Contact Bob Baldwin at Arizona State Parks to get information on grants(amounts, dates, improvements) were provided for OHV facilities in the Rosemont area, and what obligations the Forest Service has to maintain these improvements and keep them available to the public.
   - Hiking opportunities and use in the Rosemont area, including the Arizona Trail, the 16 Green Valley Hiking Club (GVHC) hikes in the Rosemont area, the Greaterville Trail, and options for post-mine trails in the area. Meet with GVHC. Debby is meeting with Arizona Trail Association on Nov 12 to begin discussion of the mine's impacts to the Arizona Trail. Depending on the outcome of this meeting, visit

alternative re-routes and provide post-mine recommendations. Meet with the Arizona Trails Association and spend time in the field as needed. Assess current use on the trail and describe how designation as a National Scenic Trail (NST) is likely to increase use, whether a mine would affect the scenic designation, and if there are national guidelines that could be helpful; Contact Tom Dwyer (Forest Service Wilderness, Trails, Wild & Scenic Rivers, Dispersed Rec Program Manager, SW Regional Office, 505-842-3233) and Johnathon Stevens (Forest Service Congressional Designated Areas and Trails Program Manager, Washington Office). Consider safety along the trail if the location follows the toe of 700 ft tall waste rock piles. Research whether NST status would be jeopardized by the mine and/or what mitigation/relocation would be necessary. Determine whether access points to the trail would be lost.

- Research Inventoried Roadless Areas and footprints and requirements for analysis (e.g., Effects on Roadless Character Report, if any roads proposed in IRA, Secretary of Agriculture approval needed, etc.)
- Restoration of popular road loops and road connections (for dispersed recreation and OHV touring) through or around the project area during mining and post-mine. Get familiar with the FS system roads and topography (existing and proposed). Get a copy of the proposed action for Travel Management for the Santa Rita Mountains (which should be available in mid-December). Consider also access across the ridge (currently at Gunsight Pass). Evaluate where existing visitors will likely go and whether OHV routes east of Hwy 83 would be helpful (see first bullet). Consider whether roads across the mine's waste rock and tailings would help restore recreation access and routes. Spend time in the field as needed. Provide recommendations for the proposed action and each alternative. Consider that the road into Sycamore Canyon has a locked gate at the bottom of the canyon and currently does not provide a loop or through-route.
- Recreation special use permittees in the Rosemont area that may be affected by the mine. Two known permittees include an equestrian outfitter guide, and a hang gliding operation in Box Canyon. Provide complete information on others (Archers and Bow hunters club, Muzzleloaders club, etc.). Contact Duane Bennett to discuss further.

4. See my comments on the "Rosemont Project EIS Draft Chapter 3 Outline, October12, 2009" and additional comments from Tami Emmett.

5. Follow up on the status of revision of Tetra Tech report "State Route (SR) 83 Scenic Road Evaluation for Rosemont". On September 14, 2009, Debby provided comments to Rosemont. Rosemont or SWCA will need to contact Arizona Department of Transportation (ADOT) Scenic Roads Program staff to discuss the mine and determine whether the scenic road status would change.

6. Provide a specialist report for recreation that includes the following. Summarize as needed for the EIS. Include appropriate graphics, maps, photos, charts/figures, etc.:

- Affected environment. Include relevant information from above items.
- Environmental consequences analysis for the proposed action and each alternative. Include analysis of all mine impacts: pit, plant, waste rock and tailings piles, roads (including lost access, traffic, litter, etc.), power and water lines, displaced recreation, etc. Use information from site visits, research, and reviews above. Consider impacts during the active mine life and post-mine. Reference appropriate visual simulations. Utilize both qualitative (descriptive) and quantitative (acres of ROS, miles of road, miles of trail, number of rec sites lost, etc.) analysis.

- Cumulative effects analysis (a list of past, present, and reasonably forseeable future actions should be available soon).
- Recommended mitigation.

Debby Kriegel/R3/USDAFS
03/04/2009 09:41 AM

To "Marcie Bidwell" <mbidwell@swca.com>
cc Debby Kriegel/R3/USDAFS@FSNOTES
bcc
Subject Rosemont Visual and Recreation Resource Analysis

Marcie:

I'm attaching some of my more recent specialist reports from some other projects. This might be helpful for you to see the topics I normally cover in my analyses, and you might want to use these general formats as you start writing stuff.

Keep in mind:

- Most of these are for projects that benefit visual quality, and the TEP project's negative effects pale in comparison with impacts that would be caused by the proposed Rosemont project, so obviously there will be considerably more work/analysis/words/etc. for Rosemont. Plus, for Rosemont there will need to be a substantial analysis and discussion of waste rock pile re-shaping and alternatives.
- We might complete our Forest Plan revision before the Rosemont EIS is complete. If we do, then we will likely be using SMS and Scenic Integrity Objectives (not VQOs), so I recommend using both systems throughout your work.

Thanks.

Debby

[attachment "TEP_SMScumulativeimpactsreport.doc" deleted by Debby Kriegel/R3/USDAFS] [attachment "FireMgmtSpecialistReportSMS.doc" deleted by Debby Kriegel/R3/USDAFS] [attachment "PERP_Rec_Report_May_2006.doc" deleted by Debby Kriegel/R3/USDAFS] [attachment "Tumacacori_Habitat_Improvement_Visual_Quality_Report_Feb_2009.doc" deleted by Debby Kriegel/R3/USDAFS] [attachment "Oracle_Ridge_Visual_and_Rec_Report_Nov_2007.doc" deleted by Debby Kriegel/R3/USDAFS]

"Marcie Bidwell"
<mbidwell@swca.com>
11/04/2009 07:28 AM

To "Debby Kriegel" <dkriegel@fs.fed.us>, "Tom Furgason" <tfurgason@swca.com>
cc
bcc
Subject Rosemont Visuals update

Debby,

Sorry this is not more detailed, but its all that I had time for on short notice.

1. Update on current funding and non-funded items

2. Request for any new holes

- As we have added new KOPs (in Tucson, any other potential places), we need more field time to document.
- My original specialist report did not envision 24 KOPs, and just the regular analysis of 24 KOPs takes a lot of time
- Bounds of Analysis- if this ends up being another round of viewshed analysis in GIS to create a viewshed bounds, this takes time (about 6 hours for such a large area)

3. Connection between Horst and original plan (and my participation).

- Until you have had a chance to discuss this through further with Horst, I think the 3F task is the right one. There will be a lot of time required to create 3D models of the alternatives and do shaping to all of them. As we have only briefly discussed this, not sure what RCC and USFS has agreed to do. But to recreate each 3D model from a sketch can take 6-10 hours, depending on how good the sketch is to begin with. So you can see that adds up quickly.

Visual RCC Scope Update- See Attached- Does this work (see 3f)?

- **Update attached for your meeting.**
- I have never actually assigned any numbers to the tasks that are listed as unfunded from what I can tell. Still looking.

<<Visual_Resource_Proposal_2009-11-04 Update.pdf>>

Marcie Demmy Bidwell
Environmental Planner
130 Rock Point Drive, Suite A
Durango, Colorado 81301
Office: 970.385.8566
Fax: 970.385.1938

www.swca.com Visual_Resource_Proposal_2009-11-04 Update.pdf

Rosemont EIS - Visual Funding Update 11/03/2009 on Tasks Remaining unfunded from 4/15/2009 DRAFT Strategy for Visual Resource Analysis

Note: This document summarizes update on funding for unfunded tasks, responsibilities, and schedule requested by USFS as of 4/15/2009.

Italics = Alternatives Analysis funded; ***BOLD ITALICS: HORST SCHUL FUNDING REQUEST;*** **BOLD = Simulations Request (submitted 07/15/2009 for MPO only);** Regular Font = Not funded 4/15 and no additional request to date.

Task	Description of Work	SWCA responsibilities	USFS responsibilities	Proposed Completion Date	Associated EIS Timeline Step & Date	Status	Within Current Visuals Contract	Notes
1g	Conduct site visits of other mine sites to glean best management practices for project proposal	Visit mining sites; arrange tours for USFS, SWCA and others	Attend site visits as appropriate	Summer 2009		Not funded as of 4/15/2009	N	
3a	*Identify alternate locations to potentially place waste rock and tailings (unseen or seldom seen locations with few wildlife, archaeology, and other resource concerns). Consider using a McHarg-like mapping process.*	Provide maps. Site visits as needed.	Provide wildlife and archeology data as needed and review maps		Alternatives	*Alternatives Analysis Funding*	N	Consider visual, wildlife, cultural, watersheds, 4 springs, riparian, recreation sites, TES, access, etc.
3b	**Create 3-D computer simulations of existing landscape and proposed mine.**	Provide simulations	Review simulation		Alternatives	**Simulations MPO Change Order Request**	N	
3d	*Prepare a presentation for the workshop to show site analysis and existing conditions, topography, and landscape patterns for workshop. Incorporate products from step 3a and 3b.*	Prepare presentation	Review presentation		Alternatives	*Alternatives Analysis Funding*	N	
3e	*Facilitate a workshop with USFS landscape architect, other USFS and SWCA staff (wildlife biologists, hydrologists, recreation specialists, transportation specialist, etc), and remediation and mining experts (potentially RCC) to generate initial ideas to explore that achieve USFS design goals (visual, vegetation, wildlife, habitat, hydrology, recreation setting, transportation). Potential areas to address: best locations for waste rock and tailings piles, shaping of waste rock and tailings piles, treatment of side slopes, etc. ACTION ITEMS: Brainstorm current resource values and landscape patterns; Identify opportunities and constraints for resources; and demonstrate some concepts with simple clay model.*	Lead and facilitate workshop	Participate in workshop		Alternatives	*Alternatives Analysis Funding*	N	Possibly utilize a facilitator to direct the workshop and outcomes. Invitees to the workshop would include specialists with interest in constructively critiquing the proposed action and identifying potential design responses. Possibly develop a rough, quick cardboard model of the Existing Topography and/or Proposed Action (consider paying a student). Consider reshaping pile only within Barrel Canyon drainage, but also look for alternatives that would lessen resource impacts. Consider also future roads and trails through the area (including on waste rock piles) after mine is closed.
3f	***Explore and refine concepts identified in workshop for alternative placement and shaping of waste rock and tailings piles that better protects and mimics natural landforms and valued landscape character. Explore radically different shaping to avoid the monolithic form, flat top, and even side slopes. Consider options that may benefit wildlife habitat and other resources and those that might mitigate impacts of the pit (such as removing the most visible western edge). If 3-D computer modeling is not sufficient to complete this step, utilize other methods such as a topographic model.***	Lead process and complete work with Horst Schul as subcontractor. Provide ideas to IDT during discussion of alternatives.	Review and advise. Participate in 3-D computer modeling sessions.		Alternatives	***HORST SCHUL FUNDING REQUEST***	N	Improve and resolve placement issues for alternative locations for the waste rock and mine tailings for the Alternatives. Work with Horst Schul to improve placement designs, refine shaping, contouring, and revegetation concepts for the alternatives.
3g	**Select tentative key viewpoints for simulations. Document these locations with photography and GPS. Prepare "before" images.**	Provide draft and final. Site visits as needed.	Review and comment		Alternatives	**Simulations MPO Change Order Request**	N	Consider results of task 3a.
3h	**Create one or more 3-D computer simulations of potential landscape forms and refined landscape ideas for the proposed mine including waste rock and tailing pile forms.**	Provide 3D model and simulations	Review simulation		Alternatives	**Simulations MPO Change Order Request**	N	
3i	**Show results of step 3h to workshop group and get additional feedback.**	Host a meeting	Attend meeting		Alternatives	**Simulations MPO Change Order Request**	N	May need to alter simulation and/or create additional simulations following this step.
3j	**Prepare Photo Real or artist rendered simulation drawings or video simulation driving down scenic byway and/or other key travelways.**	Provide 3D Simulations	Review simulation		Alternatives	**Simulations MPO Change Order Request**	N	RCC may want to consider having a top notch visualization done by a high end company

"Marcie Bidwell"
<mbidwell@swca.com>
01/27/2010 01:22 AM

To "Marcie Bidwell" <mbidwell@swca.com>, "Keepers, Ashley" <Ashley.Keepers@tetratech.com>, "Krizek, David" <David.Krizek@tetratech.com>, "Debby Kriegel"
cc "Trent Reeder" <treeder@swca.com>, "Michael Andres" <mandres@swca.com>, "Tom Furgason" <tfurgason@swca.com>
bcc

Subject RESEND: Tetra Tech Viewshed and KOPS - previous analysis - descriptions

Hello Debby and all~

I am attaching a better map for the Cumulative KOP example (that is why I attempted to recall the original message). The reason that I am replacing the original one is that the KOPs were a combination of old and new.

This map is using the old KOPs as an example. The viewsheds were completed for the old KOPs and so if I replace them, the views do not match. This example is of the existing conditions, showing only the footprint of the MPO for reference.

Additionally, all of the 8 KOPs and their GPS coordinates are included (combined Tt and USFS).

In review of the proposed combined list that were to be approved by the USFS, the Arizona Trail KOP that was proposed for the AZ trail views will be outside of all of the alternatives and it should therefore work for USFS analysis (until a potential realignment is selected).

Secondly, the Mt Wrightson KOP (GPS location) along Four Spring Trail should also work, however the photographs may not be of the right resolution and clarity (due to haze and clouds) to be useable. Tetra Tech is checking their files to see if they have other images, but these photos may need to be retaken if a simulation is to be produced from this location.

Thank you, let me know if you have any questions
Marcie

From: Marcie Bidwell
Sent: Tuesday, January 26, 2010 12:21 PM
To: Marcie Bidwell; 'Keepers, Ashley'; 'Krizek, David'; 'Debby Kriegel'; 'Kathy Arnold'
Cc: Trent Reeder
Subject: RE: Tetra Tech Viewshed and KOPS - previous analysis - descriptions

Hello Kathy and David,

In discussing with Debby Kriegel the many options for presenting viewshed analysis data, the USFS would like to use a format that combines the many KOPs for eah alternative into one map for presentation (one map x 6 alternatives= 6 maps + existing conditions map). This allows a comparison of the alternatives across the many KOPs at a single glance.

I am submitting this map from SWCA as an example of how this can be presented. Let me know if you have questions on methodology to achieve adding the multiple viewshed analyses into one data layer that can be presented as below.

KOPS- In response to Rosemonts request to reduce the number of viewshed maps and analyses, the list may be shortened to the middleground areas (within ~ 5 miles of an alternative). The list is provided below in a previous email.

MAIN MAP- Shows detail in the ground disturbing areas (footprints of the alternatives), but the scale should be consistent for all maps (showing from Box Canyon up to the north of the project area).

INSET MAP- Should show the extent of the KOPs included in the analysis.

COLORS- flexible, but should include a hillshade or topographic background with a gradation for the number of KOPs that can view each pixel. There may be a way to show this in black and white, but the two gradients are important.

Lets discuss,
Marcie

From: Marcie Bidwell
Sent: Tuesday, January 26, 2010 8:24 AM
To: Keepers, Ashley; Krizek, David
Cc: Trent Reeder
Subject: RE: Tetra Tech Viewshed and KOPS - previous analysis - descriptions

Hello Ashley and David,

Trent and I will need to talk with you or someone at Tt to understand the data set that you sent us and what it does/does not entail. At a minimum we will need for Tt to send us a "legend" or list of layers that should be used in YR 10 and YR 20; it would be best if you could just create two geodatabases that are separate for YR 10 and YR20 so that we can be sure to use the correct layers for the correct scenes. We will contact you first thing this morning.

If the reclamation grading has not been finished for the tailing and waste rock piles, then hopefully we can start with the 10 YR simulations. Otherwise, we are just waiting on you, at this point.

As for KOPs, the KOP locations have been approved for all 8 KOPs.

- The Mt. Wrightson photograph will need to be redone if we are to use the image for a simulation, but the GPS point is approved.
- The Box Canyon point we can work with, and hopefully the photographs will not be too dark for simulation.
- The AZ trail at KOP 5 (SWCA original number) will be used for the MPO, and others that make sense. We may need to add another point for alternatives that do not show anything from that point. We will not know for sure which ones will not work until we get further into the analysis. I am hopeful for this KOP.

To present the KOPs, as detailed on Friday, USFS requests that the individual KOPs be presented on one map per alternative as a "cumulative viewhshed" or a "combined analysis of multiple viewshed analysis" map (title is negotiable). This will reduce the number of maps substantially.

Additionally, USFS said that the number of viewshed analyses could be reduced from the list of 8 to those KOPs approximately 5 miles or less from the proposed alternatives- that would include the following 6:

KOP 01	MM 46- Picnic Table Pull Off

KOP 02	MM 44- Scenic Pull Off
KOP 03	Arizona Trail
KOP 06	Las Cienegas BLM Kiosk/ Empire Ranch Entry
KOP 07	Hilton Ranch Road rural residential area
KOP 08	Box Canyon Road/ Arizona Trail Crossing

However, for Sycamore Alternative, we will need to create a similar short list for the western views that will show multiple views from the western perspective. I will get you those KOPs.

Finally, I will have Trent send along an example of the layout that the USFS has requested. The scale for the Multiple KOP viewsheds should be set to include the USFS boundary north of the project area to the Box Canyon Road in the large view and an inset that would show the larger area surrounding the alternatives to show the context. The focus of the map is to show the elements of the mine that will be visible from most places. In order to see this detail the closer scale for the larger image is required.

I suspect there will be questions, and we can discuss this further once the map arrives.

Thank you,
Marcie

From: Keepers, Ashley [mailto:Ashley.Keepers@tetratech.com]
Sent: Mon 1/25/2010 3:13 PM
To: Marcie Bidwell; Krizek, David
Cc: Trent Reeder
Subject: RE: Tetra Tech Viewshed and KOPS - previous analysis - descriptions

Hi Marcie,

The contours that we provided are not the reclamation contours. We are still waiting for the site grading from M3, then we can do the final grading.

The current layout of the MPO is unlikely, some of the benches will still remain. The most current version of our reclamation design that we are working on currently is a good example of what it will look like after it is reclaimed.

Hope this answers your questions.

I have a question for you, have you guys verified the final KOP locations we agreed upon last week after our meeting yet? (the 8 we chose using SWCA,Tt, and FS points) I think we all want to make sure that the FS buys off on them before we finalize anything.

Thanks!

Ashley Keepers | Staff Civil Engineer
Main: 520-297-7723 | Fax: 520-297-7724
Tetra Tech

3031 West Ina Road | Tucson, AZ 85741 | www.tetratech.com
PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

From: Marcie Bidwell [mailto:mbidwell@swca.com]
Sent: Monday, January 25, 2010 1:19 PM
To: Krizek, David
Cc: Keepers, Ashley; Trent Reeder
Subject: RE: Tetra Tech Viewshed and KOPS - previous analysis - descriptions

David and Ashely,

Thank you for the geodata base info. We are inventorying what was included and preparing a list of questions to make sure we understand what we are receiving.

One immediate question~ **Do the contours in the data base represent final grading?**

For instance, will the benches still remain at reclamation or be graded out to 3:1 slopes or less?

We were working with the understanding that the final MPO grading plan would be smooth, without benches, and we were smoothing the surfaces in GIS to show that (see attached image of KOP 2 land form placed in the photo).

Thanks in advance for your immediate reply!!
Marcie

From: Krizek, David [mailto:David.Krizek@tetratech.com]
Sent: Friday, January 22, 2010 9:31 AM
To: Marcie Bidwell
Cc: Keepers, Ashley; Trent Reeder
Subject: Tetra Tech Viewshed and KOPS - previous analysis - descriptions

Marcie,

I have loaded to the ftp site the photos for the KOPs and other information related to KOP selection, etc. I also included the viewshed analysis that we did previously (pdf versions).

Sincerely,

David Krizek | Principal
Main: 520-297-7723 | Mobile: 520-260-3490 | Fax: 520-297-7724

Tetra Tech
3031 West Ina Road | Tucson, AZ 85741 | www.tetratech.com

PLEASE NOTE: This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If

you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

[attachment "11204_Cumulative_VS_Existing.pdf" deleted by Debby Kriegel/R3/USDAFS]


Rosept_20100125.dbf


Rosept_20100125.prj


Rosept_20100125.sbn


Rosept_20100125.sbx


Rosept_20100125.shp


Rosept_20100125.shp.xml


Rosept_20100125.shx

ROSEMONT COPPER

Resourceful.

May 29, 2009

RECEIVED MAY 29 2009

Ms. Jeanine Derby
U.S Forest Service, Coronado National Forest
300 West Congress Street
Tucson, Arizona 85701

Dear Ms. Derby:

This letter is in response to your letter (Derby to Sturgess) dated April 15, 2009, requesting response to draft issues and alternative and mitigation measures that would be responsive to those issues. Pursuant to Item E11 of our Memorandum of Understanding (MOU #03-MU-11030510-010, as modified), Rosemont Copper Company provides these comments as assistance in development of mitigation to the Proposed Action.

Our team member Kathy Arnold participated in the April 22, 2009 ID Team meeting as requested, and followed that with a presentation to the ID Team at a May 22, 2009 meeting that included members of the cooperating agencies as well as the NEPA contractor to the U.S. Forest Service, SWCA.

The attachments and materials referenced below are offered to formalize the Rosemont response to your request for Rosemont to identify alternative approaches and mitigation measures that are responsive to the issues and concerns raised by members of the public and agencies during the public scoping process.

Rosemont has provided a preliminary review of the alternatives that were provided on April 22nd and based on those discussions provided the Forest Service with information on each item identified. A transmittal of this information was made on May 7, 2009 and included all issues that could reasonably be addressed by Rosemont with the exception of 6 items. Because the items took slightly more time to assemble the information or perform the analysis, Rosemont is still working to provide the information to some of these items. Those items still outstanding are itemized in the table below. In addition, there was a question raised in the May 22nd meeting regarding using only fee simple lands for the Rosemont project, that analysis is attached.

5/7 letter?

Issue Number	Issue	Information Provided?
2	Slurry tails to Sycamore Canyon	Information attached
9	Surfacing roads	Information attached
19	Change east access road to avoid riparian	Map attached
20	Use LPS Lighting	
21	More efficient equipment	Information attached
27	Solar technology	

In a summary and draft manner, Rosemont offers the following example of alternative operating methods, sites, technologies, and approaches to the Mine Pan of Operations, and a list of mitigation measures that are considered to be feasible additions or substitutions to the Mine Plan of Operations submitted in July 2007. A full compilation of the alternatives and mitigation measures organized according to the issues we have been asked to be responsive to and will be submitted in mid-June 2009.

Best Regards,

Original Signed by

Jamie Sturgess
V.P. Sustainable Development
Rosemont Copper Company
Augusta Resource Corporation

cc: Kathy Arnold, Rosemont Copper
Brian Lindenlaub, WestLand
Tom Furgason, SWCA

Doc. No. 8.6.9.1-032/09

Issue Number – 2

Slurry Tails to Sycamore Canyon

Alternative Presented

One or more members of the public or agency representatives have suggested that the EIS should consider an alternative that would use Sycamore Canyon for waste rock and tailings storage, instead of Barrel Canyon.

Feasibility of pumping tails slurry to Sycamore Canyon

Pumping of tails slurry is routinely performed within sulphide ore processing plants. What is unique about this alternative is the remote locate and distance. The tails filter plant for the proposed action is located adjacent to the tails thickeners. Under this option the filter plant would be located near Sycamore Canyon. Tails slurry would be pumped from the thickener underflow pumps and conveyed by pipeline to the remote filter plant. For this consideration, a site was determined at N11564524, E1719162 within a saddle, along the ridge line, between two peaks at elevation 5295'. The building is about 65' tall and would be placed at a pad elevation of 5230' so that the roof would be no taller than the adjacent peaks.

The pipeline would follow the haul road alignment determined under Issue Number 1. Since the slurry is a process solution, the pipe would have to be placed within a lined trench for double containment. Access for maintenance would be necessary but must be separated from haul truck traffic for safety reasons. Two 24" pipes for slurry and one 24" pipe for filtrate (process water to be returned to the plant) would be placed in the trench) A one-lane road and 10-foot wide trench would require an additional 30-foot wide cleared area beyond the haul road safety berm which equates to about 8 acres of disturbed area.

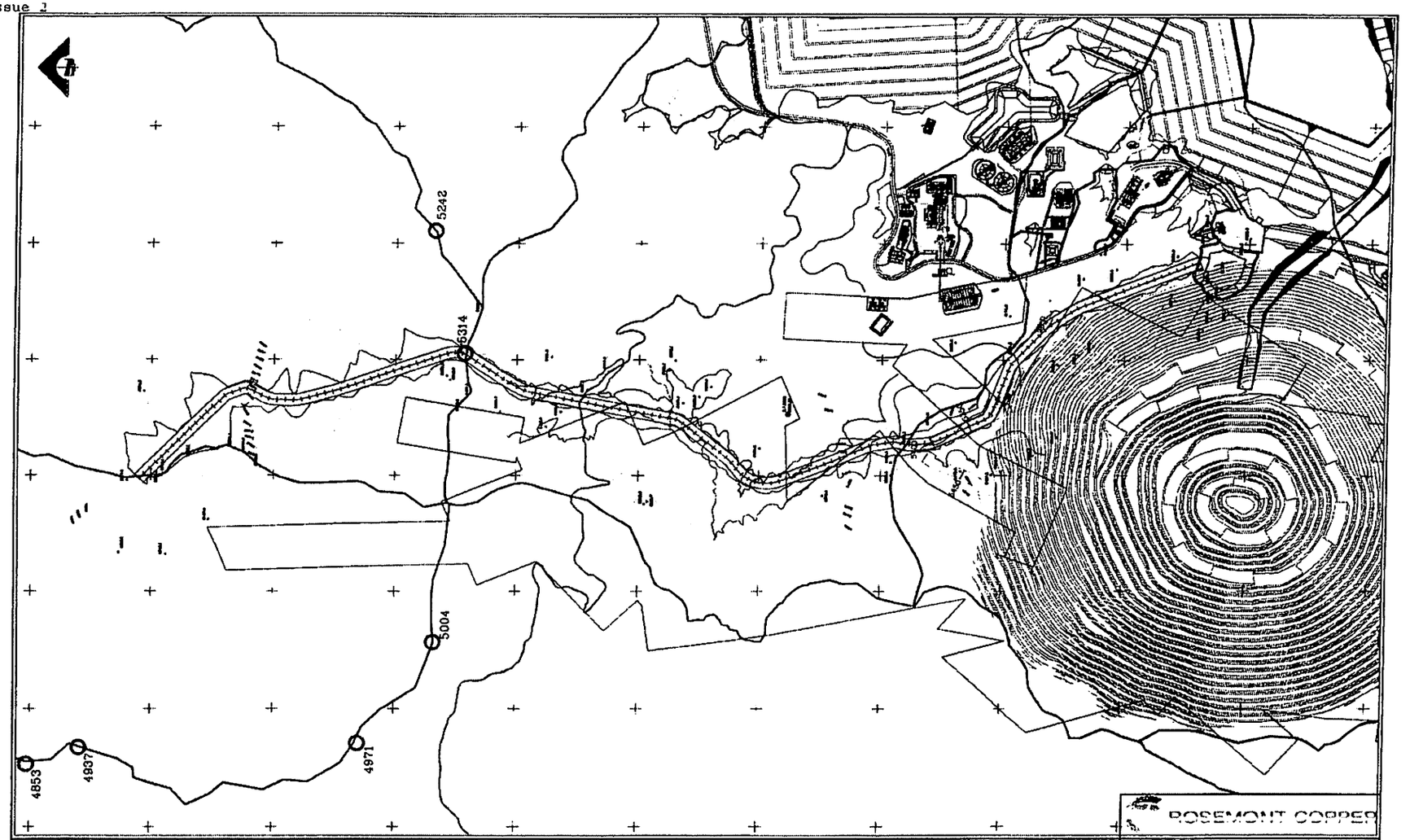
The pipeline alignment is 12,500 feet long. Slurry must be lifted vertically about 450 feet. Two 1900 horsepower (hp) pumps would be required as compared to 250 hp under the proposed action. This additional 3300 hp equates to about 17 million kW-hr per year. Additional power costs over the life of the mine would be at least $20 million.

Costs for the additional volume of earthwork required have not been determined. Other additional costs for this option would include 37,000 feet of 24" carbon steel pipe and 200,000 square feet of 60mil HDPE liner at a cost of about $8 million. Additional costs to provide power, data and voice communications, and accommodations for staff in a remote location have not been determined.

Also, during upsets, slurry cannot remain motionless within the pipe or it would settle and potentially plug. Therefore the pipes would have to be dumped (to the Settling Basin) on occasion. The volume of slurry within the pipes would exceed 580,000 gallons. Provisions would be necessary to purge trapped slurry in low points along the pipeline alignment.

Though technically feasible at significant additional capital and operational cost, when combined with the negative impacts of Issue Number 1, this alternative seems undesirable.

Issue 1



ROSEMONT COPPER

REFERENCES		REFERENCES		NO	REVISIONS	BY	APP'D	DATE	CLASS	NO	REVISIONS	BY	APP'D	DATE	CLASS
DWG. NO.	TITLE	DWG. NO.	TITLE												

SCALE: N.T.S.	DATE
DESIGNED BY CAH	APR 09
DRAWN BY DE J	APR 09
CHECKED BY	
PROJECT MGR	
CLIENT APPR.	

ARCHITECTURE
ENGINEERING
CONSTRUCTION MANAGEMENT

Tucson, Arizona
Tel. (520) 293-4499 Fax No. (520) 293-8177

ROSEMONT PROJECT

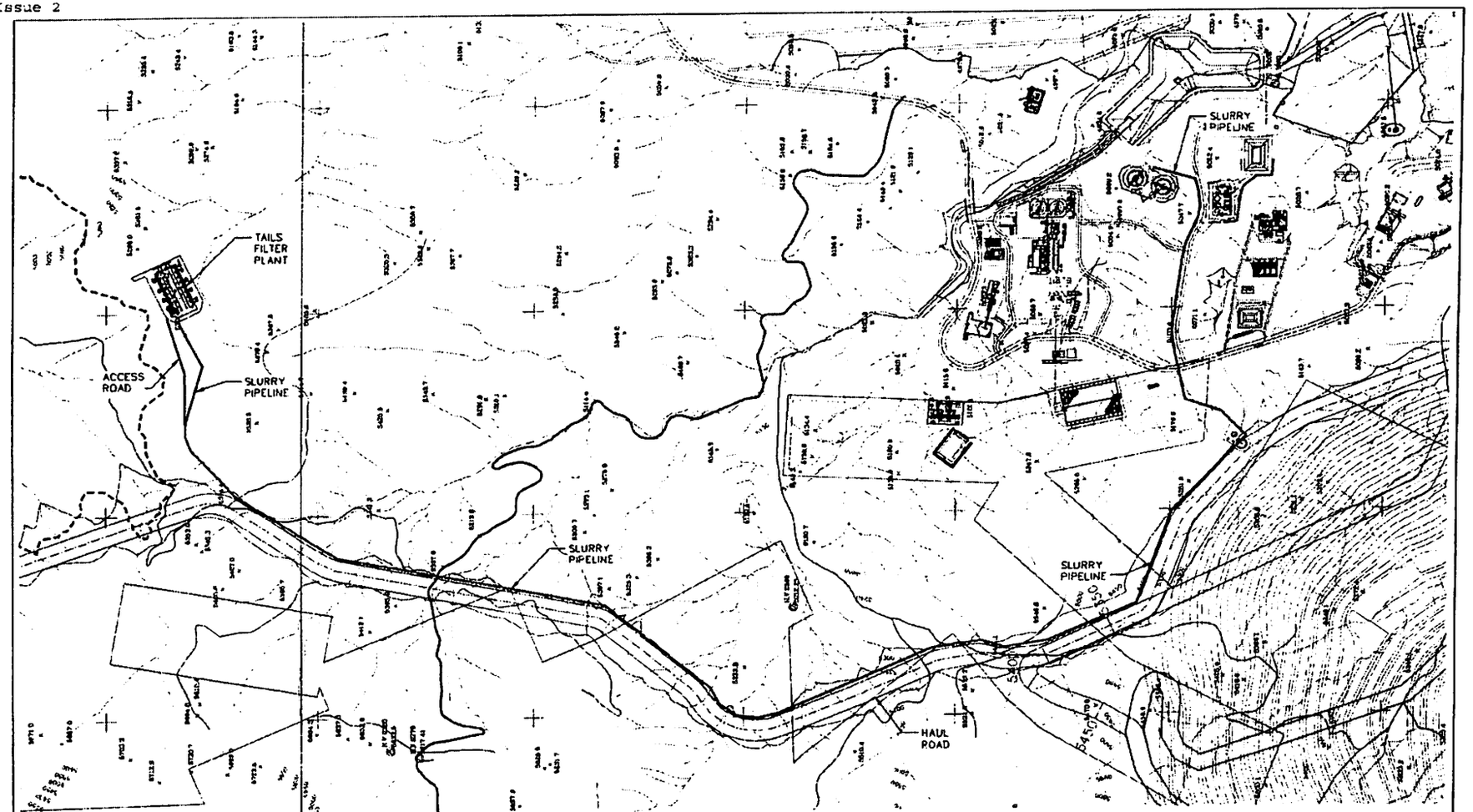
USFS ALTERNATIVES
CIVIL
HAUL ROAD
TO SYCAMORE CANYON

JOB NO. 03 PH-080536

DWG NO. D60-CI-XXX

REVISION 01 DATE 01 MAY 09

Issue 2



PRELIMINARY
NOT FOR CONSTRUCTION

ROSEMONT COPPER

ROSEMONT PROJECT

USFS ALTERNATIVES
CIVIL
SLURRY TAILS
TO SYCAMORE CANYON

600-CI-XXX

Issue Number – 9

Road Surfacing

Alternative Presented

One or more members of the public or agency representatives have suggested that the EIS should consider an alternative that would consider road surfacing as a means of reducing possible dust and air pollution.

Proposed Action – Summary of Pertinent Info

The East Access Road was proposed with 8" thick compacted gravel (ADOT Class 2). All other roads would be earthen and may receive gravel surfacing depending on purpose, frequency of use, location relative to facilities, and anticipated loading. All site traffic would utilize the East Access Road which will be signed at 35 mph. All in-plant roads will be 25 mph or less. The vast majority of traffic to/from the mine consists of commuting plant personnel. Personnel would park outside the main gate.

In-plant traffic would consist primarily of supply and product trucks and limited personnel and vendor vehicular traffic. Warehousing, reagent storage (most) and copper concentrate loading functions are located near the main gate and account for about 75% of the truck traffic within the plant. An additional 17% of truck traffic would use the Mine Access Road to go as far as the SX/EW Plant area.

The proposed action commits to apply water spray to haul roads for dust suppression.

Road Classification – Potential Benefit

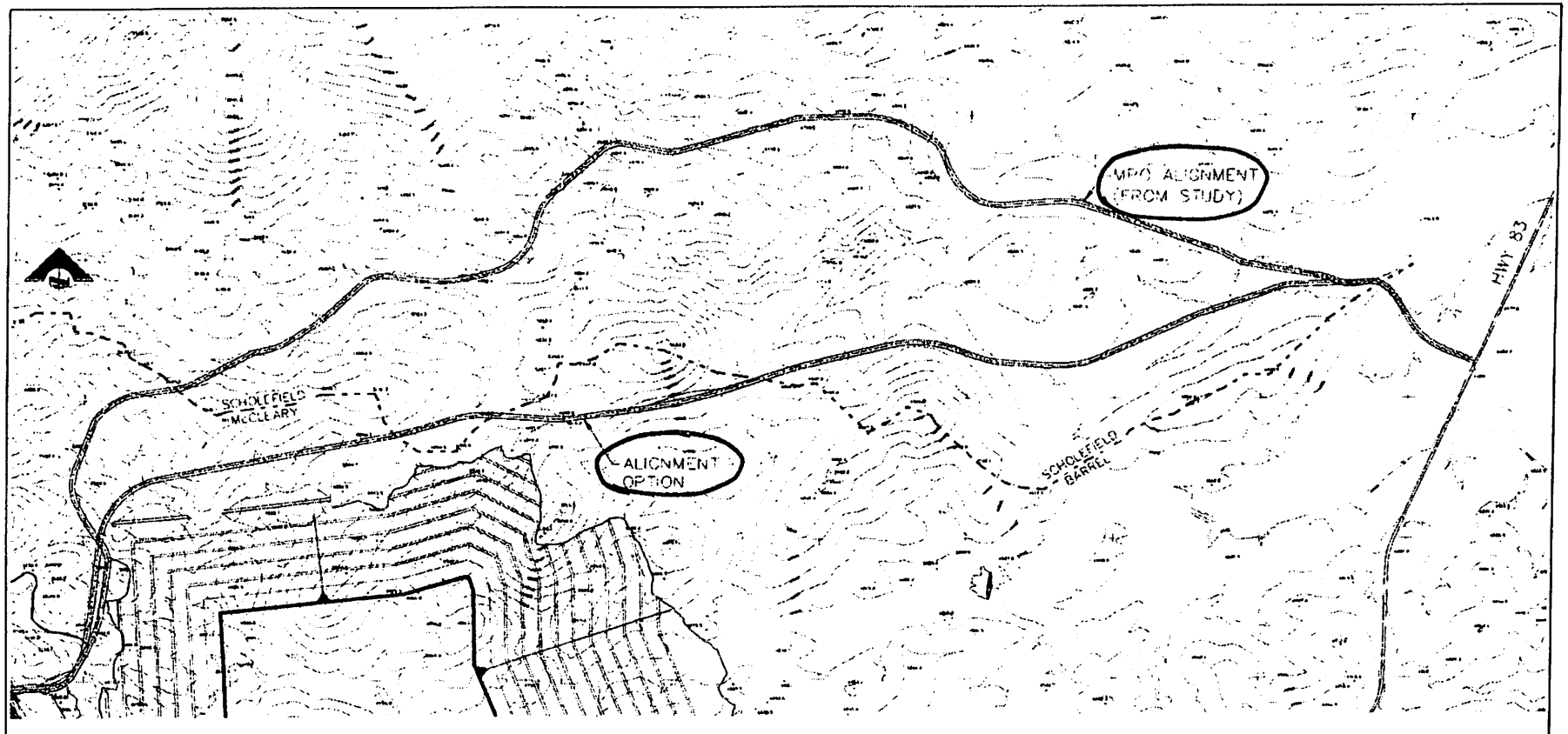
Service roads and secondary access roads within the plant (including the West Access Road) are characterized by infrequent use. These roads tend to be narrower and steeper thereby limiting travel speed. They would be similar to Forest Service Roads. Surfacing of these roads is unnecessary and would yield little benefit.

Haul Roads are best managed by water spray as proposed. Most will be constructed with run-of-mine and excavated materials and will be consistent with gravel surfacing. Most haul roads will be dynamic in location and elevation. Any hard surfacing would be substantial to support the heavy loads and be short-lived and therefore impractical.

The greatest achievable dust control benefit would involve surfacing of the east access road. This road serves the most vehicles at the highest travel speeds (35 mph) over the longest distance (3.2 miles). An engineered pavement section has not been determined. However, a pavement section consisting of 3" asphaltic concrete over 6" aggregate base course is typical of arterial roadways and was considered for this Alternative. The cost of this surfacing would be about 25% to 35% greater than the proposed 8" gravel roadway.

Water spray of in-plant roads would offer some additional benefit. Water application frequency would be less than for haul roads. Pavement of in-plant roads is unnecessary due to low travel speeds inside the main gate and the short travel distances involved.

Issue 19



DO NOT SCALE THIS DRAWING

PRELIMINARY
NOT FOR CONSTRUCTION

ROSEMONT PROJECT

USFS ALTERNATIVES
CIVIL
EAST ACCESS ROAD
OPTION

DWG NO
000-CI-XXX

REV NO
DATE
11 MAY 10

Emission levels (g/kw-hr)				
	TIER1	TIER2	Reduction	Reduction
NOx + HC	10.5	6.4	4.1	0.39
CO	11.4	3.5	7.9	0.69
PM	0.54	0.2	0.34	0.63

Nox = Nitrogen Oxide
HC = Hydro Carbons
CO = Carbon Monoxide
PM = Particulate Matter

Assumption of 20 hours per day operation @ 35% time spent at 90% or greater load against engine														
	7 hr/day		210 hr/mo		2520 hr/yr 1		5040 hr/yr 2		7560 hr/yr 3		10080 hr/yr 4		12600 hr/yr 5	
	TIER1	TIER2	TIER1	TIER2	TIER1	TIER2	TIER1	TIER2	TIER1	TIER2	TIER1	TIER2	TIER1	TIER2
NOx + HC	73.5	44.8	2,205	1,344	26,460	16,128	52,920	32,256	79,380	48,384	105,840	64,512	132,300	80,640
CO	79.8	24.5	2,394	735	28,728	8,820	57,456	17,640	86,184	26,460	114,912	35,280	143,640	44,100
PM	3.8	1.4	113	42	1,361	504	2,722	1,008	4,082	1,512	5,443	2,016	6,804	2,520

5 year reduction				
	12600 hr/yr 5			
	TIER1	TIER2	Reduction	2610kw/3500hp
NOx + HC	132,300	80,640	51,660	134,832,600
CO	143,640	44,100	99,540	259,799,400
PM	6,804	2,520	4,284	11,181,240

Qty. of trucks - 5 year reduction in total kg/hr						
1	5	10	15	20	25	30
134,833	674,163	1,348,326	2,022,489	2,696,652	3,370,815	4,044,978
259,799	1,298,997	2,597,994	3,896,991	5,195,988	6,494,985	7,793,982
11,181	55,906	111,812	167,719	223,625	279,531	335,437
Qty. of trucks - 5 year reduction in total kilotonnes						
0.13	0.67	1.35	2.02	2.70	3.37	4.04
0.26	1.30	2.60	3.90	5.20	6.49	7.79
0.01	0.06	0.11	0.17	0.22	0.28	0.34

Issue 21

EMPIRE Since 1950 CAT

Fermin Samorano
Rosemont Copper
P.O. Box 35130
Tucson, Arizona 85740

April 29, 2009

Re/Tier emissions

Dear Mr. Samorano

Please accept this letter regarding information on Tier information as it applies to Federal and state compliance. Here the current and future off highway emissions requirements from the EPA.

Engine Power	Tier	Year	CO	HC	NMHC+NOx	NOx	PM
kW ≥ 560 (hp ≥ 750)	Tier 1	2000	11.4 (8.5)	1.3 (1.0)	-	9.2 (6.9)	0.54 (0.4)
	Tier 2	2006	3.5 (2.6)	-	6.4 (4.8)	-	0.2 (0.15)

Tier 4 Emission Standards—Engines Up To 560 kW, g/kWh (g/bhp-hr)

Engine Power	Year	CO	NMHC	NMHC+NOx	NOx	PM
130 ≤ kW ≤ 560 (175 ≤ hp ≤ 750)	2011-2014[d]	3.5 (2.6)	0.19 (0.14)	-	0.40 (0.30)	0.02 (0.015)

a - hand-startable, air-cooled, DI engines may be certified to Tier 2 standards through 2009 and to an optional PM standard of 0.6 g/kWh starting in 2010
b - 0.4 g/kWh (Tier 2) if manufacturer complies with the 0.03 g/kWh standard from 2012
c - PM/CO: full compliance from 2012; NOx/HC: Option 1 (if banked Tier 2 credits used)—50% engines must comply in 2012-2013; Option 2 (if no Tier 2 credits claimed)—25% engines must comply in 2012-2014, with full compliance from 2014.12.31
d - PM/CO: full compliance from 2011; NOx/HC: 50% engines must comply in 2011-2013

Tier 4 Emission Standards—Engines Above 560 kW, g/kWh (g/bhp-hr)

2015	All engines except gensets	3.5 (2.6)	0.19 (0.14)	3.5 (2.6)	0.04 (0.03)

* The entire fleet you are evaluating for purchase (see below) meets or exceeds the current EPA requirements.
793F (greater than 750 HP
D11T (850 HP)
D10T (580 HP)
D9T (410 HP)
16M (259 HP)
24M (533 HP)
844H (627 HP)

988H (501 HP)
385C (523 HP)

It is important to note that this is accomplished based on the actual emissions profile of all of the Caterpillar equipment you are evaluating for purchase. None of these machines are utilizing flex credits* which are available to some equipment manufacturers.

*Certain manufacturers can manufacture and sell equipment that does not meet the EPA requirements if they are ahead of the requirements in other horsepower ranges within their equipment offerings. This is referred to a "flex credit" scenario. All of the Caterpillar equipment RCC projects to use for this property is free of any flex credits.

Please do not hesitate to call if you should have any questions or need additional information

Sincerely,

Steve Maracigan
Mining Account Manager
Empire Southwest

Limit Mining Footprint to Fee Simple Lands or Patented Mining Claims

Alternative Presented

One or more members of the public or agency representatives have suggested that the EIS should consider an alternative to the MPO Dry Stack Tailings Facility and the Waste Rock Storage Area locations. Specifically, this alternative would limit the mining footprint to fee simple lands or patented mining claims to protect the current USFS lands.

Alternative Evaluation

The largest contiguous parcel of land that could be assembled as an alternative location for the waste rock and tailings facilities consists of a combination of both Patented Land and BLM land. This area is located to the north and west of the Pit area and crosses a large natural ridge that runs roughly north south. The boundary of this area is shown on Figure 1.

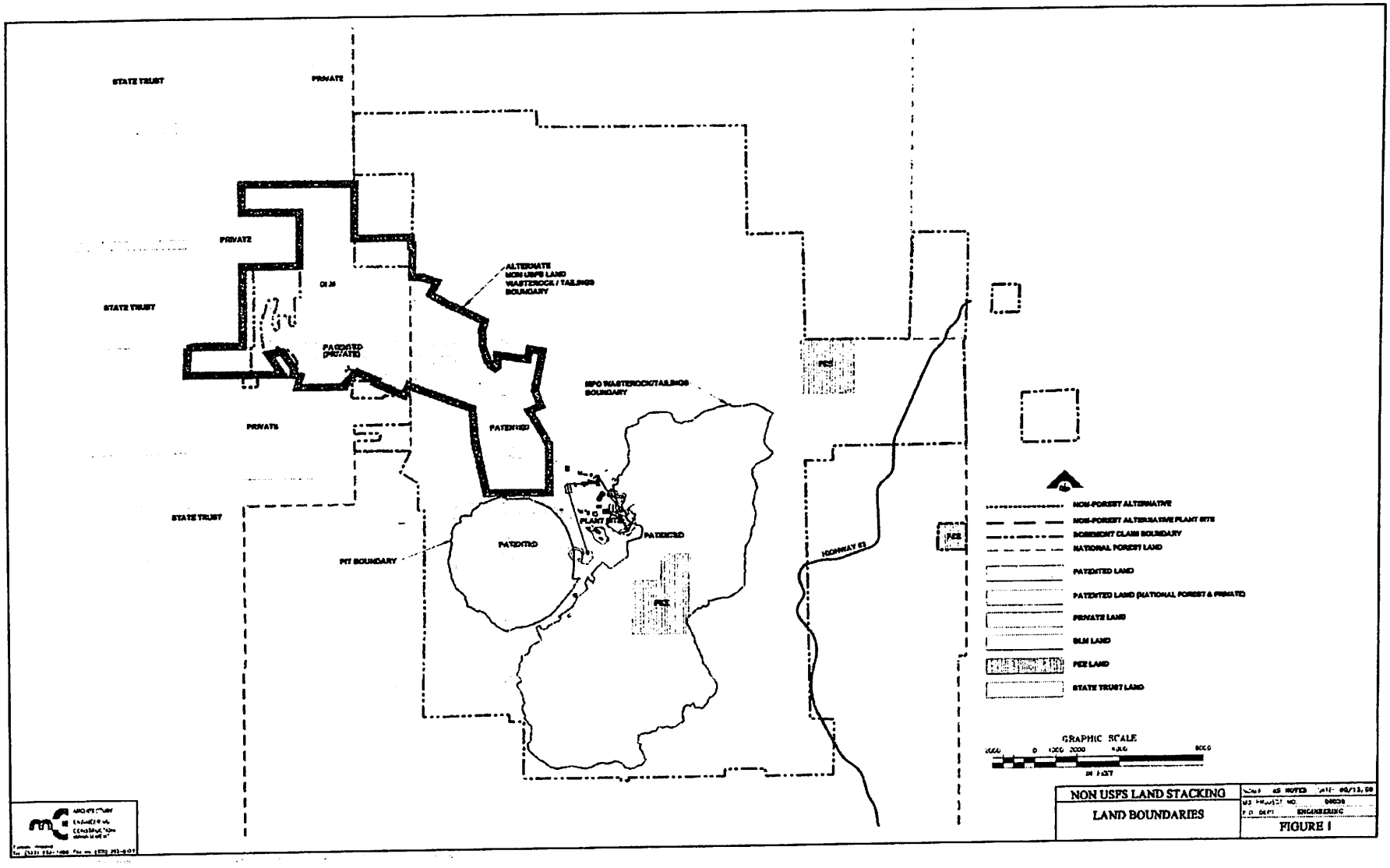
In order to evaluate the potential storage volume of this area, a geometric model was developed by projecting the boundary lines up and back at a 3H:1V slope until they converged at a peak. The total available volume for this alternative landform is 852 million cubic yards, as shown on Figure 2. As the total combined volume for both tailings and waste rock materials is estimated to be approximately 1.1 billion cubic yards, this site would not provide the required storage volume.

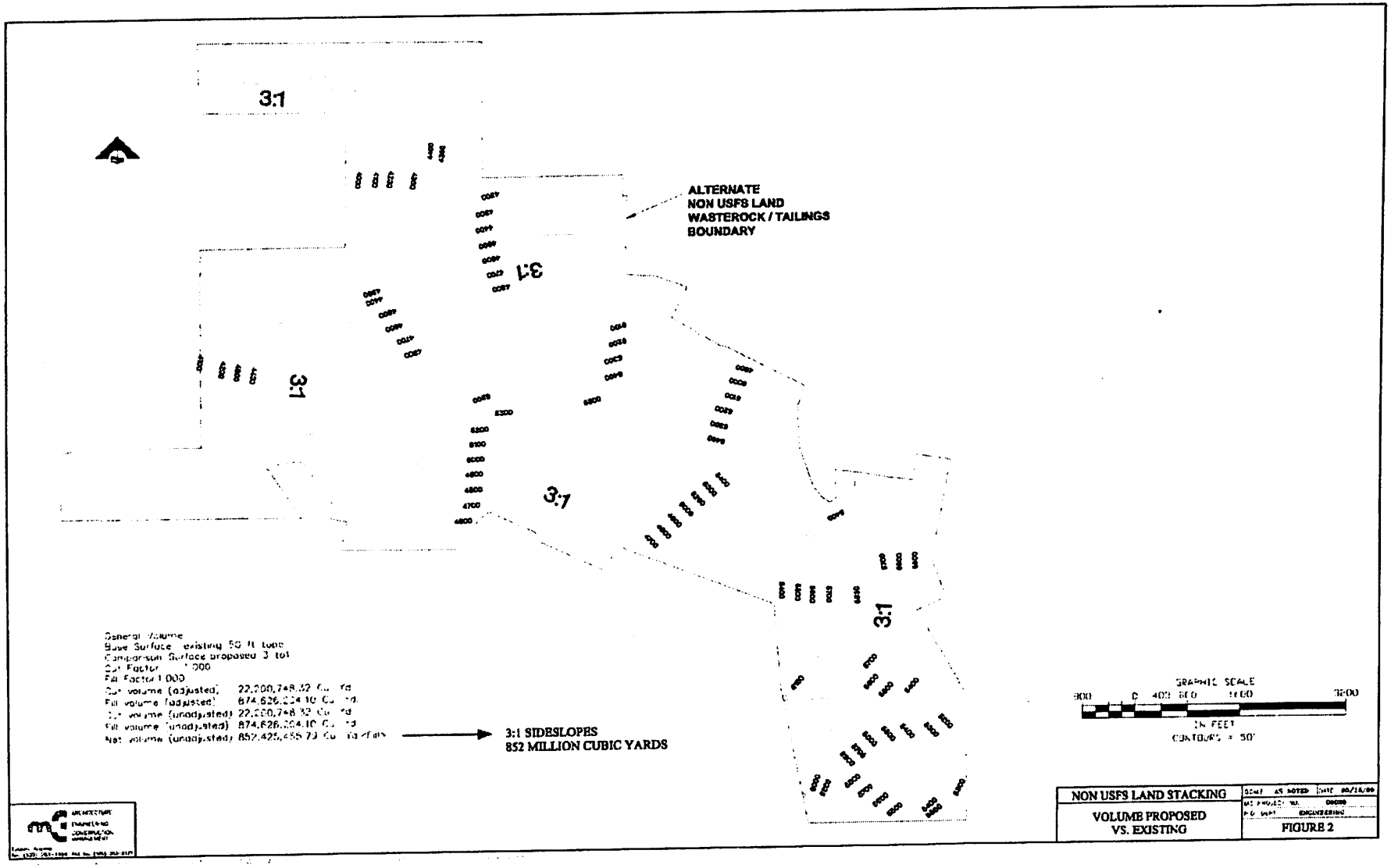
– reduce volume mined?

This volume calculation does not take into consideration other factors that would further reduce the storage volume. The geometric shape of the model would have to be modified to be constructible in the real world, with benches for haulage and water management channels. The toe of the facility would have to be set back to allow for drainage and access at the property lines. These factors would produce further reductions in the available volume that is already insufficient by 248 million cubic yards.

Figures 3 & 4 provide oblique 3D views of the existing topography and the topography of the 3:1 alternative landform, respectively.

In conclusion, the alternative of locating the waste rock and tailings facilities on non USFS lands is not feasible.

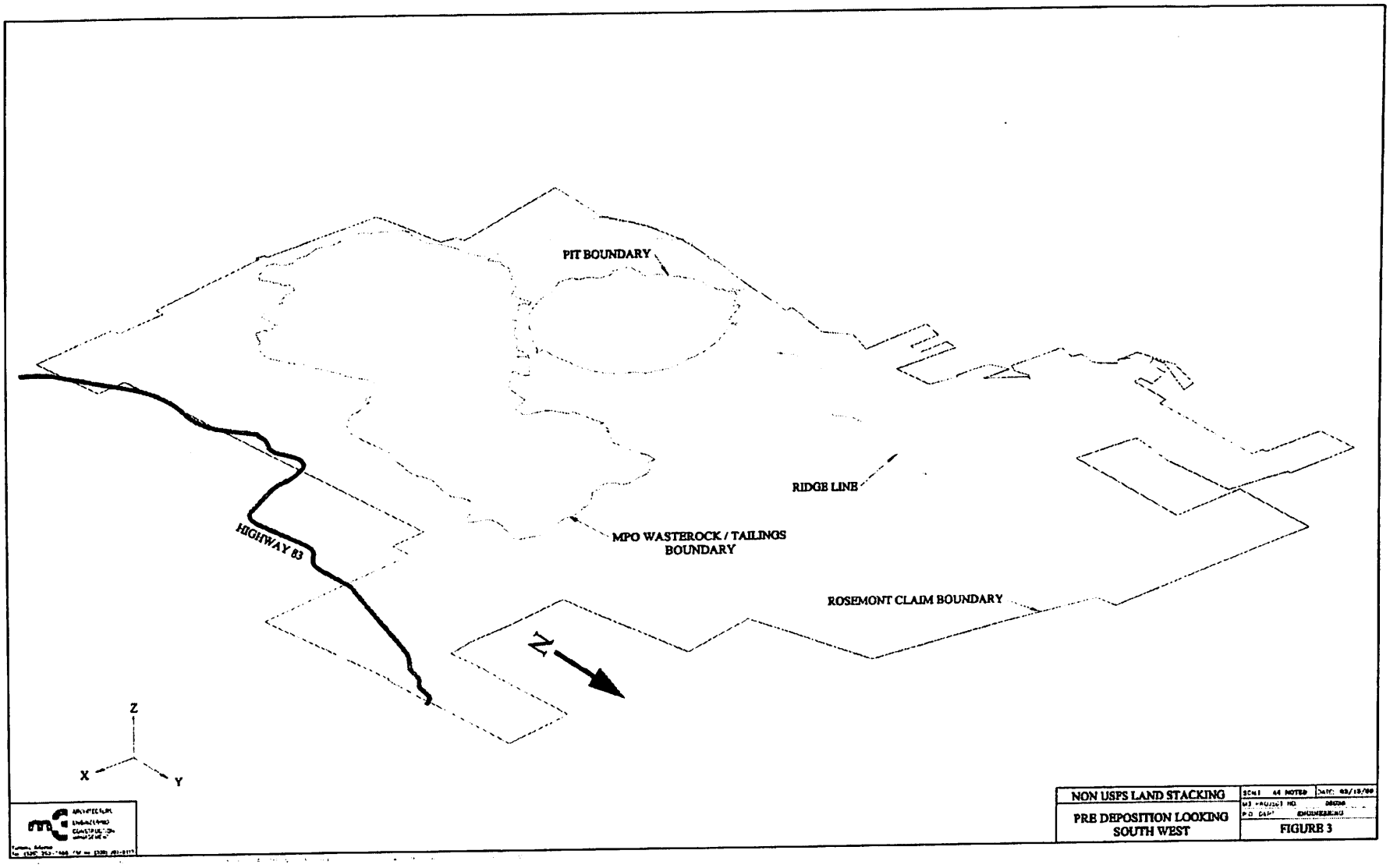

STATE TRUST
PRIVATE
PRIVATE
STATE TRUST
PATENTED (PRIVATE)
ALTERNATE NON USFS LAND WASTEROCK / TAILINGS BOUNDARY
MPO WASTEROCK/TAILINGS BOUNDARY
PRIVATE
PATENTED
STATE TRUST
PIT BOUNDARY
PATENTED
PATENTED
PEE
PEE
PEE
HIGHWAY 93
NON-FOREST ALTERNATIVE
NON-FOREST ALTERNATIVE PLANT SITE
SCREMENT CLAIM BOUNDARY
NATIONAL FOREST LAND
PATENTED LAND
PATENTED LAND (NATIONAL FOREST & PRIVATE)
PRIVATE LAND
BLM LAND
PEE LAND
STATE TRUST LAND
GRAPHIC SCALE
0 1000 2000
IN FEET
NON USFS LAND STACKING
LAND BOUNDARIES
ENGINEERING
FIGURE 1

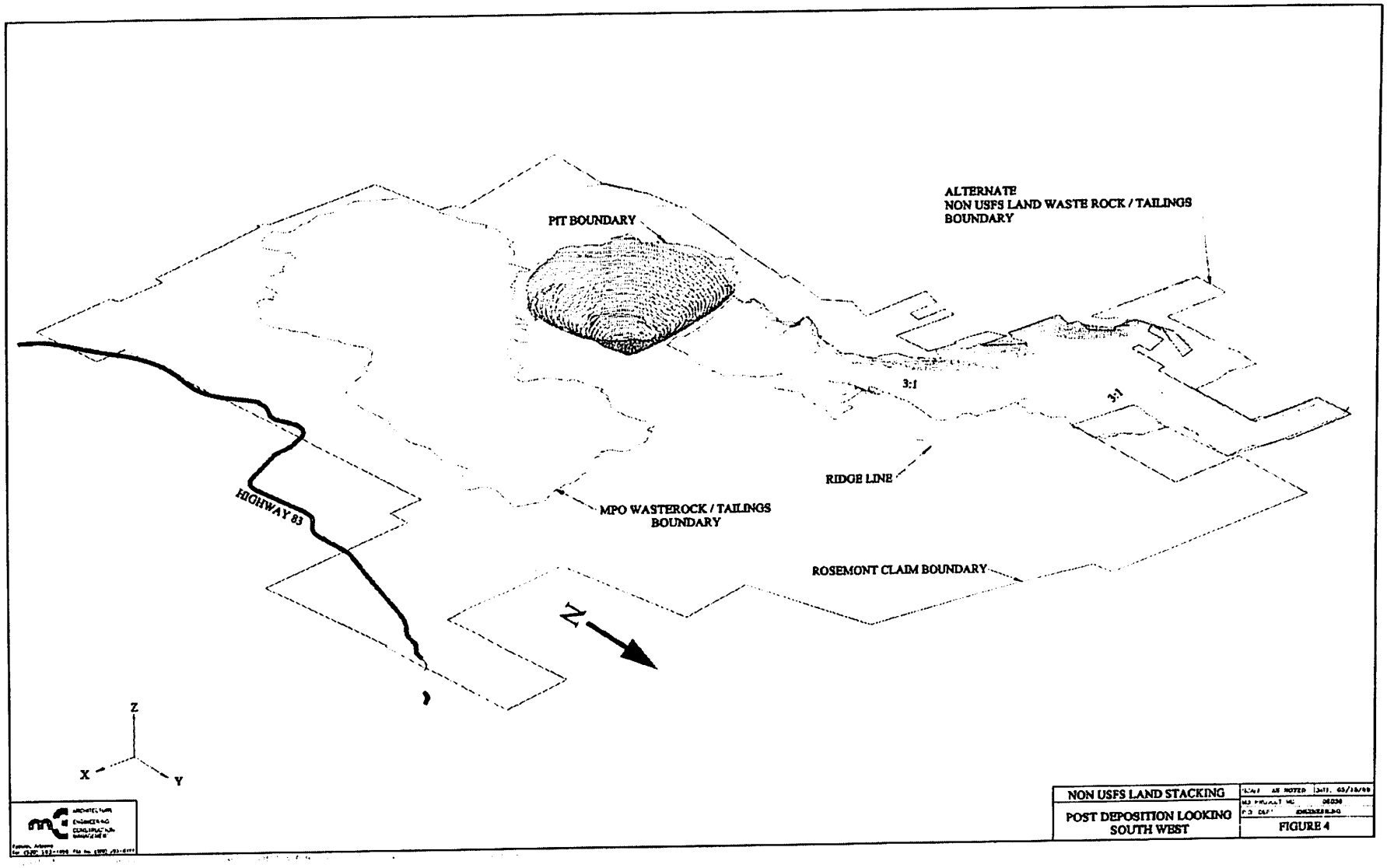


NON USFS LAND STACKING

VOLUME PROPOSED VS. EXISTING

FIGURE 2


PIT BOUNDARY
RIDGE LINE
HIGHWAY 83
MPO WASTEROCK / TAILINGS BOUNDARY
ROSEMONT CLAIM BOUNDARY
N
Z
X
Y
NON USFS LAND STACKING
PRE DEPOSITION LOOKING SOUTH WEST
FIGURE 3



NON USFS LAND STACKING

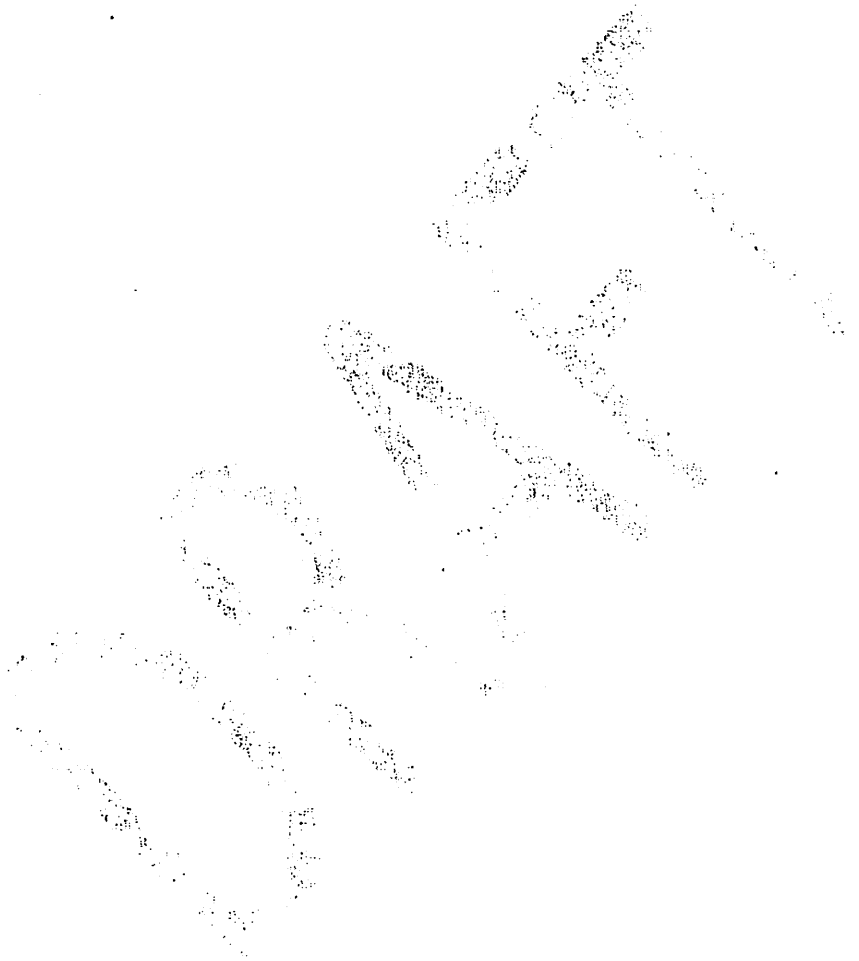
POST DEPOSITION LOOKING SOUTH WEST

FIGURE 4

Rosemont Copper Project

Alternative Mine Plan Elements
In Response to Issues Raised During Public Scoping
and for
Development of a Mitigated Alternative
for the
Rosemont Mine Plan of Operations

Contents



Visual

As expressed in public comments and at meetings, the concerns about the visual resource appear to relate more to conditions at closure rather than throughout the operating life of the facility. It was proposed in the Mine Plan of Operations, and continues to be proposed by Rosemont, that reclamation activities will take place throughout the life of operations beginning in the first year of operations. In the mine plan, a prescriptive ridge and valley method of water management and surface treatment as well as fairly monotonous surfaces was proposed. The proposed vegetation treatment for these surfaces was a grassland, forbs, and shrub mixture that was uniformly applied throughout the landform.

The "Diverse Mosaic Reclamation Approach" (DMRA) that Rosemont now proposes would include addition surface treatments, varying slope lengths, slope aspects, and slope angles with less prescriptive water management techniques. Some of the additional considerations include re-establishing drainage areas that integrate talus slopes, rocky outcrops, trees, and riparian characteristics. While grasslands with forbs and shrubs would be the predominant plant community, examples of the existing plant communities would also be re-established at selected locations on site. These communities will include agaves, trees, ocotillo, and shrubs, and will provide diversity to the visual landscape.

Variations of the drainage vs. uplands areas will also be worked into the design such that the prescriptive ridge/valley considerations will be augmented by other treatments to provide a more variable landform.

As a separate action, the east access roadway has been relocated to keep it more hidden by the surrounding hillsides. (See Appendix A)

Alternative DMRA

1. Increase slope diversity on the perimeter of the waste rock and tailings stockpile area
    a. Vary the slope angles, aspects, and contours on the most visible slopes
    b. Align offslope drainage management to approximate surrounding terrain
    c. Increase the diversity of landscape surface soil and vegetation texture
        i. Vegetation types
        ii. Tree and shrub mosaics
        iii. Scree/talus slopes
        iv. Rocky outcrop
2. Modify tails sequencing to build out Phase One Tailings prior to depositing tailings in the Phase Two Tailings area
3. Realign the East Access Road to reduce overall footprint of mine facilities
4. Increase priority to establish vegetation on upper benches of pit highwall as soon as practicable

Mitigation Viewpoint program

1. Tree planting at selected locations near key observation points to enhance the viewshed
2. Provide alternative viewpoint(s) access on Rosemont Private Lands on the east side of Highway 83.

Transportation

The access road intersection of SR83 will be reviewed and updated in cooperation with Arizona Department of Transportation (ADOT). Alternatives that will be provided for consideration will include a divided pass-through lane that will allow traffic to by-pass the access road entrance and a dedicated turn lane with an acceleration lane. This will provide an "Optimized Access Road Intersection" (OARI) alternative for consideration.

Carpooling plans and opportunities will also be examined and encouraged to eliminate to the extent practicable the number of vehicles on the roadway. These activities will take the form of a "Park and Ride Program," (PARP) the details of which will be worked out as employees are hired. (See Tetra Tech, *Traffic Analysis Report,* April 2009, delivered to the Forest Service on April 11, 2009.)

Alternative OARI and PARP

1. Optimized Access Road Intersection: Upgrade design of State Highway 83 and Rosemont Access Road Intersection to optimize safety factors possible designs include
    a. Divided highway pass-through lane
    b. Dedicated turn lanes with an acceleration lane
2. Park and Ride Program: Establish program for employee and construction labor carpooling with off-site park and ride areas located in cooperating communities such as:
    a. Sahuarita
    b. Corona de Tucson
    c. Patagonia
    d. Vail
    e. Sonoita

Mitigation "Off-site Safety Upgrade"

1. Provide design for two (2) truck turnouts along Highway 83
2. Provide design for up to five school bus turnouts along Highway 83
3. Participate in establishing Park and Ride areas
4. Provide design for Acceleration/Deceleration lane for ADOT consideration

Plants and Animals

Diverse habitat is key to a diverse and stable plant and animal community. The creation or improvement of a system of Sustainable Wildlife Water Sources (SWWS) at locations throughout the Rosemont Ranch is improvements to a critical aspect in the Rosemont area.

The DMRA for vegetation will include a variety of landscape features that will encourage diverse plant and animal habitats to develop. The overall use of the area will vary depending upon location, aspect, elevation, etc. Agave will be salvaged and replanted to ensure their availability for nectivorous bats, talus slopes will be created so moisture and debris will encourage the development of snail habitats in selected areas, water management will target areas that will provide opportunities for leopard frog habitat to develop, and ranching will continue in areas appropriate for livestock grazing.

Alternative SWWS and DMRA

1. Sustainable Wildlife Water Sources: Provide sustainable wildlife water sources at selected locations during reclamation and closure of the Rosemont Mine Facilities.
2. Diverse Mosaic Reclamation Approach Upgrade the Reclamation Plan with emphasis on wildlife, native plants, and other priority species by identifying a habitat mosaic with areas targeted to:
    a. Wildlife – vegetated travel corridors
    b. Bats – agave
    c. Snails – talus slopes and seeps
    d. Leopard frogs – perennial water sources
    e. Livestock ranching

Mitigation SWWS

1. Sustainable Wildlife Water Source: Upgrade the Rosemont Ranch livestock water system with goal of one sustainable wildlife water source in each of the individual pastures under lease to Rosemont.
2. Provide fenced livestock exclosures for highest value riparian habitat on Rosemont Ranch private lands
3. Implement specified areas of off-site mitigation to meet permit conditions or stipulations of US ACOE, US DOI FWS, BLM, and other cooperating agencies such as the AGFD
    a. Identify and protect with fencing, that portion of the stock ponds in leopard frog habitat that would provide protection for frog habitat within the pond area
    b. Upgrade protection of selected bat habitat on Rosemont Ranch private lands

Recreation

The July 2007 Mine Plan of Operations included a description of forest road realignment, trail upgrade and access road maintenance program. In response to public input, Rosemont proposes additional recreation considerations as follows.

The Arizona Trail was aligned through the Rosemont Camp private ranching lands and has been re-aligned to avoid this area. During operations, a portion of the Arizona Trail may need to be realigned to avoid the toe of the dump area. This would provide an "Arizona Trail Interpretive Segment" (ATIS). (See Appendix B)

The East Access Road has been re-aligned where the roadway comes out of the Hidden Valley area. The realignment provides opportunity for an ideal viewing location for the operational areas. (See Appendix A)

Rosemont has also committed to continue to work within the Arizona Game and Fish Cooperative Land Owner Program (CLOP) which will help ensure public access to private lands not affected by operations.

Alternative ATIS and CLOP

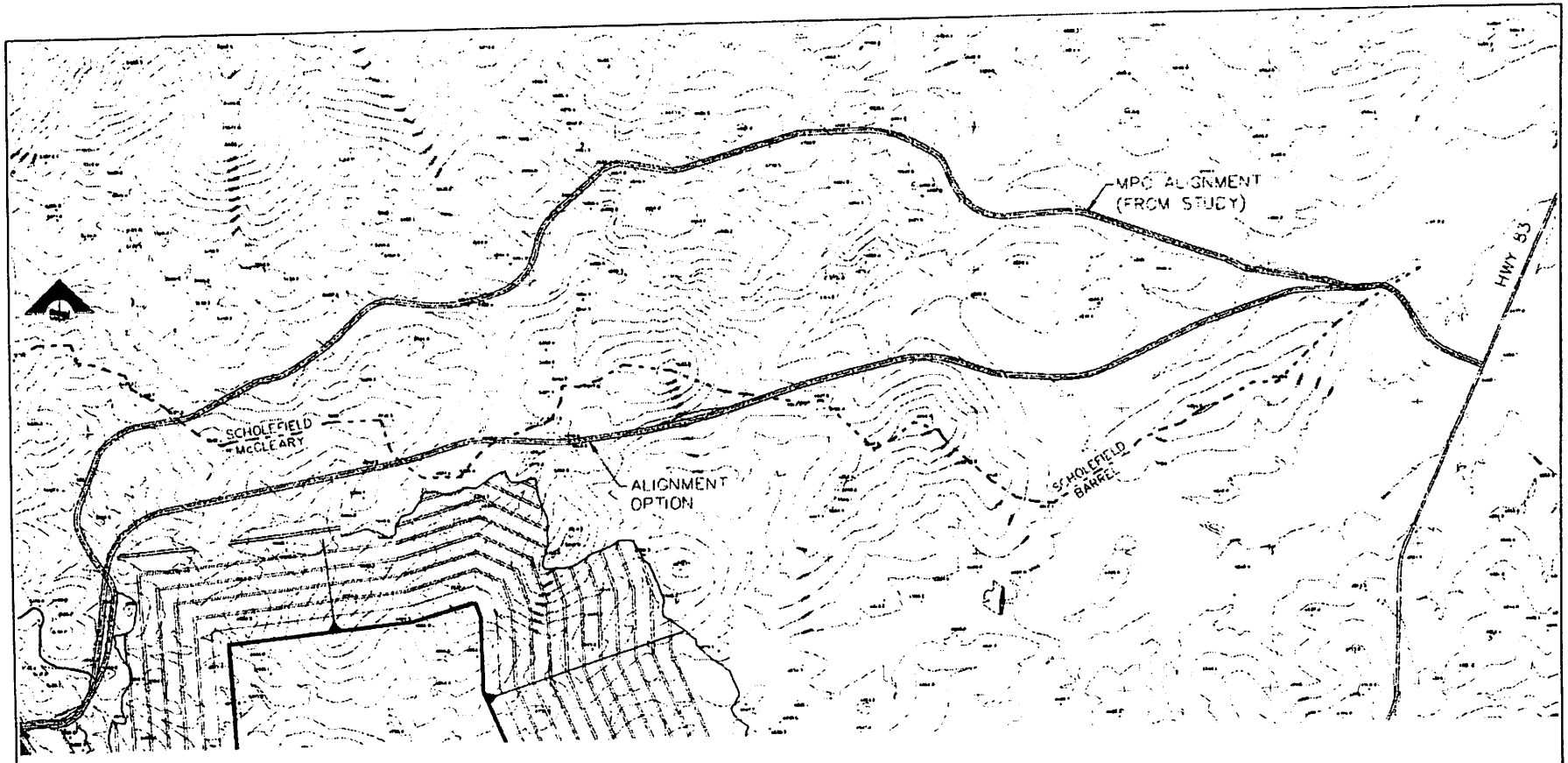
1. Arizona Trail Interpretive Segment: Arizona Trail realignment (completed with Rosemont contribution)
2. Realign east access route to facilitate viewing of project site – provide an overlook
3. Realign west service road and utility corridor route to maintain recreational access
4. Adjust facility to further increase distance from the Arizona Trail
    a. Southeast corner of waste rock storage
    b. Additional slope-toe adjustments for buffer zone along the southwestern edge
5. Provide water station for horses at the Los Colinas segment of the Arizona trail
6. Cooperative Land Owner Program: Commit to place west side private lands in the Game and Fish cooperative land owner program where safety considerations permit

Mitigation "Offsite Trailhead Access"

1. Provide interpretive segment along the Arizona Trail (through a grant)
2. Public access or development covenants on private lands within forest boundaries where safety permits
3. Develop new recreational trailhead on the east side of SR 83
4. Complete additional Arizona Trail segment up to Sentinel Peak with an observation point

DRAFT

APPENDIX A
Access Road Relocation



DRAFT

PRELIMINARY
NOT FOR CONSTRUCTION

DO NOT SCALE PLOT DRAWINGS

ROSEMONT COPPER

ROSEMONT PROJECT

USFS ALTERNATIVES
CIVIL
EAST ACCESS ROAD
OPTION

000-CI-XXX

11 MAY 09

DRAFT

APPENDIX B
Arizona Trail Alignment

DRAFT

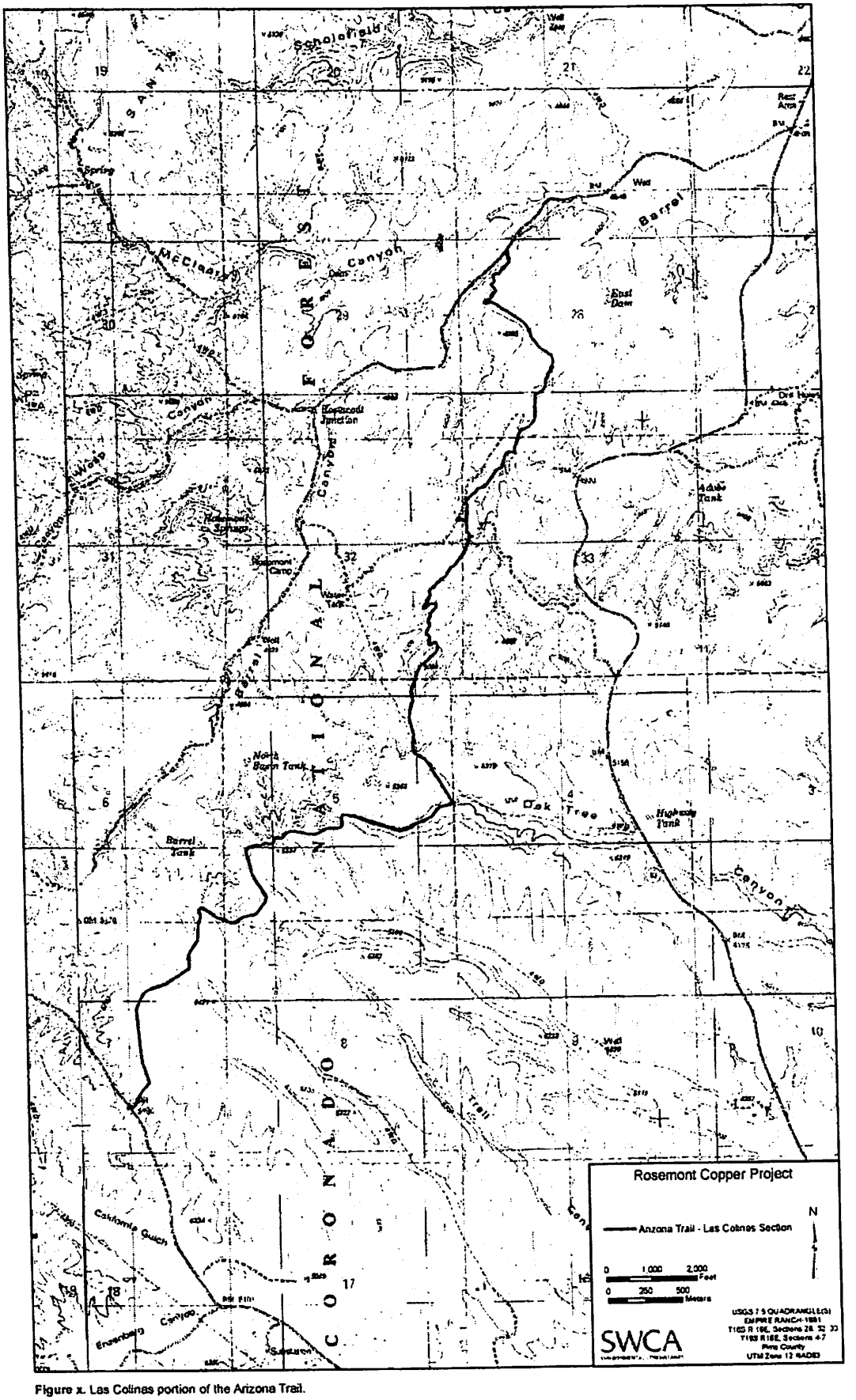


Figure x. Las Colinas portion of the Arizona Trail.

Debby Kriegel /R3/USDAFS
07/26/2010 10:03 AM

To tjchute@msn.com, Melinda D Roth/R3/USDAFS@FSNOTES
cc Robert Lefevre/R3/USDAFS@FSNOTES, Debby Kriegel/R3/USDAFS@FSNOTES
bcc
Subject Rosemont Mine: tree and shrub research needed for reclamation

Terry and Mindee,

Bob Lefevre has reviewed Jeff Fehmi's reports, and has also made comments on what work is complete and what is still needed. Please review the attached document.

Tom Furgason told me on Friday that he needs FS leadership to approve the scope of work and to tell Rosemont that this work is needed. SWCA can then identify a person with the right background to proceed.

Thanks.

~~~~~~~~~~~~~~~~~~~~~~~~~~

Debby Kriegel
Landscape Architect
(520) 388-8427

---- Forwarded by Debby Kriegel/R3/USDAFS on 07/26/2010 09:47 AM ----

Robert Lefevre /R3/USDAFS
07/26/2010 09:31 AM

To Debby Kriegel/R3/USDAFS@FSNOTES
cc
Subject trees and Shrubs Research needs for reclamation

Debby, I went through the document and highlighted those items that were not yet done in yellow and those that I think are done or at least partially done enough to proceed in green. There are comments on each bullet. I hope this is what you needed. Let me know.

Rosemont_Research_Trees_and_Shrubs_Scope_of_Work_Lefevre.docx

I have not received any comments from Craig in response to your question to him (in red near the bottom of the first page). Have you?
Robert E. Lefevre
Forestry and Watershed Program Manager
Coronado National Forest
USDA Forest Service
520-388-8373
~~~~~~~~~~~~~~~~~~~~~~~~~~

Scope of Work - Research on establishing trees and shrubs on the Rosemont Mine site
May 27, 2010

The purpose of this research is to develop a strategy for the success of trees and shrubs on reclaimed lands in the proposed Rosemont Mine area (primarily the waste rock and tailings piles). The current research on seeding is an excellent start, but reclamation also needs to include trees and shrubs (including cacti) in order to more quickly stabilize the slopes and meet visual quality and other resource goals.

Recommended Tasks

- Review previous revegetation research for establishing trees and shrubs on similar projects (i.e., mines or other large projects, similar vegetation types, similar elevation and climate, etc.). One contact should be Dr. John Harrington (joharrin@nmsu.edu).
- Review the research paper "Flora and Vegetation of the Rosemont Area", McLaughlin and Asdall, 1977 (Debby Kriegel or Larry Jones can provide this document) and contact Brian Lindenlaub (WestLand). Consider both pre-settlement densities (e.g., using old photo points as references) as well as the desire to make mine blend in with vegetation surrounding the site. Patterns of plants on the reclaimed slopes should generally mimic those in the surrounding landscape, but fewer trees may be appropriate.
- Determine how re-establishment of some Madrean Encinal habitat would benefit N-S and E-W wildlife corridors and gene flow for wildlife species. Coordinate this work with Larry Jones.
- Using the General Ecosystem Survey and the 1977 report "Flora and Vegetation of the Rosemont Area, determine the potential for grass, shrub, and tree canopy.
- Evaluation criteria for success of trees and shrubs during the bonding period can be set using standard reforestation protocol. Typically, survival surveys are conducted on tree plantation sites one, three, and five years after planting with a 90% survival expected for successful regeneration.
- Determine which species and sizes of trees and shrubs would be successful on the outermost materials (rock and growth medium) planned for the mine site. Plants could include salvaging/transplanting, seedlings, and/or container plants. Review studies of stock size and transplant success. Determine the best planting methods (season, site prep, supplemental moisture, etc.). Consider salvaging mature shrubs to develop off-site seed production blocks.
- In order to assure that local plant genetics are maintained, trees and shrubs from the area only will be used for transplanting or seed collection.
- Determine whether the success or failure of the seed mix plants would have influence on any of the tree and shrub species. For example, if the seed mix plant growth is very robust, would clearing be required prior to planting trees/shrubs? Set standards for invasives on other seed contaminates. Determine whether the direct seeding (hydro or drilling) be done simultaneously with the transplanting. ***Craig, do you have information on this subject for live oaks and shrubs such as rhus and ceonothus?***
- Determine whether there are specific species or groups of trees and shrubs best adapted to the different "growth mediums" planned for reclaimed areas. An example if the growth medium best for Agave survival is placed on slopes which are not conducive to Agave survival, an opportunity would be lost. At a later date, this information would be used to resolve what "growth medium" goes where -- for both visual and plant growth needs.
- Evaluate proposed treatment of topsoil. Provide recommendations for handling, stockpiling, and placing toposil that will protect the microflora population and other qualities.

Comment [rel1]: This has not been done

Comment [rel2]: Reviewed by Lefevre. Dr. Fehmi has used appropriate plants to mimic the landscape with the exception of trees, which are currently not in the seed mix (and shouldn't be. We would want to plant seedlings, not sow seeds.) Brian Lindenlaub has probably not been contacted.

Comment [rel3]: This has not been done

Comment [rel4]: This has been completed and a version of it is being used in the DEIS.

Comment [rel5]: This is not a task. This is a standard I think we should use.

Comment [rel6]: This is partially done through the General Ecosystem Survey review and table of expected results development. Salvaging shrubs and/or trees has not been proposed as a mitigation measure as of 7/26/2010

Comment [rel7]: The practice of using native plants is inferred in the mitigation proposed.

Comment [rel8]: No clearing of grass or shrubs is anticipated in the proposed mitigation measures. The only standards for invasives listed in the mitigation measure is that they would be non-persistent. No determination for simultaneous seeding and transplanting has been made.

Comment [rel9]: This has not been done.

Comment [rel10]: The treatment of growth media is explained in the proposed mitigation measures. The majority of the growth media is not topsoil, so stabilizing the stored material is the primary task and is addressed in the mitigation measures. True topsoil, with living organisms, is limited compared to the total, and do date no provisions for special treatment have been made.

- Provide recommendations for backfill mix, fertilizer, mulch, irrigation, and weeding necessary for the successful growth of trees and shrubs. The use of fertilizer should be minimized to reduce impacts to the environment (including water quality).
- Provide typical planting plan layouts for various reclamation areas, and planting details.
- Estimate the approximate growth rates of plants on various slopes (this is needed for simulations and effects analysis, and can also be used to develop a performance based reclamation standard). Consider the difference of transplant growth rate vs. naturally-occurring growth rate
- Evaluate whether native transplant plugs and topsoil islands would be beneficial to establishing revegetation (including trees and shrubs) on reclaimed areas. Debby Kriegel can provide research papers on this topic.
- Determine where the needed plants can be obtained in the species, sizes, quantities, and appropriate time frame that would be necessary for various phases of reclamation. Options could include salvaging from the site (or nearby), purchasing from local nurseries, contracting propagation, or some combination. Contract propagation would require working with nurseries early, especially be specific about seed sources and minimum stock parameters; determine propagation protocols necessary to generate the stock types necessary for the reclamation. Determine what is needed to collect, process, and storing native seed (for seeding and propagation) in order to provide plants needed for revegetation throughout mine reclamation.
- Provide draft and final written reports that address all of the above.
- Coordinate all work with the Coronado National Forest (Debby Kriegel, Craig Wilcox, and Larry Jones).

Comment [rel11]: This was started in the greenhouse study and is being continued in the field studies. Recommendations are not out yet.

Comment [rel12]: Not done yet to my knowledge.

Comment [rel13]: Not done yet.

Comment [rel14]: Not done yet to my knowledge

Comment [rel15]: Not done yet.

Comment [rel16]: Not done yet.

Comment [rel17]: Not done yet.

"Charles Coyle"
<ccoyle@swca.com>
07/10/2009 01:26 PM

To "Beverley A Everson" <beverson@fs.fed.us>

cc "Tom Furgason" <tfurgason@swca.com>, "Melissa Reichard" <mreichard@swca.com>, "Robert Lefevre" <rlefevre@fs.fed.us>, "Salek Shafiqullah"

bcc

Subject RE: meeting to discuss specialist communication with Bounds of Analysis

Hi Bev,

I believe I've already identified a couple areas of miscommunication and/or lack of communication that contributed to the glitch.

First off, I was using the CNF's Proposed IDT roster as a reference when I developed guidance to send to the SWCA team members as to whom their CNF resource counterpart would be for seeking input on the bounds of analysis. That document identified Salek as the lead specialist for groundwater, surface water, and soils:

Hydrogeology (Ground Water)	Hydrologist, Salek Shafiqullah	Dale Ortman
Hydrology (Surface Water)	Hydrologist, Salek Shafiqullah	Dale Ortman
Soils	Hydrologist, Salek Shafiqullah	Dale Ortman

I did not notice on the following page that Bob Lefevre was listed as lead for Clean Water Act Compliance. I only showed him as lead for Air Quality in the guidance to our team (see attached 5-27 version, but note that I have subsequently updated this file since that date to reflect recent adjustments in staffing).

My instructions to the SWCA team were to first call or email their CNF counterparts to get a dialogue going, then draft a narrative of the spatial and temporal bounds of analysis and send that to the CNF specialist for input and approval. Only then were they to work with Lara Mitchell to have an appropriate map created that reflected the approved spatial bounds. In my initial guidance I did not give specific instructions that the maps also needed to be sent to the CNF for approval, though most people chose to do so & I recommended doing so if anyone was unsure and called or emailed me about it.

On May 29, Dale Ortman submitted a draft memo of the water resources bounds of analysis to Salek, Rion Bowers, and Chris Garrett. He received comments only from Rion and Chris. Because Jill Grams was no longer available to work on soils, on June 7 Dale resubmitted the same water resources draft to Salek along with draft bounds of analysis for soils. No comment was received, so on June 9 Dale resubmitted the "final" documents to me, cc'ing Salek, Tom, Rion, and Chris, and letting us know he was coordinating with Lara Mitchell on developing the maps for those two resources. On June 16 I emailed Dale to inquire whether he had heard back from Salek, and he wrote to say he had received no response on either the water or soils texts.

I've learned that Rion is out on vacation this week and next, so I can't say whether he independently submitted any text or figures and did not cc me. I know he had responded to Dale's May 29 water resources bounds memo and cc'd Salek, Chris Garrett and me with his comments. He had been quite prompt in submitting the hazardous materials bounds of analysis to Eli Curiel on June 3, which Eli approved on June 9.

Charles

From: Beverley A Everson [mailto:beverson@fs.fed.us]

Sent: Thursday, July 09, 2009 3:35 PM
To: Tom Furgason; Charles Coyle; Melissa Reichard; Robert Lefevre; Salek Shafiqullah; Melinda D Roth
Subject: meeting to discuss specialist communication with Bounds of Analysis

Charles,

Yesterday Bob Lefevre and Salek brought to my attention that they had only recently received some information from SWCA that was necessary for their Bounds of Anaylis reveiws. Apparently there was some breakdown in communication with transmission of the needed information. I've asked that the four of us meet next Wednesday at 8:00 to talk about the issue and stratagize to facilitate better communication between FS and SWCA specialists in the future. Tom and I discussed the meeting time and date, and it sounds like you're available to join us by teleconference next Wednesday at 8:00.

Salek, I need to confirm your availability also. The plan is to meet in 6V6.

Bev

Beverley A. Everson
Forest Geologist
Coronado National Forest
300 W. Congress Street, 6th Floor
Tucson, AZ. 85701

Voice: 520-388-8428

Fax: 520-388-8305 Chapter 3 Sections and Assignments 5-27-09.doc

"Melissa Reichard " <mreichard@swca.com>
07/07/2009 11:17 AM

To "Tom Furgason" <tfurgason@swca.com>, "Beverley A Everson" <beverson@fs.fed.us>, <mroth@fs.fed.us>, "Teresa Ciapusci" <tciapusci@fs.fed.us>
cc
bcc
Subject Theme tracking summary with Final Direction-Mel's Draft

Let me know if there are any changes that you would like made .
Thanks!

Mel Theme tracking summary with Final Direction.xls

Theme #	Category	Theme	Notes
12	CC	Mine may contribute to climate change	Sig. Theme with No Issue
17	FM	Increased risk of wildfire	Sig. Theme with No Issue
27	LG	Degradation of Rangeland	Just had rationale to make it a Not Significant but E & N are siting it as included
51	PHS	Explosives Storage and Handling	Not Sig. but C is siting it as included
59	Rip	National Conservation Area	Sig. Theme with No Issue
61	Socio	Local Economic Activity	Sig. Theme with No Issue
80	Veg	Vegetation Moisture Availability	Just had rationale to make it a Not Significant but N is siting it as included
86	VRM	Reclamation Timeline and Persistence of Impacts	Sig. Theme with No Issue
88	VRM	Consistency with Federal, State, and Local Visual Resource Management Objectives for the Area	Just had rationale to make it a Not Significant but O is siting it as included
89	WR	Groundwater Depletion in the Mine Area	Just had rationale to make it a Not Significant but N is siting it as included
92	WR	Potential Pit Lake	Just had rationale to make it a Not Significant but Q is siting it as included
93	WR	Loss of Recharge in the Mine Area	Just had rationale to make it a Not Significant but N is siting it as included
94	WR	Surface and Storm Water Control	Just had rationale to make it a Not Significant but R is siting it as included
97	WR	Mine Water Supply Pipeline	Sig. Theme with No Issue
100	WR	Alternative Mine Water Supply	Sig. Theme with No Issue
101	Wild	Loss of Wilderness Characteristics	S sites this as included, but I suspect that 100 is intended
105	WH	Impacts to Other Sensitive Areas in the Vicinity	Just had rationale to make it a Not Significant but N & T is siting it as included

Kathy Arnold
<karnold@rosemontcopper .com>
12/03/2009 10:37 AM

To Melissa Reichard <mreichard@swca.com>
cc Jamie Sturgess <jsturgess@augustaresource.com>, Melinda D Roth <mroth@fs.fed.us>, "tciapusci@fs.fed.us" <tciapusci@fs.fed.us>, Tom Furgason
bcc
Subject Re: Rosemont GIS files

Melissa -
I want to be sure the GIS files remain in context for the reporting. The alternatives that were generated at Tetra Tech will be available on a disk for you today.

I am requesting the consultants provide list of all GIS layers available on a per report basis so that I can provide the Forest Service, ACOE, BLM, and SWCA with the appropriate information necessary to prepare the EIS documents and perform analysis. We will provide a list of the information available and be prepared to answer your questions (and possibly provide electronic information) on a per request basis. As I have stated before I am concerned with sharing electronic information that will be packaged up and handed out to the state and local governments (those regulatory agencies that have permitting authorities can request information specific to their permits through appropriate channels). I remain concerned that electronic information, once turned over to others, becomes subject to change or misinterpretation if it is not in the context provided by the reports and not accompanied by the appropriate legends, footnotes, titles, etc.

Regards,
Kathy

Katherine Ann Arnold, P.E. | Director of Environmental and Regulatory Affairs
Cell: 520.784.1972 | Main: 520.297.7723 | Fax 520.297.7724
karnold@rosemontcopper.com

ROSEMONT COPPER

Rosemont Copper Company
P.O. Box 35130 | Tucson, AZ 85740-5130
3031 West Ina Road | Tucson, AZ 85741 | www.rosemontcopper.com

PLEASE NOTE: : This e-mail message, including any attachments, is for the sole use of the intended recipients and may contain confidential and/or privileged information. Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please delete all copies and notify us immediately.

From: Melissa Reichard <mreichard@swca.com>
Date: Mon, 23 Nov 2009 16:44:30 -0600
To: Katherine Arnold <karnold@rosemontcopper.com>, Melinda D Roth <mroth@fs.fed.us>, <tciapusci@fs.fed.us>, Tom Furgason <tfurgason@swca.com>
Cc: Jamie Sturgess <jsturgess@augustaresource.com>
Subject: RE: Rosemont GIS files

Kathy-
I understand your concern. You are correct about the Cooperators requesting this type of data. To my knowledge, the Forest will be receiving an index of the data that we have. We also have been, to date, the ones actually constructing any data layers and maps. So, I believe- at least initially- we will be the ones housing it on a secure server with very limited access. After we receive the data, index it and organize it, we will be utilizing it for the analysis in various draft/deliberative forms.

For the record- I understand that I need to capture all the GIS data when the DEIS is released to document available information at the time and then again at the release of the FEIS. I do not believe it will be in the record until those times.

As far as when, how and what the data will be released to Cooperators, we would need to refer to Mindee, TA or Reta.

I have heard back from Jim Davis at Montgomery and he is working on compiling data for me. I will alert him to run things by you first before my pick up.

Thanks!

Melissa

"Science is organized knowledge. Wisdom is organized life." -Immanuel Kant

From: Kathy Arnold [mailto:karnold@rosemontcopper.com]
Sent: Monday, November 23, 2009 3:31 PM
To: Melissa Reichard; Melinda D Roth; tciapusci@fs.fed.us; Tom Furgason
Cc: Jamie Sturgess
Subject: Re: Rosemont GIS files

Melissa-
We have been hesitant to turn over GIS files for materials because the Forest has been asked by the cooperators to give them any GIS files developed. Because of the state sunshine rules, some of your cooperators may feel obliged to share the layers which we are concerned would end up publically disseminated without context.

What is the intent of gathering additional GIS information? Where will this be used/housed/etc.? Because we have some items that have not been submitted to the Forest yet, I will need to review everything prior to my consultants pulling that information together – I will do my best to be sure we make your Dec. 3 deadline but I would like to know what the parameters are first.

Thanks -
Kathy
Katherine Ann Arnold, P.E. | Director of Environmental and Regulatory Affairs
Cell: 520.784.1972 | Main: 520.297.7723 | Fax 520.297.7724
karnold@rosemontcopper.com

ROSEMONT COPPER

Rosemont Copper Company
P.O. Box 35130 | Tucson, AZ 85740-5130
3031 West Ina Road | Tucson, AZ 85741 | www.rosemontcopper.com

PLEASE NOTE: : This e-mail message, including any attachments, is for the sole use of the intended recipients and may contain confidential and/or privileged information. Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please delete all copies and notify us immediately.

From: Melissa Reichard <mreichard@swca.com>
Date: Mon, 23 Nov 2009 13:16:21 -0600
To: Katherine Arnold <karnold@rosemontcopper.com>, <mroth@fs.fed.us>
Cc: Brian Lindenlaub <blindenlaub@westlandresources.com>, Hale Barter <hbarter@elmontgomery.com>, Jamie Joggerst <jamie.joggerst@tetratech.com>, Jaime Wood <jwood@epgaz.com>, Teresa Ann Ciapusci <tciapusci@fs.fed.us>, Tom Furgason <tfurgason@swca.com>, <droth@m3eng.com>, <derek.whittwer@amec.com>
Subject: Rosemont GIS files

Hi Ladies-

We have recently received the assignment to gather ALL GIS data for the EIS. I need everyone to bundle up ALL GIS data files that you have- even if you may have already sent some. I would like ALL the files you have, so we can be sure that nothing gets missed. Knowing that these files can be extremely large, I would like them in a tangible form (i.e. DVD or external hard drive).

I'm sure that everyone is aware of our newly published, extremely tight, deadline for the DEIS. Therefore, I will be collecting these next Thursday morning- December 3rd . I plan on driving to all necessary locations to pick these up for you. If you have them done ahead of time, I can make other arrangements. I am also happy to help in any way I can to make this happen. The point being, that I need to make this happen in short order. So, please let me know if you encounter any obstacles that require my help.

This is the current list of companies/agencies that I have thought of to respond to this request:
Montgomery & Assoc
TetraTech
Rosemont Copper
Westland
AEC
Stantec
AMEC
M3
EPG
Forest Service
Pima County

I have tried to include all the necessary contacts, but there are a few that I didn't have contact information for. So, please look at the distribution and forward this on to whomever necessary and cc me.

I appreciate all of your attention and time on this task- especially in the Holiday season.

Melissa Reichard
Project Administrator
SWCA Environmental Consultants
343 West Franklin Street
Tucson, Arizona 85701
(520)325-9194, (520)325-2033 fax

Sound Science. Creative Solutions.

"Man's mind, once stretched by a new idea, never regains its original dimensions." -Oliver Wendell Holmes

"Jonathan Rigg"
<jrigg@swca.com>
05/05/2010 08:53 AM

To "Melinda D Roth" <mroth@fs.fed.us>, <beverson@fs.fed.us>
cc
bcc
Subject MPO analysis and outline test

Mindee and Bev,

After digesting yesterday's meeting last night it has become clear that the document SWCA is putting effort into submitting on May 7th will not meet the updated needs of the FS. These needs, as discussed on Friday, and again yesterday, are:

1) supply a revised MPO description per the new EIS outline provided by Rochelle Desser,
2) apply the recently approved issues and units to measure to the analysis of resource's Environmental Consequences sections for the MPO
3) try on the new outline to find any issues that may arise by its implementation
4) highlight data gaps, pending report finalizations, etc.

The critical path for SWCA to produce a document that will meet these needs is to reformat Chapters 2 and 3 per the new outline, however, we only received verbal approval of the outline on Monday, May 3rd, after hearing that Reta did not have any major concerns about the outline. Implementing the revised outline is critical not only because needs 1 and 3 are directly reliant upon its implementation, but a revised Affected Environment section is necessary to support need 2.

During our discussion at the meeting yesterday, it became apparent to you that what we are putting together for May 7th is not going to be a document that is of enough value for a detailed review and commenting, predominantly because we do not have enough time to revise Chapter 3 per the new outline. My call to Mindee after the meeting was intended to express concern over the level of effort we are expending for what will ultimately be a document that gets shelved because what the FS really needs is a revised Chapter 2 and 3. In the spirit of efficiency, I strongly suggest that we regroup and focus our energy on supplying the FS with a document that will meet these needs and be of enough value that the FS will review and provide comments. What I propose is:

Chapter 2: MPO description revised per the new outline with Figures: **May 21st** ~~I thought Chpt. had~~ would be more complete w/ RCD - figures.
List of data gaps and pending information needs from our resource specialists: **May 21st** ~~for alt. description & for MPO analysis~~ been reformatted.
Chapter 3: Two completed resource sections per the new outline- Groundwater (very complex), and Livestock/Grazing (relatively simple)- with figures: **May 28th** - along with all other res. sections?

These two submittals will meet the above-listed needs of the FS, are a realistic time frame for producing a quality product to address these needs (rather than a reaction to Kathy's management methods lecture in a meeting), and will be an efficient use of SWCA and FS effort in determining the final template for the EIS. Please give me a call to discuss. If you agree, I would like to change direction and focus our team towards these goals right away.

Best,

Post to where "revised" doc. as it is on May 7th? → or let RCC know we have res. a different template/outline

Reta Laford/R3/USDAFS
12/09/2009 07:56 AM

To mreichard@swca.com, tfurgason@swca.com
cc Melinda D Roth/R3/USDAFS@FSNOTES, Beverley A Everson/R3/USDAFS@FSNOTES, Reta Laford/R3/USDAFS@FSNOTES
bcc
Subject Rosemont Scoping Report #3 (draft)

Attached is my latest draft of Scoping Report #3, it continues from the draft Melissa and I jointly worked on in September.

Note -
1) We previously agreed to not wordsmith pages 1-4.25 since they are what was used in Reports # 1 and#2.
2) Pages 4.25-14 I tried to spell out what the IDT had done. Yes it is tedious with lots of tables. I realize many readers may not want to read them, but for those who really want or need to know what we did I felt it was important to cover in such detail. Some earlier thoughts were to appendix such, but on further consideration I do not advocate such.
3) SWCA, please review pages 4.25-14 closely. Look at my comments. See what Appendix items are referred to. Note that I also will need help defining the lists for the buckets other than the significant issues. Melisssa, we can catch up by phone or other this afternoon to discuss content and scheduling
4) FS, You are welcome to review pages 4.25-14 for accuracy, but I am not interested in word smithing.

2009 12 REtas edits to after Issues recomended 2009 09 24 Melissa Friday SR3_092409_MR.doc

Reta Laford, Deputy Forest Supervisor

USDA Forest Service, Coronado National Forest
300 W Congress Street, Tucson, AZ 85701

Phone: 520-388-8307 (office), 505-452-7557 (cell)
Fax: 520-388-8305
Email: rlaford@fs.fed.us

Do worksheets give w/ this report? - wording of questions

"Blaine, Marjorie E SPL" <Marjorie.E.Blaine@usace.army.mil>
07/21/2010 04:29 PM

To "Hattenbach, Steve" <STEVE.HATTENBACH@OGC.USDA.GOV>, "Melinda D Roth" <mroth@fs.fed.us>
cc "Brian Lindenlaub" <blindenlaub@westlandresources.com>, "Reta Laford" <rlaford@fs.fed.us>, "Tom Furgason" <tfurgason@swca.com>
bcc
Subject RE: Rosemont

Mr. Hattenbach

Thank you very much....considering your caseload and possible court schedule, on which of those days would you be most likely to remain available?

Marjorie
Assist us in better serving you!
You are invited to complete our customer survey, located at the following link: http://per2.nwp.usace.army.mil/survey.html
Note: If the link is not active, copy and paste it into your internet browser.

-----Original Message-----
From: Hattenbach, Steve [mailto:STEVE.HATTENBACH@OGC.USDA.GOV]
Sent: Wednesday, July 21, 2010 3:45 PM
To: Blaine, Marjorie E SPL; Melinda D Roth
Cc: Brian Lindenlaub; Reta Laford; Tom Furgason
Subject: RE: Rosemont

I am currently available on August 3rd 1 p.m. Mountain Time or later, and all day the 4th and 5th.

Steve Hattenbach
USDA, OGC
P.O. Box 586
Albuquerque, NM 87103-0586
phone (505) 248-6020
fax (505) 248-6013

This communication and any attachments may be attorney-client privileged and confidential and are intended only for the use of the individual or entity named above. If you have received this communication in error, please immediately destroy it and notify the sender.

-----Original Message-----
From: Blaine, Marjorie E SPL [mailto:Marjorie.E.Blaine@usace.army.mil]
Sent: Wednesday, July 21, 2010 4:40 PM
To: Melinda D Roth
Cc: Brian Lindenlaub; Reta Laford; Tom Furgason; Hattenbach, Steve
Subject: RE: Rosemont

Mindee:

Thank you. We'd like to keep it simple. So I just need the date and time in those three days that is best for him and our attorneys will work that into their schedules since Mr. Hattenbach has more constraints. Once he gives us that, then we'll set up a conference call-in number for him. As far as prework, if you all want to brief him, that's fine but our attorneys are

aware of the issues. Participants would be three of us and hopefully just a few of you like Mr. Hattenbach, you, and Reta. I'll set up the topics/agenda once we have the date. So all I need from you/him is the date and time on one of those days that is the most convenient for him. I am expecting this will take no more than an hour at the most.

Thank you!

Marjorie
Assist us in better serving you!
You are invited to complete our customer survey, located at the following link: http://per2.nwp.usace.army.mil/survey.html
Note: If the link is not active, copy and paste it into your internet browser.

-----Original Message-----
From: Melinda D Roth [mailto:mroth@fs.fed.us]
Sent: Wednesday, July 21, 2010 3:36 PM
To: Blaine, Marjorie E SPL
Cc: Brian Lindenlaub; Reta Laford; Tom Furgason; STEVE.HATTENBACH@OGC.USDA.GOV
Subject: Re: Rosemont

Right now, Steve Hattenbach, our OGC attorney in Albuquerque, is available August 3, 4, or 5, although he has a heavy caseload and is expecting court schedules to start filling in over the next 2 weeks. It might be best to put the attorneys in direct communications to work out the schedule, logistics, prework, participants, topics, agenda, etc.

Mindee Roth
Coronado National Forest
300 W. Congress, FB42
Tucson, AZ 85701
(520) 388-8319
(520) 396-0715 (cell)
(520) 388-8305 (FAX)

"Blaine, Marjorie E SPL" <Marjorie.E.Blaine@usace.army.mil>

07/21/2010 11:54 AM To
"Melinda D Roth" <mroth@fs.fed.us>, "Reta Laford" <rlaford@fs.fed.us> cc "Tom Furgason" <tfurgason@swca.com>, "Brian Lindenlaub" <blindenlaub@westlandresources.com>
Subject
Rosemont

Mindee and Reta

I left messages for you both but will send you a quick email.

I met with our attorneys this morning. Our chief attorney is a NEPA and a

takings expert and our regulatory attorney is a NEPA and regulatory expert. They contend that NEPA requires the USFS to look at offsite alternatives....NEPA does not get into takings. So while your decision in the end "might" be limited by takings considerations, NEPA still requires you to look at the full array of alternatives including the alternative mineral resources proximal to the Rosemont ore body and other offsite alternatives. They would be most happy to have this discussion with your attorneys and wonder if we can schedule this for either August 3, 4, or 5th...a telecon is probably the best.

To that end, they have advised me that, until this is settled and agreed upon, we cannot participate in any meetings regarding mitigation, etc. so I will not be in the call today.

Finally, I did a quick look at the revision of Chp 1 and find it to be really problematic as did our attorney. I will be giving you comments but your purpose and need are still very unclear and our comments were not appropriately incorporated. Again, I'll provide you our detailed comments next week as promised.

I look forward to your call or email confirming one of those dates for our attorneys and us to meet.

Thank you very much.

Marjorie Blaine
Senior Project Manager/Biologist
U.S. Army Corps of Engineers
Tucson Project Office, Regulatory Division
5205 E. Comanche Street
Tucson, AZ 85707
(520)584-1684 (phone)
(520)584-1690 (fax)
Assist us in better serving you!
You are invited to complete our customer survey, located at the following link: http://per2.nwp.usace.army.mil/survey.html
<http://per2.nwp.usace.army.mil/survey.html>
Note: If the link is not active, copy and paste it into your internet browser.

U.S. DEPARTMENT OF AGRICULTURE **SPEED MEMO**

PART NUMBER	DATE
2	04/14/2010

TO
Melissa Reichard
SWCA

SUBJECT
Document Transfer

FROM
Teresa Ann Ciapusci
USFS CNF

MESSAGE *(WRITE CONCISE MESSAGE SIGN AND FORWARD PARTS 1 AND 3 TO ADDRESSEE RETAIN PART 2.)*

Two white binders

Ten pages of newspaper clippings

TEP public comment brochure

Rosemont Copper "The Facts" 3 pages

"The Wonder of Copper" Folding illustration

Public Comment to Sec. Jensen - 8 pages

Public Comment - One page

Town of Sahuarita FAQ's (1 page)

Rosemont Status Meeting 3-23-10 (2 pages)

Rosemont Technical Reports Review (6 pages)

Rosemont Hydrology Review - Pima County Administrative office (6 pages)

Technical comments on surface water hydrology (6 pages)

Issues and Factors for Alternative Comparison (9 pages)

SIGNATURE

REPLY *(USE THIS SPACE FOR REPLY SIGN AND DATE. RETURN PART 3 TO SENDER. RETAIN PART 1.)*

SIGNATURE	DATE

(DESTROY THIS PART 2 UPON RECEIPT OF REPLY)

FORM AD-311 (REV. 3/81)

SENDER'S COPY

U.S. DEPARTMENT OF AGRICULTURE

SPEED MEMO

PART NUMBER	DATE
1	5/8/2009

TO Melissa Reichard
SWCA

SUBJECT
Record Documents

FROM T. A. Ciapusci
CNF

MESSAGE (WRITE CONCISE MESSAGE SIGN AND FORWARD PARTS 1 AND 3 TO ADDRESSEE RETAIN PART 2.)

Mtg. Documentation - April 1 & 2, 2009
Email from Andrea Campbell to Neal Hanna
Letter from Earth First
Scoping Power Point CD
Certified Letters
- AZ State Parks
- ADWR
- AGFD
- City of Tucson

SIGNATURE [signature] 5/15/09

REPLY (USE THIS SPACE FOR REPLY SIGN AND DATE. RETURN PART 3 TO SENDER. RETAIN PART 1.)

SIGNATURE | DATE

FORM AD-311 (REV. 3

ADDRESSEE COPY

U.S. DEPARTMENT OF AGRICULTURE

SPEED MEMO

PART NUMBER	DATE
1	5/8/09

TO: Melissa Reichard
SWCA

FROM: TA. Ciapusci
CNF

SUBJECT: Record Documents

MESSAGE (WRITE CONCISE MESSAGE SIGN AND FORWARD PARTS 1 AND 3 TO ADDRESSEE RETAIN PART 2.)

TEP Transmission Line Sign In
Draft Ch. 3 Outline notes
Freeport McMoRan Sulfate Mitigation - letter from ADEQ
News Clippings
Letter to Reta from Jim Pepper
Letter to Tom from Reta
Letter from Reta to RCC
Draft MOU accomplishment Tracking
Guidance for Cause & Effect Statements

SIGNATURE: Teresa A. Ciapusci 5/15/08

REPLY (USE THIS SPACE FOR REPLY SIGN AND DATE. RETURN PART 3 TO SENDER. RETAIN PART 1.)

SIGNATURE | DATE

FORM AD-311 (REV. 3/81)

ADDRESSEE COPY

☆ U.S. Government Printing Office: 1981—351-522

DEPARTMENT OF AGRICULTURE

SPEED MEMO

PART NUMBER	DATE
2	10/22/08

TO: Melissa Reichard - SUCA

SUBJECT: Records

FROM: T. A. Ciapusci — CNF

MESSAGE

9/15/08 Response to Grijalva

10/17/08 Jeanine's ltr. to Ned Norris of Tohono O'odham

10/17/08 Above ltr. cc documentation

9/15/08 Response to Giffords

10/9/08 CA Invitation to Town of Sahuarita

10/20/08 EPA CA Response

Comment letters: Edith Klein Rcd: 9/2/08

8/27/08 mtg Sign-In Rosemont Status Meeting

SIGNATURE

REPLY

SIGNATURE

DATE 10/22/08

(DESTROY THIS PART 2 UPON RECEIPT OF REPLY.)

FORM AD-311 (REV. 3/81)

SENDER'S COPY

U.S. DEPARTMENT OF AGRICULTURE **SPEED MEMO**

PART NUMBER	DATE
2	09/02/08

TO Melissa Reichart
SWCA

SUBJECT
Document Transfer

FROM
Teresa Ann Ciapusci
USFS

MESSAGE

1) August Status letter to Rosemont (File Code 2810 dated 8/26/08) plus attachments: transaction register and WPTR
2) Scoping Notice USDI BOR dated 8/11/08
3) Newspaper article: 2nd Green Valley Water Line Proposed
4) Cooperating Agency responses
   - E-Mail: ~~FE~~ AZ Dept of Mineral Resources
   - AZ State Land Dept
   - City of Tucson
   - US Dept of Transportation Federal Highway Admin. AZ Division

SIGNATURE

REPLY

SIGNATURE | DATE

(DESTROY THIS PART 2 UPON RECEIPT OF REPLY.)

FORM AD-311 (REV. 3/81)

SENDER'S COPY

U.S. DEPARTMENT OF AGRICULTURE — SPEED MEMO

PART NUMBER	DATE
1	12/11/08

TO: Melissa Reichard - SWCA

FROM: Marc Kaplan - CNF

SUBJECT: FOIA Records

MESSAGE *(WRITE CONCISE MESSAGE SIGN AND FORWARD PARTS 1 AND 3 TO ADDRESSEE RETAIN PART 2.)*

FOIA #	what received
23-COR-08-017	Response
R3-COR-08-020	Requests dated 4/7/08, 4/21/08, 5/19/08 Responses dated 6/13/08, 8/12/08
R3-COR-08-020	Response
R3-COR-08-024	Responses dated 6/13/08, 6/16/08, 8/11/08
R3-COR-08-025	Request Responses dated 6/3/08, 6/13/08
R3-COR-08-026	Request & Response
R3-COR-08-027	Request & Response
R3-COR-08-029	Response 6/18/08
R3-COR-08-030	Request & Response
R3-COR-08-033	Request & Response
R3-COR-09-003	Request Response 12/10/08

SIGNATURE

REPLY *(USE THIS SPACE FOR REPLY SIGN AND DATE. RETURN PART 3 TO SENDER. RETAIN PART 1.)*

SIGNATURE Teresa Ann Cigan — DATE 01/09/09

FORM AD-311 (REV. 3/81)

ADDRESSEE COPY

U.S. DEPARTMENT OF AGRICULTURE **SPEED MEMO**

PART NUMBER	DATE
3	09/02/08

FROM Melissa Reichart
SWCA

TO Teresa Ann Ciapusci
USFS

SUBJECT Document Transfer

MESSAGE

1) August Status letter to Rosemont (File Code 2810 dated 8/26/08) plus attachments: transaction register and WPTR
2) Scoping Notice USDI BOR dated 8/11/08
3) Newspaper Article: 2nd Green Valley Water Line Proposed
4) Cooperating Agency responses
   - E-Mail: ~~AZ~~ AZ Dept of Mineral Resources
   - AZ State Land Dept
   - City of Tucson
   - US Dept of Transportation Federal Highway Admin. AZ Division

SIGNATURE [signature]

REPLY

Above #1 was labeled with this FileCode & date however, the statement states that it is July's Status Summary.

SIGNATURE [signature] DATE 9/4/08

FORM AD-311 (REV. 3/81)

RETURN TO SENDER

U.S. DEPARTMENT OF AGRICULTURE **SPEED MEMO**

PART NUMBER	DATE
2	10/2/08

TO Melissa Reichard
SWCA

FROM T.A. Ciapusci
CNF

SUBJECT Records Transfer - Rosemont

MESSAGE *(WRITE CONCISE MESSAGE SIGN AND FORWARD PARTS 1 AND 3 TO ADDRESSEE RETAIN PART 2.)*

News Articles

5555R FOIA delivery receipt

Various Meeting Agendas

Mine tour thank you letters

Vail School District Invoice

Letters from:

Bureau of Rec - CWC CAP project

State Parks - CA response

Rosemont Copper - Coop Agency concerns

SHPO - CA response

Bureau of Rec - CA response

ADEQ - CA response

American Indian Special Trustee - CA response

Kendra Bangart
SIGNATURE

REPLY *(USE THIS SPACE FOR REPLY SIGN AND DATE. RETURN PART 3 TO SENDER. RETAIN PART 1.)*

Comment letter from Edith Kleiss for date stamp

SIGNATURE [signature] DATE 10/2/08

(DESTROY THIS PART 2 UPON RECEIPT OF REPLY) FORM AD-311 (REV. 3/81)

SENDER'S COPY

U.S. DEPARTMENT OF AGRICULTURE **SPEED MEMO**

PART NUMBER	DATE
2	08/25/08

TO
Tom Furgason
SWCA

FROM
Teresa Ann Ciapusci
USFS

SUBJECT
Misc documents
Transfer

MESSAGE *(WRITE CONCISE MESSAGE SIGN AND FORWARD PARTS 1 AND 3 TO ADDRESSEE RETAIN PART 2.)*

Coop Agency response: AZ Dept of Public Safety

Briefing paper: 08/14/08 Congressional delegation
Staffs briefing

SIGNATURE Teresa Ann Ciapusci

REPLY *(USE THIS SPACE FOR REPLY SIGN AND DATE. RETURN PART 3 TO SENDER. RETAIN PART 1.)*

SIGNATURE	DATE

(DESTROY THIS PART 2 UPON RECEIPT OF REPLY) FORM AD-311 (REV. 3/81)

SENDER'S COPY

U.S. DEPARTMENT OF AGRICULTURE **SPEED MEMO**

PART NUMBER	DATE
2	08/22/08

TO Melissa Reichard
SWCA

FROM ~~Teresa~~ Ann Ciapusci
USFS

SUBJECT
Document Transfer

MESSAGE

1) News articles (2 articles from AZ Star
   a) STench Coming from Rosemont
   b) Nuns decry proposed Rosemont Mine
2) Possible FOIAs - no FOIA Response needed per Andrea Campbell - please return to records
3) Cooperating agency responses
   a) AZ Geological Society
   b) US Geological Survey

SIGNATURE

REPLY

SIGNATURE | DATE

(DESTROY THIS PART 2 UPON RECEIPT OF REPLY.) FORM AD-311 (REV. 3/81)

SENDER'S COPY

U.S. DEPARTMENT OF AGRICULTURE **SPEED MEMO**

PART NUMBER	DATE
2	08/19/08

TO

Melissa Reichard SWCA

FROM

Teresa Ann Ciapusci USFS

SUBJECT

Administrative Record Components & Misc.

MESSAGE *(WRITE CONCISE MESSAGE SIGN AND FORWARD PARTS 1 AND 3 TO ADDRESSEE RETAIN PART 2.)*

1) Letters for Administrative Record
   - Dept of Air Force 8/14/08
   - AZ Game & Fish 8/11/08
   - USDI Bureau of Reclamation 8/11/08
   - US Dept of Labor 8/06/08
   - AZ Dept of Water Resources 8/5/08
2) Returned Letter - unclaimed (Ward - Office of Regional Geology)
3) Newspaper Articles (3)

SIGNATURE Teresa Ann Ciapusci

REPLY *(USE THIS SPACE FOR REPLY SIGN AND DATE. RETURN PART 3 TO SENDER. RETAIN PART 1.)*

SIGNATURE	DATE

(DESTROY THIS PART 2 UPON RECEIPT OF REPLY) FORM AD-311 (REV. 3/81)

SENDER'S COPY

☆ U.S. Government Printing Office: 1981—351-522

U.S. DEPARTMENT OF AGRICULTURE **SPEED MEMO**

PART NUMBER	DATE
2	7/15/08

TO
M. Reichard - SWCA

FROM
T.A. Ciapusci - FS

SUBJECT
Proposed Rosemont Copper Project record

MESSAGE

Mailing Lists (10/18/06 - 3/4/08)
Hopi mtg Notes 2/21/07
450.4th DEO Trip Notes 4/25/08
Tohono O'odham mtg Notes 6/17/08
NOI w/fedex airbill copy

News Articles
Comments
Previous mtg. agendas

Cert. Mail 7/11/08
BLM
ACOE
DMAFB
EPA

SIGNATURE Teresa A. Ciapusci

REPLY

SIGNATURE [illegible] DATE 7/15/08

(DESTROY THIS PART 2 UPON RECEIPT OF REPLY.)

FORM AD-311 (REV. 3/81)

SENDER'S COPY

U.S. DEPARTMENT OF AGRICULTURE **SPEED MEMO**

PART NUMBER	DATE
2	06/24/08

TO
MELISSA REICHARD
SWCA

FROM
TERESA ANN CIAPUSCI
USFS

SUBJECT
ROSEMONT MINE PROJECT
DOCUMENTS TRANSFER

MESSAGE

1) AZ DAILY STAR CLIPPINGS
   - GUEST OPINION - ROSEMONT, AUGUSTA WANT MINE FULLY VETTED
   - FOREST SERVICE SEEKS PUBLIC'S INPUT ON ROSEMONT COPPER MINE PROPOSAL

2) COMMENTS (HANDCARD)
   - E-MAIL + ATTACHMENT 05/07/08 BECK
   - 06/15/08 LA SCHIAVA
   - 06/19/08 MORBECK
   - UNDATED RAYMOND
   - UNDATED LANNON
   - UNDATED HAYES
   - 06/17/08 BUNTING (GRAPEVINE RANCH FOUNDATION)
   - UNDATED CALDWELL
   - 06/03/08 LEMEN (SONORAN DESERT MOUNTAIN BICYCLISTS
   - UNDATED RHODES

SIGNATURE
- UNDATED BROWN

REPLY
- UNDATED STONE
- UNDATED CANDEE
- UNDATED MENDOZA
- UNDATED GRUNDSTEDT
- UNDATED EYDE
- 06/13/08 CORBETT (ARIZONA HAWKS)

3) ONE PKG AD-311 FORMS

SIGNATURE | DATE

(DESTROY THIS PART 2 UPON RECEIPT OF REPLY.) FORM AD-311 (REV. 3/81)

SENDER'S COPY

U.S. DEPARTMENT OF AGRICULTURE

SPEED MEMO

PART NUMBER	DATE
2	06/18/08

TO
SWCA - Tom Furgason

FROM
CNF
Teresa Ann Ciapusci

SUBJECT
Transmit Paperwork

MESSAGE

1) Copy of news article from AZ Daily Star (06/18/08)
"Mine Proposal Has Japanese Financial Link"

2) Scoping Comment (06/08/08 Hammond)

3) FSH 1909.15 Chapter 60 - References
63 - List of Federal Agencies and Federal-State Agencies with Jurisdiction by Law or Special Expertise on Environmental Quality Issues

~~4) PALS database report NCA Cooperating Agencies ... 2005~~
[initials] 6/18/08

SIGNATURE [signature]

REPLY

SIGNATURE

DATE

(DESTROY THIS PART 2 UPON RECEIPT OF REPLY.)

FORM AD-311 (REV. 3/81)

SENDER'S COPY

U.S. DEPARTMENT OF AGRICULTURE **SPEED MEMO**

PART NUMBER	DATE
2	06/13/2008

TO
TOM FERGUSON SWCA

SUBJECT
TRANSFER OF DOCUMENTS

FROM
TIMOTHY A. CHAPMAN

MESSAGE

1) KS REGIONAL REVIEW REQUEST AND PROCESS DOCUMENTATION

2) ORIGINAL LETTER FROM CHEJACHUA AND GIFFORDS (05/22/2008)

3) COMMENT FORM (PEGGY NOLTE)

4) ORIGINAL LETTER FROM TOWN OF SAHUARITA (06/09/2008)

SIGNATURE

REPLY

SIGNATURE | DATE

(DESTROY THIS PART 2 UPON RECEIPT OF REPLY.)

FORM AD-311 (REV. 3/81)

SENDER'S COPY

ROSEMONT COPPER

ROSEMONT COPPER COMPANY
HEAD OFFICE
4500 Cherry Creek South Drive - Suite 1040
Denver, Colorado 80246 USA

TEL: (303) 300 0134
FAX: (303) 300 0135
WEB: www.rosemontcopper.com

Tucson, AZ 85701
Received
MAR 29 2010
Coronado National Forest

March 25, 2010

Coronado National Forest
Supervisor's Office
Attn: Jeanine Derby, Forest Supervisor
300 W. Congress St.
Tucson, AZ 85701

COPY

RE: Rosemont Mine Plan of Operations ("MPO") Alternatives Analysis

Dear Jeanine:

In accordance with the terms and conditions of the Memorandum of Understanding ("MOU") between the Coronado National Forest ("Forest Service" or "Service") and Rosemont Copper Company, Inc. ("Rosemont"), Rosemont submits the following comments on the various alternatives to the proposed MPO currently under consideration by one or more of the cooperating agencies. These comments are being provided to the Service in the same spirit of cooperation under which the MOU was negotiated. We hope the information contained in this letter is helpful to the Service in focusing its alternatives selection.

Under the National Environmental Policy Act ("NEPA"), the purpose of and need for the proposed action are used to define the range of alternatives analyzed in an environmental impact statement ("EIS"). Because this is an externally driven NEPA process, Rosemont's MPO is the proposed action. The Service's stated purpose for the NEPA process "is to grant permission to the Company to use NFS land for certain activities related to operation of the Rosemont Mine." *See* Notice of Intent, 73 Fed. Reg. 13527 (Mar. 13, 2008). The agency's need for action is "based on statutes and policy that govern mining on NFS land." *Id.* The decision the Service will make, after fulfilling its NEPA requirements, will be to implement the proposed MPO and such mitigation as necessary to avoid adverse impacts or to implement an alternative to the MPO along with associated mitigation using the no-action alternative as a baseline for impacts. *Id.*

There are related purposes and needs for the proposed action that are more specific to the development of Rosemont's ore reserves within the Rosemont/Helvetia mining district.[1] When there is an externally driven proposed action, the proponent's related purposes and needs are not only relevant to the development and analysis of alternatives; they must be acknowledged and taken into account under a "hard look" standard. Perhaps more importantly, in selecting alternatives, the Service should consider the mandates of Congress set forth in the statutes such as the Federal Mining and Minerals Policy Act (i.e., to ". . . foster and encourage private enterprise in the (1) development of economically sound and stable domestic mining . . . industries.").

We recognize the challenge presented for the Service, in particular for the interdisciplinary team ("ID Team"), in sorting through the expansive comments received during the broad ranging scoping effort where no limitations were placed on the generation of ideas for alternatives to the MPO. At this point in the NEPA process, however, the specific task at hand for the ID Team is to analyze alternatives to the MPO necessary to permit a reasoned choice of the preferred alternative. (40 CFR 1502.14) (see Question 1b, CEQ, *Forty Most Asked Questions Concerning CEQ's NEPA Regulations, March 23, 1981).* Only those alternatives that are reasonable are worthy of further exploration and objective evaluation in the NEPA process. *Id.; see also* MOU (Section D, Paragraph 15). "Reasonable alternatives include those that are *practical or feasible* from the technical and economic standpoint and using common sense rather than simply desirable from the standpoint of the applicant." (emphasis added) (Question 2a, CEQ, *Forty Most Asked Questions Concerning CEQ's NEPA Regulations, March 23, 1981*).

Additional guidance for alternatives selection is present in the Service's regulations implementing NEPA and in the terms of the MOU. The Service's recently adopted NEPA regulations provide:

> *"[t]he EIS shall document the examination of reasonable alternatives to the proposed action. An alternative should meet the purpose and need and address one or more significant issues related to the proposed action." 36 CFR 220.5(e).*

---

1 These include the construction of facilities to mine and process sulfide and oxide ore for the commercial production of copper and other economically recoverable minerals in a manner consistent with federal mining law and applicable environmental standards. The local, regional, and national economic and strategic needs related to this purpose are significant. The intended development will provide a domestic source of minerals (primarily copper) to meet the industrial, security and strategic needs of the nation consistent with the Federal Mining and Minerals Policy Act (84 Stat. 1876; 30 U.S.C. § 21(a)) and the Domestic Minerals Program Extension Act of 1953 (50 USC § 2181). Further, the development of the mine will provide high-paying job opportunities to Pima County and local community residents with indirect benefits that will reach other sectors of the sub-regional economy including diversifying the employment and tax base. Additional benefit will also be derived through implementation of conservation projects that will ensure the long-term preservation of heritage ranching operations. Finally, taxable profits from the project will fulfill the needs of national and state income tax base.

The word "should" in this regulation is given particular import in light of the Service's response to comments in the final rulemaking. Specifically, one commentator to this regulation objected to the use of the word "should" in the proposed rule and the Service responded that "should" was expressly left in the final regulation because it "provides focus for the development and design of alternatives and continues to allow for reasonable variations, which encompass a reasonable range." *See* 73 Fed. Reg. 43084-43099, 43090 (July 24, 2008).

Further, in Section D, Paragraph 19 of the MOU, the Service committed to Rosemont that it would "endeavor to foster cooperation among other relevant agencies and to integrate NEPA requirements with other environmental review and consultation requirements in order to avoid, to the fullest extent possible, duplication of efforts by such agencies (40 CFR 1500.5(b)(g) and (h), 1501.2(d)(2), 1506.2)." This type of cooperation among agencies is expected in any NEPA process. Thus, the alternatives analysis being undertaken by the Army Corps of Engineers ("Corps") and the Bureau of Land Management ("BLM") on related actions within their regulatory purview as cooperating agencies are important considerations in this process. For example, the Corps (in issuing the necessary §404 permit) will evaluate practicable alternatives to proposed discharges to jurisdictional waters of the United States which will have less adverse impact on the aquatic ecosystem, so long as those alternative do not have other significant adverse environmental consequences. *See* 40 C.F.R. §230.10(a). This decision-making standard varies somewhat from that of the Service and we continue to encourage close coordination among the cooperating agencies to increase NEPA efficiency.

In summary, the standards of reasonableness (practicality and feasibility from a technical and economic standpoint) and meeting the purpose and need for the action necessarily guide the development and subsequent analysis of alternatives. Rosemont submits there are currently four alternatives under consideration by the Service that meet the standards identified above and that warrant more detailed evaluation. These alternatives include: the MPO, Barrel Waste and McCleary Tailings, the Barrel Canyon Waste/Tailing and the no-action alternative. With the obvious exception of the no-action alternative, each of the aforementioned alternatives is practical and feasible and has the following attributes:

- the placement of all material in the Barrel Canyon drainage;
- the containment and confinement of surface drainage allowing optimal surface and groundwater monitoring controls;
- screening of the pit and facilities from view to the maximum extent possible;

- optimization of energy utilization, haul distances and resource recovery; and

- Rosemont's private lands being utilized for their intended purposes.

In contrast, there are certain other alternatives under consideration that fail to meet one or more of the legal standards set forth above. In addition, these other alternatives fail to meet the commitment Rosemont made to answer the demand for copper while meeting the most progressive environmental standards. This commitment by Rosemont guided the development of the MPO, in which the mine footprint was minimized, haul distances were optimized to limit energy utilization and air quality impacts, visual impacts were limited, and early reclamation was promoted as a requirement.

For the reasons identified below, we submit that the following alternatives should be classified as "Alternatives Considered but Rejected" from further consideration.

A. Barrel Waste Rock - Sycamore Tailing

This alternative is not reasonable because it is not practical or feasible from a technical or economic standpoint. The cost of this alternative is approximately $475,000,000 over the life of the mine above other alternatives due to increased energy utilization; conveyor/haul distances, miles of uphill transport and quarrying material on-site for buttress materials. These costs have been documented by substantial evaluation undertaken by Rosemont and submitted to the Service via Memorandum to Bev Everson dated September 25, 2009. This additional cost is compared to an overall cost of approximately $890,000,000 to construct the mine.

In addition, there are important resource considerations that warrant the exclusion of this alternative:

- the placement of material in Sycamore Canyon involves a major ridge crossing and would increase the footprint disturbance associated with the mine because a new rock quarry would need to be developed on the west side of the ridgeline for buttress material;

- the towering downstream slope of any Sycamore tailing stack would be visible day and night (due to lighting requirements for operational reasons) from I-10 and I-19 to much of Tucson, Green Valley, Sahuarita and Corona de Tucson; and

- the placement of tailings material in Sycamore Canyon would eliminate construction of the northeastern perimeter buttress, and would allow a direct line of sight from Scenic Highway 83 straight into the mill and pit facilities and most importantly, preclude concurrent reclamation. ?

B. Barrel Waste Rock- Scholefield Tailing[2]

This alternative is not practical or feasible from a technical or economic standpoint either. The cost for this alternative is in excess of $175,000,000 over and above other more reasonable alternatives due to increased energy utilization and conveyor distances to Scholefield Canyon.[3] This cost excludes an itemization of the additional haulage costs for buttress material placement which is estimated to be between $85,000,000 and $90,000,000.[4] Other considerations weighing against implementation of this alternative include:

- the impact to higher value riparian and core biological habitat under this alternative by placing most of the material in areas identified under the Sonoran Desert Conservation Plan as High Value Biological Core habitat;
- the tailing material would be visible from many more areas to the north and south due to towering down-steam slope on the tailing and waste rock stacks impacting our Hilton Ranch Road neighbors, among others;
- the placement of the material would allow a direct line of sight from scenic Highway 83 into the mill and pit facilities; and
- the placement of material in Scholefield Canyon would impact Rosemont's Hidden Valley ranch property in a manner that would foreclose current and future intended uses for reducing impacts, such as for ranching and reclamation.

C. Upper McCleary Waste Rock – Scholefield Tailing

This alternative is not practical or feasible from a technical or economic standpoint. Implementation of this alternative would require entry into a new drainage north of the Barrel Canyon drainage necessitating a minor ridge crossing. The cost for this alternative is in excess of $400,000,000 over and above more reasonable alternatives due to increased energy utilization, conveyor distances and uphill haul distances to Scholefield Canyon. This economic cost of implementing this alternative as compared to the overall construction of the mine alone of $890,000,000 should eliminate this alternative. From a technical perspective, the placement of waste rock above the mill facilities is less than desirable. Finally, this alternative suffers from all of the resource and visibility concerns set forth in Section B above.

---

[2] We believe this alternative is being proposed by the Corps, not the Service.

[3] This cost was also documented in the memorandum Rosemont submitted to the Service (Ms. Bev Everson) dated September 25, 2009. Rosemont has encouraged review and validation of these estimates by the Service and is willing to provide any documentation necessary for such effort.

[4] This additional cost was not included in the September 25, 2009 memorandum to the Service.

D. Smaller Pit – Avoid Wasp Canyon

This alternative has been advanced by the Corps and would leave almost 25% of the mineral resource undeveloped in order to avoid mining in the seasonal wash known as Wasp Canyon. The selection of this alternative would shorten the life of the mine by eliminating the final mining phase and does little to reduce the footprint of the overall project. From a practical and technical perspective, the voiding of mining rights for sulfide ore mining would seriously impact the economics of the project. In addition, the proximity of Wasp Canyon to the pit raises substantial geotechnical and safety concerns about pit wall stability. From a resource standpoint, the Wasp Canyon drainage would still become isolated from downstream receiving waters by construction of the waste rock facility. Being bounded by a waste rock dump and the pit would seriously isolate the hydrologic and biologic functions of the canyon. Any benefit would be superficial.

E. Pit Back Fill

This alternative, advanced by Pima County, utilizes Forest land for temporary storage of material in combination with continuous backfill into the open pit; simultaneously mining and progressively filling the pit with waste rock, spoils and overburden generated from mining. This alternative is not practical or feasible from either a technical or economic perspective. Due to basic geology, it is not technically possible to dig and fill the Rosemont mine at the same time. Representatives of Arizona Department of Environmental Quality have expressed their preference for maintaining a hydrologic sink in the pit following completion of mining, which is incompatible with backfilling.

From a technical perspective, waste rock and dry stack material cannot be concurrently "back filled" into the open pit due to the geometry of the operations. Material is removed in stripping phases which means the open pit continually widens and deepens over time to maintain a constant ore to waste ratio for constant delivery of sulfide ore to the process plant until the ultimate pit boundary is reached. Further, 20% to 30% of the material would not fit back into the pit due to swelling of the rock from mining and would have to be placed on top of the pit area or placed in another location for reclamation. From a resource standpoint, this alternative does nothing to reduce impacts and would only add negative impacts such as resource consumption in the form of fuels, significantly increased air impacts caused by the re-handling of tailings, additional cost, and related impacts to stormwater, soils, cultural, and other resources due to mining an area outside of the planned pit. While it may result in a smaller footprint overall, a large portion of the area will have to be cleared for temporary storage of the materials and concurrent reclamation is precluded under this alternative. In other words, implementing this alternative would double the amount of fuel, emissions, power and equipment required to operate the mine (i.e., crushers, conveyor belts, trucks, shovels) along with the mine life while making the project economics unfeasible.

F. Extended Barrel Expanded Landforming Alternative

This alternative, which is a refinement of the original Barrel Only Alternative advanced by the Service, utilizes almost all of Barrel Canyon for placement of waste rock and tailings. The "refinement" is an expansion of those facilities that uses landforming techniques to shape the Barrel Only Alternative. Rosemont Copper has serious technical objections to this alternative as it currently exists:

- The alternative buries the plant site (with waste rock/tailings facilities cover) the operations buildings, the process water pond, and the tailings filter plant.

- This alternative needlessly buries a culturally significant site, including a ball court and village area.

- The waste rock/tailings abuts the roadway and leaves no room for right-of-ways or the Arizona Trail under this alternative.

- Stormwater is shed into drainages outside of the Barrel Canyon area without control of the hydrologic impacts.

- The alternative causes the facility to be moved closer to a neighborhood in the area, countering efforts to maintain a setback for air, noise, lights, and safety.

- The facility outlines for this alternative did not take into consideration the Sonoran Desert Conservation Plan Biological Core Areas.

- The facility design contains no accommodation for the heap leach facility and other oxide ore processing facilities. Access and facility features critical to constructability must be accommodated.

- The facility design contains no accommodation for access to tailings facilities or the construction requirements required for placement of the tailings.

- The facility design does not contain functional haulage road systems, construction access, or perimeter access that will be required for operations. There is also no post-closure access for recreation, livestock, drainage maintenance, or the option to manage stormwater in the pit if desired.

- The design includes a drain at a 5% slope that runs down the middle of the facility without the associated, and necessary, calculations for sedimentation, stormwater flow assessments, or other basic engineering principals. Under the proposed alternative, there is no option for meeting stormwater quality requirements for sediment.

Finally, it appears that the entire footprint will need to be raised for constructability and capacity and that the "ridge" that is shown was not specified using a standard of constructability that is necessary. As presented, Rosemont does not believe this option is appropriate for further analysis.

In closing, we encourage the ID Team to focus on those alternatives that are consistent with federal regulations, the purpose and need of the proposed action, and CEQ guidance. Specifically, any alternative that is not technically and economically practical and feasible should be documented in the process as "Alternatives Considered but Rejected" from further consideration because they are impractical and unreasonable from a technical and economic standpoint. The selection of any of the unreasonable alternatives enumerated directly impact the economic viability of the project and ultimately Rosemont's ability to finance the project. Rosemont's objection to these alternatives, however, is not measurable solely as a function of impact to the bottom line profit. Rosemont has already committed to mitigation measures on the order of $100,000,000 to avoid, minimize and mitigate impacts from the mine. While the selection of any of the objectionable (unreasonable) alternatives would result in the project feasibility no longer being demonstrated, at the same time, none of these proposed unreasonable alternatives present superior choices from a critical resource protection standpoint or in minimizing the overall impact of the mine.

Rosemont appreciates the Service's consideration of our comments. We look forward to continuing to work with the Service in finalizing the list of alternatives by the end of this month (March 2010), which is generally in keeping with our current MOU schedule. If we can provide any additional information that may assist the Service with its analysis and consideration of possible hybrid alternatives, please let us know as soon as possible. To the extent new or hybrid alternatives are identified in this final analysis period, Rosemont reserves the right to comment on those alternatives once sufficient information is available.

Best regards,

COPY

ROSEMONT COPPER COMPANY

Jamie Sturgess
Vice President
Sustainable Development

Terry's Suggested Changes to Chapter 3 Outline

Introduction

Issues, Cause and Effect Relationships of Concern

Analysis Methodology, Assumptions, Uncertain and Unknown Information

Affected Environment

Relevant Laws, Regulations, Policies and Plans

Federal

State

Local

Existing Conditions

Environmental Consequences

Direct and Indirect Effects to Each Alternative

Alternative 1 – No Action

Impacts Common to All Action Alternatives

Alt 2

Alt 3

Alt 4

Alt 5

Cumulative Effects

Mitigation Effectiveness and Remaining Effects

Irretrievable and Irreversible Commitment of Resources

Reta Laford/R3/USDAFS
12/09/2009 07:56 AM

To mreichard@swca.com, tfurgason@swca.com
cc Melinda D Roth/R3/USDAFS@FSNOTES, Beverley A Everson/R3/USDAFS@FSNOTES, Reta Laford/R3/USDAFS@FSNOTES
bcc
Subject Rosemont Scoping Report #3 (draft)

Attached is my latest draft of Scoping Report #3, it continues from the draft Melissa and I jointly worked on in September.

Note -
1) We previously agreed to not wordsmith pages 1-4.25 since they are what was used in Reports # 1 and#2.
2) Pages 4.25-14 I tried to spell out what the IDT had done. Yes it is tedious with lots of tables. I realize many readers may not want to read them, but for those who really want or need to know what we did I felt it was important to cover in such detail. Some earlier thoughts were to appendix such, but on further consideration I do not advocate such.
3) SWCA, please review pages 4.25-14 closely. Look at my comments. See what Appendix items are referred to. Note that I also will need help defining the lists for the buckets other than the significant issues. Melisssa, we can catch up by phone or other this afternoon to discuss content and scheduling
4) FS, You are welcome to review pages 4.25-14 for accuracy, but I am not interested in word smithing.

2009 12 REtas edits to after Issues recomended 2009 09 24 Melissa Friday SR3_092409_MR.doc

Reta Laford, Deputy Forest Supervisor

USDA Forest Service, Coronado National Forest
300 W Congress Street, Tucson, AZ 85701

Phone: 520-388-8307 (office), 505-452-7557 (cell)
Fax: 520-388-8305
Email: rlaford@fs.fed.us

Do worksheets give w/ this report? - wording of questions

"Melissa Reichard"
<mreichard@swca.com>
10/01/2009 01:18 PM

To "Reta Laford" <rlaford@fs.fed.us>

cc "Tom Furgason" <tfurgason@swca.com>, "Beverley A Everson" <beverson@fs.fed.us>, "Melinda D Roth" <mroth@fs.fed.us>

bcc

Subject Rosemont Scoping Comment Attachments

Reta-
There were a number of attachments that were resolutions and/or writings by different govt entities (i.e. Pima County's resolution against the mine). The resolutions often list a number of concerns and potential effects. There were general tech memos sent from the County, for example, to different parties that list concerns as well.

How would you like these to be treated? Would you like those to be coded? If we code the attachments, should they be considered as comments from the original submission letter or do we need to set these up as new commenters?

Let me know what you think.
Thanks!

Melissa Reichard
Project Administrator
SWCA Environmental Consultants
343 West Franklin Street
Tucson, Arizona 85701
(520)325-9194, (520)325-2033 fax

Sound Science. Creative Solutions.

"Man's mind, once stretched by a new idea, never regains its original dimensions."
-Oliver Wendell Holmes

SR3

"Melissa Reichard"
<mreichard@swca.com>
10/06/2009 10:55 AM

To "Reta Laford" <rlaford@fs.fed.us>
cc "Melinda D Roth" <mroth@fs.fed.us>, "Tom Furgason" <tfurgason@swca.com>, "Beverley A Everson" <beverson@fs.fed.us>, "Melissa Reichard"
bcc
Subject Scoping Report 3

Reta-
I want to make sure that we are on the same page on what came out of Friday's work.

<u>These are the changes that we need to do:</u>
Worksheet changes to be printed and given to you for review
Worksheet 1- Add title "Issue/Non Issue Screening"
Add Disposition table in Rationale section
Edit and remove watermark

Worksheet 4- Add Disposition table above recommendation options
Remove Proposed Action option entirely
Minimize other recommendation boxes
Edit and remove watermark

The new Appendix section includes:

A- Theme Statements: remove watermark, change title and number statements
B- Samples of worksheets- packets for Non Issue, Not Significant and Significant
C- Non Issue Disposition table- needs to be created
D- Not Significant Disposition table- needs to be created
E- Tracking Sheet- update with SR2 category codes, replace "Significance Elements" column with Disposition that correlates to worksheet options

<u>What we still need from you:</u>
Exact terminology on "Issues *Addressed in/Focusing* Effects"
Confirmation of final disposition of all the theme statements, including highlighted items on tracking sheet
All text review and changes from the ISSUES AS DETERMINED BY THE DECIDING OFFICIAL section on

Please let me know if I missed anything. Also, we didn't speak of deadlines. Do you know what your timeline is so I can be sure to get our section done by then or before?
Thanks!

Melissa Reichard
Project Administrator
SWCA Environmental Consultants
343 West Franklin Street
Tucson, Arizona 85701
(520)325-9194, (520)325-2033 fax

"Tom Furgason" <tfurgason@swca.com>
08/26/2009 11:59 AM

To "Melinda D Roth" <mroth@fs.fed.us>
cc "Beverley A Everson" <beverson@fs.fed.us>, "Reta Laford" <rlaford@fs.fed.us>, "Charles Coyle" <ccoyle@swca.com>, <jdmacivor@frontiernet.net>
bcc
Subject RE: Scoping Report #3 review

cc: Jamie

Reta, Bev availability? Scheduled 9/14, 1400, w/ Melissa.

Mindee,

I'll be available the week of Labor Day (Sept. 8-11). However, I'll be on personal leave the following week (Sept. 14-18). Would it be most useful if you submitted your review to SWCA and we could supply Reta with a revised report? This may reduce some of Reta's review time.

I agree that SWCA can begin preparing the executive summary of the alternatives. I'll take your information below and prepare an outline of the alternatives document to be submitted to Jeanine. We have never really discussed the Coronado's expectations of the SWCA's deliverable to the IDT regarding Alts, but your direction below is a good start. Thank you.

Tom

detailed rationale needed now! v8 SRK validation/gut check. mitigation ↔ features in common

---

From: Melinda D Roth [mailto:mroth@fs.fed.us]
Sent: Wednesday, August 26, 2009 10:07 AM
To: Tom Furgason
Cc: Beverley A Everson; Reta Laford
Subject: Scoping Report #3 review

Beef up disposition rationale.

Reta will be out next week and is booked this week, so we will have to schedule a face-to-face review after Labor Day. What is your schedule? In the mean time, I will coordinate a "track changes" review from the forest to give you some early feedback.

ps You mentioned yesterday that SWCA is somewhat stalled until alternatives have been formally accepted. To move that ahead, I think we need an executive summary of the process, all ideas considered, rationale to drop or keep alternatives... We need an introductory paragraph or 2, a section describing the alternative generation process, a section listing alternatives dropped from detailed consideration - along with a brief rationale for each alt or group of like ideas (ie alternate mining techniques, alternative transportation), and a section listing and briefly describing the alternatives considered in detail - along with a brief desciption of what drove their development. We expect SWCA to produce such a product. Please share with Bev your estimated timeline.

Mindee Roth
Coronado National Forest
300 W. Congress, FB42
Tucson, AZ 85701
(520) 388-8319
(520) 396-0715 (cell)
(520) 388-8305 (FAX)

I sent Tom an example Chapt 2.

OVER

RO Chapter 2 Template - sent to SWCA on Web Ex.

USDA

United [mr1] States
Department of
Agriculture

Forest
Service

September 2009

Scoping Summary Report #3

Comment Disposition [mr2]

Rosemont Copper Project

A Proposed Mine Operation in Southern Arizona

Coronado National Forest
Arizona

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. (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 USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call toll free (866) 632-9992 (voice). TDD users can contact USDA through local relay or the Federal relay at (800) 877-8339 (TDD) or (866) 377-8642 (relay voice). USDA is an equal opportunity provider and employer.

CONTENTS

[r3][r4]

Appendices

Figures

Table

INTRODUCTION

The following is a summary of the Coronado National Forest's (Coronado's) scoping efforts to solicit comments on the Proposed Action for the Rosemont Copper Project and to characterize the corresponding public participation. Scoping is the process by which federal agencies invite the public, organizations, and other agencies to provide input on the scope of a proposed project. More specifically, it is the process that federal agencies use to identify issues and potential effects related to a Proposed Action. The Council on Environmental Quality's (CEQ's) scoping definition states,

> There shall be an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. This process shall be termed scoping. (40 Code of Federal Regulations [CFR] 1501.7)

Coronado will prepare an environmental impact statement (EIS) that will track significant issues within the scope of analysis in order to guide 1) the development of alternatives to the Proposed Action; and 2) the analysis of potential effects of the Proposed Action and alternatives. Scoping may also be used to identify potential mitigation for impacts. It is important to note that *the scoping process is not a voting process and comments are not weighted in any manner*. The intent of scoping is to identify important issues raised by the public, agencies, or organizations and determine the scope of analysis. Therefore, no matter how many times an issue is raised by the same or different entities, it is still considered to be one issue.

This is the third of three reports that describe the scoping and content analysis process. Federal agencies typically prepare one report to document this process. However, Coronado has decided to prepare three interrelated reports to more fully explain the scoping and content analysis process for the Rosemont Copper Project. This decision was based on the complexity of the Proposed Action and the correspondingly complex public comments. The first report, *Scoping Summary Report #1, Extent of Public Participation*, describes Coronado's efforts to solicit comments on the Proposed Action and to summarize the corresponding public participation. The second report, *Scoping Summary Report #2, Theme of Comments*, describes Coronado's process of content analysis and provided an overview of the themes identified in the public comments. This final report, *Scoping Summary Report #3, Comment Disposition*, describes how comments were screened and are proposed to be treated in the EIS process.

These reports should be approached with caution. Received comments do not necessarily represent the sentiments of the public as a whole, nor are they always technically accurate. As previously noted, in considering these views it is important for the public and decision makers to understand that this process makes no attempt to treat input as if it were a vote. Furthermore, the same comment stated multiple times by the same individual, or groups of individuals, is not weighted in the final analysis. No matter how many times the same comment is made during scoping, it is treated as one comment. For example, form letters submitted dozens of times constitute the same input as one letter with the same content. Again, the purpose of scoping is to determine the scope of issues to be addressed and to identify the significant issues related to a Proposed Action.

PROJECT OVERVIEW

The Rosemont Copper Project is a proposed open-pit copper mine, to be located on the Coronado National Forest, Nogales Ranger District, in the northern Santa Rita Mountains in Pima County, Arizona. Augusta Resource Corporation, the parent company of Rosemont Copper Company (Rosemont Copper), acquired the Rosemont Mine property in 2005. Although ore was historically mined in the area, there has been no production of copper, zinc, lead, silver, or gold since 1951. A significant increase in the value of

copper over the past several years has made the mining of claims economically viable. There are 132 patented lode claims, 850 unpatented lode claims, and 14 parcels of fee land in the project area.[1]

In July 2007, Rosemont Copper submitted a Mine Plan of Operations (MPO), including a reclamation plan, to Coronado, requesting approval to construct and operate a mine and related ore-processing facilities on and adjacent to National Forest System land. Ore deposits that would be mined as part of the project are, for the most part, on Rosemont Copper private property. The proposed mine is expected to annually produce 234 million pounds of copper, 4.5 million pounds of molybdenum, and 2.7 million ounces of silver over the anticipated 20-year life of the mine. The MPO was accepted in February 2008 after Rosemont Copper submitted supplemental information at the request of Coronado. Decisions regarding approval and the content of the final MPO will not be made until a thorough environmental review has been completed. In accordance with 40 CFR 1501.4, Coronado has reviewed the proposal and determined that preparation of an EIS is necessary.

An EIS is being prepared to analyze and disclose to the public the environmental, social, and economic impacts of the proposed Rosemont Copper Project mine. The EIS will be prepared in compliance with the National Environmental Policy Act (NEPA) of 1969, as amended; CEQ regulations for implementing NEPA; and other associated regulations. The U.S. Forest Service (Forest Service) decision will be based on the results of this NEPA process (i.e., the findings of the impacts analyses reported in an EIS) and further, on the National Forest Management Act determination of the consistency of the proposed use with the parameters specified in Coronado's Land and Resource Management Plan.

Location

The proposed Rosemont Copper Project is located approximately 30 miles southeast of Tucson, Arizona, in Pima County (Figure 1). The project is located just west of State Route 83, on the northern edge of the Santa Rita Mountains in the Helvetia-Rosemont Mining Districts. The area covered by Rosemont Copper's patented claims, unpatented claims, and fee lands totals approximately 14,880 acres, which include the Rosemont, Peach-Elgin, Broad Top Butte, and Copper World deposits. Rosemont Copper's proposal is to mine the Rosemont deposit, which would disturb approximately 4,415 acres (including utility corridors) that encompass 3,670 acres administered by Coronado, 995 acres of private land, 75 acres of Arizona State Land Department State Trust land, and 15 acres administered by the Bureau of Land Management.

[1] Lode claims include a deposit of valuable ore occurring within definite boundaries that separate it from surrounding rock.

A patented mining claim is one for which the federal government has passed its title to the mining claimant, making it private land. A person may mine and remove minerals from a mining claim without a mineral patent. It also gives the owner title to the surface and other resources.

An unpatented mining claim gives the claimant the right to explore for, extract, and process locatable minerals in an area known as a mining claim.

For the purposes of this document, fee land is private land, including all surface and subsurface mineral rights, that is owned by Rosemont Copper.

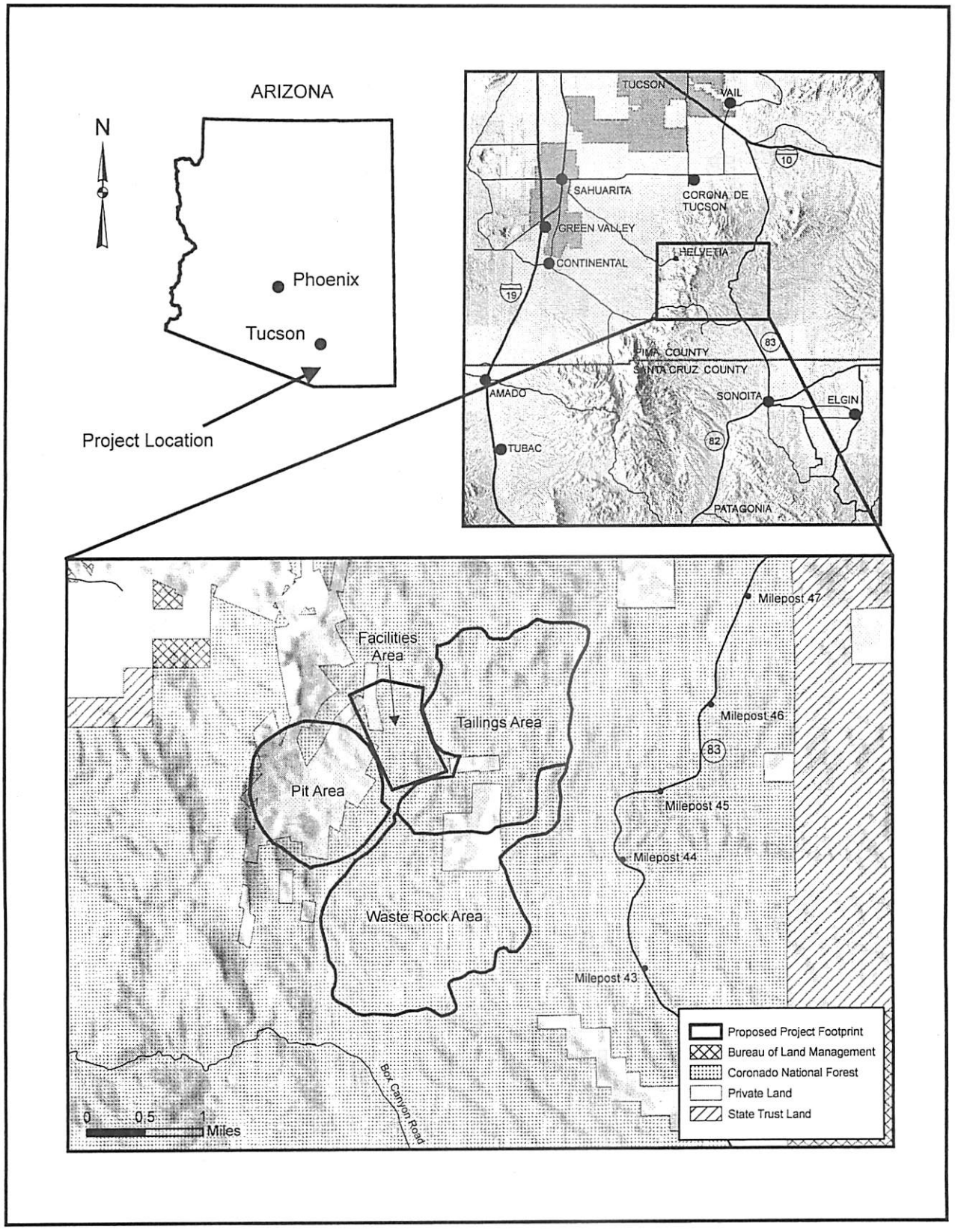


Figure 1. Project location map.

FRAMEWORK FOR SCOPING

All federal agencies are required to comply with the scoping regulations promulgated by CEQ under NEPA (40 CFR 1501.7). The regulations relating to scoping are general and provide federal agencies with the latitude to conduct scoping appropriate for each agencies' mission and specific to each Proposed Action. The CEQ regulations direct federal agencies preparing an EIS to engage in a public scoping process (40 CFR 1501.7). Subsequent to enacting 40 CFR 1500, CEQ published *Guidance Regarding NEPA Regulations* in 1983 (*Federal Register* 48[146]:34283), which clarified the purpose of scoping:

> The purpose of this process is to determine the scope of the EIS so that preparation of the document can be effectively managed. Scoping is intended to ensure that problems are identified early and properly studied, that issues of little significance do not consume time and effort, that the draft EIS is thorough and balanced, and that delays occasioned by an inadequate draft EIS are avoided. The scoping process should identify the public and agency concerns; clearly define the environmental issues and alternatives to be examined in the EIS including the elimination of nonsignificant issues; identify related issues which originate from separate legislation, regulation, or Executive Order (e.g. historic preservation or endangered species concerns); and identify state and local agency requirements which must be addressed.

Furthermore, the CEQ regulations for implementing NEPA state that "there shall be an early and open process for determining the scope of issues to be addressed" which "shall be termed scoping," but they have few specific requirements. These requirements (40 CFR 1501.7[a]) include the following:

1. Invite the participation of affected federal, state, and local agencies, any affected Indian tribe, the proponent of the action, and other interested persons (including those who might not be in accord with the action on environmental grounds), unless there is a limited exception under §1507.3(c). An agency may give notice in accordance with §1506.6.
2. Determine the scope (§1508.25) and the significant issues to be analyzed in depth in the EIS.
3. Identify and eliminate from detailed study the issues that are not significant or that have been covered by prior environmental review (§1506.3), narrowing the discussion of these issues in the statement to a brief presentation of why they will not have a significant effect on the human environment or providing a reference to their coverage elsewhere.
4. Allocate assignments for preparation of the EIS between the lead and cooperating agencies, with the lead agency retaining responsibility for the EIS.
5. Indicate any public environmental assessments and other EISs that are being or will be prepared and that are related to but are not part of the scope of the EIS under consideration.
6. Identify other environmental review and consultation requirements so that the lead and cooperating agencies may prepare other required analyses and studies concurrently with, and integrated with, the EIS, as provided in §1502.25.
7. Indicate the relationship between the timing of the preparation of environmental analyses and the agency's tentative planning and decisionmaking schedule.

Aside from these general requirements, the Forest Service has provided further regulations and policies, as allowed by NEPA, to supplement the CEQ regulations. Specifically, 36 CFR 220 clarifies, "Because the nature and complexity of a proposed action determine the scope and intensity of analysis, no single scoping technique is required or prescribed" (CFR 220.4[e][2]). Forest Service Manual 1900, *Chapter 1950—Environmental Policy and Procedures,* contains the agency's policies on scoping. These policies require the Forest Service to do the following:

- give early notice of upcoming proposals to interested and affected persons (Forest Service Manual 1950.3[2][a]);

- give timely notice to interested and affected persons, federal agencies, state and local governments, and organizations of the availability of environmental and accompanying decision documents (Forest Service Manual 1950.3[2][b]); and
- have a responsible official to "ensure that an appropriate level of scoping occurs" (Forest Service Manual 1950.41[2]).

As noted in *Scoping Summary Report #1, Extent of Public Participation*, to ensure that an appropriate level of scoping occurred, Coronado consulted with its Southwestern Regional Office; the Regional Forester found that sufficient scoping activities were conducted and that it was appropriate for the initial scoping to conclude in July 2008.

PUBLIC PARTICIPATION

Coronado's efforts to solicit comments and the corresponding public participation are described in *Scoping Summary Report #1, Extent of Public Participation.* In summary, on March 13, 2008, Coronado published a Notice of Intent (NOI) to prepare an EIS for the Rosemont Copper Project in the *Federal Register* (73:13527–13529). The NOI profiled that comments concerning the scope of the EIS would be taken for 30 days from its publication and that three open houses would be held to facilitate commenting. Coronado later extended the scoping period from 30 days to 120 days. During that period, Coronado held six open houses and three public hearings.

COMMENT PROCESSING, CONTENT ANALYSIS

All 11,082 comment submittals received from March 13, 2008, through August 1, 2008, were considered. A systematic process, referred to as content analysis, was used to sort the contents of the submittals (comments) into one or more of 31 resource categories. The resource categories used were based on analyst experience and other EISs (Table 1). Over 16,000 categorized comments were entered verbatim into a Microsoft Access database to facilitate subsequent comment processing. *Scoping Report #2, Theme of Comments,* describes the categorization process in more detail.

spell it out? /

Table 1. Resource Category and Code[r6][r7]

Resource Category	Code
Air Quality	AQ
Alternatives	ALT
Climate Change	CC
Cultural Resources	CUL
Environmental Justice	JUS
Fire Management	FIR
FOIA Request	FOI
Hazardous Waste	HZ
Land Use	LU
Light Pollution	LGT
Livestock Grazing	GRA
Locatable Minerals	MLO
Noise	NO
Other	OTH

Resource Category	Code
Process and Procedure	PRP
Public Health and Safety	PHS
Reclamation	RCL
Recreation	REC
Riparian	RIP
Socioeconomics	SOC
Soils and Geology	SOL
Special Status Species	SSS
Technical Feasibility	TEC
Transportation and Access	TRA
Vegetation	VEG
Visual Resource Management	VRM
Water Resources	WR
Wilderness	WLD

Out of Scope	OUT	Wildlife and Habitat	WL
Paleontology	PAL		

COMMENT PROCESSING, SCREENING

With over 16,000 individual comments, it was necessary to summarize and synthesize them into meaningful, workable concepts to inform the analysis and decisionmaking process. This is not intended to replace comments in their original form. Original comments are retained and are available on a dedicated website[r8][r9][2]

Comment processing included several screening reviews to ensure that every comment was considered and received an appropriate level of scrutiny throughout the EIS process.

Issue Theme Statement Development

In the first step of the comment screening process, issue theme statements were identified from the contents of the 31 resource categories. Issue theme statements represented one or more comments expressing similar views of the project's impacts or requesting actions the agency should take. Table 2 shows the relationship of resource categories to issue theme statements. Appendix A contains the issue theme statement narratives.

↓ a good list for IDT gut check.

Table[r10] 2. Relationship of Resource Categories to Issue Theme Statements

Resource Category	Issue Theme Statement
Air Quality	1. Dust Pollution 2. Dust Control 3. Air Pollution other than dust 4. Air Quality Impact Analysis
Alternatives	5. Alternatives for Tailings and Waste Rock Disposal 6. Alternatives to an Open Pit Mine 7. Alternatives for Limiting Times or Conditions under which Mining Can Occur 8. Alternatives for Limiting Overall Project Boundary 9. Alternatives for Employing State-of-Art Technologies to Reduce Impacts 10. Alternative Water Sources for Mining Operations 11. Other Alternatives for Reducing or Eliminating Impacts
Climate Change	12. Mine May Contribute to Climate Change 13. Mine May be Impacted by Climate Change
Cultural Resources	14. Mine Impacts on Archaeological Resources
Environmental Justice	15. Disproportionate Impacts on Low Income and Minority Populations 16. Inadequate Opportunities for Low Income to Participate in Scoping
Fire Management	17. Increased Risk of Wildfire 18. Mitigation Measures to Reduce Risk 19. Availability of Water to Combat Wildfire
FOIA Request	--- *Not Applicable to Comment Processing*
Hazardous Waste	20. RCRA[r11] Hazardous Waste 21. Mine May Adversely Affect Emergency Response
Land Use	22. Mine May Conflict with Existing Laws and Policies 23. Mine may Lead to Additional Development 24. Mine May Result in Lower Aesthetic or Property Values
Light Pollution	25. Outdoor Lighting 26. Night Skies

for Chapt. 2?

are these on the list?

spell it out!

OK this?

[2] The Coronado comment web page is available at: < http://www.fs.fed.us/r3/coronado/rosemont/comments.shtml>.

Livestock Grazing	27. Degradation of Rangeland 28. Traffic Threats to Livestock
Locatable Minerals	29. Claim Validity 30. Cumulative Impact of Past, Present, and Future Mines
Noise	31. Blasting Noise and Vibration, Truck Traffic, and Equipment Use
Other	32. Electricity 33. Tailings 34. National Security 35. Financial Responsibility 36. Smelter Capacity 37. Bridge Renovation 38. Resource Specialists
? Out of Scope	~~????[r12]~~
Paleontology	39. Paleontological Resources
Process and Procedure	40. Coronado National Forest Plan Revision 41. Purpose and Need for Environmental Impact Statement 42. NEPA Process Started Too Early 43. Cooperating Agencies 44. Consultation 45. Public Meetings 46. Mine Activities and the Environmental Impact Statement 47. Cumulative Impacts 48. Mitigation Measures — are these on the list?
Public Health and Safety	49. Mine Operations and Public Health 50. Emergency Responders 51. Explosive Storage and Handling
Reclamation	52. Reclamation Plan 53. Reclamation Bond and Financial Assurance 54. Reclamation Success 55. Post-Closure Development of the Project Site
Recreation	56. Restriction, Disturbance, or Loss of Recreational Activities
Riparian	57. Impacts to Riparian Habitat 58. Riparian Habitat and Property Values 59. National Conservation Area 60. Mandatory Mitigation
Socioeconomics	61. Local Economic Activity 62. Local Property Values 63. Local Employment 64. Social and Emergency Services
Soils and Geology	65. Potential Soil Degradation → Noise 66. Potential Geologic Hazards 67. Blasting Vibration 68. Subsidence Due to Groundwater Withdrawal
Special Status Species	69. Habitat Loss 70. Existing Conservation and Recovery Programs
Technical Feasibility	71. Financial Feasibility 72. Technical Feasibility 73. Legal Feasibility
Transportation and Access	74. Impacts to Existing Road Network 75. State Route 83 Improvements 76. Use of Public Roads 77. Transportation Mitigation Measures 78. Rail Lines
Vegetation	79. Unique Vegetation 80. Vegetation Moisture Availability 81. Vegetation Salvage 82. Vegetation Survey 83. Habitat Quality

Visual Resource Mgmt.	84. Direct and Indirect Impacts 85. Cumulative Impacts 86. Reclamation Timeline and Persistence of Impacts 87. Visual Resources Analysis and Methodology 88. Consistency with Federal, State, and Local Resource Mgmt. Objectives
Water Resources	89. Groundwater Deletion in the Mine Area WW ? 90. Seepage from Mine Area Facilities 91. Potential Waste Rock and Tailings Acid Rock Drainage 92. Potential Pit Lake 93. Loss of Recharge in the Mine Area 94. Surface and Storm Water Control 95. Groundwater Withdrawal in the Santa Cruz Valley 96. Central Arizona Project (CAP) Water Recharge 97. Mine Water Supply Pipeline 98. Green Valley Central Arizona Project (CAP) Water Pipeline 99. Seepage from Production Well and Water Pipeline Facilities 100. Alternative Mine Water Supply
Wilderness	101. Loss of Wilderness Characteristics
Wildlife and Habitat	102. Habitat Modification 103. Wildlife Behavior and Mortality 104. Non-native Species 105. Impacts to Other Sensitive Area in the Vicinity WW

Interdisciplinary Team Screening of Issue Theme Statements

The Interdisciplinary Team (IDT) screened the resulting 105 issue theme statements for potential disposition through a structured process. IDT members first individually reviewed the 105 issue theme statements and the comments within each resource category applicable to their expertise and experience. Then the IDT collectively validated the accuracy and completeness of the statements using its awareness of public comments, experience, and expertise. To facilitate an objective analysis of the issue theme statements, the IDT used four screening worksheets, created by the Coronado . The worksheets and their use were derived from Forest Service training material (Forest Plan Implementation 1900-01). Figure 2 depicts how the worksheets were used to screen the issue theme statements. Appendix B contains examples of the completed worksheets and the corresponding cover sheet that summarizes the results. ***The results of using the screening worksheets were used to profile the potential disposition of each issue theme statement.***

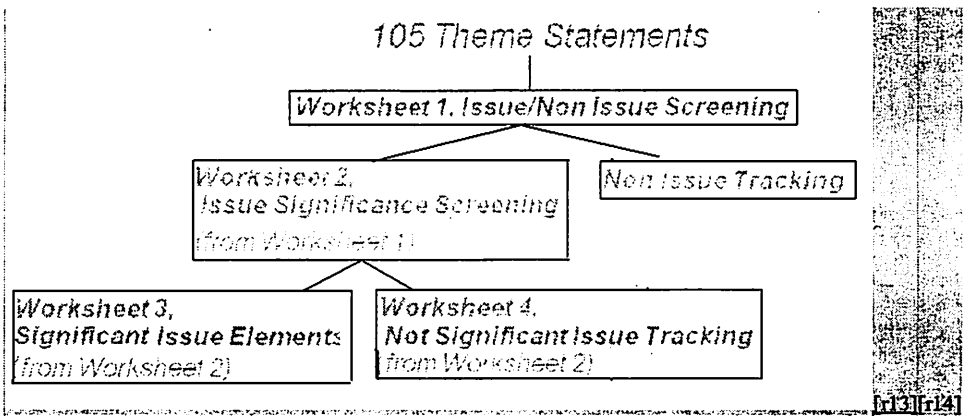


Figure 2. Flow chart depicting use of comment screening worksheets.

Screening Worksheet 1 (Issue/Non-Issue Screening)

The first screen, *Worksheet 1, Issue/Non-Issue Screening*[r15], was used to determine if the issue theme statement represented an Issue or Non-Issue. An Issue is defined as a point of disagreement, debate, or dispute over a proposed action based on environmental effects identified through scoping; Non-Issues are general concerns received through scoping that are not related to the proposed action's effects, and therefore, cannot be resolved through an alternative or mitigation (1900-01 Unit 9, slide 3). [r16]Three screening questions were used to determine whether an issue theme statement represented on Issue or Non-Issue, see Table 3.

Table 3. Issue / Non-Issue Screening Criteria

Criteria Used to Define Issues

1. Is the statement within the scope of the Proposed Action?
2. Is the statement a point of disagreement, debate, or dispute about the Proposed Action based on effects?
3. Does the statement establish a cause-and-effect relationship of effects to the Proposed Action?

[r17]If all answers to the screening criteria were "yes", the theme was considered to represent an Issue. If any of the answers were "no", the theme was considered to represent a Non-Issue.

In screening the 105 issue theme statements, 53 were defined as Issues and 52 were defined as Non-Issues. Table 4 lists the Issue/Non-Issue screening results.

Table 4. Issue / Non-Issue Screening Results[r18]

Issue	Non-Issue	Issue Theme Statement
Issue		1. Dust Pollution
Issue		2. Dust Control
Issue		3. Air Pollution other than dust
	Non-Issue	4. Air Quality Impact Analysis
		5. Alternatives for Tailings and Waste Rock Disposal
		6. Alternatives to an Open Pit Mine
		7. Alternatives for Limiting Times or Conditions under which Mining Can Occur
	---	8. Alternatives for Limiting Overall Project Boundary
		9. Alternatives for Employing State-of-Art Technologies to Reduce Impacts
		10. Alternative Water Sources for Mining Operations
		11. Other Alternatives for Reducing or Eliminating Impacts[r19]
Issue		12. Mine May Contribute to Climate Change
	Non-Issue	13. Mine May be Impacted by Climate Change
Issue		14. Mine Impacts on Archaeological Resources
Issue		15. Disproportionate Impacts on Low Income and Minority Populations
	Non-Issue	16. Inadequate Opportunities for Low Income to Participate in Scoping
Issue		17. Increased Risk of Wildfire
	Non-Issue	18. Mitigation Measures to Reduce Risk (Wildfire)
	Non-Issue	19. Availability of Water to Combat Wildfire
N/A	N/A	--- *Not Applicable to Comment Processing*
Issue		20. RCRA [r20]Hazardous Waste
	Non-Issue	21. Mine May Adversely Affect Emergency Response
Issue		22. Mine May Conflict with Existing Laws and Policies (Land Use)
	Non-Issue	23. Mine may Lead to Additional Development
	Non-Issue	24. Mine May Result in Lower Aesthetic or Property Values
Issue		25. Outdoor Lighting
	Non-Issue	26. Night Skies
Issue		27. Degradation of Rangeland
Issue		28. Traffic Threats to Livestock

	Non-Issue	29. Claim Validity
	Non-Issue	30. Cumulative Impact of Past, Present, and Future Mines
Issue		31. Blasting Noise and Vibration, Truck Traffic, and Equipment Use
	Non-Issue	32. Electricity
	Non-Issue	33. Tailings
Issue		34. National Security — where is this covered?
	Non-Issue	35. Financial Responsibility
	Non-Issue	36. Smelter Capacity
	Non-Issue	37. Bridge Renovation
	Non-Issue	38. Resource Specialists
Issue		39. Paleontological Resources
	Non-Issue	40. Coronado National Forest Plan Revision
	Non-Issue	41. Purpose and Need for Environmental Impact Statement
	Non-Issue	42. NEPA Process Started Too Early
	Non-Issue	43. Cooperating Agencies
	Non-Issue	44. Consultation
	Non-Issue	45. Public Meetings (Process and Procedure)
	Non-Issue	46. Mine Activities and the Environmental Impact Statement
	Non-Issue	47. Cumulative Impacts (Process and Procedure)
	Non-Issue	48. Mitigation Measures (Process and Procedures)
	Non-Issue	49. Mine Operations and Public Health
	Non-Issue	50. Emergency Responders
Issue		51. Explosive Storage and Handling
Issue		52. Reclamation Plan
	Non-Issue	53. Reclamation Bond and Financial Assurance
	Non-Issue	54. Reclamation Success
	Non-Issue	55. Post-Closure Development of the Project Site
Issue		56. Restriction, Disturbance, or Loss of Recreational Activities
Issue		57. Impacts to Riparian Habitat
	Non-Issue	58. Riparian Habitat and Property Values
Issue		59. National Conservation Area (Riparian)
	Non-Issue	60. Mandatory Mitigation (Riparian)
Issue		61. Local Economic Activity
Issue		62. Local Property Values
Issue		63. Local Employment
Issue		64. Social and Emergency Services
Issue		65. Potential Soil Degradation
Issue		66. Potential Geologic Hazards
Issue		67. Blasting Vibration
Issue		68. Subsidence Due to Groundwater Withdrawal
Issue		69. Habitat Loss
Issue		70. Existing Conservation and Recovery Programs
	Non-Issue	71. Financial Feasibility
	Non-Issue	72. Technical Feasibility
	Non-Issue	73. Legal Feasibility
Issue		74. Impacts to Existing Road Network
	Non-Issue	75. State Route 83 Improvements
	Non-Issue	76. Use of Public Roads
	Non-Issue	77. Transportation Mitigation Measures
Issue		78. Rail Lines
Issue		79. Unique Vegetation
Issue		80. Vegetation Moisture Availability
Issue		81. Vegetation Salvage
	Non-Issue	82. Vegetation Survey
Issue		83. Habitat Quality (Vegetation)
Issue		84. Direct and Indirect Impacts (Visuals)
Issue		85. Cumulative Impacts (Visuals)
Issue		86. Reclamation Timeline and Persistence of Impacts (Visuals)
	Non-Issue	87. Visual Resources Analysis and Methodology
Issue		88. Consistency w/ Federal, State, Local Resource Mgmt. Objectives (Visuals)

Issue		89. Groundwater Deletion in the Mine Area
Issue		90. Seepage from Mine Area Facilities
Issue		91. Potential Waste Rock and Tailings Acid Rock Drainage
Issue		92. Potential Pit Lake
Issue		93. Loss of Recharge in the Mine Area
Issue		94. Surface and Storm Water Control
Issue		95. Groundwater Withdrawal in the Santa Cruz Valley
	Non-Issue	96. Central Arizona Project (CAP) Water Recharge
Issue		97. Mine Water Supply Pipeline
	Non-Issue	98. Green Valley Central Arizona Project (CAP) Water Pipeline
	Non-Issue	99. Seepage from Production Well and Water Pipeline Facilities
	Non-Issue	100. Alternative Mine Water Supply
Issue		101. Loss of Wilderness Characteristics
Issue		102. Habitat Modification (Wildlife)
Issue		103. Wildlife Behavior and Mortality
Issue		104. Non-native Species (Wildlife)
Issue		105. Impacts to Other Sensitive Area in the Vicinity (Wildlife)

Themes defined as Issues were subsequently screened, using Worksheet 2, to determine their significance.

Themes defined as Non-Issues were further categorized (see Appendix C[r21]). Non-Issues were identified as: out of scope; addressed by existing processes; or having the potential to be considered with alternatives, mitigation, or monitoring[r22]. Non-Issues identified as being out of scope were further noted as follows: Not within scope of the Proposed Action; Not an effect of the Proposed Action; Not relevant to the decision to be made; Already decided by law, regulation, or policy; Outside of Forest Service authority; and Not supported by scientific evidence[r23].[r24] Additionally, The IDT identified some Non-Issues that may be considered with alternatives, mitigation, or monitoring.[r25]

Screening Worksheet 2 (Significance Screening)

Worksheet 2, Significance Screening, was used to determine if an Issue (as identified from *Worksheet 1*) was Significant or Not Significant. The determination of Significant Issues is a process of elimination. Significant Issues are used to formulate alternatives to the Proposed Action, or prescribe mitigation and monitoring measures; they may also be used to analyze environmental effects.[r26](1900-01 Unit 9, slide 6). Not Significant Issues are not used for these purposes. Not Significant Issues are those Issues that are: beyond the scope of the proposed action; irrelevant to the decision to be made; already decided by law, regulation, or policy; or conjectural in nature or not supported by scientific evidence (1900-01 Unit 9, slide 5). Three screening questions were used to determine whether an Issue was Significant or Not Significant, see Table 5.

Table 5. Issue Significance Screening Criteria

Criteria Used to Define an Issue as Significant
1. Is the issue relevant to the decision to be made?
2. Do existing law, regulations, or policies allow for discretion in the decision to be made?
3. Is the issue supported by scientific evidence, and/or can it be analyzed? (i.e. the nature of this issue is not conjectural or speculative)

[r27]If all the answers were "yes", the Issue was considered Significant. If any of the answers were "no", the Issue was considered Not Significant.

Of the 53 Issues, 20[r28] were defined as Significant Issues and 23[r29] were defined as Not Significant Issues. Table 6 lists the Significance screening results.

Table 6. Significance Screening Results[r30]

Significant	Not Significant	Issue Theme Statement
Significant		1. Dust Pollution
	Not Significant	2. Dust Control
Significant		3. Air Pollution other than dust
		5. Alternatives for Tailings and Waste Rock Disposal
		6. Alternatives to an Open Pit Mine
		7. Alternatives for Limiting Times or Conditions under which Mining Can Occur
		8. Alternatives for Limiting Overall Project Boundary
		9. Alternatives for Employing State-of-Art Technologies to Reduce Impacts
		10. Alternative Water Sources for Mining Operations
		11. Other Alternatives for Reducing or Eliminating Impacts[r31]
Significant		12. Mine May Contribute to Climate Change
Significant		14. Mine Impacts on Archaeological Resources
Significant		15. Disproportionate Impacts on Low Income and Minority Populations
Significant		17. Increased Risk of Wildfire
	Not Significant	20. RCRA [r32]Hazardous Waste
	Not Significant	22. Mine May Conflict with Existing Laws and Policies (Land Use)
Significant		25. Outdoor Lighting
Significant		27. Degradation of Rangeland
Significant		28. Traffic Threats to Livestock
Significant		31. Blasting Noise and Vibration, Truck Traffic, and Equipment Use
	Not Significant	34. National Security
	Not Significant	39. Paleontological Resources
	Not Significant	51. Explosive Storage and Handling
Significant		52. Reclamation Plan
Significant		56. Restriction, Disturbance, or Loss of Recreational Activities
Significant		57. Impacts to Riparian Habitat
Significant		59. National Conservation Area (Riparian)
Significant		61. Local Economic Activity
	Not Significant	62. Local Property Values
	Not Significant	63. Local Employment
	Not Significant	64. Social and Emergency Services
Significant		65. Potential Soil Degradation
	Not Significant	66. Potential Geologic Hazards
	Not Significant	67. Blasting Vibration
	Not Significant	68. Subsidence Due to Groundwater Withdrawal
Significant		69. Habitat Loss
Significant		70. Existing Conservation and Recovery Programs
Significant		74. Impacts to Existing Road Network
	Not Significant	78. Rail Lines
Significant		79. Unique Vegetation
Significant		80. Vegetation Moisture Availability
Significant		81. Vegetation Salvage
Significant		83. Habitat Quality (Vegetation)
Significant		84. Direct and Indirect Impacts (Visuals)
Significant		85. Cumulative Impacts (Visuals)
Significant		86. Reclamation Timeline and Persistence of Impacts (Visuals)
	Not Significant	88. Consistency w/ Federal, State, Local Resource Mgmt. Objectives (Visuals)

Significant		89. Groundwater Deletion in the Mine Area
Significant		90. Seepage from Mine Area Facilities
Significant		91. Potential Waste Rock and Tailings Acid Rock Drainage
Significant		92. Potential Pit Lake
	Not Significant	93. Loss of Recharge in the Mine Area
Significant		94. Surface and Storm Water Control
	Not Significant	95. Groundwater Withdrawal in the Santa Cruz Valley
Significant		97. Mine Water Supply Pipeline
Significant		101. Loss of Wilderness Characteristics
Significant		102. Habitat Modification (Wildlife)
Significant		103. Wildlife Behavior and Mortality
Significant		104. Non-native Species (Wildlife)
Significant		105. Impacts to Other Sensitive Area in the Vicinity (Wildlife)

Theme statements defined as Significant Issues were subsequently evaluated, using Worksheet 3, to show a cause-effect relationship between some aspect of the Proposed Action and some consequence. Theme statements defined as Not Significant Issues were subsequently screened, using Worksheet 4, to document recommendations for brief consideration in particular sections of the EIS.

By further grouping related issue theme statements, the IDT combined their initial screening of 37 Significant Issues into twenty Significant Issue groups, see Table 7.

Table 7. Significant Issue Grouping

Significant Issue Grouping	Issue Theme Statement
Issue A: Acid Rock Drainage	91. Potential Waste Rock and Tailings Acid Rock Drainage
Issue B: Air Pollution	1. Dust Pollution 3. Air Pollution other than dust
Issue C: Archaeological Resources	14. Mine Impacts on Archaeological Resources
Issue D: Climate Change	12. Mine May Contribute to Climate Change
Issue E: Livestock Grazing	27. Degradation of Rangeland 28. Traffic Threats to Livestock
Issue F: Local Economic Activity, Quality of Life	15. Disproportionate Impacts on Low Income and Minority Populations 61. Local Economic Activity
Issue G: Mine Area Groundwater	27. Degradation of Rangeland[r33] 59. National Conservation Area (Riparian) 80. Vegetation Moisture Availability 89. Groundwater Deletion in the Mine Area 90. Seepage from Mine Area Facilities 94. Surface and Storm Water Control 105. Impacts to Other Sensitive Area in the Vicinity (Wildlife)
Issue H: Noise and Vibration	31. Blasting Noise and Vibration, Truck Traffic, and Equipment Use
Issue I: Outdoor Lighting	25. Outdoor Lighting
Issue J: Pit Lake	92. Potential Pit Lake
Issue K: Reclamation Plan	52. Reclamation Plan
Issue L: Recreation Disturbance or Loss of Recreational Opportunities	56. Restriction, Disturbance, or Loss of Recreational Activities 97. Mine Water Supply Pipeline
Issue M: Riparian Habitat	57. Impacts to Riparian Habitat
Issue N: Species of Conservation Concern and Wildlife Habitat	69. Habitat Loss 70. Existing Conservation and Recovery Programs 79. Unique Vegetation 81. Vegetation Salvage 97. Mine Water Supply Pipeline

Issue O: Soils	17. Increased Risk of Wildfire[r34] 65. Potential Soil Degradation
Issue P: Storm Water Control	94. Surface and Storm Water Control
Issue Q: Transportation	17. Increased Risk of Wildfire 74. Impacts to Existing Road Network
Issue R: Visual Impacts	84. Direct and Indirect Impacts (Visuals) 85. Cumulative Impacts (Visuals) 86. Reclamation Timeline and Persistence of Impacts (Visuals) 97. Mine Water Supply Pipeline
Issue S: Wilderness	101. Loss of Wilderness Characteristics
Issue T: Wildlife Habitat	17. Increased Risk of Wildfire 79. Unique Vegetation 83. Habitat Quality (Vegetation) 97. Mine Water Supply Pipeline 102. Habitat Modification (Wildlife) 103. Wildlife Behavior and Mortality 104. Non-native Species (Wildlife) 105. Impacts to Other Sensitive Area in the Vicinity (Wildlife)

Screening Worksheet 3 (Significant Issue Elements)

Worksheet 3, Significant Issue Elements, was used to initiate framing of the Significant Issues (as identified from *Worksheet 2*). This worksheet is intended to show a cause-effect relationship between some aspect of the Proposed Action and some consequence. It documents: the cause of an effect stemming from the proposed action; the magnitude, extent, and duration of the activity; and possible direct and indirect impacts/effects. This information is useful in understanding an issue. *Worksheet 3* was also used to document possible units to measure change for quantifying and comparing potential effects.

Screening Worksheet 4 (Not Significant Issue Tracking)

Worksheet 4, Not Significant Issue Tracking, was used to document potential disposition of the __[r35] Not Significant Issues (as identified from Worksheet 2). The results included recommendations for inclusion in the EIS as part of: a new alternative, mitigation, or monitoring; the affected environment; and effects analysis.[r36] What were the results?

Interdisciplinary Team Recommendation

The Forest Service Responsible Official ultimately approves the issues to be analyzed in depth by the IDT (Forest Service Handbook 1909.15 §12.3.2[m37]). The Coronado Forest Supervisor is the Responsible Official for the Rosemont Copper Project EIS. After screening the 105 theme statements, the IDT presented their screening materials and recommendations for issue theme statement disposition to the Coronado Forest Supervisor. (Appendix E contains a comprehensive issue theme tracking sheet.)

The IDT recommended the aforementioned __ Significant Issues (see Table 7), the __ Not Significant Issues (see Table __[r38]), and the __[r39]Non-Issues (see Table 4).

Refer to this point

ISSUES DETERMINED BY THE RESPONSIBLE OFFICIAL

The Coronado Forest Supervisor reviewed the IDT's recommendations and supporting materials. She also met with the Deputy Forest Supervisor, Nogales District Ranger, and the IDT Leader to discuss the results of her review.

Concern was profiled that some people who commented might be offended by the naming convention used for issues within the NEPA process. For example, some may incorrectly believe that the Forest Service is saying only Significant Issues are important.

It was also considered important that the public be able to readily understand how ~~each of their~~ comments were~~as~~ considered in the NEPA process.

New Categorization of Comments

After ~~careful~~ considering the potential public impact of the comment processing work to date, ~~ation of the public concern, the Deciding Official~~ (the Coronado Forest Supervisor~~) created~~ identified the following four ~~new~~ categories into which ~~to categorize~~ the issues [140]identified in the 105 theme statements would be organized~~. The issue categories decided on were as follows~~:

- issues out of scope for this analysis;
- issues that address the process;
- issues that drive alternatives, mitigations and/or monitoring; and
- issues that focus on description of effects.

The Coronado Forest Supervisor directed the IDT to re- categorize the issues with the exception of the IDT's recommended Significant Issus, which she personally re-categorized. Table x lists the IDT's recommended Significant Issues that the Coronado Forest Supervisor re-categorized as 'Issues Driving Alternatives, Mitigation, and/or Monitoring" and 'Issues Focusing Effects". Note that "Issues Driving " Alternatives, Mitigation, and/or Monitoring also serve to focus the effects analysis.

////This table is a good start. It needs to be moved to the right place. I may need validation of the cross walking.///

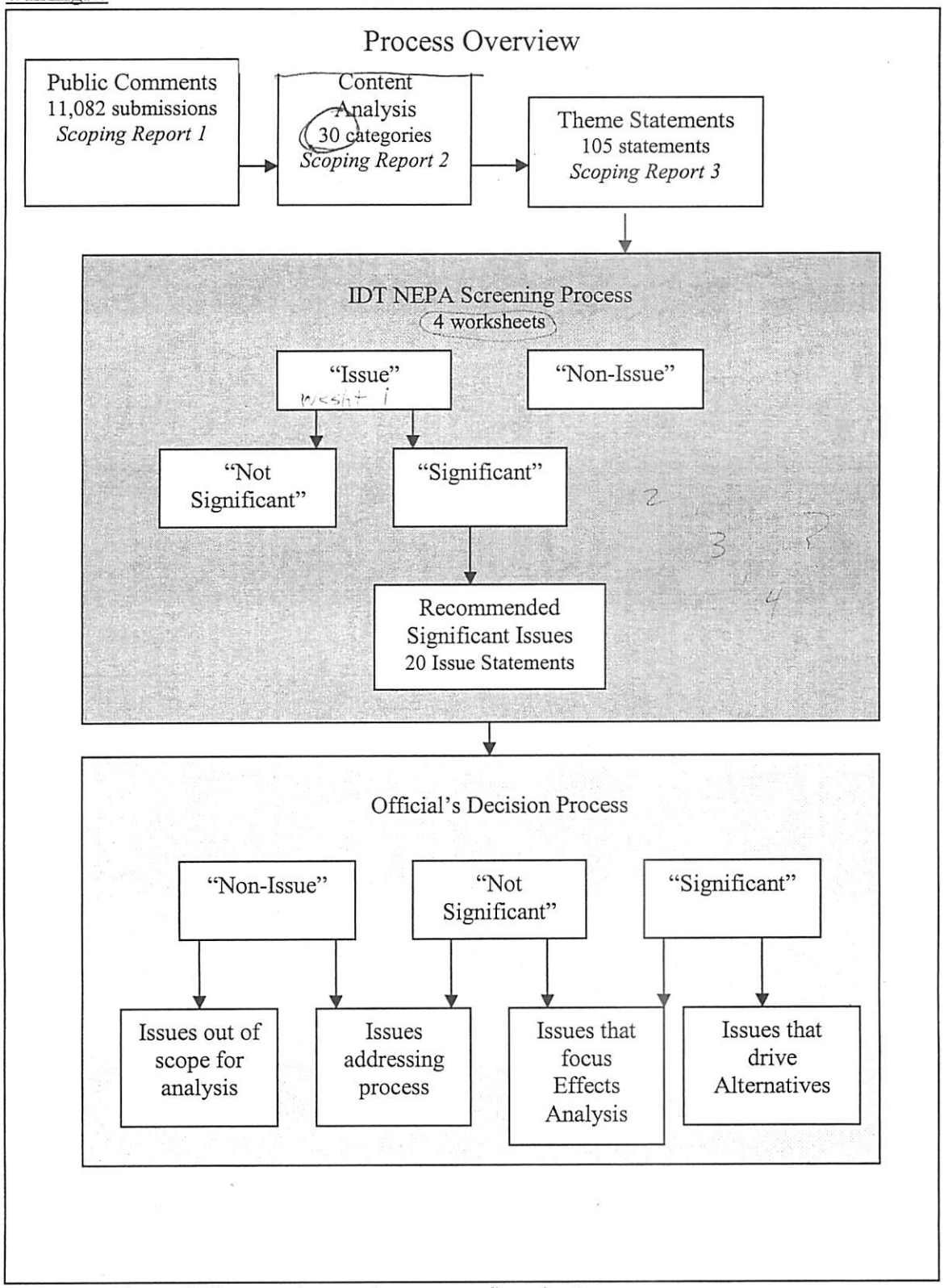
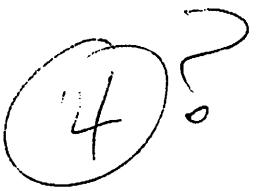


Figure 2. Comment screening process flow chart.

The themes that were categorized as driving alternatives, mitigations and/or monitoring were captured in 12 final theme statements, which were thereafter referred to as the "Issue Statements" (Table 1).

Table ~~1~~x. Issues Decided by Line

IDT Recommended Significant Issue Theme~~s Title(s)~~	Official's Re-categorization Issues Driving Alternatives, Mitigation, and/or Monitoring
Air Pollution	Air
Archaeological Resources	Heritage Resources
Outdoor Lighting	Night Skies
*Noise and Vibration	Noise and Vibration
Recreation Disturbance or Loss of Recreational Opportunities, Wilderness	Recreation
Riparian Habitats	Riparian Habitats
Special Species Status~~of Conservation Concern~~ Wildlife Habiatat	Plants and Animals
*Reclamation Plan	Reclamation Plan[r41]
~~Recreation Disturbance or Loss of Recreational Opportunities~~	
*	
Transportation*	Transportation
Acid Rock Drainage Mine Area Groundwater Pit Lake Stormwater ControlVisual Impacts	Water
Visual Impacts	Visuals
IDT Recommended Significant Issue Themes	**Official's Re-categorization Issues Focusing Effects**
Local Economic Activity, Quality of Life, and Environmental Justice	**Socio-Economic**
Livestock Grazing	**Livestock Grazing**
Soils	**Soils**



Issues Out of Scope for this Analysis

Outside the Scope of the Proposed Action[mr42]

~~Public comments raised numerous concerns that are not considered to be issues resulting from the effects of the Proposed Action. As explained below, most comments were considered outside the scope of this analysis because they were determined to be 1) already decided by current law or regulation; 2) outside the authority of the deciding official (i.e., Coronado Forest Supervisor); or 3) conjectural in nature and/or not supported by scientific evidence.~~[r43]

~~CEQ regulations also require agencies to address cumulative effects analyses in EISs. One aspect of cumulative effects analysis is the identification of past, present, and "reasonably foreseeable" future actions that, when combined with the impacts of the Proposed Action, could result in environmental~~

~~effects. When determining whether a future action may be "reasonably foreseeable," CEQ guidance suggests the following:~~

~~In general, future actions can be excluded from the analysis of cumulative effects if:~~

- ~~the action is outside the geographic boundaries or time frame established for the cumulative effects analysis;~~
- ~~the action will not affect resources that are the subject of the cumulative effects analysis; or~~
- ~~it would be arbitrary to include the action.~~

[r44]*Already Decided by Current Laws and/or Current Regulations*

The Mine Safety and Health Administration requires mining facilities to abide by strict safety regulations (30 CFR 1–199). These regulations were found to address the majority of public concerns. Other agencies that would have jurisdiction to enforce permitting requirements or existing laws or regulations have been invited to join the NEPA process as a cooperating agency. Coronado is currently working with these agencies to assist in the collaborative process.

Outside the Authority of the Deciding Official

Coronado has limitations based on current laws and regulations that focus the spectrum of decision by the Deciding Official (Appendix D). This limited decision space requires that some public comments be excluded from further consideration. Other agencies that have decisionmaking authority pertaining to this project have been invited to join the NEPA process as a cooperating agency. For example, Coronado has limited discretion over certain roads, such as State Route (SR) 83, which are regulated by the Arizona Department of Transportation.

Conjectural in Nature or Not Supported by Scientific Evidence

Comments and concerns are considered conjectural if they concern effects that are speculative, that have not previously been connected to mining facilities, and/or that have not been investigated and shown to be accurate. If a possible effect has not been previously studied to the degree necessary to quantify and measure effects, it would not be sufficiently supported by scientific evidence to provide criteria for analysis[m45].

Issues that Address the Process

Public comments also described issues with the NEPA process. These included complaints about the content of the NOI publication, scoping meeting notification times, and scoping meeting locations. Because these comments address the process, they could not be included in a document that addresses environmental impacts. Instead, as noted in *Scoping Report #1, Extent of Public Participation,* Coronado requested that their Regional authority review the scoping effort for adequacy.

Other issues that addressed the process included public discomfort with current law and regulation regarding mining and land use. A project-specific NEPA analysis such as the Rosemont Copper Project EIS does not have the latitude to overturn or alter existing laws or regulations. There are other legal routes through which the public can take action on this subject.

The qualifications of project staff, analysis methodology, and adequacy of bonding to pay for post-mining reclamation and monitoring were among other concerns expressed by the public during the scoping period. Disposition of these issues was based on commonly accepted professional practices and other industry standards. Bonding practices and limitations are described in 36 CFR 228.13. Although the Deciding Official can consider issues that address the process at the appropriate steps in the NEPA process, these issues do not substantively contribute to the development of project alternatives and the analysis of environmental effects.

Issues that Drive Alternatives, Mitigation and/or Monitoring

This section describes what the Forest Supervisor has decided will drive alternatives, mitigation and/or monitoring. The following statements will, moving forward, be referred to as the Issue Statements. At this stage in the NEPA process, it is believed that these statements provide the framework needed to respond to issues with alternatives or other mitigating measures for consideration during the analysis.

Air Quality

Issue – Potential impacts to air quality. Construction, mining, and reclamation activities at the mine and along transportation and utility corridors, along with local weather patterns, may result in an increase in dust, airborne chemicals, and vehicular emissions, further leading to the potential for the following:

- increased risk of health issues for area residents;
- reduced visibility for local residents, motorists on SR 83, recreationists, astronomical observatories, and local amateur astronomers and stargazers; and/or
- reduced visibility in Class I Wilderness Areas within 100 km.

Heritage Resources

Issue – Potential impacts to heritage resources. Heritage Resources may be affected by the siting of the open pit, processing facilities, administrative facilities, transportation and utility corridors, and tailings and waste rock piles; and by drilling and blasting. Potential impacts may include the following:

- loss or damage to existing prehistoric and historic sites;
- loss of or reduction in cultural practice opportunities; and/or
- loss of or reduction in future scientific research potential.

Night Skies

Issue – Potential impacts to night sky values. Increased light emissions from buildings, lighting fixtures, equipment, and vehicles may diminish dark skies. Impacts include the potential for the following:

- reduced visibility of stars, planets, satellites, etc.;
- increased light directly visible from SR 83 and other key observation points; and by local residents, recreationists, local astronomers, amateur astronomers, and stargazers.

Noise and Vibration

Issue – Potential impacts from noise and vibration. Drilling and blasting, mine operations, equipment use, and vehicular traffic may increase noise and ground vibrations at the mine and along transportation and utility corridors and present the potential for the following:

- vibration damage to Heritage Resources and private property; and/or
- decreased qualities of solitude, quiet, and naturalness for recreationists, local residents, and other area visitors.

Recreation

Issue – Potential impacts to recreation. Construction, mining, and reclamation activities may alter recreational quality, quantity, access, and opportunities and include the potential for the following:

- loss of or reduction in solitude, remoteness, rural setting, and quiet;
- changes in the types of recreation activities pursued in the area; and/or
- increased visitation to other recreational areas.

Riparian Habitat

Issue – Potential impacts to riparian habitat. Riparian habitat may be affected by the alteration of surface and subsurface hydrology, as well as by disturbance as a result of the siting and operation of the pit, processing facilities, administrative facilities, tailings and waste locations, and transportation and utility corridors. These impacts may result in the following:

- loss of riparian vegetation;
- loss of species diversity; and/or
- loss or fragmentation of riparian habitat and corridors.

Plants and Animals

Issue – Potential impacts to plants and animals. Mine construction, operations, and transportation corridors may affect wildlife species and their habitats, including the potential for the following:

- loss of species of conservation concern;
- disruption of mating, foraging, and other behaviors;
- conflicts with existing conservation plans and recovery goals;
- reduced forage and available water for wildlife;
- increased vehicle/wildlife collisions;
- loss or fragmentation of wildlife habitat;
- increased potential for establishment and/or expansion of non-native species; and/or
- loss or conversion of vegetation communities.

Transportation

Issue – Potential impacts to traffic patterns and transportation infrastructure. Transport of supplies and equipment for construction, operation, and reclamation of the mine; movement of mine employees and vendors; and transport of concentrates, copper plate, and other materials from the mine site would result in increased motorized traffic in the general project vicinity. In addition, mine-related traffic has the potential for the following:

- increased traffic congestion and delays;
- increased dust, noise, light, and litter;
- increased vehicle emissions;

- reduced safety along area roadways; and/or
- increased numbers of collisions.

Water

Issue – Potential impacts to groundwater and surface water quantity and quality. Groundwater flow into the mine pit may lower the groundwater table and may create a pit lake. Stormwater runoff or failure of water control features could move contaminants off-site. Exposure of sulfide-bearing and other waste rock, tailings, and pit wall rock to air and water may affect groundwater and surface water chemistry. These potential occurrences could lead to the following:

- loss of or reduction in surface and subsurface flows, including wells, springs, seeps, and creek base flow;
- contamination of surface and subsurface waters as a result of acid rock drainage and other sources;
- erosion or destabilization of operational and/or reclaimed slopes; and/or
- human and wildlife exposure to contaminated water bodies.

Visual Resources

Issue – Potential impacts to visual resources. Landscape changes resulting from the siting of the open pit, processing facilities, administrative facilities, transportation and utility corridors, and tailings and waste rock piles would alter form, line, texture, and color in the area. The project also has the potential for the following:

- increased dust and reduced visibility,
- reduced scenic quality from numerous viewpoints,
- loss of Scenic Road designation for all or part of SR 83.

Reclamation Plan

Issue – Potential impacts of reclamation design, planning, implementation, and long-term success on multiple resources. Implementing the MPO would result in long-term alteration of the area and subsequent land use changes. The Reclamation Plan must be designed to achieve the following long-term, fundamental goals:

- physical and chemical stabilization of the site,
- mitigation of long-term natural resource and social impacts,
- development of the appropriate post-mine beneficial land uses.

Soils

Issue – Potential impacts to soils. Ground disturbance from clearing of vegetation, grading, and stockpiling of soils has the potential to result in the following:

- increased erosion and subsequent sediment flows into drainages; and/or
- reduced soil productivity.

Issues that Focus on Description of Effects

Numerous public comments listed possible impacts from the project operations, transportation routes, and facilities. These included concerns about reclamation success and social issues such as property values and emergency response times. These themes have already been included in the[mm46] effects analysis.

NEXT STEPS IN THE NEPA PROCESS

FSH 1950.12.[4] "Issues are best identified during scoping early in the process to help set the scope of the actions, alternatives, and effects to consider; but, due to the iterative nature of the NEPA process, additional issues may come to light at any time."

So it is recognized that there may be changes.

After the formal Issue Statements were determined by the Deciding Official, Alternatives began to be developed and evaluated. Alternatives are explained in 36 CFR 220.5 as follows:

> (e) *Alternative(s).* The EIS shall document the examination of reasonable alternatives to the proposed action. An alternative should meet the purpose and need and address one or more significant issues related to the proposed action. Since an alternative may be developed to address more than one significant issue, no specific number of alternatives is required or prescribed. The following procedures are available to the responsible official to develop and analyze alternatives:
>
> (1) The responsible official may modify the proposed action and alternative(s) under consideration prior to issuing a draft EIS. In such cases, the responsible official may consider the incremental changes as alternatives considered. The documentation of these incremental changes to a proposed action or alternatives shall be included or incorporated by reference in accord with 40 CFR 1502.21.
>
> (2) The proposed action and one or more alternatives to the proposed action may include adaptive management. An adaptive management proposal or alternative must clearly identify the adjustment(s) that may be made when monitoring during project implementation indicates that the action is not having its intended effect, or is causing unintended and undesirable effects. The EIS must disclose not only the effect of the proposed action or alternative but also the effect of the adjustment. Such proposal or alternative must also describe the monitoring that would take place to inform the responsible official during implementation whether the action is having its intended effect.

Coronado's IDT is undergoing the process of developing and evaluating a reasonable range of alternatives for recommendation to the Deciding Official. Upon approval of the alternatives, the Coronado will evaluate potential impacts as they would pertain to each alternative[mm47].

APPENDIX A

Issue Theme Statements

APPENDIX B

Example Screening Process Worksheet

APPENDIX C

Non-Issues

And

Not Significant Issues

Non-Issues

	Not Within Scope of Proposed Action	Not an Effect of the Proposed Action	Not Relevant to the Decision to be Made	Already Decided by Law, Regulation, or Policy	Outside of Forest Service Authority	Not Supported by Scientific Evidence
Issue Theme Statement						
4. Air Quality Impact Analysis						
13. Mine May be Impacted by Climate Control						
14. Mine Impacts on Archaeological Resources						
16. Inadequate Opportunities for Low Income to Participate in Scoping						
18. Mitigation Measures to Reduce Risk (Wildfire) 19. Availability of Water to Combat Wildfire						
21. Mine May Adversely Affect Emergency Response						
23. Mine may Lead to Additional Development 24. Mine May Result in Lower Aesthetic or Property Values						
26. Night Skies						
29. Claim Validity 30. Cumulative Impact of Past, Present, and Future Mines						
32. Electricity 33. Tailings 35. Financial Responsibility 36. Smelter Capacity 37. Bridge Renovation 38. Resource Specialists						
40. Coronado National Forest Plan Revision 41. Purpose and Need for Environmental Impact Statement 42. NEPA Process Started Too Early 43. Cooperating Agencies 44. Consultation 45. Public Meetings 46. Mine Activities and the Environmental Impact Statement 47. Cumulative Impacts (Process and Procedure) 48. Mitigation Measures (Process and Procedures)						
49. Mine Operations and Public Health 50. Emergency Responders						
53. Reclamation Bond and Financial Assurance 54. Reclamation Success 55. Post-Closure Development of the Project Site						
58. Riparian Habitat and Property Values 60. Mandatory Mitigation (Riparian)						
71. Financial Feasibility 72. Technical Feasibility 73. Legal Feasibility						
75. State Route 83 Improvements 76. Use of Public Roads 77. Transportation Mitigation Measures						
82. Vegetation Survey						
87. Visual Resources Analysis and Methodology						
96. Central Arizona Project (CAP) Water Recharge 98. Green Valley Central Arizona Project (CAP) Water Pipeline 99. Seepage from Production Well and Water Pipeline Facilities 100. Alternative Mine Water Supply						

APPENDIX D

Comprehensive Issue Theme Statement Tracking Sheet

APPENDIX E

APPENDIX X

Coronado Decision Space

Misc stuff from previous draft, not included in current version.

According to CEQ's regulations implementing NEPA, "documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail" (40 CFR 1500.1[b]). These regulations mandate that agencies reduce excessive paperwork by "discussing only briefly issues other than significant ones" (40 CFR 1500.4[c]). Although all comments and opinions are considered valid by Coronado, NEPA directs federal agencies to focus on those issues that drive alternatives or may be impacted by the decision to be made[m48]. The Forest Plan Implementation Course states, "Significant Issues are used to formulate alternatives to the proposed action or prescribe mitigation and monitoring measures" (Forest Service 1900.01 Unit 9, slide 6).

Sturgess Jamie
<jsturgess@augustaresource.com>
07/01/2010 09:38 AM

To Melinda D Roth <mroth@fs.fed.us>, karnold@rosemontcopper.com
cc Beverley A Everson <beverson@fs.fed.us>, Reta Laford <rlaford@fs.fed.us>, tfurgason@swca.com
bcc

Subject Re: 6/30 due date for Fermine's input on Barrel alt.

History: This message has been forwarded.

Mindee, Reta, Bev, Tom, Fermin, Kathy A. etal:

I believe the word for the June 30 meeting should have been Rescheduled rather than Cancelled.
The collaborative effort will produce a collaborated work product.

I suggest a conference call soonest possible, and a sit down end of next week, or even the following week to allow review deliberative time.

I accept that this pushes schedules out two weeks.

Best regards,
Jamie Sturgess

On 7/1/10 9:59 AM, "Melinda D Roth" <mroth@fs.fed.us> wrote:

> As it turns out, it's problematic that the 6/30 meeting about the Barrel alternative was cancelled. Debby and Salek have numerous questions about the latest TT map product and I don't believe we have Fermine's input. These delays will delay the alternative description in Chapter 2 and the analysis in Chapter 3. I understand a meeting of the working group is scheduled next week to pin this down, hopefully. I hope to discuss this with Reta before I leave for vacation tonight.
>
> Mindee Roth
> Coronado National Forest
> 300 W. Congress, FB42
> Tucson, AZ 85701

(520) 388-8319
(520) 396-0715 (cell)
(520) 388-8305 (FAX)

Reta Laford/R3/USDAFS
02/02/2010 06:54 AM

To "Melissa Reichard" <mreichard@swca.com>
cc "Sarah L Davis" <sldavis@fs.fed.us>, Melinda D Roth/R3/USDAFS@FSNOTES, Beverley A Everson/R3/USDAFS@FSNOTES
bcc
Subject Laws and Regulations -Re: Record questions

Melissa / Sarah - Laws and Regs: In general, include all laws and regs cited in the DEIS. Include short laws like NEPA in their entirety. When a voluminous law is cited, the IDT specialist should be pressed to identify the pertinent portions and revise the citation. Include excerpts of cited portions of voluminous laws and regs cited in the DEIS.

Bev / Mindee - Note the above expectation for citing to specific sections of laws referred to.

Reta Laford, Deputy Forest Supervisor

USDA Forest Service, Coronado National Forest
300 W Congress Street, Tucson, AZ 85701

Phone: 520-388-8307 (office), 505-452-7557 (cell)
Fax: 520-388-8305
Email: rlaford@fs.fed.us

"Melissa Reichard" <mreichard@swca.com>

"Melissa Reichard" <mreichard@swca.com>
02/01/2010 02:23 PM

To "Reta Laford" <rlaford@fs.fed.us>
cc "Sarah L Davis" <sldavis@fs.fed.us>
Subject Record questions

Reta-
Two questions I forgot to ask you on Saturday:

1. Which laws & regs do you want to include?
2. Notes from Alaska mentioned including resumes of everyone on the team. SWCA already has those in our SOQ. Should I request resumes from the FS team?

Thanks!

Melissa Reichard
Project Administrator
SWCA Environmental Consultants
343 West Franklin Street
Tucson, Arizona 85701
(520)325-9194, (520)325-2033 fax

Beverley A Everson/R3/USDAFS
07/21/2010 08:42 AM

To Melinda D Roth/R3/USDAFS@FSNOTES, Reta Laford/R3/USDAFS@FSNOTES, <tjchute@msn.com>
cc
bcc
Subject takings case law that Bob Cordts referenced

http://www.appellate.net/briefs/AmericanPelagicRehearing.pdf

Beverley A. Everson
Forest Geologist
Coronado National Forest
300 W. Congress Street, 6th Floor
Tucson, AZ. 85701

Voice: 520-388-8428
Fax: 520-388-8305

No. 03-5101

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

AMERICAN PELAGIC FISHING COMPANY, L.P.,

Plaintiff-Appellee,

vs.

UNITED STATES,

Defendant-Appellant.

Appeal from the United States Court of Federal Claims in 99-CV-119
Senior Judge Eric G. Bruggink

PETITION FOR REHEARING EN BANC OF PLAINTIFF-APPELLEE AMERICAN PELAGIC FISHING COMPANY, L.P.

Jeffrey W. Sarles, *Of Counsel*
MAYER, BROWN, ROWE & MAW LLP
190 South LaSalle Street
Chicago, Illinois 60603
(312) 782-0600

Eileen Penner
MAYER, BROWN, ROWE & MAW LLP
1909 K Street, N.W.
Washington, D.C. 20006
(202) 263-3000

Stephen A. Saltzburg, *Of Counsel*
GEORGE WASHINGTON UNIVERSITY
NATIONAL LAW CENTER
2000 H Street, N.W.
Washington, D.C. 20052
(202) 994-7089

Laurie Frost Wilson, *Of Counsel*
8950 Hooes Road
Lorton, Virginia 22079
(703) 690-6262

Attorneys for Plaintiff-Appellee
American Pelagic Fishing Company, L.P.

TABLE OF CONTENTS

Page(s)

TABLE OF AUTHORITIES

Page(s)

Cases

TABLE OF AUTHORITIES – continued

Page(s)

Other Authorities

STATEMENT OF COUNSEL PURSUANT TO CIRCUIT RULE 35(b)

Based on my professional judgment, I believe the panel decision is contrary to the following decisions of the Supreme Court of the United States and precedents of this Court: *Lucas* v. *South Carolina Coastal Council*, 505 U.S. 1003 (1992); *Cienega Gardens* v. *U.S.*, 331 F.3d 1319 (Fed. Cir. 2003); *Chancellor Manor* v. *U.S.*, 331 F.3d 891 (Fed. Cir. 2003); *Pete* v. *U.S.*, 531 F.2d 1018 (Ct. Cl. 1976). Based on my professional judgment, I believe that, if this appeal is not governed by the above precedents, then it requires an answer to a precedent-setting question of exceptional importance: Does the Takings Clause protect uses of property that are subject to regulation?

_____

Attorney of Record for Appellee

INTRODUCTION AND SUMMARY OF ARGUMENT

The panel reached the unprecedented conclusion that the Takings Clause does not protect uses of private property that are subject to regulation. Because most uses of private property are subject to regulation, the panel's ruling would effectively abolish the government's obligation to compensate citizens for virtually all regulatory takings.

The record below was undisputed. The government first induced the American Pelagic Fishing Co. ("APFC") to invest in a large fishing vessel (the *Atlantic Star*) to harvest under-utilized fish stocks in the Atlantic fisheries; next issued to the *Atlantic Star* all required fishing permits; and then enacted brand-new special legislation revoking only the *Atlantic Star*'s permits and barring only the *Atlantic Star* from fishing in any waters in the Exclusive Economic Zone of the U.S. ("EEZ"). These actions deprived the vessel of all economic value. A42. Following a thorough regulatory takings analysis, Judge Bruggink concluded: "[I]f the Constitution doesn't protect private property under these circumstances, then I don't think it's worth the paper it's written on." JA4624-25.

The panel reversed Judge Bruggink's finding of a taking not by disputing his painstaking *Penn Central* analysis, but rather by reaching the astonishing conclusion that APFC never had a property interest protected by the Fifth Amendment in using its fishing vessel to fish. The panel reasoned that APFC bought its vessel after Congress adopted the Magnuson Act, which authorized the

government to regulate fishing within the EEZ. According to the panel, the U.S.'s rights over "conservation and management of the EEZ" (A23) "precluded any permitted fisherman from possessing a property right in his vessel to fish" (A24). The panel thus held that the Fifth Amendment does not protect property uses over which the government has regulatory power. That ruling eliminates constitutional protection against regulatory takings.

The implications of the panel's decision are staggering. At minimum, it places the fishing, airline, transportation, and mining industries – all of which invest huge sums in personalty (vessels, airplanes, trucks, equipment) used in heavily regulated public areas – on notice that the uses they currently "enjoy," though now legal, are simply "use[s] * * * that the government [has not yet] chose[n] to disturb." A20. The government may at any time, according to the panel, adopt unforeseeable use restrictions rendering such property valueless, yet risk no obligation to pay just compensation.

What is more, the panel did not limit the reach of its ruling to personalty or uses requiring access to public resources. Real property, too, is acquired subject to use-restricting regulations. Under the panel's analysis, such zoning and wetlands regulations would foreclose real property owners from acquiring a compensable property right to, for example, build houses or hotels. As the Supreme Court and this Court have made clear in numerous cases, that is simply not the law.

The panel's decision is irreconcilable with the Supreme Court's decision in

Lucas, 505 U.S. at 1030, which held that the Fifth Amendment protects an owner's interest in using property in any manner not specifically excluded from its title by "background principles" of common law. Use of a vessel to fish in the EEZ was not proscribed by any such "background principles" – let alone by the Magnuson Act or its regulations – when APFC purchased the *Atlantic Star*.

The panel decision also conflicts with this Court's decisions in *Cienega Gardens* and *Chancellor Manor*. Those cases squarely hold that the mere fact that a property use is regulated does not exclude it from an owner's title and preclude a takings claim, as the panel held. Rather, the presence and scope of regulation is but a factor in the reasonable expectations analysis under *Penn Central*. Thus, a preexisting regulatory regime defeats a takings claim only if it made adoption of the specific regulation at issue ***reasonably foreseeable***. The panel did not dispute the trial court's finding that the vessel legislation was not reasonably foreseeable notwithstanding the Magnuson Act and its implementing regulations.

Nor can the panel's decision be justified by construing it to apply solely to uses of personalty that require access to regulated public resources, such as the EEZ and internal waters, federal lands, and highways. Abundant precedent establishes that the Fifth Amendment fully applies to takings of personalty whose use requires access to such public resources. Indeed, the panel's decision squarely conflicts with *Pete* v. *U.S.*, 531 F.2d 1018 (Ct. Cl. 1976), a binding precedent which found a compensable property interest in vessel use in federally regulated

waters within a national park.

The full Court should vacate the panel's radical revision of regulatory takings jurisprudence to prevent the Takings Clause from becoming a dead letter.

FACTUAL BACKGROUND[1]

During the mid-1990s, federal agencies actively urged U.S. fishermen to build large fishing vessels for deployment in the woefully underfished Atlantic mackerel and herring fisheries. Lisa Torgersen, a Seattle resident with extensive experience in the fishing industry, accepted the government's invitation. She established APFC, which invested $40 million in the *Atlantic Star*, a state-of-the-art vessel designed to ensure "clean" mackerel and herring fishing, minimizing by-catch and other incidental environmental impacts. JA602. In early 1997, the National Marine Fisheries Service ("NMFS") issued all required permits.

Ms. Torgersen knew that the regulations governing this area of the fishing industry were highly favorable. JA595-96. They required NMFS to issue and renew mackerel permits to all qualifying ships satisfying its conditions. 50 C.F.R. §648.4(e), (j). Further, NMFS had never revoked any permits (JA662-63), and the government previously had compensated permit holders when it reduced fishing capacity (JA730, 793). Ms. Torgersen also knew that entry into these fisheries provided a vessel with valuable "historical fishing rights" that protected against

[1] For a more complete factual statement with record citations, see Appellee Brief 2-16 and the trial court's opinions (A31-A63).

later imposition of entry or catch limits. JA730, 793, 3566.

As word of the *Atlantic Star* spread, opposition arose among local fishermen who feared competition from the more efficient vessel. A34. New England Fishery Management Council members proposed specific size limits that would exclude only the *Atlantic Star* and not their own vessels. JA825, 842. Legislation with similar size limits was then introduced in Congress. A34. Congress enacted appropriations legislation in November 1997 – five days before the *Atlantic Star* was to launch – incorporating similar vessel size limits that abrogated the *Atlantic Star*'s existing permits and barred it from obtaining a permit to fish "in any U.S. fishery within the EEZ." A6. "[N]o other vessel was affected by the legislation." *Id.* Indeed, the legislation grandfathered all other vessels in the EEZ that exceeded the new size limits, excluding only the *Atlantic Star*. See Appellee Br. 33.

It is undisputed that the legislative record lacked any evidence that the *Atlantic Star* in particular, or large vessels in general, threatened environmental harm. A36. According to Senator Snowe, who sponsored the legislation, the fish stocks were "healthy" but "she had key constituents [who] were against" entry of the *Atlantic Star*. JA3559.

This new vessel legislation was the first in history to abrogate a vessel's existing permits. JA678. It deprived the *Atlantic Star* of all economically viable use for 19 months, and Ms. Torgersen lost her "entire equity investment." JA617.

Judge Bruggink found that APFC's property right to use its vessel to fish

subject to regulation had been temporarily taken under *Penn Central*. After a trial on damages, the court awarded APFC just compensation equal to the vessel's fair rental value during the takings period. The panel reversed without engaging in a takings analysis, holding that the Fifth Amendment did not protect APFC's property interest in use of its vessel. A29.

ARGUMENT

I. THE PANEL'S RULING CONFLICTS WITH BINDING PRECEDENT

A. The Panel's Ruling Conflicts With *Lucas*

The Fifth Amendment protects a property owner's interest in using its property in any manner not excluded from its title by "background principles" of property law. *Lucas*, 505 U.S. at 1030. Use of a vessel to fish in the open sea not only was not proscribed by any background principles at the time APFC purchased the *Atlantic Star*, it has been recognized as a common law right for centuries.

The panel ruled that "background principles" did exclude use of the *Atlantic Star* to fish in the EEZ from APFC's title because, prior to APFC's purchase, the Magnuson Act established the government's "sovereign rights" to "conserve and manage the fishery resources found off the coast of the United States." A22 (quoting 16 U.S.C. §§1801(b)(1), 1811). According to the panel, the government's assertion of a right to regulate fishing "precluded any permitted fisherman from possessing a property right in his vessel to fish in the EEZ." A24. The panel's ruling cannot be reconciled with *Lucas*.

Under *Lucas*, a particular use is not excluded from property title unless it has "always" actually been ***"unlawful"*** under "existing rules or understandings." 505 U.S. at 1030. Even assuming that the Magnuson Act is the sort of common law background principle the Court had in mind in *Lucas* – a highly dubious proposition[2] – it is ***undisputed*** that APFC's use of its vessel was ***not*** "unlawful" (*id.*) under either the Magnuson Act or its regulations at the time APFC acquired the *Atlantic Star*. Indeed, it was precisely because operation of the *Atlantic Star* was indisputably ***permissible*** under the Magnuson Act and its regulations – as evidenced by the fact that NMFS issued to the *Atlantic Star* all required permits – that Congress enacted ***entirely new*** legislation to accomplish its aim of banishing the vessel. *Lucas* held that "prohibit[ions on] all economically beneficial use * * * ***cannot be newly legislated***" without compensation. *Id.* at 1029 (emphasis added).

Nor was use of a vessel to fish in the EEZ "unlawful" under background principles of common law. Indeed, using a vessel to fish in the open sea has long been a common law right, which Congress took care not to abrogate in declaring the government's regulatory authority in the Magnuson Act. Congress explicitly recognized that, "[f]or well over 300 years, one of the most basic principles of the

---

[2] *Lucas* made clear that the "background principles" exception is narrow, limited to nuisances and dangerous or "noxious" activities long proscribed under common law and therefore understood not to inhere in one's title. 505 U.S at 1030. Thus, for example, title to a mine does not include the right to use it so as "to endanger the public health." *M&J Coal Co.* v. *U.S.*, 47 F.3d 1148, 1154 (Fed. Cir. 1995).

freedom of the seas has been the freedom of fishing," that is, "free and open access to all stock on the high seas." H.R. Rep. No. 94-445, at 24 (1975).[3] The Magnuson Act itself emphasizes that the Act introduced "no impediment to, or interference with, [such] recognized legitimate uses of the high seas, except as necessary for the conservation and management of fishery resources, as provided for in this chapter." 16 U.S.C. §1801(c)(2).[4]

Nonetheless, the panel maintained that the government's authority to regulate fishing could not co-exist with vessel owners' property rights to use their vessels to fish. It reasoned: "Plainly, rendering the ability to fish in the EEZ a matter of governmental permission, rather than a property right, is 'necessary for the conservation and management of fishery resources.'" A25. But the federal government's regulation of fishing no more precludes a vessel owner from

---

[3] The right to use a fishing vessel to fish on the open seas dates back to ancient times and has been an integral part of the common law since the 17th century. See GROTIUS, FREEDOM OF THE SEAS 26 (1633) (Oxford U. Press 1916). International treaties also recognize the right to fish in the high seas. *1958 Geneva Convention on the High Seas*, Apr. 29, 1958, 13 U.S.T. 2312, T.I.A.S. No. 5200, arts. 1-2.

[4] The inherent right to use a vessel to fish on open waters distinguishes this case from *Mitchell Arms* v. *U.S.*, 7 F.3d 212 (Fed. Cir. 1993), on which the panel relied (A28). "The holding that there was no property interest in *Mitchell Arms* [is] limited to those cases in which the interest at issue does not inhere to some property that the plaintiff owns independently." *Cienega Gardens*, 331 F.3d at 1335-36. The Court in *Mitchell Arms* distinguished the "right to mine" that is "inherent" in ownership of a mine from an expectation to import and sell assault weapons in the U.S., which does not inhere in their ownership. 7 F.3d at 217. The longstanding right to fish in ocean waters is at least as inherent in ownership of a fishing vessel as the right to mine referenced in *Mitchell Arms*.

possessing a right to use a vessel to fish than local governments' regulation of building precludes a land owner from possessing a right to use land to build houses or hotels. In each case, the owner ***possesses a right to use his property in a manner recognized at common law, subject to regulation.*** Although the government unquestionably has regulatory ***power*** to limit or banish such uses, it must pay just compensation when it exercises that power in a manner found confiscatory under a *Penn Central* analysis.

The panel suggested that, by asserting "sovereign rights" over fishing in the EEZ, the government acquired "ownership" of the fish, thereby precluding what it perceived as a competing property claim by APFC in using its vessel to fish. A24. But the Supreme Court has rejected the cases on which the panel relied (*id.*), holding that the government's "sovereign rights" over fishing do ***not*** constitute "ownership" of fish and ***are*** subject to constitutional limitations:

> [I]t is pure fantasy to talk of "owning" wild fish, birds, or animals. ***Neither the States nor the Federal Government, any more than a hopeful fisherman or hunter, has title to these creatures*** until they are reduced to possession by skillful capture. * * * Under modern analysis, the question is simply whether the State has exercised its police power ***in conformity with the federal laws and Constitution.***

Hughes v. *Oklahoma*, 441 U.S. 322, 334-35 (1979) (emphasis added) (*quoting Douglas* v. *Seacoast Prods.*, 431 U.S. 265, 284 (1977)).

Further, it is indisputable that the U.S. does not "own" the EEZ as a

proprietor.[5] Indeed, the U.S. does not even claim full "sovereignty" over the EEZ as it does over the landmass of and airspace over the United States See, *e.g.*, 49 U.S.C. §40103(a)(1). Rather, within the EEZ, it asserts only limited "sovereign rights" (16 U.S.C. §1811) for the "management of natural resources and other economic activities" (RESTATEMENT (THIRD) OF THE FOREIGN RELATIONS LAW OF U.S. §514 & cmt. c (1997)).[6] Moreover, even an assertion of full "sovereignty" is not inconsistent with possession of private property interests within the sovereign territory, as evidenced by the fact that private citizens own property within the territorial United States.

B. The Panel's Ruling Conflicts With Governing Precedents That Recognize Property Rights Subject To Government Regulation.

The panel ruled that there can be no property right to use property in a manner that requires "governmental permission." A25. That ruling conflicts with

---

[5] This case thus does not present conflicting claims of two proprietary owners. Cf. *Washoe County* v. *U.S.*, 319 F.3d 1320, 1327-28 & n.5 (Fed. Cir. 2003) (distinguishing citizen's claim of right to use land held by government as proprietary "landowner" from claim of right to use "navigable waters" where the government acts as ***regulator***).

[6] "'Sovereign rights' over the exclusive economic zone [are] rights for specific purposes and thus do not permit a state to exercise full powers over these areas, as 'sovereignty' might allow." Brilmayer & Klein, *Land and Sea: Two Sovereignty Regimes in Search of a Common Denominator*, 33 N.Y.U. J. Int'l L. & Pol'y 703, 703 n.2 (2001). The Governance Working Group of the U.S. Commission on Ocean Policy similarly explains that the U.S. has not asserted "broad control" over the EEZ "in the same way that we have asserted responsibility for onshore public lands." http://oceancommission.gov/commission/groups/governance.html.

the Court's decision in *Cienega Gardens*, 331 F.3d at 1330, that "enforceable rights sufficient to support a taking claim" ***do*** "arise in an area voluntarily entered into * * * which, from the start, is subject to pervasive Government control." It also conflicts with the Court's decision in *Chancellor Manor*, 331 F.3d at 903, that government regulation does not preclude acquisition of a cognizable property interest but rather is "an issue germane to the *Penn Central* analysis." Both decisions hold that preexisting regulations do not defeat a takings claim unless they made adoption of the specific regulation at issue ***reasonably foreseeable***. The panel did not dispute the trial court's holding that the new vessel size limits were not reasonably foreseeable. The panel's ruling also conflicts with the scores of cases requiring a takings analysis where the proscribed use was subject to pervasive government regulation, including permit requirements.[7]

---

[7] *E.g.*, *City of Monterey* v. *Del Monte Dunes*, 526 U.S. 687, 699 (1999) (affirming verdict for developer on takings claim based on permit denials); *Dolan* v. *City of Tigard*, 512 U.S. 374, 395 (1994) (governmental conditions on development permit took property interest); *Nollan* v. *California Coastal Comm'n*, 483 U.S. 825, 833 n.2 (1987) ("the right to build on one's own property" is subject to the Takings Clause "even though its exercise can be subjected to legitimate permitting requirements"); *Hodel* v. *Irving*, 481 U.S. 704, 712 (1987) (engaging in taking analysis where Congress had "broad authority to regulate the descent and devise of Indian trust lands"); *Bass Enters.* v. *U.S.*, No. 03-5056 (Fed. Cir. Aug. 31, 2004) (applying *Penn Central* factors to analyze whether delay in approving drilling permit was temporary taking); *Appolo Fuels* v. *U.S.*, No. 03-5088 (Fed. Cir. Aug. 30, 2004) (analyzing whether rejection of mining permit was a taking); *Cooley* v. *U.S.*, 324 F.3d 1297, 1305 (Fed. Cir. 2003) (remanding for takings analysis of fill permit denial); *Loveladies Harbor* v. *U.S.*, 28 F.3d 1171, 1182 (Fed. Cir. 1994) (denial of fill permit was taking); *Yancey* v. *U.S.*, 915 F.2d 1534, 1540 (Fed. Cir. (cont'd)

C. The Panel's Ruling Conflicts With Governing Precedents That Recognize Property Rights In Uses That Require Access To Public Resources.

The panel did not suggest that its holding was limited to uses of personalty requiring access to public resources. Regardless, such a construction would not save the decision from conflict with governing precedent, including *Pete* and *Maritrans*. The facts in *Pete* are indistinguishable in any relevant respect from those here. The plaintiffs built three floating cabin barges for commercial use on a lake that was part of the Superior National Forest.[8] When Congress changed the laws governing that part of the national forest, creating the Boundary Waters Canoe Area (BWCA), it barred operation of all such commercial enterprises. *Pete*, 531 F.2d at 1020-21. The government argued that "loss of the use" of the barges was not compensable because it was merely "an unintended incident" of government regulation of an area that had been a national park prior to plaintiffs' investment. *Id.* at 1033. The Court rejected that argument, holding that the change

---

(... cont'd)

1990) (regulation to control disease took personal property notwithstanding "Government's proper exercise of regulatory authority"); *United Nuclear Corp.* v. *U.S.*, 912 F.2d 1432, 1437-38 (Fed. Cir. 1990) (leasehold interest to mine was property for purposes of Takings Clause notwithstanding need for government approval).

[8] *Pete* involved only the plaintiffs' personal property, *i.e.*, the barges. Their real property was the subject of an independent case, *U.S.* v. *967.905 Acres of Land*, 447 F.2d 764, 765 (8th Cir. 1971), which confirms that the barges long had been situated within the national forest, *i.e.*, regulated public lands.

in laws that rendered Pete's barges "useless" effected a taking. *Id.* at 1035. *Pete* establishes unequivocally that banishing commercial use of a vessel in regulated public waters ***can*** take property and require compensation.

The Supreme Court and this Court have reached the same conclusion in numerous cases where the use of private property required access to public resources. *E.g.*, *Monongahela Navigation Co.* v. *U.S.*, 148 U.S. 312, 336 (1893) (finding a taking of plaintiff's right to obtain tolls from locks and dams constructed on navigable waters despite the federal government's "supreme control" over commerce and navigation); *Palm Beach Isles Assocs.* v. *U.S.*, 208 F.3d 1374, 1384 (Fed. Cir. 2000) (rejecting government's contention that "there never can be a taking of property" situated in navigable waters subject to the federal government's regulation and control); *Skaw* v. *U.S.*, 740 F.2d 932, 939-41 (Fed. Cir. 1984) (vacating summary judgment to government and remanding for analysis of whether restrictions by U.S. Forest Service on unpatented mining rights constituted a taking); *Laney* v. *U.S.*, 661 F.2d 145, 149-50 (Ct. Cl. 1981) (same); *Branning* v. *U.S.*, 654 F.2d 88, 98 (Ct. Cl. 1981) (government's "plenary power to regulate navigable airspace [does] not afford a blanket exemption from the taking clause").

The panel's ruling also conflicts with *Maritrans Inc.* v. *U.S.*, 342 F.3d 1344, 1353 (Fed. Cir. 2003), where the Court rejected the government's argument that Maritrans lacked a "cognizable property interest" because the restricted use required access to public waterways. The Court explained that, although the

restricted use of Maritrans' vessels was of public waters, "those facts do not somehow diminish or eliminate the basic property interest that Maritrans has in its [vessels]." *Id.* There is no principled basis for a different conclusion here. APFC too held a "basic property interest" in its vessel which was taken by restriction of its "use of public waters." *Id.* The panel's argument that the property interest in *Maritrans* was in the vessel itself rather than "in the use of its vessels in the navigable waters of the United States" (A29-A30 n.21) thus applies equally here. Regardless, it was precisely that distinction that *Maritrans* rejected as a spurious basis for failing to apply the *Penn Central* analysis. *Id.* Finally, the takings claim failed in *Conti* v. *U.S.*, 291 F.3d 1334 (Fed. Cir. 2002), not for lack of a property right to use gear to catch swordfish, as the panel states (A28), but because the gear had alternate uses that foreclosed a severe economic impact. *Id.* at 1343-44.[9]

---

[9] As in *Maritrans*, that evaluation of economic impact would have been pointless if there were no property right to begin with. Even if footnote 8 of *Conti* could be construed to suggest a lack of a property right because use of a vessel to catch swordfish "was dependent upon a revocable permit" (A28), no such permit was involved here. Unlike in *Conti*, APFC's mackerel permit was not revocable except for cause, indisputably absent. The mackerel regulations expressly state that a mackerel "permit ***will continue in effect*** unless it is revoked, suspended, or modified under 15 CFR part 904" (50 C.F.R. §648.4(h) (emphasis added)), and part 904 authorizes revocation only for offenses or for reasons specified in specific permit provisions (15 C.F.R. §904.300(a)). Although the enforcement provision states that "Nothing in this [enforcement] subpart precludes sanction or denial of a permit for reasons not relating to enforcement," the mackerel permit provisions contain no other grounds for revocation and state that, absent such other grounds, the permit "will continue in effect." 50 C.F.R. §648.4(h); see also 16 U.S.C. §1858(g) (authorizing revocation only as sanction for violations). The government (cont'd)

II. THE PANEL'S RULING THREATENS DESTRUCTION OF PROPERTY RIGHTS ON A VAST SCALE.

Whether barring a particular use takes property requires a concrete analysis of "particular circumstances." *Penn Central*, 438 U.S. at 124. The panel's ruling circumvents that requirement by transforming the reasonable expectations prong of *Penn Central* into a threshold bar to the very existence of a property interest.

The implications of that novel ruling are extraordinary and extend far beyond the EEZ to all public waters, lands, and airspace over which the government exercises sovereign rights or regulatory jurisdiction. Indeed, it would immunize confiscatory bans on ***any*** use of property requiring a permit. Permits are required for a barge to carry freight on a river, for a truck to carry cargo on public highways, and for a steel mill to produce steel. That cannot mean that barring barge or truck transport or steel production would implicate no property right.

The panel's ruling would authorize the government to accomplish by legislation what it could not accomplish by physical seizure – complete abrogation of a use of property without just compensation. The Court en banc should reject such judicial revision of the Fifth Amendment.

CONCLUSION

The Petition for Rehearing en Banc should be granted.

(... cont'd)

formally admitted below that it had no discretion to deny renewal of a permit absent noncompliance with regulations. JA 907.

September 30, 2004

Respectfully submitted,

_____

Jeffrey W. Sarles, *Of Counsel*
MAYER, BROWN, ROWE & MAW LLP
190 South LaSalle Street
Chicago, Illinois 60603
(312) 782-0600

Eileen Penner
MAYER, BROWN, ROWE & MAW LLP
1909 K Street, N.W.
Washington, D.C. 20006
(202) 263-3000

Stephen A. Saltzburg, *Of Counsel*
GEORGE WASHINGTON UNIVERSITY
NATIONAL LAW CENTER
2000 H Street, N.W.
Washington, D.C. 20052
(202) 994-7089

Laurie Frost Wilson, *Of Counsel*
8950 Hooes Road
Lorton, Virginia 22079
(703) 690-6262

Attorneys for Plaintiff-Appellee
American Pelagic Fishing Company, L.P.

ADDENDUM

CERTIFICATE OF SERVICE

The undersigned, an attorney, hereby certifies that on September 30, 2004 she caused two copies of the Petition for Rehearing en Banc of Plaintiff-Appellee American Pelagic Fishing Company, L.P. to be served upon the following by U.S. Postal Service first-class mail:

Peter D. Keisler, Assistant Attorney General
David M. Cohen, Director
Deborah A. Bynum, Assistant Director
Commercial Litigation Branch, Civil Division
U.S. Department of Justice Attn: Classification Unit
1100 L Street, N.W., 8th Floor
Washington, D.C. 20530

Jeffrey Pidot, Chief
Natural Resources Division
Office of the Attorney General
6 State House Station
Augusta, ME 04333

Robert G. Dreher
Georgetown Environmental Law & Policy Institute
Georgetown University Law Center
600 New Jersey Ave., N.W.
Washington, D.C. 20001

_____

Kathy A.

Beverley A
Everson/R3/USDAFS
12/01/2009 05:07 PM

To Melinda D Roth/R3/USDAFS@FSNOTES
cc
bcc
Subject Fw: Rosemont - Action Items from May 7 meeting

Mindee, can you follow up with Debby's request of Tetra Tech/Rosemont with Kathy Arnold? Thanks. (This could be addressed in the status meeting).

Beverley A. Everson
Forest Geologist
Coronado National Forest
300 W. Congress Street, 6th Floor
Tucson, AZ. 85701

Voice: 520-388-8428
Fax: 520-388-8305

—— Forwarded by Beverley A Everson/R3/USDAFS on 12/01/2009 05:06 PM ——

Debby Kriegel/R3/USDAFS
11/23/2009 03:03 PM

To Beverley A Everson/R3/USDAFS@FSNOTES
cc
Subject Fw: Rosemont - Action Items from May 7 meeting

We never received the oblique aerial photo mentioned in item 3. Is it possible to obtain this?

—— Forwarded by Debby Kriegel/R3/USDAFS on 11/23/2009 03:01 PM ——

Debby Kriegel/R3/USDAFS
05/07/2009 02:27 PM

To jlyndes@sagelandscape.com, kavid.krizek@tetratech.com, Beverley A Everson/R3/USDAFS@FSNOTES, tfurgason@swca.com, mbidwell@swca.com, Salek Shafiqullah/R3/USDAFS@FSNOTES
cc Debby Kriegel/R3/USDAFS@FSNOTES
Subject Rosemont - Action Items from May 7 meeting

Action items from the flipchart at today's meeting:

1. Meeting in 3 weeks (tentative date = morning of June 4th)
- Progress meeting
- Sage & Tetra Tech to provide modified proposed action: stormwater, reclamation plan, and visual work
- USFS will provide Feedback
- Sage will provide examples of other simulation projects

2. SWCA will provide Tetra Tech and Sage with (1) KOP GPS points ASAP, and (2) Evaluation Criteria and Affected Environment in 3 weeks

Kathy

3. Tetra Tech will provide the USFS (Salek) and SWCA with new survey topo (2' contours) and oblique aerial photos by May 15

4. USFS will provide Tetra Tech and Sage with Concern Level 1 & 2 travelways by May 15

5. USFS will provide desired condition for project area by May 15

Thanks everyone!

Tom: Please forward this to Dale...I don't have his email address.

Debby Kriegel, RLA
Landscape Architect
Coronado National Forest
300 W. Congress
Tucson, AZ 85701
(520) 388-8427
Fax (520) 388-8305
www.fs.fed.us/r3/coronado/
dkriegel@fs.fed.us

"Tom Furgason"
<tfurgason@swca.com>
08/27/2010 12:43 PM

To "Melinda D Roth" <mroth@fs.fed.us>
cc <tjchute@msn.com>, "Reta Laford" <rlaford@fs.fed.us>, "Jonathan Rigg" <jrigg@swca.com>
bcc
Subject RE: Chapter 1 Status?

History: This message has been replied to and forwarded.

Mindee,

We are incorporating Region's comments today. Attached is the tracking sheet for the comments and the Chapter 1 as it stands. I highlighted the Corps suggested comments in blue. For the remaining Cooperators, I changed the author's name in Track Changes and you can see the commenter's name by putting the cursor over the comment. There are some comments that I will need Coronado's direction on (see the rows highlighted in green on the .xls table).

I'd like to sit down with you and Reta early next week to discuss how you want to handle the outstanding comments. I don't think it will take long to resolve these.

Tom

From: Melinda D Roth [mailto:mroth@fs.fed.us]
Sent: Friday, August 27, 2010 10:47 AM
To: Tom Furgason
Cc: tjchute@msn.com; Reta Laford
Subject: Chapter 1 Status?

Tom, You told me earlier this week that you expected to wrap up your Chapter 1 work by mid-week. Can you give me an update with a date and what you see as the next steps in wrapping Chapter 1 up?

Mindee Roth
Coronado National Forest
300 W. Congress, FB42
Tucson, AZ 85701
(520) 388-8319
(520) 396-0715 (cell)
(520) 388-8305 (FAX)


Cooperating Agency Comment Table 082610a_TF.xlsx


2010 07 15 Chapter1 draft 082610_tf.docx

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

AGENCY	COMMENTER	LINE	COMMENT	DISPOSITION
Pima County	C.H. Huckelberry	p. 8 line 225	Add the words "and resources" after "public lands". The Forest Service and other federal agencies have authorities for resources that are not specifically tied to public lands.	Comment incorporated
Pima County	C.H. Huckelberry	p.8 line 229	Add the words "and resources" after "lands".	Comment incorporated
Pima County	C.H. Huckelberry	p.11	Soils: add new factors: Potential for post facto rectification of tailing instability; Area of off-site soil disturbance due to soils importation for reclamation; Qualitative evaluation of alteration of soil biogeochemical processes	Revised to include "Qualitative evaluation of alteration of soil biogeochemical processes". Potential for post facto rectification of tailing instability is not considered to be a measure. Area of off site disturbance is implied in the "Area of disturbance...", therefore, not incorporated.
Pima County	C.H. Huckelberry	p.12 line 372	strike "given the predicted geochemical...". The potential for revegetation is not limited to geochemical composition. In fact, the land contouring and soils and amendments used in reclamation planning also bear on the outcome.	Comment incorporated
Pima County	C.H. Huckelberry	p. 12	Air: Please report transportation-related (mobile) impacts separately from the other mining-related impacts. Please report both life-of-mine emissions and emissions rates during operations.	Revised to include "transportation –related (mobile)" impacts. Comment "Please report both life-of-mine emissions and emissions rates during operations." is unclear and not
Pima County	C.H. Huckelberry	p.12 line 386	Add "over a period of time that includes long-term, post-closure impacts."	Comment incorporated
Pima County	C.H. Huckelberry	p.12	Air: Add new factors: "VOC and NOx emissions and emissions rates to air."	Comment incorporated
Pima County	C.H. Huckelberry	p.12	Air: Add "Assessment of monitoring measures' ability to detect air quality impairments".	Comment incorporated
Pima County	C.H. Huckelberry	p.12	Eastside Water: Add new issue: Relative impairment of mountain-front groundwater recharge function.	Comment incorporated

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

Pima County	C.H. Huckelberry	p.12	Eastside Water, Issue 3A and 3B: Add new factor: "Duration of effects (years)."	Comment incorporated
Pima County	C.H. Huckelberry	p.12	Eastside Water: Add factor similar to Westside: Water needed for operations from the Cienega basin, compared with background (acre-feet).	No water for opperations was proposed to be withdrawn from the Cienega basin. Comment not incorporated.
Pima County	C.H. Huckelberry	p. 13 line 407	Westside Water Issue 3B line 407: Measure in acre-feet.	Comment incorporated
Pima County	C.H. Huckelberry	p. 13	Westside Water Issue 3C: Add "Duration of effects (years)"	Comment incorporated
Pima County	C.H. Huckelberry	p. 13	Ground Water Issue 3C: add additional factors: Because groundwater would be accessible to wildlife in the mine pit lake, add "Ability to meet Arizona surface water standards for wildlife at the point groundwater is discharged to the surface". Groundwater Quality, Issue 3C. Add "Effectiveness of monitoring associated with mitigation to detect groundwater impairments."	No water standards for wildlife exist. "Monitoring and mitigation..." comment incorporated
Pima County	C.H. Huckelberry	p. 13	Surface Water Availability, Issue 3D: Add factors to address public concerns about alterations to the volume, frequency and magnitude of stormwater runoff in Davidson Canyon, the recharge of the floodplain aquifer by runoff, and changes in the availability of flows from springs to meet surface water uses.	Comment incorporated
Pima County	C.H. Huckelberry	p. 13	Surface Water Quality, Issue 3E: Add "area (acres) and locations that may be affected by surface water quality impacts, and any differences in the duration of those impacts."	Comment incorporated
Pima County	C.H. Huckelberry	p. 13 line 433	Springs, Seeps and Riparian Habitat Issue, line 433: Add "and wetland" after " "riparian habitat".	Comment incorporated
Pima County	C.H. Huckelberry	p. 13 line 441	Insert new line: "Acres of floodplain and river miles affected" pursuant to the Executive Order regarding floodplains.	EO 11988, Floodplain Management, deals with does not apply to seeps, springs, and riparian habitats. Acres are included in the current measures. EO 11988 will be considered elsewhere. Comment not incorporated.

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

Pima County	C.H. Huckelberry	P. 14 line 443	Add "and floodplain" after "riparian".	See above response.
Pima County	C.H. Huckelberry	P. 14 line 443	Add new factor: "Relative effectiveness of mitigation measures in avoiding and minimizing impacts to floodplain resources."	See above response.
Pima County	C.H. Huckelberry	p. 14 line 456	Vegetation, line 456: list each distinct vegetation community affected.	Each distict vegetation community will be addressed in Chapter 3.
Pima County	C.H. Huckelberry	p. 14	Vegetation, new factor: "Area receiving avoidance and minimization measures (acres, configuration, location)."	The IDT considered a variety of configureations to minimize the total acreage of vegetation that was disturbed (e.g., the early Barrel Only Alts).
Pima County	C.H. Huckelberry	p. 14	Add new issue under Impact on Plants and Animals: "Climatic Change. Factors for alternative comparison: • Avoidance and minimization of impacts to climatic refugia used by plants and animals. • Qualitative assessment of gross change in climatic conditions caused by the project (will it contribute to local increases in surface and air temperatures?) Relative variation in post-project, micro-site climatic conditions created by different materials, aspect, slope and topographic heterogeneity used in reclamation methods. • Qualitative assessment of the resiliency and sustainability of the entire postclosure landscape to climate change."	
Pima County	C.H. Huckelberry	p.14 line 463	Habitat Loss, line 463: Some habitats are defined by physical features rather than vegetation, e.g. talus deposits and bat roosts. Please list these separately.	Although "habitat" is not defined in this chapter, it includes all biotic and abiotic features required to support plant and animal species. The Coronado will consider defining habitat in the Glossary. Comment not incorporated.
Pima County	C.H. Huckelberry	p.14 line 466	Habitat Loss, line 466: Add "and monitoring" after "mitigation"	Comment incorporated

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

Pima County	C.H. Huckelberry	p. 14 lines 475 - 476	Non-native Species, lines 475-476: Insert the word "long-term" in front of "effectiveness"	Comment incorporated
Pima County	C.H. Huckelberry	p. 14	This factor should also consider animal species such as the eastern bullfrog, not just plants.	Comment incorporated
Pima County	C.H. Huckelberry	p.14	Non-native Species, add new factor: "Relative effectiveness of measures to detect non-native plants and animals known to pose threats to native species."	Comment incorporated
Pima County	C.H. Huckelberry	p. 15	Wildlife, new issue: "Potential for primary poisoning of wildlife due to mine operations."	Comment lacks specificity. Please clarify the source of "primary poisoning". Comment not incorporated.
Pima County	C.H. Huckelberry	p. 15	Wildlife Movement issue 5D, new factor: "Qualitative assessment of long-term effects to migratory birds."	Measure implied under "□ North-south wildlife migration corridors modified and/or lost (acres)". Comment not incorporated.
Pima County	C.H. Huckelberry	p. 15 line 497	Species of Concern, line 497: Add "including lost breeding area," after habitat.	Comment incorporated
Pima County	C.H. Huckelberry	p. 15 line 511	Heritage, line 511 Change to: "The mine footprint will impact historic properties under the proposed action alternatives..."	The word "may" is used in the development of issues because they typically pre-date any analysis and the use of "will" is considered pre-decisional. The convention in NEPA is to use the subjunctive because there is always in the uncertainty in the outcome of the NEPA process. You are correct that the Proposed Action and all Action Alternatives, if selected, would impact historic properties.
Pima County	C.H. Huckelberry	p. 16 line 522	Heritage, line 522: Delete "may". Change to: ...and closure will bury, remove, or damage historic properties	See above response
Pima County	C.H. Huckelberry	p. 16 line 533	Heritage, line 533. Change to: Qualitative assessment of number of sites yet to be discovered (estimated number and types of sites)	Comment incorporated

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

Pima County	C.H. Huckelberry	p. 16 line 533	Add new bullet after line 533: • Qualitative assessment of the types of treatments necessary to mitigate impacts to archaeological sites yet to be discovered	Comment incorporated
Pima County	C.H. Huckelberry	p. 16 line 540	Add after last sentence in line 540: Arizona State Burial Protections laws (ARS 41-844 and ARS 41-865) protect any human remains on State and private lands.	Comment incorporated
Pima County	C.H. Huckelberry	p. 16 lines 555 & 556	Heritage, lines 555 and 556. Change to: Qualitative assessment of the spiritual, cultural, and emotional impact of desecration of land, springs, a burials, and sacred sites	Comment incorporated
Pima County	C.H. Huckelberry	p. 16 line 556	Add new bullet after Line 556: • Qualitative assessment of cultural and emotional impacts on the non-American Indian (Euro-american) communities of the region regarding impacts on historic resources, such as historic townsites, cemeteries, mines, ranches, and homesteads".	Comment incorporated
Pima County	C.H. Huckelberry	p. 17 line 579	Visual Resources, line 579: Strike "percentage" and insert "miles and location of".	Percentage was retained for comparitive purposes. However, miles will be included as a metric. Locations will be disclosed in Chapter 3.
Pima County	C.H. Huckelberry	p. 17 line 577	Visual Resources, line 577: Add at end of sentence Including observation points from other Forest Wilderness Areas."	KOPs include Wilderness and non-Wilderness areas. Comment not incorporated.
Pima County	C.H. Huckelberry	p. 18	Dark Skies/new issue and factor: Electromagnetic emissions equipment and impacts upon existing uses in the area.	This issue addresses potential impacts to Dark Skies rather than the generic "existing uses in the area."
Pima County	C.H. Huckelberry	p. 18 line 617	Recreation, line 617: Add "roads and" and "trails/trailheads".	Comment incorporated
Pima County	C.H. Huckelberry	p. 18	Recreation: Insert the words "overall satisfaction of" in front of "outdoor recreation experiences.	Reference not found.
Pima County	C.H. Huckelberry	p. 18	Public Safety, new issue and factor: Impacts of electromagnetic interference with public safety communications including law enforcement, weather detection, military communication devices.	

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

Pima County	C.H. Huckelberry	p. 18	Public Safety, new factor: It should be possible to report the estimated cumulative toxic releases over the life of the mine (Right-to-Know law) from each alternative.	
Pima County	C.H. Huckelberry	p. 18	Public Safety, new issue: Relative effectiveness of mitigation strategies in reducing the concentration and total amount of radioactive substances during copper extraction and beneficiation.	This comment is speculative.
Pima County	C.H. Huckelberry	p. 18	Public Safety, new factor: Qualitative assessment of off-site impacts of catastrophic slope failure.	This comment is speculative.
Pima County	C.H. Huckelberry	p. 19 lines 649 & 650	Socioeconomics, line 649 and 650: Add at end of both bullets "including years after mine closure, for school districts and other affected taxing districts or agencies"	
Pima County	C.H. Huckelberry	p. 19	Socioeconomics, new issue: Impacts of transmission alternatives upon electrical grid. New factors: Impacts on TEP ratepayers. Impacts on energy reliability. Impacts on energy congestion. Impacts on green house gas emissions.	
Pima County	C.H. Huckelberry	p. 19	Socioeconomics, new factor: Likelihood of mine closures due to strikes or low copper prices.	This comment is speculative.
Pima County	C.H. Huckelberry	p. 19	Socioeconomics, new factor: Economic impact of loss of recreational opportunity.	Cara?
Pima County	C.H. Huckelberry	p. 20	New Issue: Geological and Mineral Resources. New factors: • Effects to existing cave and karst resources. • Effects to existing paleontological resources.• Measures proposed to detect and mitigate impacts to cave, karst, or paleontological resources caused by the project. • Effectiveness of producing mineral materials, including limestone and crushed rock products. • Slope stability of Santa Rita Mountains resulting from pit configuration.	Geologic and Mineral Resouces were not considered to be significant issues as defined by NEPA and evaluated by the IDT. However, the majority of the comments will be addressed in Chapter 3.

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

AZ Game & Fish	John Windes	37, 39, 40	DOCUMENT STRUCTURE ADD: ". . .and possible conflicts between the proposed action and the objectives of federal, regional, state, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned. (Source: 40 C.F.R. § 1502.16)	
AZ Game & Fish	John Windes	119	PURPOSE AND NEED FOR ACTION This section needs clarification as it appears to address the purpose and need for the DEIS, not the need for the proposed mine. Line 49 states that Chapter 1 "focuses on the underlying need to which the agency is responding." We understand that the Forest is proposing this project in response to Rosemont Copper's proposal. The Forest must identify the need for the mine, not the need for the document responding to the proposal. Line 132 clearly states that the actions "are for the orderly development of the Rosemont mineral deposit." Therefore the purpose and need must be the purpose and need for "the orderly development of the Rosemont mineral development not the purpose and need for the DEIS. Again, the DEIS must clearly explain what the purpose of the mine is and why there is a need for the mine.	NOTE TO RETA: I agree that it would be good to identify the need for the development of the Rosemont deposit, but this conflicts with the Corps' ideas on P&N.
AZ Game & Fish	John Windes	163	"The proposal is consistent with the Coronado's Forest Plan goal to "support environmentally sound energy and minerals development and reclamation." This statement presupposes that the proposal is environmentally sound. The Department recommends striking or revising this text.	Text was revised to remove the presupposition.
AZ Game & Fish	John Windes	171, 183	PROPOSED ACTION IN BRIEF ADD to sentence: "Resource monitoring during construction, operation/reciamation, and closure and post-closure".	Resource monitoring as stated in the comment was not included in the MPO, which fully represents the Proposed Action. The Coronado recognizes the need for resource monitoring during these stages and will include a section on required monitoring in Chapter 2.

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

AZ Game & Fish	John Windes	191, 207, 210	DECISION FRAMEWORK "The Forest Service may reject an unreasonable or illegal Plan of Operations"; and, "The Forest Supervisor will select the Proposed Action or an alternative that allows for orderly development of the mineral resource". The Department recommends replacing "will" with "may" unless the Forest has predetermined that the reasonableness of all alternatives.	Comment incorporated.
AZ Game & Fish	John Windes	349	ISSUES This paragraph states that "Issues were separated into two groups: significant issues and non-significant issues" and, "the CEQ regulations specify only significant issues be analyzed. "In line, AMEND to "Significant issues are issues used to formulate alternatives to the proposed action, prescribe mitigation measures or analyze environmental effects." This language appears to define significance based on which issues were chosen; define "significant" and "insignificant" for clarity.	CEQ definition and citation inserted as a footnote.
AZ Game & Fish	John Windes	391	Issue 3: Impact on Water Resources. Line 392: ADD reference to "wildlife". This paragraph addresses issues relative to water resources and suggests that loss of water availability to "animal habitat" will be addressed in issues 4 and 5. However, nowhere in this section are developed waters or artificial waters discussed in relation to wildlife. Many species of wildlife are dependent on "stock waters" including such special status species such as Chiricahua leopard frogs. Loss of any waters available to wildlife should be considered a significant issue meriting mitigation.	Revised "Issue 5B: Habitat Loss" to include "Loss of aquatic habitats and surface water that supports wildlife such as stock tanks, seeps, and springs."
AZ Game & Fish	John Windes	391	ADD to sentence: "This group of issues relates to the effects of mine construction, operation, and closure and post-closure . . .	Comment incorporated
AZ Game & Fish	John Windes	411	STRIKE: " . . .may result in a loss of groundwater quality" SUBSTITUTE: " . . .may result in exceedances of Arizona aquifer water quality standards"	Comment incorporated

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

AZ Game & Fish	John Windes	412, 413	STRIKE: "the mine pit may fill with water and create a lake that may have an unnatural concentration of chemicals". SUBSTITUTE: "the mine pit is anticipated to create a permanent pit lake that may contain dissolved metals, toxins, and low pH levels".	ADEQ also commented on this topic. Both are included for consderation by the Coronado. AGFD's comment partially incorporated. Suggested language was modified to meet standard NEPA conventions. Now reads: The mine pit may result in the creation of a permanent pit lake that may contain dissolved metals, toxins, and low pH levels.
AZ Game & Fish	John Windes	413	STRIKE: "Construction and operation of the pit, waste rock, and tailings facilities may result in changes in surface water discharge to Davidson Canyon and Cienega Creek". SUBSTITUTE: "Construction and operation of the pit, waste rock, and tailings facilities will likely result in reductions in volume of surface water discharges to Davidson Canyon and Cienega Creek",	Comment not incorporated. Use of the subjuctive "may" is retained per standard NEPA convention.
AZ Game & Fish	John Windes	423	ADD to sentence: "Stock and wildlife watering tanks that will be unavailable"	Comment incorporated
AZ Game & Fish	John Windes	425	ADD a reference to "hazardous substances".	Comment incorporated
AZ Game & Fish	John Windes	429, 430	AMEND sentence: "Qualitative assessment of the effectiveness of mitigation measures to protect water quality and meet achieve federal CWA Clean Water Act standards"	Section revised per ADEQ's comments
AZ Game & Fish	John Windes	430	ADD new Issue 3E factors: • Qualitative assessment of the effectiveness of mitigation measures to achieve Arizona surface water quality standards, including the antidegradation standards for Davidson Canyon and Cienega Creek, designated as Arizona Outstanding Waters. • Qualitative assessment of potential for slope failure during major storm events. • Qualitative assessment of potential for surface water and groundwater contamination resulting from acid generating waste rock and tailings material.	Section revised per ADEQ's comments

AZ Game & Fish	John Windes	432	Issue 4: Impact on Springs, Seeps, and Riparian Habitats The Department recommends creating two sub-issues under this topic. The first sub-issue addresses the effects on riparian habitat from surface water discharges from mine operations. The second sub-issue is focused on the direct and indirect effects of the pit lake on the regional groundwater table and surface discharge. This section or the following should also address the effects of depth to groundwater on riparian habitat likely to be affected by the drawdown of the aquifer and the hydraulic sink created by the pit.	Section revised per ADEQ's comments
AZ Game & Fish	John Windes	436	STRIKE: Issue 4. SUBSTITUTE: Issue 4A. This issue relates to the potential impacts on riparian habitatfrom the alteration of surface hydrology from mine operations. Potential impacts may include the reduction of surface water runoff into receiving drainages and canyons. Issue 4A Factors for alternative comparison [no change from original]	

AZ Game & Fish	John Windes	442	ADD a new Issue 4B: This issue relates to the potential impacts on streams, springs, seeps, riparian habitats and wildlife from the peunanent drawdown of the regional groundwater table resulting from the formation of a pit lake in the mine pit following mine closure. [new] Issue 4B: Groundwater Availability. The pit lake that will form following mine closure will become a permanent hydraulic sink that will lower the regional groundwater table in perpetuity. The lowering of the water table will impact seeps and springs fed by groundwater sources, as well as intermittent or perennial streams within Davidson Canyon where groundwater serves as a source of recharge to such stream reaches. Cienega Creek water levels may also be affected as a receiving water from Davidson. Canyon. [New] Issue 4B Factors for alternative comparison * Seeps and springs degraded or lost • Intermittent or perennial stream surface water losses in Davidson Canyon/Cienega Creek as a result of pit lake groundwater level drawdown. • Loss or dispersal of biotic communities dependent on seeps, springs and stream reaches. • Loss of riparian habitat and obligate species	Section revised per ADEQ's comments
AZ Game & Fish	John Windes	444, 446	Impact on Plants and Animals. This section focuses on the "viability of populations of species of conservation concern". All wildlife are held in trust for the public by the State of Arizona under the statutory authority of the Arizona Game and Fish Department (ARS § 17-102). The Forest must consider all wildlife species, not just "species of conservation concern". The public's loss of wildlife resources cannot be predetermined to be "insignificant" especially given that some unlisted species, such as the Rosemont tallus snail, are endemic to the area. AMEND line 445 to "This group of issues focuses on the effects on wildlife and plants."	
AZ Game & Fish	John Windes	447	ADD reference to Arizona-listed species of concern and Arizona-listed species of recreational and economic importance.	

AZ Game & Fish	John Windes	448	Species of conservation concern: This term, and "species of concern" appear several times with different parenthetical definitions. The Department requests that the Forest use the Arizona Game and. Fish Department's "Species of Greatest Conservation Need" (SCGN) when referring to state-listed "species of concern." This list is found in our State Wildlife Action Plan.	Comment deffered to Wildlife Specialist.
AZ Game & Fish	John Windes	460	Habitat Loss: This section appears to either be addressing only botanical species or (by inference only) both wildlife habitat loss and populations of plants. This conflation obscures the meaning of the issues. The Department suggests splitting 5B into separate animal and plant sections to avoid confusion. Habitat types other than vegetation (e.g. talus slopes, bat roosts, stock tanks, etc.) should be listed and discrete populations and metapopulations or potential metapopulations (e.g. leopard frogs) should be examined. Loss of wildlife habitat should be examined closely. Wildlife habitat loss evaluation should examine effects on individuals, populations, and species. Discrete populations (such as Rosemont talus snail in talus slopes or Chiricahua leopard frog metapopulations in stock tank complexes) are tied to those discrete habitats and habitat complexes. Modification may result in entire population or metapopulation losses, whereas other habitat disturbance is merely additive or cumulative loss to larger habitats. ADD new Issue: Habitat Degredation and Modification. This may be inferred in "loss" but loss may also imply only	Comment incorporated by response to Pima County's comment.

			that habitat which has been replaced by the mine footprint. Habitat degradation may include disturbance to migration routes for migrating birds and bats due to effects of light pollution, new water sources, loss of water sources, unanticipated ecological changes such as modified insect or plant populations, introductions of non-native species, invasive plants, etc. Degradation might also include the effects of the mine far from the mine site including light, fugitive dust, and noise pollution, water pollution, effects on springs, seeps, Cienega Creek and Davidson Canyon, fragmentation/degradation of home range for wide ranging species, loss of travel routes, and edge effects. In effect the mine site will impact the ecology of a much wider area than the footprint of the mine, potentially causing habitat degradation or ecological effects far offsite.	
AZ Game & Fish	John Windes	466	ADD "and monitoring" after "mitigation"	Comment incorporated by response to Pima County's comment.
AZ Game & Fish	John Windes	470	Non-Native Species, This section appears to address only non-native plants. The Department suggests that exotic wildlife such as bullfrogs and non-native fish may be significant issues worthy of consideration. Non-native plants and animals should be addressed separately	Comment incorporated by response to Pima County's comment.
AZ Game & Fish	John Windes	477	Wildlife Movement. This section addresses "the north south wildlife migration corridor" This is a general description with no definition. Is this a reference to migratory bird use? There are many ways wildlife movement can be affected, from fragmentation of terrestrial habitat connections to the attraction of the pit lake on migrating waterfowl. Again, all wildlife should be considered.	Comment incorporated by response to Pima County's comment.

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

AZ Game & Fish	John Windes	485	Species of concern. The Department does not dispute the need to address "species of concern" however all wildlife must be addressed somewhere in this section. All wildlife are public trust resources whose loss must be mitigated. Again, the Department requests using our Species of Greatest Conservation Need (SGCN) list when referring to "species of concern" to the State of Arizona. The Department also suggests that our Species of Recreational and Economic Importance (SERI) should be addressed, perhaps in the economic or recreational sections as well as this section.	Comment referred to the Wildlife Specialist
AZ Game & Fish	John Windes	494	ADD new Issue 5E Factors for alternative comparison: • Loss of migratory birds, bats, and other wildlife attracted to open process ponds during operational phase of oxide ore production • Potential injury to or loss of migratory birds, bats, and other wildlife due to exposure of metals and/or low pH levels in pit lake	Current Issue statemet is inclusive of the pit lake and heap leach by using the general term "mine operations".
AZ Game & Fish	John Windes	602	Impact on Recreation. This section attempts to address the recreational importance of wildlife in terms of hunting permits, which we applaud. However, all wildlife species need consideration when considering impacts on recreation. Wildlife viewing has been documented as a major economic engine in southeast Arizona, with a $326 million dollar impact to the economy of Pima County in a 2003 study (available on our website). The Santa Rita Mountains are a major destination for wildlife enthusiasts due to the biodiversity found here, which few other areas can rival in the continental U.S.	Referred to Socioeconomic Specialist
AZ Game & Fish	John Windes	636	Socioeconomic Impacts. Again, this section should address the adverse impacts on the local economy due to loss of wildlife-related recreational opportunities.	Referred to Socioeconomic Specialist
Army Corp of Engineers	Marjorie Blaine	28	We recommend you revise this statement to make it consistent with NEPA by stating "...involves significant beneficial and adverse impacts on the human environment".	comment incorporated

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

Army Corp of Engineers	Marjorie Blaine	30	Although we did not comment on it in the previous rendition of the draft for Chapter 1, we do not typically use "USAGE" in our documents but prefer to use "Corps". We recommend revising the reference to the Corps as "U.S. Army Corps of Engineers (Corps)"; this will require that you change all subsequent references to "USAGE" to "Corps". Our apologies and we do appreciate your efforts.	Comment incorporated
Army Corp of Engineers	Marjorie Blaine	120 - 138	We believe the Purpose and Need for the project are not defined. Please reference the EIS completed by the Bureau of Land Management for the Phelps Dodge (now Freeport McMoran) Dos Pobres/San Juan Project. It clearly states that the "...purpose of the Proposed Action (the Dos Pobres/San Juan Project) is to enable PD to develop its mining claims and the mineral resources associated with the Dos Pobres and San Juan leachable copper ore deposits as an integrated project". We strongly urge the Forest Service to review this document as the purpose/need statements are well written and do not put the emphasis on the Federal lead agency as having the purpose and need. For the Forest Service and the action being considered under NEPA, the purpose of the proposed action is simple: "to enable Rosemont Copper to develop its mining claims and the mineral resources associated with the Rosemont ore body". The need for the project is for Rosemont Copper "to conduct operations that are reasonably incidental to exploration and development of mineral deposits on its mining claims". The purpose and need statements should be clearly and concisely stated. We highly recommend that you delete lines 139-162. They may be more applicable to the section under "Decision Framework".	
Army Corp of Engineers	Marjorie Blaine	136	Please change "Waters of the United States" to WUS as you have already indicated the acronym in line 116.	Comment incorporated

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

Army Corp of Engineers	Marjorie Blaine	272	Please revise the statement so it reads "..the discharge of dredged and/or fill material into WUS..." Please note you have already defined the acronym for WUS in line 116.	Comment incorporated
Army Corp of Engineers	Marjorie Blaine	277	Please change "USACE" to "Corps and insert "the" before "Corps" towards the end of the sentence.	Comment incorporated
Army Corp of Engineers	Marjorie Blaine	280 - 283	The correct revisions were not previously made regarding our basic and overall project purposes. We would appreciate revision of this paragraph to read: ~~"For purposes of the Section 404(b)(1) alternatives analysis, the basic project purpose is to mine copper which is a non-water dependent activity. The overall project purpose is to mine copper using conventional open pit mining and sulfide (mill and concentrate) and oxide (leach and SX/EW) ore processing for the purpose of producing copper and/or copper precursors, silver, and molybdenum in the State of Arizona".~~ After further in-house conversations and considerations, we have decided to somewhat limit the area for consideration of offsite alternatives. Therefore, we respectfully request that our overall project purpose as stated within lines 280-283 in the draft of Chp 1 read: "The overall project purpose is to mine copper using conventional open pit mining and sulfide (mill and concentrate) and oxide (leach and SX/EW) ore processing for the purpose of producing copper and/or copper precursors, silver, and molybdenum within the mining district of southeastern Arizona (Pinal, Gila, Greenlee, Graham, Cochise, Santa Cruz, and Pinal Counties) ". We would appreciate it if you would substitute the above overall	Comment incorporated
Army Corp of Engineers	Marjorie Blaine	289	This sentence should read "Whether to issue Rosemont Copper an Individual CWA Section 404 permit...". Please omit "(b)(1)" as that is a reference to the guidelines for our alternatives analysis and not a reference to the type of permit we issue.	Comment rendered moot by following comment

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

Army Corp of Engineers	Marjorie Blaine	287 - 296	After additional thought, we believe this section needs to be simplified. The revised sentences should read "Based on the analysis in the FEIS and supporting documentation; the Corps' public interest review; and the determination of the least environmentally damaging, practicable alternative in the Section 404(b)(1) alternatives analysis, the Los Angeles District Commander will determine whether to (1) issue Rosemont Copper an Individual CWA Section 404 permit for the discharge of dredged and/or fill material into WUS for the PPO or (2) issue Rosemont Copper an Individual CWA permit with modifications or special conditions, or (3) deny the Section 404 permit."	Comment incorporated
Army Corp of Engineers	Marjorie Blaine	297 - 301	Please delete the first sentence. The second sentence should be revised to state "The Corps will issue a public notice during the DEIS comment period and will consider all comments received in response to the public notice, the DEIS, and public hearings (if applicable) as part of the public interest review. Following the issuance of the FEIS, the Corps will prepare a Record of Decision regarding the Section 404 permit. The Corps' administrative appeal process allows the applicant to appeal a proffered permit which the applicant has declined or a denied permit.	Comment incorporated
Arizona Department of Water Resources	Laura Grignano	NA	At this time the Department has no changes to the draft language of Chapter 1 for the *Rosemont Copper Project Draft Environmental Impact Statement.*	Thank you for your response.
Arizona State Land Department	David F. Jacobs	NA	Arizona State Land Department requests no changes and has no comments on the draft Chapter 1 circulated on July 15, 2010.	Thank you for your response.
Town of Sahuarita	Joseph Marques	page 2	The map in the upper right hand corner has a white block over the Town of Sahuarita boundaries. Please remove the block to show the actual Town of Sahuarita town limits. (Comment from TOS Planning and Zoning Department)	Comment incorporated (this was a printing error)

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

Town of Sahuarita	Joseph Marques	204 - 208	This paragraph is obviously alluding to the "No Action" alternative, so provide readers a detailed explanation of the No Action alternative as part of the paragraph. (Comment from TOS Planning and Zoning Department)	Although the Forest Service Office of General Counsel currently advises that choosing the No Action may not be legal, this portion of the document is intended to inform the public that ***any*** illegal or unreasonable Plan of Operations for mining may be rejected. No changes made.
Town of Sahuarita	Joseph Marques	335	Indicate the location of the detailed records. Provide either the website or physical address. (Comment from TOS Planning and Zoning Department)	Comment incorporated.
Town of Sahuarita	Joseph Marques	395 -396	Issue 3A Easiside Groundwater Availability, notes the "Household water availability may be reduced." However, Issue 3A only identifies changes in water table level and the geographic extent of where water resources may be impacted. The EIS should include an assessment of the effectiveness of proposed mitigation to offset groundwater subsidence and declining water tables through replenishment of water supplies, direct use of alternative water supplies, etc. (Comment from TOS Public Works)	Mitigation measures are described in Chapter 2 and assessments and analysis is contained in Chapter 3.
Town of Sahuarita	Joseph Marques	401, 403	Issue 3B Westside Groundwater Availability, notes the "Water needed to run the mine facility might reduce groundwater availability to private and public wells in the Santa Cruz Valley." Furthermore, Line 403 notes "Household water availability may be reduced." Issue 3B only proposes to evaluate the water use, changes in water table level and the geographic extent of where water resources may be impacted. The EIS should include an assessment of the effectiveness of proposed mitigation to offset groundwater subsidence and impacts to private and public wells through replenishment of water supplies, direct use of alternative water supplies, etc. (Comment from TOS Public Works)	See above response.

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

Town of Sahuarita	Joseph Marques	402	This sentence calls for more specificity. It should end: " Santa Cruz Valley, specifically the communities of Sahuarita, Arizona, and Green Valley, Arizona." To the uninitiated — and this document will be read by interested parties across the country — the reference to the "Santa Cruz Valley" without qualifications may suggest some lonely strip of desert, rather than a valley that is home to 45,000 people and 5,000 acres of agriculture. (Comment from TOS Town Manager's Department)	Comment incorporated.
Town of Sahuarita	Joseph Marques	476 - 478	Issue 5D Wildlife Movement, notes "The mine operations may modify and/or fragment the north-south wildlife migration corridor and/or connectivity between habitats." Further, Issue 5D notes "The transportation system and increased traffic could result in more wildlife road kills." Issue 5D factors for alternative comparison only includes an assessment of the potential damage. Issue 5D should also include a qualitative assessment of the effectiveness of mitigation alternatives. (Comment from TOS Public Works)	Mitigation measures are described in Chapter 2 and the effectiveness will be analyzed in Chapter 3. Note that the development of mitigation has not been completed and not all issues identified in Chapter 1 will be mitigated.
Town of Sahuarita	Joseph Marques	510	Change the word "may" to "will" in the sentence; "The mine footprint 'may' impact historic properties" because the all the alternatives provided appear to impact historic properties, with the exception of the No Action alternative. (Comment from TOS Planning and Zoning Department)	The word "may" is used in the development of issues because they typically pre-date any analysis and the use of "will" is considered pre-decisional. The convention in NEPA is to use the subjunctive because there is always in the uncertainty in the outcome of the NEPA process. You are correct that the Proposed Action and all Action Alternatives, if selected, would impact historic properties.
Town of Sahuarita	Joseph Marques	525 - 527	Issue 6A, Historic Properties, notes impacts to historic properties and "the permanent alteration of cultural landscapes important to the ongoing cultural practices of Native American tribes and historic communities." Issues 6A factors for alternative comparison only proposes to evaluate the damage, but does not provide an assessment of any proposed mitigation. Issue 6A should also include a qualitative assessment of the effectiveness of mitigation alternatives. (Comment from TOS Public Works)	See above response regarding mitigation.

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

Town of Sahuarita	Joseph Marques	550	Use "will" instead of "may" in the sentence; "Mine construction, operation with concurrent reclamation, and closure 'may' preclude access to or destroy or degrade these types of resources." (Comment from TOS Planning and Zoning Department)	See above response regarding the use of the subjunctive.
Town of Sahuarita	Joseph Marques	570, 573	The visual impacts are unavoidable with this project; as a result, replace "may" with "will." (Comment from TOS Planning and Zoning Department	See above response regarding the use of the subjunctive.
Town of Sahuarita	Joseph Marques	572 - 573	Issue 7, Impact on Visual Resources, notes "Regardless of mitigation measures or reclamation required, the scenic quality of the landscape may be permanently degraded." Issue 7 should include an assessment of the effectiveness mitigation measures and reclamation required. (Comment from TOS Public Works)	See above response regarding mitigation.
Town of Sahuarita	Joseph Marques	620	Issue 10, Impact on Public Safety, notes risks to the public from increased traffic, oversized vehicles, hazardous materials, mining operations and air quality. Issue 10 factors for alternative comparison only includes an assessment of risks and conflicts, but does not include an assessment of proposed mitigation. Issue 10 should include an assessment of the effectiveness of mitigation measures to reduce impacts to public safety. (Comment from TOS Public Works)	See above response regarding mitigation.
ADEQ	Dennis L. Turner	411 - 414	Construction and operation of the mine pit, ~~along with~~ tailings, waste rock and leach facilities may ~~result in the loss of~~ *degrade* groundwater quality *through the discharge of pollutants to the aquifer*. The mine pit may fill with water and create a lake that may ~~have an unnatural concentration of chemicals~~ *concentrate pollutants that have the potential to discharge to groundwater. Likewise, disposal of waste material to surface facilities, such as tailings, waste rock and leaching operations may contribute to degradation of the aquifer.*	Comment incorporated
ADEQ	Dennis L. Turner	419 - 421	Construction and operation of the *mine* pit, *tailings, waste rock and leach facilities* may result in changes in surface water discharges to Davidson Canyon and Cienega Creek. *Beginning approximately 11 miles downstream, Davidson Canyon has been designated as an outstanding Arizona water (OAW) by the Arizona Department of Environmental Quality (AQDEQ). Approximately eight miles to the east lies the designated OAW segment for Cienega Creek (A.A.C. R18-11-112(8) and (21).* The availability of water for stock water tanks may be reduced.	Comment incorporated

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

ADEQ	Dennis L. Turner	422	Issue 3D, ~~Factor~~ *Factors* for alternative comparison, line 422: [Add additional bullets (factors) for alternatives:] -- *Determination/estimation of number of stream miles changed from intermittent flow status to ephemeral flow status as a result of the project --Potential lowering of the water table/reduced groundwater flow to Davidson Canyon and Cienega Creek that result in permanent changes in flow patterns may affect their designations as OAWs and current desianated uses.*	Comment incorporated
ADEQ	Dennis L. Turner	425 - 428	Issue 3E, Surface Water Quality, lines 425 — 428: [Existing language is fine, please add the following:] *Downstream segments of Davidson Canyon and Cienega Creek have been designated as Outstanding Arizona Waters (OAW) by ADEQ (A.A.C. R18-11-112 (8) and (21). OAWs are Tier 3 waters for antidegradation purposes and are given the highest level of antidegradation protection. As outstanding resource waters, Tier 3 waters must be maintained and protected, with no degradation in water quality allowed (A.A.C. R18-11-107(D)).*	Comment incorporated
ADEQ	Dennis L. Turner	429 - 431	Issue 3E, ~~Factor~~ *Factors* f or alternative comparison, lines 429 — 431: [As the first bullet, please add:]-- *Ability to meet State of Arizona surface water quality standards (line 430)* --Qualitative assessment of the effectiveness of mitigation measures to protect water quality and meet ~~CWA~~ *State of Arizona surface water quality* standards. (lines 431 — 432)	Comment incorporated
ADEQ	Dennis L. Turner	437 - 443	Issue 4, Factors for alternative comparison, line 437-443: *"Wildlife corridors disturbed"* should be a separate action item (an additional bullet) for the alternatives development. The location of springs, seeps and intermittent stream reaches are key components of wildlife corridors. Loss of these habitats will result in rerouting or loss of a variety of species. This should be addressed separately from the acres of riparian habitat disturbed.	
ADEQ	Dennis L. Turner	494	Issue 5E, Factors for alternative comparison, lines 494: [Add additional bullet (factor) for alternatives] -- *Loss of aquatic life, especially macroinvertebrates and fish, as a result of losses in springs, seeps and stream flows*	Comment incorporated
ADEQ	Dennis L. Turner	496	Issue 5E, Species of Concern, line 496: To provide proper context, it may be useful to understand the percent of habitat lost per species given within the Santa Cruz River basin, or within the Cienega Creek watershed instead of a percentage of the whole range for that taxon.	Comment will be forwared to the Wildlife Specialist for consideration.

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

AZ Dept of Mines & Mineral Resources	Madan M. Singh, Ph.D., P.E.	189	there is a reference to a "Class I airsheds." Does the Santa Ritas area qualify as a Class I airshed? My understanding is that a Class I area as defined in the Clean Air Act is "the following areas that were in existence as of August 7, 1977: national parks over 6,000 acres, national wilderness areas and national memorial parks over 5,000 acres, and international parks." My perception may be wrong.	There is no Class I airshed in the Santa Ritas. However, Saguaro National Park is a Class I airshed.
AZ State Mine Inspector	Garrett Fleming		It appears to ASMI that the impact on land stability and soil productivity can occur safely at the Rosemont Copper project under any of the alternatives as well as the original submitted plan. It appears also that the original plan has less impact as a substantial footprint with the best land stability, and least likely losses of sediment, and can easily be engineering controlled for longterm stability of tailings and waste piles, and/or revegetation efforts. This does not take into account all other issues regarding air quality; groundwater & surface water; habitat; plants protection; historic or heritage resources; and visual, social and/or recreation impacts. It would appear that the smallest footprint to the National Forest is of the best interest. The original reclamation plan in the Proposed Plan of Operations (PPO) therefore appears to have been planned in a manner to attain an adequate impact to land stability and soil productivity results for a revegetated landscape, while providing the least impact to this Issue 1, while mining for these limited natural resources.	Thank you for your response.
AZ State Parks	Dr. Robert R. Casavant	134	Add the words "or eliminates" after "reduces"	
AZ State Parks	Dr. Robert R. Casavant	134	Add the words "resources and the functionality of" after "impact	
AZ State Parks	Dr. Robert R. Casavant	135	Add the words "and environmentally linked public and private lands" after "administrated lands"	
AZ State Parks	Dr. Robert R. Casavant	225	Add the words "inventory and"" after "What" and before "monitoring"	
AZ State Parks	Dr. Robert R. Casavant	225	Add the words "related surface and subsurface resources" after "lands"	

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

AZ State Parks	Dr. Robert R. Casavant	361	Omit the word "may" after "soils".	The word "may" is used in the development of issues because they typically pre-date any analysis and the use of "will" is considered pre-decisional. The convention in NEPA is to use the subjunctive because there is always in the uncertainty in the outcome of the NEPA process.
AZ State Parks	Dr. Robert R. Casavant	362	Change "accelerate" to "accelerates". Change "reduce" to "reduces". Add "The clearing vegetation, stripping and stockpiling of soils results in accelerated erosion and reduced soil productivity in the affected sites due to the disturbance and disruption of integrated soil structural and geo- and biochemical (bacterial, fungi) matrices and processes." (This issue continues to remain under-characterized in PPO and FEIS documentation and post-mining reclamation assessments.)	This will be discussed in greater detail in Chapter 3.
AZ State Parks	Dr. Robert R. Casavant	365	Omit the word "may" after "soil resource"; change "result" to "results"	See above response regarding the use of the subjunctive.
AZ State Parks	Dr. Robert R. Casavant	366	After "soil", add the words "productivity, physical structure and ecological function across the proposed mine site, and across down gradient lands, if the mining area acts as a barrier to sourcing and supporting natural down slope transportation of geologic material, water, and nutrients through alluvial, eolian, and fluvial processes."	Comment incorporated
AZ State Parks	Dr. Robert R. Casavant	370	After "area", add the words " and quantitative level"	Comment incorporated
AZ State Parks	Dr. Robert R. Casavant	371	Omit "predictive geochemical". This implies some certainty, which case studies confirm is changes over time. The state of modeling, knowledge and confirmed research do not support the certainty with time. In addition, re-contouring and various in-situ drainage alternatives in the MOP could negatively influence the success of re-vegetation.	Comment incorporated
AZ State Parks	Dr. Robert R. Casavant	372	Omit "predictive geochemical". This implies some certainty, which	Comment incorporated
AZ State Parks	Dr. Robert R. Casavant	372	After "composition" add the words "and architecture"	Comment conflicts with Pima County's suggested change

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

AZ State Parks	Dr. Robert R. Casavant	p. 12	Make mention of monitoring the off-site degradation of air quality and transport of particulates and aerosol from increased off-site traffic and transportation related to the mining operation.	The monitoring will be discussed in Chapter 2 and is tied to a Pima County permit. Comment not incorporated.
AZ State Parks	Dr. Robert R. Casavant	p. 12	Add a comment regarding the monitoring of on- and off-site volatiles and their transport related to hydrocarbon spills, petroleum-based lubricants, fuels, tire wear, emissions, etc.	See above comment
AZ State Parks	Dr. Robert R. Casavant	390	line 390—Add "Long-term, post-closure" before "Quantitative". This is an on-going negative impact for the industry and effected communities decades after mine closures occur.	See above comment
AZ State Parks	Dr. Robert R. Casavant	399	Add the word "directions" after "Degree"	Comment incorporated
AZ State Parks	Dr. Robert R. Casavant	399	Add the words "and rate" after "range	Comment incorporated
AZ State Parks	Dr. Robert R. Casavant	400	The so-called water table "background" as currently understood by the IDT and mapped by Rosemont contractor, Montgomery & Assoc. appears to be under characterized relative to mapping completed by ASP-Pima CO using the same publicly available data	Comment noted. This will be further analyzed in Chapter 3.
AZ State Parks	Dr. Robert R. Casavant	407	Add the words "(acre/feet)" after "Water"	Similar comment from Pima County is incorporated
AZ State Parks	Dr. Robert R. Casavant	p. 12	Add issue: Disturbance to complex mountain-front recharge functionality and capacity.	See above comment
AZ State Parks	Dr. Robert R. Casavant	p.12	New issue: Relative quantitative impairment to the output and seasonality of natural spring flows and associated soil moisture content.	Comment incorporated
AZ State Parks	Dr. Robert R. Casavant	p. 13	Integrate and adapt into this section similar comments provided in the previous Eastside water (Issue 3a).	
AZ State Parks	Dr. Robert R. Casavant	p. 13	Add "Ability to demonstrate effectiveness of groundwater monitoring technology and quantitative assessment."	
AZ State Parks	Dr. Robert R. Casavant	p. 13	Add issue statement addressing changes in the amount, geochemistry, and quality of surface flow contributions from natural springs related to human, flora and fauna use.	
AZ State Parks	Dr. Robert R. Casavant	p. 13	Add issue: Increased and variable downstream flows resulting from storm water runoff associate with the mine operations, and diversion of site runoff; loss of infiltration and retention from soil may increase the volumes and frequency of runoff	
AZ State Parks	Dr. Robert R. Casavant	p. 13	Quantification assessment to include the mapping locations of change in water quality and rate of change in those locations	This will be discussed in greater detail in Chapter 3.

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

AZ State Parks	Dr. Robert R. Casavant	p. 14	Add: Inventory (quantitative assessment) of floodplain, river terrace and riparian areas and environs and associated monitoring of these elements	
AZ State Parks	Dr. Robert R. Casavant	443	After the word "riparian", add the words "and floodplain	EO 11988, Floodplain Management, deals with does not apply to seeps, springs, and riparian habitats. Acres are included in the current measures. EO 11988 will be considered elsewhere. Comment not incorporated.
AZ State Parks	Dr. Robert R. Casavant	454	New issue-- Mine-related impacts may be exasperated by climate change models that are playing out to be predictive for the region. Stresses predicted from regional climate models, localized alteration (e.g. changes in slope-sun aspect, slope angles, reductions in soil retention and infiltration capacity from soil removal or compression, warmer surface temperatures, etc.), and the loss of surface vegetation may negatively impact flora off-site in a singularly or collective manner as functional thresholds are exceeded. Model inputs, outcomes and predicted climate scenarios for the region should be integrate into designing a range of reclamation strategies for vegetation. The restoration to natural floral conditions may not be as successful if warmer temperatures and increasing arid conditions lower functional thresholds below known tolerances. Climate change in concert with historical mining restoration programs may permanently keep flora communities from restoring to natural conditions ."	
AZ State Parks	Dr. Robert R. Casavant	456	After "(acres)" add the words "to be monitored and analyzed across the mine site and related watershed(s). Baseline qualitative and quantitative monitoring data can be compared against syn-mine and post-mine data.	Comment incorporated
AZ State Parks	Dr. Robert R. Casavant	475	Add the words "and continued monitoring" after "assessment"	"and monitoring" incorporated
AZ State Parks	Dr. Robert R. Casavant	497	Add the words "and continued monitoring" after "assessment".	"and monitoring" incorporated

Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

AZ State Parks	Dr. Robert R. Casavant		Issue 5e and 5f: Behavior: Address specifics on endangered bat populations, located in the area. (Numerous caves and karst features exist 6-7 miles south of the mine area). Populations could be adversely affected by lights, solids and metal-contaminated waters in the pit and artificial ponding that is designed or natural occurs on the property during operations and form long after mine closure occurs on many mine properties.	This will be discussed in greater detail in Chapter 3.
AZ State Parks	Dr. Robert R. Casavant	613	Omit the word "potential"	The word "potential" is retained until the impact is analyzed in Chapter 3.
AZ State Parks	Dr. Robert R. Casavant	p. 18	Negative visual and audio impact of mining operations and visual impact of postmining pit and tailings will negatively impact to adjacent recreation in regard to solitude and use of adjacent backcountry areas. This issue also links to Issue 7, p. 17, line 576.	This will be discussed in greater detail in Chapter 3.
AZ State Parks	Dr. Robert R. Casavant	617	After the words "Length and number of" add the words "forest service roads and trails/trailheads"	Similar comment from Pima County is incorporated
Smithsonian Institution's Fred Lawrence Whipple Observatory	Emilio Falco, Dan Brocious	Page 4, Line 86	"The analyses conducted for this project reflect the best available science." How is that determination made? It is certainly the right target. Is there some assessment process similar to referee or peer review as for scientific journals?	
Smithsonian Institution's Fred Lawrence Whipple Observatory	Emilio Falco, Dan Brocious	Page 12, Lines 85-90	Do these standards include assessments of airborne sulfur or sulfur compounds? Atmospheric sulfur is by far the most powerful agent in attacking the aluminum coatings on telescope optics.	
Smithsonian Institution's Fred Lawrence Whipple Observatory	Emilio Falco, Dan Brocious	Page 17, Lines 582-3	"Increased light, air particulates and gases..." Increased light overwhelms the faint light of the stars. Air particulates absorb and scatter incoming starlight, making it fainter and fuzzier. Gases do not affect the starlight directly, but sulfur gases do attack the aluminum coatings on telescope optics. Therefore the gases component might be better placed under Air Quality.	Comment incorporated
Smithsonian Institution's Fred Lawrence Whipple Observatory	Emilio Falco, Dan Brocious	Page 17, Lines 583-4	"The increased sky glow ... objects." This would be better stated, "The increased sky glow would reduce the visibility of all celestial objects, particularly the faint ones that are often the subject of scientific study."	Comment incorporated

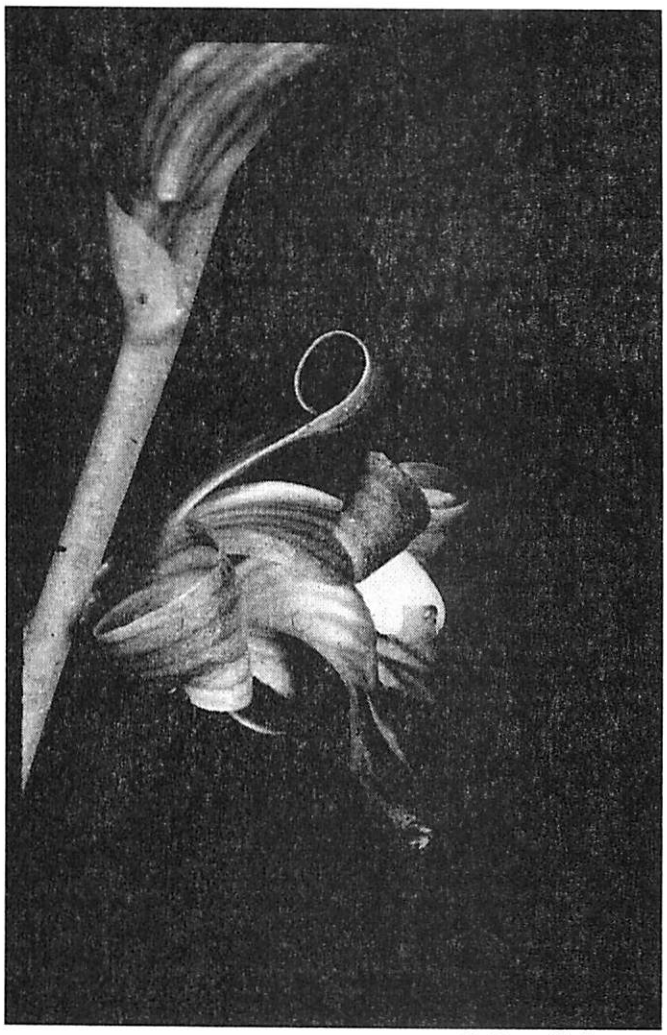
Cooperating Agency Comments On Chapter 1 of the Preliminary Rosemont Copper Draft EIS

Smithsonian Institution's Fred Lawrence Whipple Observatory	Emilio Falco, Dan Brocious	Page 17, Lines 586-7	The Observatory name is the Smithsonian Institution's Fred Lawrence Whipple Observatory.	Comment incorporated
Smithsonian Institution's Fred Lawrence Whipple Observatory	Emilio Falco, Dan Brocious		The lighting code is known as the Pima County Outdoor Lighting Code.	Comment incorporated
Smithsonian Institution's Fred Lawrence Whipple Observatory	Emilio Falco, Dan Brocious	Page 17, Lin Page 17, Lines 590-92	"The PPO is exempt from ... may not be able to conform to the Code (because of worker safety concerns)." How has this determination been made?	Arizona law exempts mining operations from local zoning codes. Although the PPO is exempt, mitigation may be developed that addresses potential impacts while maintaing safety standards.
Smithsonian Institution's Fred Lawrence Whipple Observatory	Emilio Falco, Dan Brocious	Page 18, Line 96	The alternative comparison of "Area that would not meet Pima County [Outdoor] Lighting Code (acres)" is unclear to us. A comparison of non-compliant acres is not as useful as quantifying the overall quantity, color and direction of light emitted by the mining operation under various alternatives.	Measure has been deleted.
Smithsonian Institution's Fred Lawrence Whipple Observatory	Emilio Falco, Dan Brocious	Page 18, Lines 97-8	"Qualitative assessment of effectiveness of mitigation measures to reduce dust and impact night sky visibility." This would be better stated, "Quantitative assessment of effectiveness of mitigation measures to reduce dust and thereby reduce dust's impact on night sky visibility." (Quantitative measurements will tell us what we need to know.)	Comment incorporated
Smithsonian Institution's Fred Lawrence Whipple Observatory	Emilio Falco, Dan Brocious	Page 19, Line 00-01	Here again, "quantitative" should replace "qualitative" because the impact is how much dust settles on telescope optics in one alternative versus another.	Comment incorporated
ADOT	Charles Beck	NA	"ADOT has reviewed Chapter 1 of the Rosemont Copper Project Draft Environmental Impact Statement, and has no comments on the chapter draft."	

Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has. --Margaret Mead

CBD Colemans Coralroot Petition FINAL.pdf

BEFORE THE SECRETARY OF THE INTERIOR



© Ron Coleman

PETITION TO LIST COLEMAN'S CORAL-ROOT *HEXALECTRIS COLEMANII* AS THREATENED OR ENDANGERED UNDER THE ENDANGERED SPECIES ACT

September 8, 2010

Mr. Ken Salazar
Secretary of the Interior
18th and "C" Street, N.W.
Washington, D.C. 20240

CC: Dr. Benjamin Tuggle
Southwest Regional Director
P.O. Box 1306
Albuquerque, NM 87103-1306
RDTuggle@fws.gov

Dear Mr. Salazar:

Pursuant to Section 4(b) of the Endangered Species Act ("ESA"), 16 U.S.C. §1533(b), Section 553(3) of the Administrative Procedures Act, 5 U.S.C. § 553(e), and 50 C.F.R. §424.14(a), The Center for Biological Diversity, Tierra Curry, and Noah Greenwald hereby formally petition the Secretary of the Interior, through the United States Fish and Wildlife Service ("FWS", "the Service"), to list Coleman's coral-root, *Hexalectris colemanii,* as a threatened or endangered species and to designate critical habitat concurrent with listing.

U.S. Fish and Wildlife Service has jurisdiction over this petition. This petition sets in motion a specific process, placing definite response requirements on FWS. Specifically, FWS must issue an initial finding as to whether the petition "presents substantial scientific or commercial information indicating that the petitioned action may be warranted." 16 U.S.C. §1533(b)(3)(A). FWS must make this initial finding "[t]o the maximum extent practicable, within 90 days after receiving the petition." *Id.* Petitioners need not demonstrate that listing *is* warranted, rather, petitioners must only present information demonstrating that such listing *may* be warranted. As such, FWS must promptly make an initial finding on the petition and commence a status review as required by 16 U.S.C. § 1533(b)(3)(B).

Coleman's coral-root is a rare orchid that is extant at only three sites in two mountain ranges in Arizona, and that is imminently threatened by a proposed open-pit copper mine, livestock grazing, recreational impacts, and other factors. One population of this rare and beautiful orchid has already been lost. *Hexalectris colemanii* clearly warrants protection under the Endangered Species Act.

PETITIONER:

The Center for Biological Diversity is a nonprofit conservation organization with 255,000 members and activists dedicated to the protection of endangered species and wild places. http://www.biologicaldiversity.org

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Coleman's coral-root, *Hexalectris colemanii*, is a critically imperiled orchid that occurs only in the Santa Rita and Dragoon mountains in Pima, Cochise, and Santa Cruz counties, Arizona. There was a population of this recently-described orchid in the Baboquivaris, but it is now extirpated. Coleman's coral-root was previously thought to be a form of Chisos coral-root, but was elevated to species level by Kennedy and Watson (2010) based on genetic and morphological distinctions. Due to immediate threats to its survival from a proposed open-pit copper mine in the Santa Ritas, and from livestock grazing, recreational impacts, and other factors rangewide, Coleman's coral-root qualifies for and is in dire need of Endangered Species Act protection.

INTRODUCTION

The Sky Islands of Arizona host the only three populations of Coleman's coral-root in the world. The coral-root has an extremely restricted distribution and grows only in association with symbiotic fungi found on the roots of host trees and shrubs, making the flower vulnerable to extirpation from anything which disturbs the soil or disrupts the relationship between the orchid, the fungi, and the woody hosts. The orchid does not send up flowering stalks every year, and during drought conditions populations are reduced, making the orchid vulnerable to effects from global climate change. In any given year, there are far less than 200 flowers in all populations combined. When the flowers do appear, the populations are small and vulnerable to trampling, herbivory, and collection. Due to its small population size, specific substrate requirements, and restricted distribution, Coleman's coral-root is exceedingly vulnerable to being extirpated from the numerous threats it faces, and there are no regulatory mechanisms which adequately protect it. The population in the Baboquivaris was likely extirpated due to cattle grazing. One of the populations in the Santa Ritas is in the footprint of a proposed open-pit copper mine. The other two populations, one in the Santa Ritas and one in the Dragoons, are threatened by grazing, recreation, and other factors. Without Endangered Species Protection, this newly-described species is likely to be lost.

NATURAL HISTORY AND ECOLOGY

Taxonomy

The orchid now known as *Hexalectris colemanii* was first discovered by Toolin and Reichenbacher in 1981, but they mistakenly identified it as the closely related species *H. spicata* (Coleman 2010). The orchid was detected again, and misidentified again, by McLaughlin in 1986. In 1998 Coleman and Catling determined that these orchids were in fact *H. revoluta,* the first documented occurrence of *H. revoluta* in Arizona, and a significant range expansion from the nearest known population in Texas (Coleman 2000). Upon further study, Catling recognized the Arizona plants to be distinct from the Texas variety, and published a formal description naming the Arizona variety *H. revoluta var. colemanii*, in honor of the Arizona orchid expert Ron Coleman who first recognized the distinct characteristics of the Arizona orchid (Catling 2004). In 2010, *H. colemanii* was

elevated to the species level by Kennedy and Watson, based on genetic and morphological differences from *Hexalectris revoluta.*

Kennedy and Watson (2010) conducted phylogenetic analyses on six plastid markers and Internal Transcribed Spacers (ITS) from 43 accessions representing the eight currently recognized *Hexalectris* species to test species circumscriptions and determine interspecific relationships among the orchids. They conclude that *Hexalectris colemanii* is a distinct species stating:

> "The incongruent positions of the western- *H . spicata* clade and *H . revoluta* var. *colemanii* in the ITS and plastid trees suggests that either these clades may be of hybrid origin or that the ITS or plastid trees do not reflect true species relationships due to ILS. If this incongruence is the result of ILS, then the plastid topologies should be preferred and each clade should be recognized at the species rank because each is strongly- supported as monophyletic, by at least PP, and is morphologically distinctive relative to its sister clade. Even if these clades are in fact of hybrid origin, their monophyly remains supported . . . The *H. revoluta* var. *colemanii* clade can be distinguished from the western-*H . spicata* clade by several characters including a shorter inflorescence that is cream to white in color vs. creamy dull purple to purple brown; larger flowers (longer perianth parts, wider sepals, longer column) that have a white to magenta background color vs. yellow to yellow brown; chasmogamous flowers with revolute sepals and lateral petals that always possess a well developed rostellum vs. cleistogamous flowers that are sometimes spreading and rarely revolute with a reduced or absent rostellum. **We therefore conclude that *H . revoluta* s. l. should not include *H . revoluta* var. *colemanii*, and that this latter taxon should be recognized at the species rank**" (p. 73-74).

Hexalectris revoluta received a positive 90-day finding from the Service on December 16, 2009 (74 FR 66866). Given that *H. colemanii* was at the time considered to be a form of *H. revoluta*, the positive 90-day finding should apply to *H. colemanii* as well as to *H. revoluta.*

Description

The name *Hexalectris* comes from the Greek hex, meaning six, and alectryon, cock's-comb, which refers to the six longitudinal crests found on the orchid's floral lip. This name, however, is not always appropriate because flowers of the various species in the genus may have either five, six, or seven crests on the lip (Hill 2007).

Except for the flowering stem, orchids in the genus Hexalectris are subterranean and appear above ground only to flower and reproduce. Kennedy and Watson (2010) describe the appearance of their above-ground organs as "cryptic and ephemeral" and "inconspicuous and unpredictable." The orchids are distinguished from one another by flower size and color, labellum size and shape, and the number and height of raised crests (lamellae) atop the midlobe of the labellum (Kennedy and Watson 2010).

Coleman's coral-root is leafless, and has a pinkish to cream stem. The flowers have a whitish to creamy-pink background suffused with purple, magenta, or maroon, and brownish-maroon or purple veins. *Hexalectris colemanii* has larger flowers than *H. revoluta* (Catling 2004). Catling (2004) provides the following formal description of Coleman's coral-root:

> "Stems pinkish-cream, 46-55 cm, with 4-6 sheathing bracts. Inflorescences 20-23 cm, floral bracts lanceolate, 3-12 mm. Flowers 13-19, with pedicellate ovaries 12-14 mm; sepals and petals whitish- or creamy-pink to very pale brown at the tips and partly with a suffusion of magenta or maroon, the veins maroon or brownish-maroon; dorsal sepal 20-2.5 x 4.5-5 mm; lateral sepals 17-21 x 6.5-7.5 mm; petals obovate-falcate or lanceolate-falcate, 19-22 x 4-5 mm; lip whitish-cream with maroon to magenta veins, the tips of the lateral and terminal lobes maroon or white between the veins, 16-20 x 10.5-12 mm, with 5 central veins with keels 0.2-0.5 mm high, midvein keeled or not keeled in the midlobe, lateral lobes extending 1/5–1/4 length of midlobe; column white above, 14-15 mm, rostellum present" (p. 14-15).

Habitat

Coleman's coral-root occurs in scrub oak and oak-pine-juniper forests within Madrean evergreen woodland communities near the transition zone with semi-desert grassland communities (AGFD 2004). Trees and shrubs with which it may be associated include oak (*Quercus spp,*), juniper (*Juniperus*), mesquite (*Prosopis*), Arizona black walnut (*Juglans major*), acacia (*Acacia*), desert willow (*Chilopsis linearis*), and Wright sycamore (*Platanus wrightii*) (AGFD 2004). It occurs in canyon bottoms and on the sides of canyons between approximately 1300 and 1600 m elevation (Coleman 2001). It usually grows in partial to moderate shade (AGFD 2004). It has been found in areas with duff and heavy leaf litter, in sandy loam with leaf litter, and in very thin humus layers. In some areas, it is found among rock outcrops or on the edges of rocky cliffs (Coleman 2002).

Ecology

Coleman's coral-root is a soft-fleshed perennial herb, often described as a saprophyte, though orchids are not true saprophytes. Orchids in the genus Hexalectris are myco-heterotrophs, meaning they do not use photosynthesis to make food, but rather, they obtain food via symbiotic relationships with photosynthetic community members, such as pines or oaks, via mychorrhizal fungi that have colonized the roots of the trees. Hexalectris orchids do not have chlorophyll, leaves, or roots (Hill 2007). The rhizome of the orchid lives in association with fungi, and the fungal hyphae act as roots by absorbing water and nutrients. Because the orchid is completely dependent on its hosts, it will likely die if transported. Similarly, any disturbance to the substrate which interferes with the relationship between the orchid rhizome, the fungi, and the host plant will likely kill the orchid.

Range

Hexalectris colemanii has been positively identified at four disjunct locations in Pima, Cochise, and Santa Cruz counties, Arizona (Coleman 2010). It is known from two sites in the Santa Ritas (Pima and Santa Cruz counties), one site in the Dragoons (Cochise County), and one site in the Baboquivaris (Pima County), where it is likely extirpated (Coleman 2010). In the Santa Ritas, it occurs in McCleary Canyon and in Sawmill Canyon (Coleman 2010).

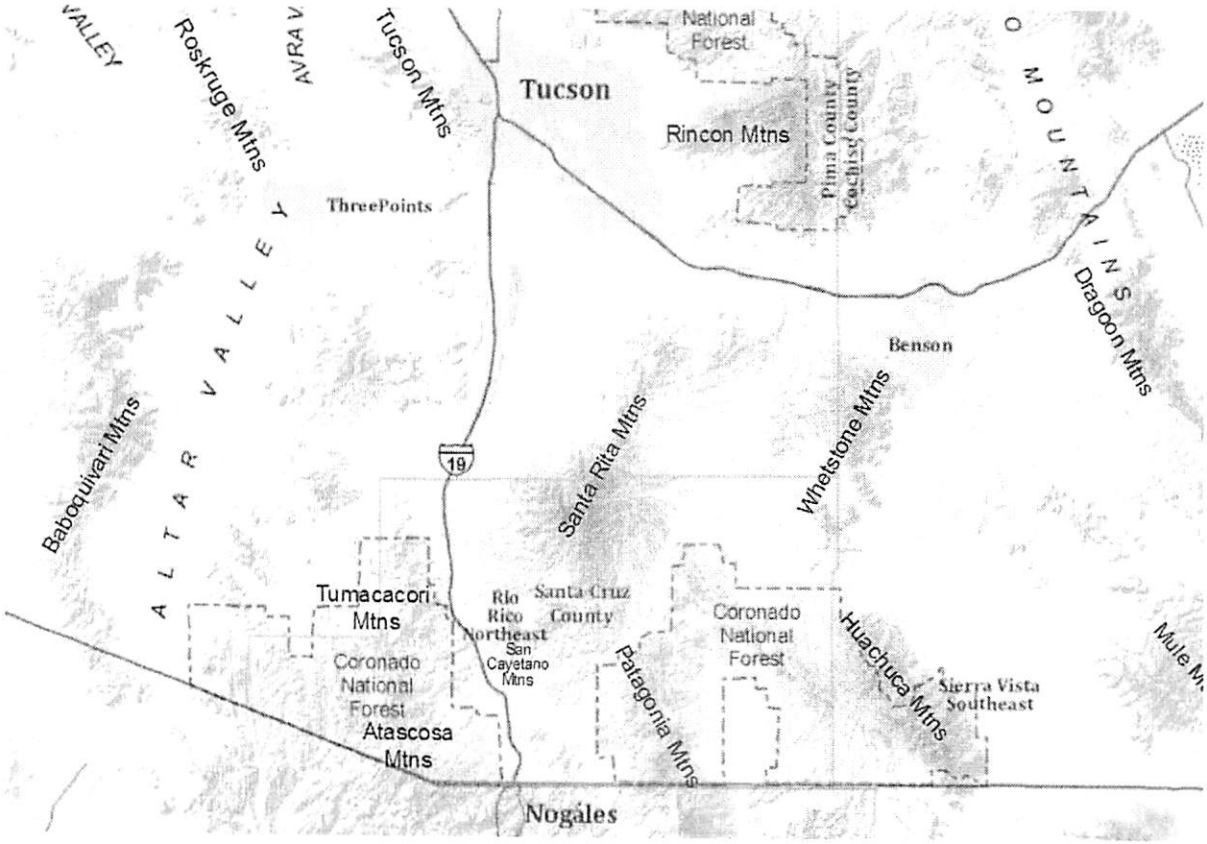


Figure 1. Range of *Hexalectris colemanii*. Coleman's coral-root is known from two sites in the Santa Rita Mountains south of Tucson, one site in the Dragoon Mountains southeast of Tucson, and occurred historically at one site in the Baboquivari Mountains southwest of Tucson.

Life History

Hexalectris colemanii does not bloom or come up every year (Coleman 2001). It typically flowers in May and June. Flowering in Hexalectris is erratic, and may vary based on rainfall, temperature, nutrient availability, or a combination of these or other unknown factors (Hill 2007). At any given site, *Hexalectris colemanii* can produce as many as 40 plants in one year and zero plants the following year (Coleman 2001, 2005).

STATUS

Coleman's coral-root is exceedingly rare and is known from only four total sites, but is extant at only three of them. In the Baboquivari Mountains, the orchid is likely extirpated as it has not been relocated there since its original discovery in 1981, despite repeated searches (Coleman 2001, 2010). The remaining locations support small populations, and the orchid does not send up a flowering stalk every year. In the Dragoons, the orchid is known only from a single location where from zero to 75 flower spikes per year have been recorded (Coleman 2010b). At the Sawmill Canyon site in the Santa Ritas, from zero to thirty flower stalks per year have been recorded (Coleman 2010b). At the original McCleary Canyon site in the Santa Ritas, from zero to forty stalks per year have been recorded (Ibid.). In 2010, the orchid was detected at other places in McCleary Canyon in additional to the originally known location (Ibid.).

As a newly described species, *Hexalectris colemanii* does not have any form of protective status. It was previously described as a form of *H. revoluta* (Catling 2004). *Hexalectris revoluta* is a Forest Service Region 3 and Bureau of Land Management Sensitive Species (AGFD 2004). In December 2009 *Hexalectris revoluta* received a positive 90-day finding indicating that it may warrant protection under the Endangered Species Act due to the threat of habitat loss to mining (FWS 2009, 74 FR 66866). Coleman (2001) states that *H. revoluta* should be considered for ESA listing due to its rarity (p. 96).

THREATS

A. Present or threatened destruction, modification, or curtailment of habitat or range

Hexalectris orchids are particularly vulnerable to habitat loss and degradation because their distribution is naturally limited by specific substrate requirements (Hill 2007). Because of their dependence on symbiotic fungi, the orchids are sensitive to changes in substrate and are "not likely to withstand much alteration" (Hill 2007, p. 19). Hexalectris orchids are thus threatened by any factor that results in soil disturbance or compaction (Hill 2007). Within its extremely limited range, *H. colemanii* is threatened by habitat loss and degradation caused by mining, livestock grazing, recreation, development, and trampling by illegal immigrants and drug smugglers.

Mining

There is no question that *H. colemanii* is threatened throughout a significant portion of its range by habitat loss and degradation due to mining. In 2009 when *H. colemanii* was still considered to be a form of *H. revoluta*, the Service determined that listing *H. revoluta* under the Act may be warranted due to the threat posed by mining, stating:

> "[W]e have determined that the petition presents substantial information to indicate that listing Hexalectris revoluta may be warranted due to the present or

> threatened destruction, modification, or curtailment of its habitat or range as a result of mining development" (74 FR 66903).

Numerous sources have identified mining as a threat to *H. revoluta*, and thus *to H. colemanii*, including Coleman (2001, p. 95), the Arizona Game and Fish Department (2004), the Forest Service (2007 Sensitive Species List), and Sky Island Alliance (2008a, 2008b).

In the Santa Ritas in McCleary Canyon, Coleman's coral-root occurs in the footprint of the proposed Rosemont Copper Mine (Westland Resources 2007b, AGFD 2010) which would directly destroy at least 4,400 acres of habitat (Augusta Resource Corporation 2010). In 2010, 25 orchids were detected at the mine site, a significant portion of the total population of the species (Davis 2010). Because the orchid is completely dependent on its specific substrate, mining could eliminate the population entirely (Hill 2007, p. 19-20).

In addition to directly destroying orchids in the footprint of the mine, tailings piles, and associated structures, the proposed Rosemont mine threatens *H. revoluta* in several additional ways.

Dust and air pollution from numerous sources could have significant negative impacts on the orchid and its host trees, shrubs, and fungi both in the footprint and in adjacent areas (AGFD 2008, p. 5, Sky Island Alliance 2008b, p. 5-13). Dust and airborne pollutants will result from topsoil removal and replacement, construction of infrastructure, mining operations, tailings piles, road construction and maintenance, and traffic (e.g. Pima County Administrator 2009). The mine would require the construction and maintenance of numerous new roads. Mine haul and access roads are planned along the north, east, and south edges of the mine pits (SWCA 2009). A new two-lane, unpaved road is planned to allow access between SR 83 and the mine, and there are plans to widen SR 83. Several new roads are planned to reconnect the prior forest road system due to the closing of some existing roads to the public during mining activities (SWCA 2009). Increased traffic alone will inevitably result in dust pollution as a heavy truck is expected to leave the mine site every 15 minutes.

Contaminants from several sources threaten the orchid and its host fungi. Airborne contaminants from mining, waste rock, and tailings piles include uranium, sulfate, fluoride, and antimony (Pima County Administrator 2009). Herbicides used in conjunction with mining activities and road maintenance could be washed into the orchid's habitat (e.g. AGFD 2003). Herbicide runoff and drift and direct herbicide application are serious threats to Hexalectris orchids due to their absolute dependence on symbiotic fungi (Hill 2007, p. 20). Chemicals used during the mining process could damage the orchids or the fungi upon which it relies, particularly in the event of accidental spills (Coleman cited in Davis 2010).

There is no question that the pumping of groundwater, diversion of streams, removal of more than 4,400 acres of vegetation, and excavation of a 6,500-ft across, 2,900-ft deep pit (SWCA 2009) will alter microhabitat conditions in the surrounding area. The resultant

changes in hydrology, reflection, wind, temperature, moisture, and nutrient input could cause microhabitat changes that would make it impossible for the orchid or its host fungi to survive. Hill (2007) identifies stream alteration, vegetation removal and the reduction of soil nutrient input, road building, and "any activity that results in increased erosion or chemical influx" as threats to Hexalectris orchids (p. 19-20).

The orchid is also threatened by the proposed post-mining land uses, which include cattle ranching and recreation, including ATV and motorcycle riding, and four-wheeling (SWCA 2009). The Rosemont property is part of an existing ranching facility with more than 15,000 acres of grazing lease, and cattle are expected to be present during and after the proposed mining (Ibid.).

Even if the mine currently proposed by Augusta Resource Corporation does not move forward, mining will remain a threat to Coleman's coral-root at the Rosemont site. Mining has been a threat in the Rosemont area since at least the early 1900's (Schrader 1915), and will continue to be a threat into the future. The Rosemont property has been sold numerous times, and if the current owner fails to develop the currently planned mine, the property is likely to be sold to yet another mining corporation.

Coleman's coral-root may also be threatened by mining in the Dragoons. There has been a recent increase in interest in mineral withdrawal in the Dragoon Range, and there is a currently proposed alpha-calcite mine which could potentially threaten the orchid (Sky Island Alliance 2008a, p. 3-10).

Livestock Grazing

Hexalectris orchids are edible to livestock and wildlife and are thus threatened by grazing or browsing pressure (Hill 2007, p. 19). If the flowering stalks are consumed by cattle or other animals, the orchid is unable to reproduce. Because *H. colemanii* does not emerge every year, and because when it does emerge few individual flower stalks are present, populations could easily be extirpated by herbivory or trampling, making livestock grazing a primary threat to the species.

Grazing threatens *H. colemanii* throughout its range. The extirpation of *H. colemanii* in the Baboquivaris may have resulted from overgrazing because the orchid is extremely susceptible to grazing and rare plants in the Baboquivari Range are known to be threatened by overgrazing (Toolin 1982, Gori et al. 1992, Roller 1998). The Dragoon Range is also extensively grazed ((FS 2008a, 2008b, Sky Island Alliance 2008, p. 3-3, 3-18). The orchid is not given any consideration or protection by the Forest Service in the grazing authorizations for the Dragoons (FS 2008a, 2008b). Grazing also threatens Coleman's coral-root in the Santa Ritas (Sky Island Alliance 2008b, SWCA 2009).

Recreation

Hexalectris colemanii is threatened throughout its range by recreational impacts. In addition to the risk of direct trampling of flower stalks, any recreational activity that results in soil disturbance threatens Hexalectris orchids (Hill 2007).

Off-road motorized recreation threatens *H. colemanii* via direct destruction and soil compaction (Hill 2007, p. 19-20). Portions of the Santa Ritas are being severely impacted by off-road motorized recreation. Concerning damage to the Santa Ritas from motorized recreation, Sky Island Alliance (2008b) state:

> "Motorized recreation in the area is not effectively managed and is producing a growing network of illegal user-created roads that is rising to incredible concentrations. Threats include existing non-system roads and creation of new non-system roads, and lack of enforcement of the legal transportation system" (p. 5-13).

In the Santa Ritas, the threat posed to the orchid by mining at McCleary Canyon is magnified by the threat of recreation, as off-road recreation is a planned post-mining land use at the proposed Rosemont mine (SWCA 2009).

The impacts of off-highway motorized recreation are also severe in the Dragoons where numerous illegal roads and campsites have been created by off-road vehicles, including along steep slopes and wash sides (Sky Island Alliance 2008a, p. 3-23). Riders have vandalized signs, created roads in roadless areas, and left significant amounts of garbage (Ibid.).

Other recreational users also threaten the orchid in the Dragoon Range, which is very heavily used by rock-climbers, horse riders, mountain bikers, campers, hunters, and cultural and historical tourists, creating a "pattern of ecological damage and unmanaged visitor use" (Sky Island Alliance 2008a, p. 3-3). Sky Island Alliance (2008a) reports that recreational use of the Dragoons has increased exponentially and that use has become a "chaotic, unregulated free-for-all" (p. 3-16).

User-created campsites have proliferated in the range, including large pull-through sites created by trailers pulling horses or off-road vehicles. Group recreational programs have heavily impacted the landscape and turned single tent sites into "multi-acre networks of tent pads and trails" (Sky Island Alliance 2008a, p. 3-18). Recreationists have trampled vegetation, compacted soil, cut trees for firewood, and cleared slopes of wood, all of which directly threaten Coleman's coral-root. Rock climbers in particular have created numerous negative impacts in the range as they have impacted steep areas unused by other recreationists (Ibid.).

The threat posed to Coleman's coral-root by recreational impacts is exacerbated by the plant's extremely limited range and small population size.

Illegal Immigration and Border Patrol

Hexalectris colemanii is threatened by trampling and soil disturbance from illegal immigrants, drug smugglers, and Border Patrol agents. Illegal immigrant traffic through the Santa Ritas is significant and causes trampling of vegetation, particularly in steep terrain that tends to be avoided by other users (Sky Island Alliance 2008b, p. 5-13). Illegal travel along ridges and washes is also significant in the Dragoons (Sky Island Alliance 2008a, p. 3-23).

Development

Increasing human population growth and resultant development threatens *H. colemanii* in the Dragoons and in the Santa Ritas. Growth of surrounding towns and cities has contributed to a drastic increase in visitation levels to the ranges (Sky Island Alliance 2008a, 2008b). Lands are being developed for housing and resorts along the western, northern, and eastern edge of the Dragoons (Sky Island Alliance 2008a, p. 3-3, 3-17). The population of Cochise County is expected to double in the next 25 years which will further increase unmanaged recreational impacts (p. 3-17). Developments are also being planned adjacent to the Santa Ritas (Sky Island Alliance 2008b, p. 5-12).

In sum, Coleman's coral-root is threatened throughout its range by habitat loss and degradation. The orchid is now extant only in the Santa Ritas and the Dragoons where it is known to be threatened by proposed mining activities, recreation, livestock grazing, development, and illegal immigration and Border Patrol activities.

B. Overutilization for commercial, recreational, scientific, or educational purposes

Because of their beauty and rarity, orchids are often collected. Numerous sources cite collection as a threat to *Hexalectris revoluta* and thus to *H. colemanii* including Louie (1996), Forest Service (2007), and NatureServe (2010). Coleman's coral-root is exceedingly vulnerable to collection because of its limited range, small population size, and life history in which flowering shoots only emerge under certain conditions. Collection of even a single stalk could damage a small population of this flower. Coleman (2010) chose not to collect a voucher specimen of *H. colemanii* in Cochise County due to the small size of the population, stating:

> "I never requested a permit to collect a voucher specimen from the Cochise County location because I believed based on my observations that there were too few plants to justify collecting one" (p. 2).

Coleman's coral-root may be more threatened by collection from recreationists or vandals than by orchid enthusiasts, because it is well known that mycotrophic orchids are extremely difficult to transplant and propagate (Hill 2007).

C. Disease or predation

Hexalectris orchids are edible and are subject to foraging by deer, rabbits, cattle, and other animals. The underground tubers may be vulnerable to consumption by feral pigs or rodents (Hill 2007). Livestock grazing is a primary threat to *H. colemanii* and may have caused the extirpation of the species in the Baboquivaris.

Disease is not known to be a threat to *H. colemanii.*

D. Inadequacy of existing regulatory mechanisms

There are no existing regulatory mechanisms which adequately protect Coleman's coral-root from the numerous threats it faces. The species occurs on the Coronado National Forest and potentially on the Tohono O'Odham Nation (AGFD 2004). The orchid is a Forest Service Sensitive Species (2007) but protections afforded under this designation are discretionary, and the Forest Service has not taken any measures to protect the orchid from the threats it faces from cattle grazing, recreation, mining, etc. The orchid is not given any consideration or protection by the Forest Service in the grazing authorizations for the Dragoons (FS 2008a, 2008b). Existing regulations are failing to protect habitat from the impacts of recreation in the Santa Ritas and in the Dragoons (Sky Island Alliance 2008a, 2008b).

The proposed Rosemont open-pit copper mine would destroy at least 3,670 acres of National Forest land where mining waste would be dumped, and processing and support facilities erected (FS 2008c). The General Mining Act of 1872 confers a statutory right to enter upon public lands open to location in pursuit of locatable minerals, and under valid existing mining claims to conduct mining activities, in compliance with federal and state statutes and regulations. The Forest Service entered into a Memorandum of Understanding with Augusta Resource Corporation intended to allow the use of the National Forest for the dumping of mining waste (FS 2008c). The MOU provides no protection for the orchid. Augusta Resource Corporation has not established that they have valid existing rights on the Forest, and the Forest Service has not indicated that they will examine the validity of the claims, despite their responsibility to the public to do so.

The 1960 Multiple-Use Sustained-Yield Act (74 Stat. 215; 16 U.S.C. 528–531) requires that National Forest System lands be administered in a manner that includes consideration of the relative values of various resources as part of management decisions. The Federal Register notice for the mine stated that "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." Given the obligation of the Forest Service to consider the relative values of resources in decisions, the notice should have stated that the purpose of the proposed action was not to grant the company permission to use the land for the dumping of mining waste, but to consider whether granting permission to the company would negatively affect other National Forest resources, such as wildlife. The use of the National Forest for the dumping of waste rock and tailings is inconsistent with the Forest Plan, but the Forest Service has indicated that if necessary, it

will amend the Coronado National Forest Land and Resource Management Plan to allow the dumping of mine waste on the Forest (FS 2008d).

Multiple parties have identified numerous problems in the scoping process for the mine including Pima County (2009), the Arizona Game and Fish Department (2008), and members of Congress (Grijalva and Giffords 2008). The Arizona Game and Fish Department (2008) expressed strong concern about the failure of the Forest Service to safeguard wildlife habitat from the proposed mine stating:

> "Is the Forest Service 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" (p. 3).

Existing regulatory mechanisms are clearly not adequate to protect Coleman's coral-root on National Forest lands.

There are no existing regulatory mechanisms which require the mining company to protect the orchid. The orchid is given no consideration in the Biological Resources Evaluation in the Mine Plan of Operations (Westland Resources 2007) or in the environmental assessment for the mine (SWCA 2009). Mining activity is expected to occur 24 hours a day, 365 days a year, for 19 years (SWCA 2009), and it is unlikely that mining activity could be curtailed, even if unintended impacts to orchids were detected.

The threat posed to the orchid by the proposed Rosemont mine is certain to be underestimated by the mining company and their consultants. The Arizona Game and Fish Department (2008) expressed complete disagreement with the biological evaluation in the Mine Plan of Operations, stating:

> "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" p. 2.

Should the mine move forward, the mitigation and reclamation plan is not adequate to protect the Forest and the orchid from negative impacts. Arizona Game and Fish Department (2008) expressed grave concerns about the inadequacy of mitigation and reclamation to protect habitat on the Forest stating:

> "We have reviewed the Mine Plan of Operations. 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 . . . Furthermore, the project has great potential to impact wildlife and habitat off the forest" (p. 1).

> [W]e 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 for wildlife values" (p. 4)
>
> We also have a concern about failure of reclamation to occur or to be adequate 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 . . One of the problems is the difficulty of establishing vegetation (at the level of a functioning ecosystem) in dry climates. The vegetative communities 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 state habitat (e.g. grasses and forbs) that lack mature habitat values" (p. 4).

Coleman's coral-root is threatened on National Forest land by mining, recreation, and livestock grazing, and there are no existing regulatory mechanisms which adequately protect the orchid from these threats.

Coleman's coral-root is not currently protected under Arizona state law, nor are there any regulatory mechanisms at the county level to protect the plant. Given that one population of this species has already been lost and that the two remaining populations are imminently threatened by numerous factors, Endangered Species Act protection for Coleman's coral-root is warranted.

E. Other natural or anthropogenic factors

Several other factors threaten *H. colemanii* including extreme rarity, small population size, drought, and climate change.

Coleman's coral-root now occurs at only three locations in two mountain ranges. The Forest Service (2007) cites "extreme rarity" as a threat to the coral-root. All known populations of the orchid are small, and small populations are more vulnerable to extirpation from stochastic genetic or environmental events or other habitat disturbing activities (Matthies et al. 2004). Louie (1996) cites inadvertent destruction through maintenance activities as a threat to *H. revoluta.*

Drought threatens the survival of *H. colemanii.* Annual precipitation in the Tucson region has been less than average since 1995, resulting in severe drought conditions locally and regionally (Westland Resources 2007, p. 3). Coleman (2001) cites decline in winter rainfall as the probable cause of a region-wide decline in population size of orchids in the southwest from 1997-2001 (p. 96).

Global climate change is expected to increase the frequency and intensity of droughts in the southwest and to create drier overall conditions (U.S. Global Change Research Program 2009), directly threatening the coral-root. Global climate change will also likely

reduce the population viability of rare plants like Coleman's coral-root (Maschinski et al. 2006).

CONCLUSION

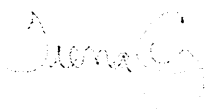
Coleman's coral-root survives at only three locations and without Endangered Species Act protection, this rare and beautiful orchid is likely to be driven to extinction by mining, livestock grazing, recreation, global climate change, and other threats. There are no existing regulatory mechanisms which adequately protect the coral-root from the imminent threats to its survival. *Hexalectris colemanii* is in dire need of and clearly qualifies for protection under the Act.

REQUEST FOR CRITICAL HABITAT DESIGNATION

We request and strongly recommend that all known locations of Coleman's coral-root are designated as critical habitat concurrent with listing. As required by the Endangered Species Act, the Secretary shall designate critical habitat concurrent with determination that a species is endangered or threatened (16 U.S.C. 1533(a)(3A)). Critical habitat is defined by Section 3 of the ESA as: (i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 1533 of this title, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 1533 of this title, upon a determination by the Secretary that such areas are essential for the conservation of the species.16 U.S.C. §1532(5).

Because collection is a potential threat to *H. colemanii*, we recommend designation of large polygons of critical habitat that are sufficiently large so as not to reveal the locations of this rare plant.

For all Parties to the Petition:



Tierra Curry
Conservation Biologist
Center for Biological Diversity
PO Box 1178
Flagstaff, AZ 86002-1178
tcurry@biologicaldiversity.org

ACKNOWLEDGEMENTS

The Center thanks Ron Coleman for permission to use his photograph of *H. colemanii*. Curt Bradley and Randy Serraglio played a significant role in the development of this petition.

LITERATURE CITED

Arizona Game and Fish Department (AGFD). 2010. Heritage Data Management System.

Arizona Game and Fish Department (AGFD). 2008. Comments to the Forest Service on the Notice of Intent to prepare an Environmental Impact Statement for the Proposed Rosemont Copper Project. July 8, 2008.

Arizona Game and Fish Department (AGFD). 2004. *Hexalectris revoluta*. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. 5 pp.

Arizona Game and Fish Department (AGFD). 2003. *Sonorella eremita*. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. 5 pp.

Augusta Resource Corporation. 2010. Rosemont Copper. Accessed August 31, 2010 at: http://www.augustaresource.com/section.asp?pageid=7158

Catling, P. 2004. A Synopsis of the Genus *Hexalectris* in the United States and a New Variety of *Hexalectris revoluta*. The Native Orchid Conference Journal 1(2): 5-25

Coleman, R. 2010. *Hexalectris colemanii* in Arizona. Unpublished report.

Coleman, R. 2005. Population Studies in Dicromanthus and Hexalectris in Southeastern Arizona. In: Proceedings of the Second International Orchid Conference Congress, eds B. Walsh and W. Higgins. Selbyana 26(1,2): 246-251.

Coleman, R.A. 2002. The wild orchids of Arizona and New Mexico. Comstock Publishing Associates, a division of Cornell University Press. Ithaca, New York. Pp. 98-102.

Coleman, R. 2001. Tracking rare orchids (*Orchidaceae*) in Arizona. Pages 95-98 *In*: Maschinski, J. and L. Holter. 2001. Southwestern rare and endangered plants: Proceedings of the Third Conference. Proceedings RMRS-P-23. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 250 p.

Coleman, R. A. 2000. Noteworthy Collections--Hexalectris revoluta Correll (Orchidaceae. Madrono 47(2): 138.

Davis, T. 2010. Orchid delays Rosemont Mine plans. Arizona Daily Star. June 3, 2010. Accessed August 27, 2010 at: http://azstarnet.com/news/science/environment/article_cb516052-20c5-5692-9a47-5e5a1212ee2e.html

Gori, D.F., P. Warren, B. Gebow, J. Malusa. 1992. Status Report: Gentry Indigo Bush. The Nature Conservancy. Submitted to U.S. Fish and Wildlife Service, Phoenix, AZ.

Grijalva, R. and G. Giffords. 2008. Letter to Jeanine Derby, Supervisor, Coronado National Forest. July 15, 2008.

Hill, S.R. 2007. Conservation assessment for the crested coral-root orchid *Hexalectris spicata* (Walter) Barnhart. Prepared for the U.S.D.A. Forest Service, Eastern Region (Region 9), Shawnee and Hoosier National Forests INHS Technical Report 2007 (6). January 18, 2007. 38 pp.

Kennedy, A. and L. Watson. 2010. Species delimitations and phylogenetic relationships within the fully myco-heterotrophic *Hexalectris* (*Orchidaceae*). Systematic Botany: 35(1): 64-67.

Louie, D.A. 1996. The rare and threatened plant species of Big Bend National Park, Texas: a field guide. Web-based plant guide developed by USGS/NBII for Big Bend. Online. Available: http://cswgcin.nbii.gov/sensitiveplants/sensitiveplants.html. Accessed 2003, June 4.

Maschinski, J., J.E. Baggs, P.F. Quintana-Ascencio, and E.S. Menges. 2006. Using Population Viability Analysis to Predict the Effects of Climate Change on the Extinction Risk of an Endangered Limestone Endemic Shrub, Arizona Cliffrose. Conservation Biology 20(1): 218-228.

Matthies, D., I. Brauer, W. Maibom, and T. Tscharntke. 2004. Population size and the risk of local extinction: empirical evidence from rare plants. Oikos 105:481-488.

NatureServe. 2010. *Hexalectris revoluta* species account. Accessed September 1, 2010 at: http://www.natureserve.org

Pima County Administrator. 2009. Letter to Jeanine Derby, Coronado Forest Supervisor. Re: Alternatives Analysis: Rosemont Environmental Impact Statement. September 30, 2009.

Roller, P. 1998. FWS Memo to Files: Gentry Indigo Bush: Summary of Current Status and Threat Assessment for *Dalea tentaculoides*.

Schrader, F.C. 1915. Mineral deposits of the Santa Rita and Patagonia Mountains, Arizona. U.S. Geological Survey Bulletin 582: 1-373.

Sky Island Alliance. 2008a. State of the Coronado Forest, Douglas Ranger District, Dragoon Ecosystem Management Area. Accessed September 2, 2010 at: http://www.skyislandaction.org/SIAC-Library/state_of_the_coronado/Dragoon_EMA.pdf

Sky Island Alliance. 2008b. State of the Coronado Forest, Nogales Ranger District, Santa Rita Ecosystem Management Area. Accessed September 2, 2010 at: http://www.skyislandaction.org/SIAC-Library/state_of_the_coronado/SantaRita_EMA.pdf

SWCA Environmental Consultants. 2009. Biological assessment, Rosemont Copper Mine Project. Prepared for Coronado National Forest May 2009. Accessed April 27, 2010 at: http://rosemonteis.us/techreports/biological_asses_swca.pdf

Toolin, L.J. 1982. Status Report: *Dalea tentaculoides*. Arizona Natural Heritage Program. Submitted to U.S. Fish and Wildlife Service.

U.S. Fish and Wildlife Service (FWS). 2009. Endangered and Threatened Wildlife and Plants; Partial 90-Day Finding on a Petition to List 475 Species in the Southwestern United States as Threatened or Endangered With Critical Habitat; Proposed Rule. 74 FR 66866.

U.S. Forest Service (FS). 2008a. Biological Evaluation for Forest Service Sensitive Species, Management Indicator Species, Neotropical Migratory Birds and Important Bird Areas Authorization of Grazing on the Fourr, Granite Springs, Half Moon, Noonan, Reppy, Slavin, and Walnut Springs Allotments, Dragoon Mountains, Douglas Ranger District Coronado National Forest Cochise County, Arizona June 2008.

U.S. Forest Service (FS). 2008b. Environmental Assessment, Noonan, Halfmoon, Fourr, Slavin, Granite Springs, Reppy and Walnut Springs Allotments, Douglas Ranger District, Coronado National Forest, Cochise County, Arizona.

U.S. Forest Service (FS). 2008c. Memorandum of Understanding between Coronado National Forest and Rosemont Copper Company. Available at: http://www.rosemonteis.us/node/139

U.S. Forest Service (FS). 2008d. Notice of intent to prepare an Environmental Impact Statement for the Rosemont Copper Project, Coronado National Forest. March 13, 2008. 73 FR 13528.

U.S. Forest Service (FS). 2007. USDA Forest Service Southwestern Region Sensitive Plants version 09/21/07. Accessed August 27, 2010 at: www.fs.fed.us/r3/sfe/wildlife/R3_sensitive_plants.xls

U.S. Global Change Research Program. 2009. Global climate change impacts in the United States: Southwest. Accessed May 12, 2010 at: http://globalchange.gov/publications/reports/scientific-assessments/us-impacts/regional-climate-change-impacts/southwest

Westland Resources, Inc. 2007. Mine Plan of Operations. Prepared for August Resource Corporation. Accessed April 27, 2010 at: http://www.augustaresource.com/section.asp?pageid=6320

Teresa Ann Clapusci/R3/USDAFS
10/26/2009 11:39 AM

To mreichard@swca.com, Melinda D Roth/R3/USDAFS@FSNOTES
cc
bcc
Subject Electronic versions of Catalog of Activities from Cooperating Agencies

History: This message has been forwarded.

Melissa -
Here is what I've received to date in electronic format - you'll need to compare to the hard copies and see what is duplicative and what you'll need to type because it didn't come in electronic format. I have not yet received any submissions from the IDT or Rosemont, but those too should be coming in the next couple of weeks and will also need to be added to the comprehensive catalog you are developing from this initial material.

I'm including as an attachment, the original format the CA were provided for completing their lists. You will need to modify the original format to add a column on each spreadsheet that identifies the source of each line item recorded in the comprehensive catalog. Note the drop-down feature in some fields - if CA (or IDT or Rosemont) used the "other" option, but you can come up with a topic-specific addition to the drop-down list, then feel free to add to the drop-down lists to ensure consistency when sorting. Also note that some of the hardcopy documents included maps and other reference material that should be linked to the comprehensive catalog entries to which they apply.

The completed comprehensive catalog should be sent to Mindee, cc to me and Bev.

Mindee -

Please provide Melissa with a due date for completing the comprehensive catalog and getting the final product to you so it can be effectively used by the IDT for analysis and incorporated into the proper section of Chapter 1 of the DEIS. Also, please let her know when she should expect data from the IDT and Rosemont for inclusion in the comprehensive product.


2009 09 21 CA Catolog of Activities.xlsx


2009 10 08 AZGF Rosemont 2009-10-08 Catolog of Activities.xlsx


2009 10 08 COE Rosemont spreadsheet.xlsx


2009 10 09 AZSLD PHX-#573169-v1-ROSEMONT_MINE_EIS_--_ASLD_ACTIVITIES.XLSX


2009 10 09 BLM CA Catolog of Activities_BLM.xlsx


2009 10 09 Pima County Catalog of Activities.xlsx


2009 10 09 Town of Sahuarita Marques CA Catolog of Activities_merged.xlsx


2009 10 10 AZDWR 2009 CA Catalog of Activities ADWR revisions.xls


PHX-#573169-v1-ROSEMONT_MINE_EIS_--_ASLD_ACTIVITIES.XLSX

Teresa Ann Ciapusci
Staff Officer
Ecosystem Management and Planning
Coronado National Forest
300 West Congress, FB42
Tucson, Arizona 85701
(520) 388-8350 office
(520) 237-0879 cellular
(520) 388-8305 fax

Enter the name of your agency.
Enter past, present, and reasonably forseeable activities on the respective tabs.

Year Start: Enter date or "ongoing"
Actual / Estimate: Use drop down to indicate if date is "actual" or "estimate"
Year End: Enter date or "ongoing"
Actual / Estimate: Use drop down to indicate if date is actual or estimate
Activity Type: Use drop down to indicate type of activity
Quantity: Use values and specify units or insert the word "qualitative" and describe the qualitative data under the "Description" column
Location / Desciption: Provide narrative description of location, including legal description if known. Provide narrative description of the activity.

Additional Instructions:

A Web links to other sources of information and databases are acceptable;

B An exhaustive listing of past activities may not be particularly useful since past actions are reflected in the existing condition. Past actions should be those that have a special relevance to understanding the existing condition;

C In describing reasonably foreseeable activities, address the likelihood of occurrence such as the existence of a decision or authorization, funding, etc. Where quantitative information is not readily available, qualitative data may be used.

D Where applicable, include in regulatory thresholds in the the activity description.

ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES

Name of Cooperating Agency:

Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
2000	Actual	2009	Actual	Road		
	Estimate		Estimate	Road		
				Vegetation		
				Wildlife		
				Other		

ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES

Name of Cooperating Agency:

Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
2000	Actual Estimate	2009	Actual Estimate	Recreation Road Vegetation Wildlife Other		

ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES

Name of Cooperating Agency:

Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
2000	Actual Estimate	2009	Actual Estimate	Recreation Road Vegetation Wildlife Other		

ROSEMONT COPPER PRC

Name of Cooperating Agency:

Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity
Past Activity Example					
2000	Actual	2007	Actual	Road	3 miles
Present Activity Example					
2008	Actual	2011	Estimate	Watershed	Lone Creek Segments 3, 5, 7, and 9
Reasonably Foreseeable Activity Example					
2015	Estimate	2035	Estimate	Special Uses	35 acres land disturbance

)JECT EIS CATALOG OF ACTIVITITES

Location / Description

Jingo County periodic road maintenance to contour and gravel County Road 555 from junction with Forest Road 222 to junction of State Hwy 44 (Sections 8, 9, 10, T66S, R77E)

Ongoing work to install rip rap to reduce streambank erosion. Segments 3 (0.5 miles) and 5 (0.6 miles)completed on both banks. Segment 7 (2.1 miles) east bank installation complete - west bank planned for completion in 2009. Segment 9 (estimate .7 miles) scheduled for initiation in 3rd quarter 2011. North quarter T66S, R37E

Sapphire Ring Mine: Proposed gemstone mine in the Smokey Bear Ecosystem Management Area (Southwest quarter, T66S, R37E). NEPA decision and Final MPO complete. Awaiting appeal review decision

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2	**Enter the name of your agency.**											
3	**Enter past, present, and reasonably forseeable activities on the respective tabs.**											
4												
5	**Year Start:** Enter date or "ongoing"											
6	**Actual / Estimate:** Use drop down to indicate if date is "actual" or "estimate"											
7	**Year End:** Enter date or "ongoing"											
8	**Actual / Estimate:** Use drop down to indicate if date is actual or estimate											
9	**Activity Type:** Use drop down to indicate type of activity											
10	**Quantity:** Use values and specify units or insert the word "qualitative" and describe the qualitative data under the "Description" column											
11	**Location / Desciption:** Provide narrative description of location, including legal description if known. Provide narrative description of the activity.											
12												
13	**Additional Instructions:**											
14	**A**	Web links to other sources of information and databases are acceptable;										
15	**B**	An exhaustive listing of past activities may not be particularly useful since past actions are reflected in the existing condition. Past actions should be those that have a special relevance to understanding the existing condition;										
16	**C**	In describing reasonably foreseeable activities, address the likelihood of occurrence such as the existence of a decision or authorization, funding, etc. Where quantitative information is not readily available, qualitative data may be used.										
17	**D**	Where applicable, include in regulatory thresholds in the the activity description.										

Past Activities

	A	B	C	D	E	F	G
1	**ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES**						
2							
3	**Name of Cooperating Agency:**						
4	**Year Start**	**Actual / Estimate**	**Year End**	**Actual / Estimate**	**Activity Type**	**Quantity**	**Location / Description**
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

	A	B	C	D	E	F	G	H	I	J	K
1	ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES										
2											
3	Name of Cooperating Agency: Arizona Game and Fish Department										
4	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description				
5	Ongoing		Ongoing	Actual	Recreation	13.5mi	Arizona Trail (currently extends to Oak Tree Canyon)				
6	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Scouting for upcoming hunts				
7	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Wildlife Viewing/Birding				
8	Ongoing		Ongoing	Estimate	Road	Unavailable	OHV (Rosemont Jct. Rd. is a stageing area)				
9	Ongoing		Ongoing	Estimate	Other	Unavailable	Target shooting (preparing for hunts)				
10	Ongoing		Ongoing	Estimate	Wildlife	140 Tags	Jr. Javelina hunts (Fall and Spring)				
11	Ongoing		Ongoing	Estimate	Wildlife	550	Javelina hunts (February)				
12	Ongoing		Ongoing	Estimate	Wildlife	285	Javelina HAM hunts (February)				
13	Ongoing		Ongoing	Estimate	Wildlife	700	Javelina, archery hunt(January)				
14	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Bear hunt(March-April)				
15	Ongoing		Ongoing	Estimate	Wildlife	Unavailable	Bear archery hunt (April-July)				

	A	B	C	D	E	F	G
1	**ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES**						
2							
3	**Name of Cooperating Agency:**						
4	**Year Start**	**Actual / Estimate**	**Year End**	**Actual / Estimate**	**Activity Type**	**Quantity**	**Location / Description**
5	**Past Activity Example**						
6	2000	Actual	2007	Actual	Road	3 miles	Jingo County periodic road maintenance to contour and gravel County Road 555 from junction with Forest Road 222 to junction of State Hwy 44 (Sections 8, 9, 10, T66S, R77E)
7	**Present Activity Example**						
8	2008	Actual	2011	Estimate	Watershed	Lone Creek Segments 3, 5, 7, and 9	Ongoing work to install rip rap to reduce streambank erosion. Segments 3 (0.5 miles) and 5 (0.6 miles)completed on both banks. Segment 7 (2.1 miles) east bank installation complete - west bank planned for completion in 2009. Segment 9 (estimate .7 miles) scheduled for initiation in 3rd quarter 2011. North quarter T66S, R37E
9	**Reasonably Foreseeable Activity Example**						
10	2015	Estimate	2035	Estimate	Special Uses	35 acres land disturbance	Sapphire Ring Mine: Proposed gemstone mine in the Smokey Bear Ecosystem Management Area (Southwest quarter, T66S, R37E). NEPA decision and Final MPO complete. Awaiting appeal review decision

ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITIES					
Name of Cooperating Agency: U.S. Army Corps of Engineers					
Year Start	**Actual / Estimate**	**Year End**	**Actual / Estimate**	**Activity Type**	**Location / Description**
NONE					

Enter the name of your agency.
Enter past, present, and reasonably forseeable activities on the respective tabs.

Year Start: Enter date or "ongoing"
Actual / Estimate: Use drop down to indicate if date is "actual" or "estimate"
Year End: Enter date or "ongoing"
Actual / Estimate: Use drop down to indicate if date is actual or estimate
Activity Type: Use drop down to indicate type of activity
Quantity: Use values and specify units or insert the word "qualitative" and describe the qualitative data under the "Description" column
Location / Desciption: Provide narrative description of location, including legal description if known. Provide narrative description of the activity.

Additional Instructions:

A Web links to other sources of information and databases are acceptable;

B An exhaustive listing of past activities may not be particularly useful since past actions are reflected in the existing condition. Past actions should be those that have a special relevance to understanding the existing condition;

C In describing reasonably foreseeable activities, address the likelihood of occurrence such as the existence of a decision or authorization, funding, etc. Where quantitative information is not readily available, qualitative data may be used.

D Where applicable, include in regulatory thresholds in the the activity description.

ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITIES					
Name of Cooperating Agency: U.S. Army Corps of Engineers					
Year Start	**Actual / Estimate**	**Year End**	**Actual / Estimate**	**Activity Type**	**Location / Description**
1994	Estimate	unknown		Road	S5, T18S, R17E Next Generation Radar Hilton Ranch Road
1995	Estimate	unknown		Other	S14, T18S, R15E, Sahuarita limestone mine waste rock dump
1998	Estimate	unknown		Other	S19, T19S, R16E test for placer mine in East/West Chipsa Gulch
1998	Estimate	unknown		Water	S26, 34, 35 T18S, R17E BLM Cienga Creek stream restoration project
2004	Estimate	unknown		Other	S25, T18S, R17E BLM grade control structure in Mattie Canyon
2005	Actual	2005	Actual	Road	S31, T17S, R17E ephemeral wash road fill

ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITIES					
Name of Cooperating Agency: U.S. Army Corps of Engineers					
Year Start	**Actual / Estimate**	**Year End**	**Actual / Estimate**	**Activity Type**	**Location / Description**
NONE					

ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITIES					
Name of Cooperating Agency: U.S. Army Corps of Engineers					
Year Start	**Actual / Estimate**	**Year End**	**Actual / Estimate**	**Activity Type**	**Location / Description**
2011*	Estimate	2031	Estimate	Specail Uses	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.
*if Section 404 permit issued					

Name of Cooperating Agency:

Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity
Past Activity Example					
2000	Actual	2007	Actual	Road	3 miles
Present Activity Example					
2008	Actual	2011	Estimate	Watershed	Lone Creek Segments 3, 5, 7, and 9
Reasonably Foreseeable Activity Example					
2015	Estimate	2035	Estimate	Special Uses	35 acres land disturbance

)JECT EIS CATALOG OF ACTIVITITES

Location / Description

Jingo County periodic road maintenance to contour and gravel County Road 555 from junction with Forest Road 222 to junction of State Hwy 44 (Sections 8, 9, 10, T66S, R77E)

Ongoing work to install rip rap to reduce streambank erosion. Segments 3 (0.5 miles) and 5 (0.6 miles)completed on both banks. Segment 7 (2.1 miles) east bank installation complete - west bank planned for completion in 2009. Segment 9 (estimate .7 miles) scheduled for initiation in 3rd quarter 2011. North quarter T66S, R37E

Sapphire Ring Mine: Proposed gemstone mine in the Smokey Bear Ecosystem Management Area (Southwest quarter, T66S, R37E). NEPA decision and Final MPO complete. Awaiting appeal review decision

Enter the name of your agency.
Enter past, present, and reasonably forseeable activities on the respective tabs.

Year Start: Enter date or "ongoing"
Actual / Estimate: Use drop down to indicate if date is "actual" or "estimate"
Year End: Enter date or "ongoing"
Actual / Estimate: Use drop down to indicate if date is actual or estimate
Activity Type: Use drop down to indicate type of activity
Quantity: Use values and specify units or insert the word "qualitative" and describe the qualitative data under the "Description" column
Location / Desciption: Provide narrative description of location, including legal description if known. Provide narrative description of the activity.

Additional Instructions:

A Web links to other sources of information and databases are acceptable;

B An exhaustive listing of past activities may not be particularly useful since past actions are reflected in the existing condition. Past actions should be those that have a special relevance to understanding the existing condition;

C In describing reasonably foreseeable activities, address the likelihood of occurrence such as the existence of a decision or authorization, funding, etc. Where quantitative information is not readily available, qualitative data may be used.

D Where applicable, include in regulatory thresholds in the the activity description.

ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES

Name of Cooperating Agency: ARIZONA STATE LAND DEPARTMENT

Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description

ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES

Name of Cooperating Agency: ARIZONA STATE LAND DEPARTMENT

Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
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.htm.

ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES

Name of Cooperating Agency: ARIZONA STATE LAND DEPARTMENT

Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
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 http://www.land.state.az.us/news/2009/060309_newsPress.htm.
???	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 Sant Rita Mountains may be expected to be disposed by sale or lease for future development.

Enter the name of your agency.
Enter past, present, and reasonably forseeable activities on the respective tabs.

Year Start: Enter date or "ongoing"
Actual / Estimate: Use drop down to indicate if date is "actual" or "estimate"
Year End: Enter date or "ongoing"
Actual / Estimate: Use drop down to indicate if date is actual or estimate
Activity Type: Use drop down to indicate type of activity
Quantity: Use values and specify units or insert the word "qualitative" and describe the qualitative data under the "Description" column
Location / Desciption: Provide narrative description of location, including legal description if known. Provide narrative description of the activity.

Additional Instructions:

A Web links to other sources of information and databases are acceptable;

B An exhaustive listing of past activities may not be particularly useful since past actions are reflected in the existing condition. Past actions should be those that have a special relevance to understanding the existing condition;

C In describing reasonably foreseeable activities, address the likelihood of occurrence such as the existence of a decision or authorization, funding, etc. Where quantitative information is not readily available, qualitative data may be used.

D Where applicable, include in regulatory thresholds in the the activity description.

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2	**Enter the name of your agency.**											
3	**Enter past, present, and reasonably forseeable activities on the respective tabs.**											
4												
5	**Year Start:** Enter date or "ongoing"											
6	**Actual / Estimate:** Use drop down to indicate if date is "actual" or "estimate"											
7	**Year End:** Enter date or "ongoing"											
8	**Actual / Estimate:** Use drop down to indicate if date is actual or estimate											
9	**Activity Type:** Use drop down to indicate type of activity											
10	**Quantity:** Use values and specify units or insert the word "qualitative" and describe the qualitative data under the "Description" column											
11	**Location / Desciption:** Provide narrative description of location, including legal description if known. Provide narrative description of the activity.											
12												
13	**Additional Instructions:**											
14	**A**	Web links to other sources of information and databases are acceptable;										
15	**B**	An exhaustive listing of past activities may not be particularly useful since past actions are reflected in the existing condition. Past actions should be those that have a special relevance to understanding the existing condition;										
16	**C**	In describing reasonably foreseeable activities, address the likelihood of occurrence such as the existence of a decision or authorization, funding, etc. Where quantitative information is not readily available, qualitative data may be used.										
17	**D**	Where applicable, include in regulatory thresholds in the the activity description.										

Past Activities

	A	B	C	D	E	F	G
1	**ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES**						
2							
3	**Name of Cooperating Agency:**						
4	**Year Start**	**Actual / Estimate**	**Year End**	**Actual / Estimate**	**Activity Type**	**Quantity**	**Location / Description**
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

Present Activities

	A	B	C	D	E	F	G	H	I	J	K
1	ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES										
2											
3	Name of Cooperating Agency:										
4	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description				
5	1986	Actual	2030	Estimate	Special Uses	100 acres	Pennys Marble Quarry, Helvetia				
6	2001	Actual	2030	Estimate	Other	41972 acres	Las Cienegas NCA Resource Management Plan, includes heritage interpretation, recreation, wildlife, viewshed, watershed, etc. Plan is in effect.	http://www.blm.gov/style/medialib/blm/az			
7	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			
8	1993	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.				
9	1986	Estimate	Ongoing	Estimate	Special Uses	2 mile	SWG natural gas pipeline RoW, Helvetia, pipeline in place.				
10	1968	Estimate	Ongoing	Estimate	Road	3 miles	ADOT Hwy 83 RoW, Location ~mile post 40, road in place				
11	1954	Estimate	Ongoing	Estimate	Range	4654 acres	Helvetia grazing allotment, currently grazed				
12	2010	Estimate	Ongoing	Estimate	Special Uses	60 miles	TEP Vail-Nogales power line, 0.25 miles on BLM, power line in place, TEP seeking upgrade of line.				
13	2006	Estimate	Ongoing	Estimate	Wildlife	2 species	Reintroduction of leopard frogs and prairie dogs at Las Cienegas NCA, both species re-introduced				
14	1989	Estimate	Perpetual	Actual	Road	16 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 Arizona.				

	A	B	C	D	E	F	G	H	I	J	K
1	ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES										
2											
3	Name of Cooperating Agency:										
4	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description				
5	2011	Estimate	2040	Estimate	Special Uses	20 acres	AZ Portland Cement Empire Mts Quarry - MPO submitted, environmetal review in progress				
6	2011	Estimate	2030	Estimate	Special Uses	80 acres	Andrada Quarry, Corona de Tucson, MPO submitted to BLM, environmental review in progress				
7	2015	Estimate	2020	Estimate	Other	1280 acres	Remediation of physical safety hazards associated with abandoned mine features (AML) on BLM lands in Helvetia area. Schedule subject to funding, risk prioritization				
8											
9											
10											
11											
12											
13											
14											
15											

	A	B	C	D	E	F	G
1	**ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES**						
2							
3	**Name of Cooperating Agency:**						
4	**Year Start**	**Actual / Estimate**	**Year End**	**Actual / Estimate**	**Activity Type**	**Quantity**	**Location / Description**
5	**Past Activity Example**						
6	2000	Actual	2007	Actual	Road	3 miles	Jingo County periodic road maintenance to contour and gravel County Road 555 from junction with Forest Road 222 to junction of State Hwy 44 (Sections 8, 9, 10, T66S, R77E)
7	**Present Activity Example**						
8	2008	Actual	2011	Estimate	Watershed	Lone Creek Segments 3, 5, 7, and 9	Ongoing work to install rip rap to reduce streambank erosion. Segments 3 (0.5 miles) and 5 (0.6 miles)completed on both banks. Segment 7 (2.1 miles) east bank installation complete - west bank planned for completion in 2009. Segment 9 (estimate .7 miles) scheduled for initiation in 3rd quarter 2011. North quarter T66S, R37E
9	**Reasonably Foreseeable Activity Example**						
10	2015	Estimate	2035	Estimate	Special Uses	35 acres land disturbance	Sapphire Ring Mine: Proposed gemstone mine in the Smokey Bear Ecosystem Management Area (Southwest quarter, T66S, R37E). NEPA decision and Final MPO complete. Awaiting appeal review decision

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2	**Enter the name of your agency.**											
3	**Enter past, present, and reasonably forseeable activities on the respective tabs.**											
4												
5	**Year Start:** Enter date or "ongoing"											
6	**Actual / Estimate:** Use drop down to indicate if date is "actual" or "estimate"											
7	**Year End:** Enter date or "ongoing"											
8	**Actual / Estimate:** Use drop down to indicate if date is actual or estimate											
9	**Activity Type:** Use drop down to indicate type of activity											
10	**Quantity:** Use values and specify units or insert the word "qualitative" and describe the qualitative data under the "Description" column											
11	**Location / Desciption:** Provide narrative description of location, including legal description if known. Provide narrative description of the activity.											
12												
13	**Additional Instructions:**											
14	**A**	Web links to other sources of information and databases are acceptable;										
15	**B**	An exhaustive listing of past activities may not be particularly useful since past actions are reflected in the existing condition. Past actions should be those that have a special relevance to understanding the existing condition;										
16	**C**	In describing reasonably foreseeable activities, address the likelihood of occurrence such as the existence of a decision or authorization, funding, etc. Where quantitative information is not readily available, qualitative data may be used.										
17	**D**	Where applicable, include in regulatory thresholds in the the activity description.										

Past Activities

	A	B	C	D	E	F	G
1	**ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES**						
2							
3	**Name of Cooperating Agency: Pima County**						
4	**Year Start**	**Actual / Estimate**	**Year End**	**Actual / Estimate**	**Activity Type**	**Quantity**	**Location / Description**
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

Present Activities

	A	B	C	D	E	F	G	H	I	J	K
1	**ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES**										
2											
3	**Name of Cooperating Agency: Pima County**										
4	**Year Start**	**Actual / Estimate**	**Year End**	**Actual / Estimate**	**Activity Type**	**Quantity**	**Location / Description**				
5	Ongoing	Actual	Unknown	Actual	Other	Pm10	ASARCO Inc. currently operates an open pit copper mine regualted by both Pima County DEQ and EPA Region 9.				
6	Ongoing	Actual	Unknown	Actual	Other	Pm10	Freeport-McMoRan Sierrita, Incorporated (FMSI) operate a copper and molybdenum mining and processing facility				
7	Ongoing	Actual	Unknown	Actual	Other	Pm10	Stakaer Parsons operates a concrete batch plant and crushed aggregate plant regulated by PDEQ at 18701 South				
8	1995	Estimate	2008	Estimate	Road	11 miles	Pima County periodically performs maintenance grading				
9	2009	Estimate	2010	Estimate	Road	11 miles	Pima County periodically performs maintenance grading				
10	2011	Estimate	2045	Estimate	Road	11 miles	Pima County periodically performs maintenance grading				
11	2009	Estimate	2010	Estimate	Trail	3-4 acres	The Arizona Trail is a National Scenic Trail. The trail is a part				
12											
13											
14											
15											

Reasonably Foreseeable Activities

	A	B	C	D	E	F	G	H	I	J	K
1	**ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES**										
2											
3	**Name of Cooperating Agency: Pima County**										
4	**Year Start**	**Actual / Estimate**	**Year End**	**Actual / Estimate**	**Activity Type**	**Quantity**	**Location / Description**				
5	Ongoing	Actual	Unknown	Actual	Other	Pm10	ASARCO Inc. currently operates an open pit copper mine regualted by both Pima County DEQ and EPA Region 9.				
6	Ongoing	Actual	Unknown	Actual	Other	Pm10	Freeport-McMoRan Sierrita, Incorporated (FMSI) operate a copper and molybdenum mining and processing facility				
7	Ongoing	Actual	Unknown	Actual	Other	Pm10	Stakaer Parsons operates a concrete batch plant and crushed aggregate plant regulated by PDEQ at 18701 South				
8	2010	Estimate	2040	Estimate	Other	Estimated permit area of about ~ 600,000 acres	Pima County is seeking a Section 10(a) Multi-Species Conservation Plan. http://www.pima.gov/cmo/sdcp/MSCP/MSCP.html Activites associated with this plan may include land acquisition, natural and cultural resource monitoring, land management activities, invasive species maintenance,				
9	2010	Estimate	Ongoing	Estimate	Other		Conservation Plan: Activities may include acquisition of				
10											
11											
12											
13											
14											
15											

	A	B	C	D	E	F	G
1	**ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES**						
2							
3	**Name of Cooperating Agency:**						
4	**Year Start**	**Actual / Estimate**	**Year End**	**Actual / Estimate**	**Activity Type**	**Quantity**	**Location / Description**
5	**Past Activity Example**						
6	2000	Actual	2007	Actual	Road	3 miles	Jingo County periodic road maintenance to contour and gravel County Road 555 from junction with Forest Road 222 to junction of State Hwy 44 (Sections 8, 9, 10, T66S, R77E)
7	**Present Activity Example**						
8	2008	Actual	2011	Estimate	Watershed	Lone Creek Segments 3, 5, 7, and 9	Ongoing work to install rip rap to reduce streambank erosion. Segments 3 (0.5 miles) and 5 (0.6 miles)completed on both banks. Segment 7 (2.1 miles) east bank installation complete - west bank planned for completion in 2009. Segment 9 (estimate .7 miles) scheduled for initiation in 3rd quarter 2011. North quarter T66S, R37E
9	**Reasonably Foreseeable Activity Example**						
10	2015	Estimate	2035	Estimate	Special Uses	35 acres land disturbance	Sapphire Ring Mine: Proposed gemstone mine in the Smokey Bear Ecosystem Management Area (Southwest quarter, T66S, R37E). NEPA decision and Final MPO complete. Awaiting appeal review decision

Enter the name of your agency.
Enter past, present, and reasonably forseeable activities on the respective tabs.

Year Start: Enter date or "ongoing"
Actual / Estimate: Use drop down to indicate if date is "actual" or "estimate"
Year End: Enter date or "ongoing"
Actual / Estimate: Use drop down to indicate if date is actual or estimate
Activity Type: Use drop down to indicate type of activity
Quantity: Use values and specify units or insert the word "qualitative" and describe the qualitative data under the "Description" column
Location / Desciption: Provide narrative description of location, including legal description if known. Provide narrative description of the activity.

Additional Instructions:

A Web links to other sources of information and databases are acceptable;

B An exhaustive listing of past activities may not be particularly useful since past actions are reflected in the existing condition. Past actions should be those that have a special relevance to understanding the existing condition;

C In describing reasonably foreseeable activities, address the likelihood of occurrence such as the existence of a decision or authorization, funding, etc. Where quantitative information is not readily available, qualitative data may be used.

D Where applicable, include in regulatory thresholds in the the activity description.

ROSEMONT COPPER PROJECT EIS CATALOG OF PAST ACTIVITITES

Name of Cooperating Agency: TOWN OF SAHUARITA

Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description	Notes
1948	Actual	Ongoing	Actual	Water	30,000 a.f.	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 their pecan operation.	
1957	Actual	Ongoing	Estimate	Water	Unknown	Sierrita Mine - This mine started current operations in 1957. Currently, the Sierrita Mine consumes 26,700 a.f of water per year. Esimated consumption per year through 2030: 28,000 a.f. 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, 40, 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 have created an extensive subterranean sulfate plume that is of great concern to the Town as well as other stakeholders in the community. Water is often used in dust suppression and this is another concern; blowing dust is one of the banes of this area during windy conditions, sometimes spreading across the Santa Cruz Valley and even into the Tucson valley.	See two attachments

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 a.f. Projected water consumption through 2030: 8,000 a.f. per year.
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 operation, with the exception of any known sulfate plume.
1994	Actual	Ongoing	Actual	Water	8,856 a.f.	The Town of Sahuarita, since incorporating in 1994, has grown from approximately 2000 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 8500 acre feet per year, while homeowners with private wells draw an additional 356 acre feet per year. By 2030, the stated termination date for the mine, projected deliveries of groundwater will almost double to 14,095 acre feet, and private wells will likewise double their take. The Town has serious concerns about Rosemont's water requirements, plans to tap into our water supply, and the ability to replenish that water over the full term of the stated life of the mine.

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, Section 33 - T16S R14E, Section 36; T17S R14E, Section 1 - T17S R14E, Section 4; T17S R14E, Section 9 - T17S R14E, Section 16. In addition 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 section to the Town's eastern boundary. Planned for this area is commercial development and an estimated and 50,000 residences at build out, all requiring water.	
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 sections T17S R15E, Section 2 - T17S R15E, Section 11.	
2004	Estimate	2030	Estimate	Water	6.56 sq. miles or 4200 acres	The Town of Sahuarita is currently negotiating with a private developer the annexation of 4200 acres of land west of Town for primarily residential development. At build out, approximately 15,000 homes and 38,000 residents at build out.	
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, SR 83, 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	Document Website: http://www.pagnet.org/Programs/TransportationPlanning/PlansandPrograms/RegionalTransportationPlanandStudies/SoutheastAreaArterialStudy/tabid/387/Default.aspx
2004	Actual	Ongoing	Actual	Other		Sahuarita Outdoor Lighting Code 2004 Edition	See attachment
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.	

ROSEMONT COPPER PROJECT EIS CATALOG OF PRESENT ACTIVITITES

Name of Cooperating Agency: TOWN OF SAHUARITA

Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description	Notes
2009	Actual	Dec. 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. Website: http://sahuaritaroad.com/	
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	
2000	Actual	Ongoing	Estimate	Other	25,078	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 & 10 and Sahuarita Road, and most importantly, an increased demand for water.	
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

ROSEMONT COPPER PROJECT EIS CATALOG OF REASONABLY FORESEEABLE ACTIVITITES

Name of Cooperating Agency: TOWN OF SAHUARITA

Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description	Notes
Spring 2011	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 "Past Activities."	
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. Increased water consumption and traffic generation near Rosemont well sites is likely.	
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. Website: http://www.tucsonaz.gov/ocsd/HCP_Documents.php#TopOfPage	See attachments
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 documents 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.	
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.	

Name of Cooperating Agency:

Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity
Past Activity Example					
2000	Actual	2007	Actual	Road	3 miles
Present Activity Example					
2008	Actual	2011	Estimate	Watershed	Lone Creek Segments 3, 5, 7, and 9
Reasonably Foreseeable Activity Example					
2015	Estimate	2035	Estimate	Special Uses	35 acres land disturbance

)JECT EIS CATALOG OF ACTIVITITES

Location / Description

Jingo County periodic road maintenance to contour and gravel County Road 555 from junction with Forest Road 222 to junction of State Hwy 44 (Sections 8, 9, 10, T66S, R77E)

Ongoing work to install rip rap to reduce streambank erosion. Segments 3 (0.5 miles) and 5 (0.6 miles)completed on both banks. Segment 7 (2.1 miles) east bank installation complete - west bank planned for completion in 2009. Segment 9 (estimate .7 miles) scheduled for initiation in 3rd quarter 2011. North quarter T66S, R37E

Sapphire Ring Mine: Proposed gemstone mine in the Smokey Bear Ecosystem Management Area (Southwest quarter, T66S, R37E). NEPA decision and Final MPO complete. Awaiting appeal review decision

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2	**Enter the name of your agency.**											
3	**Enter past, present, and reasonably forseeable activities on the respective tabs.**											
4												
5	**Year Start:** Enter date or "ongoing"											
6	**Actual / Estimate:** Use drop down to indicate if date is "actual" or "estimate"											
7	**Year End:** Enter date or "ongoing"											
8	**Actual / Estimate:** Use drop down to indicate if date is actual or estimate											
9	**Activity Type:** Use drop down to indicate type of activity											
10	**Quantity:** Use values and specify units or insert the word "qualitative" and describe the qualitative data under the "Description" column											
11	**Location / Desciption:** Provide narrative description of location, including legal description if known. Provide narrative description of the activity.											
12												
13	**Additional Instructions:**											
14	**A**	Web links to other sources of information and databases are acceptable;										
15	**B**	An exhaustive listing of past activities may not be particularly useful since past actions are reflected in the existing condition. Past actions should be those that have a special relevance to understanding the existing condition;										
16	**C**	In describing reasonably foreseeable activities, address the likelihood of occurrence such as the existence of a decision or authorization, funding, etc. Where quantitative information is not readily available, qualitative data may be used.										
17	**D**	Where applicable, include in regulatory thresholds in the the activity description.										

	A	B	C	D	E	F	G
1	ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES						
2							
3	Name of Cooperating Agency: Arizona Department of Water Resources						
4	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
5	Ongoing database				Water		https://gisweb.azwater.gov/waterresourcedata/
6							Please use above link to access the ADWR well databases and associated water rights/withdrawal 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, the owner of the well, drill date, pumping volume and associated water right(s) 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 associated with Rosemont Copper mineral extraction groundwater withdrawal permit are found in that Township/Range; selecting a well allows the user to view the well details and associated water rights and pumpage info. For help using these databases please call Laura Grignano 520-770-3805.
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							

	A	B	C	D	E	F	G	H	I	J
1	ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES									
2										
3	Name of Cooperating Agency: Arizona Department of Water Resources									
4	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description			
5	18-Jan-08	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: Township 18S, R 15E (Sections 1-2,10-15, 22-26, 35-36) Township 18S, R 16E (Sections 5-9, 16-25, 28-33, 36) T 19 S, R 15 E (1-2) T 19 S, R 16 E (4-9)			
6	16-Jun-08	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 Sec 3,4 (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.			
7							Below are other existing recharge facilities in the general area of the project. Rosemont does not currently hold storage permits at these facilities.			
8	30-Nov-07	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.			
9	17-Dec-03	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, R 13E. Effluent is generated nearby at the Pima County-owned Green Valley Wastewater Treatment Plant.			
10	1-Mar-04	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 17S, 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 if CAP is extended to facility.			
11							See accompanying Maps for general locations of USFs and GSFs.			
12										
13										
14										
15										

	A	B	C	D	E	F	G	H	I	J	K
1	ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES										
2											
3	Name of Cooperating Agency: Arizona Department of Water Resources										
4	Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description				
5					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 subcontact for 2,858 AF.				
6					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.				
7											
8											
9											
10											
11											
12											
13											
14											
15											

	A	B	C	D	E	F	G
1	**ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES**						
2							
3	**Name of Cooperating Agency:**						
4	**Year Start**	**Actual / Estimate**	**Year End**	**Actual / Estimate**	**Activity Type**	**Quantity**	**Location / Description**
5	**Past Activity Example**						
6	2000	Actual	2007	Actual	Road	3 miles	Jingo County periodic road maintenance to contour and gravel County Road 555 from junction with Forest Road 222 to junction of State Hwy 44 (Sections 8, 9, 10, T66S, R77E)
7	**Present Activity Example**						
8	2008	Actual	2011	Estimate	Watershed	Lone Creek Segments 3, 5, 7, and 9	Ongoing work to install rip rap to reduce streambank erosion. Segments 3 (0.5 miles) and 5 (0.6 miles)completed on both banks. Segment 7 (2.1 miles) east bank installation complete - west bank planned for completion in 2009. Segment 9 (estimate .7 miles) scheduled for initiation in 3rd quarter 2011. North quarter T66S, R37E
9	**Reasonably Foreseeable Activity Example**						
10	2015	Estimate	2035	Estimate	Special Uses	35 acres land disturbance	Sapphire Ring Mine: Proposed gemstone mine in the Smokey Bear Ecosystem Management Area (Southwest quarter, T66S, R37E). NEPA decision and Final MPO complete. Awaiting appeal review decision

Enter the name of your agency.
Enter past, present, and reasonably forseeable activities on the respective tabs.

Year Start: Enter date or "ongoing"
Actual / Estimate: Use drop down to indicate if date is "actual" or "estimate"
Year End: Enter date or "ongoing"
Actual / Estimate: Use drop down to indicate if date is actual or estimate
Activity Type: Use drop down to indicate type of activity
Quantity: Use values and specify units or insert the word "qualitative" and describe the qualitative data under the "Description" column
Location / Desciption: Provide narrative description of location, including legal description if known. Provide narrative description of the activity.

Additional Instructions:

A Web links to other sources of information and databases are acceptable;

B An exhaustive listing of past activities may not be particularly useful since past actions are reflected in the existing condition. Past actions should be those that have a special relevance to understanding the existing condition;

C In describing reasonably foreseeable activities, address the likelihood of occurrence such as the existence of a decision or authorization, funding, etc. Where quantitative information is not readily available, qualitative data may be used.

D Where applicable, include in regulatory thresholds in the the activity description.

ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES

Name of Cooperating Agency: ARIZONA STATE LAND DEPARTMENT

Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description

ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES

Name of Cooperating Agency: ARIZONA STATE LAND DEPARTMENT

Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
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.htm.

ROSEMONT COPPER PROJECT EIS CATALOG OF ACTIVITITES

Name of Cooperating Agency: ARIZONA STATE LAND DEPARTMENT

Year Start	Actual / Estimate	Year End	Actual / Estimate	Activity Type	Quantity	Location / Description
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 http://www.land.state.az.us/news/2009/060309_newsPress.htm.
???	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 Sant Rita Mountains may be expected to be disposed by sale or lease for future development.